

APPENDIX D-1

AM and PM Peak Hour Intersection Traffic Volumes

- **1999 Existing**
- **2020 Estimated**

1999 Existing and 2020 Estimated Traffic Volumes by Intersection

TOWN	INTERSECTION (Source of count)	SIGN'D or UN- SIGN'D	MOVE- MENT	1999 PK HR VOLS (NOT seas. adj.)		2020 PK HR VOLS (*) (NOT seas. adj.)		2020 PK HR VOLS with site traffic	
				AM	PM	AM	PM	AM	PM
Milton	Route 138 at Brook Rd (CTPS, '99)	S	EB l	3	9	3	10		
			EB th	202	239	224	265		
			EB r	1	4	1	4		
			NB l	4	5	4	6		
			NB th	454	407	504	452		
			NB r	125	48	139	53		
			SB l	20	17	22	19		
			SB th	330	465	366	516		
			SB r	13	38	14	42		
	Route 138 at Milton St/ Dollar Ln (CTPS, '99)	S	EB l	31	52	34	58		
			EB th	91	226	101	251		
			EB r	15	25	17	28		
			WB l	8	5	9	6		
			WB th	180	113	200	125		
			WB r	42	27	47	30		
			NB l	9	20	10	22		
			NB th	439	370	487	411		
			NB r	5	11	6	12		
			SB l	4	34	4	38		
			SB th	441	436	490	484		
			SB r	21	44	23	49		
	Route 138 at Neponset Valley Parkway (MassHighway, '97)	U	EB l	3	2	3	2		
			EB r	317	330	352	366		
			NB l	524	439	582	487		
			NB th	455	378	505	420		
			SB th	409	388	454	431		
			SB r	7	2	8	2		
	Route 138 at Brush Hill Rd (Rizzo Associates, '98)	S	EB l	4	4	4	4	4	4
			EB r	175	300	194	333	205	334
			WB l	293	157	325	174	357	174
			WB th	86	29	95	32	97	35
			WB r	18	8	20	9	21	10
			NB th	886	782	984	868	995	896
			SB th	804	829	893	921	978	945
			SB r	4	1	4	1	4	1

(2002 Royall
Street devts.
and 2003
Milton-Fuller
senior housing
trips added)

(*) Grown by + 0.5 % per year in Milton, and + 0.75 % per year in Canton and Stoughton,
or a total of + 11.04 % and + 16.99 %, respectively, between 1999 and 2020 (compounded).

Growth based on historical data as well as EIRs for local developments.

1999 Existing and 2020 Estimated Traffic Volumes by Intersection (cont.)

TOWN	INTERSECTION (Source of count)	SIGN'D or UN- SIGN'D	MOVE- MENT	1999 PK HR VOLS (NOT seas. adj.)		2020 PK HR VOLS (* (NOT seas. adj.)		2020 PK HR VOLS with site traffic		
				AM	PM	AM	PM	AM	PM	
Canton	Route 138 at Royall St/Blue Hill River Rd (Reebok EIR, VHB, Inc., January 1998)	S	EB l	35	100	41	117	50	207	(2002 Royall Street devts. trips added)
			EB th	10	85	12	99	36	260	
			EB r	35	315	41	369	109	848	
			WB l	90	245	105	287	105	287	
			WB th	245	25	287	29	565	78	
			WB r	115	60	135	70	135	70	
			NB l	420	105	491	123	1245	258	
			NB th	1310	830	1533	971	1533	971	
			NB r	50	80	58	94	58	94	
			SB l	30	45	35	53	35	53	
			SB th	975	1330	1141	1556	1141	1556	
			SB r	70	35	82	41	193	59	
	Route 138 at Greenlodge St (Earth Tech, '97)	U	EB l	38	50	44	58	44	58	(2002 Royall Street devts. trips added)
			EB r	19	85	22	99	22	99	
			NB l	41	17	48	20	48	20	
			NB th	1468	1369	1717	1602	2013	1653	
			SB th	1344	1561	1572	1826	1608	2077	
			SB r	79	35	92	41	92	41	
	Route 138 at Washington St (Reebok EIR, VHB, Inc., January 1998)	S	EB l	695	485	813	567	893	582	(2002 Royall Street devts. trips added)
			EB th	15	10	18	12	18	12	
			EB r	10	15	12	18	12	18	
			WB l	1	10	1	12	1	12	
			WB th	1	25	1	29	1	29	
			WB r	10	5	12	6	12	6	
			NB l	10	35	12	41	12	41	
			NB th	780	795	913	930	1128	964	
			NB r	1	5	1	6	1	6	
			SB l	1	5	1	6	1	6	
			SB th	875	795	1024	930	1054	1114	
			SB r	305	510	357	597	362	661	
	Route 138 at Randolph St (Reebok EIR, VHB, Inc., January 1998)	S	EB l	45	65	53	76	63	76	(2002 Royall Street devts. trips added)
			EB th	260	245	304	287	304	287	
			EB r	240	265	281	310	281	310	
			WB l	185	195	216	228	216	228	
			WB th	295	300	345	351	345	351	
			WB r	40	45	47	53	87	58	
			NB l	85	100	99	117	99	117	
			NB th	420	460	491	538	675	675	
			NB r	75	75	88	88	88	88	
			SB l	35	105	41	123	46	158	
			SB th	735	720	860	842	893	990	
			SB r	105	45	123	53	123	58	

(*) Grown by + 0.5 % per year in Milton, and + 0.75 % per year in Canton and Stoughton,
or a total of + 11.04 % and + 16.99 %, respectively, between 1999 and 2020 (compounded).

(ReS, 010613, Vols20.xls)

Growth based on historical data as well as EIRs for local developments.

1999 Existing and 2020 Estimated Traffic Volumes by Intersection (cont.)

TOWN	INTERSECTION (Source of count)	SIGN'D or UN- SIGN'D	MOVE- MENT	1999 PK HR VOLS (NOT seas. adj.)		2020 PK HR VOLS (*) (NOT seas. adj.)		2020 PK HR VOLS with site traffic	
				AM	PM	AM	PM	AM	PM
Canton (cont.)	Route 138 at Pequot Pk (CTPS, '99)	U	EB l	1	6	1	7		
			EB th	1	1	1	1		
			EB r	5	13	6	15		
			WB l	3	34	4	40		
			WB th	1	1	1	1		
			WB r	10	57	12	67		
			NB l	6	14	7	16		
			NB th	788	1006	922	1177		
			NB r	42	11	49	13		
			SB l	48	10	56	12		
			SB th	1066	808	1247	945		
			SB r	14	12	16	14		
	Route 138 at #s 320-348 (CTPS, '99)	U	EB l	1	2	1	2		
			EB th	1	1	1	1		
			EB r	1	1	1	1		
			WB l	5	26	6	30		
			WB th	1	1	1	1		
			WB r	15	75	18	88		
			NB l	1	3	1	4		
			NB th	871	978	1019	1144		
			NB r	45	7	53	8		
			SB l	68	12	80	14		
			SB th	966	804	1130	941		
			SB r	2	4	2	5		
	Route 138 at Dunkin' Donuts (north drive) (CTPS, '99)	U	WB l	58	26	68	30		
			WB r	102	49	119	57		
			NB th	941	922	1101	1079		
			NB r	4	1	5	1		
			SB l	1	1	1	1		
			SB th	1118	991	1308	1159		
	Route 138 at Dunkin' Donuts (south drive) (CTPS, '99)	U	WB l	1	1	1	1		
			WB r	3	1	4	1		
			NB th	942	921	1102	1077		
			NB r	67	25	78	29		
			SB l	108	46	126	54		
			SB th	1068	971	1249	1136		

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1999 Existing and 2020 Estimated Traffic Volumes by Intersection (cont.)

TOWN	INTERSECTION (Source of count)	SIGN'D or UN- SIGN'D	MOVE- MENT	1999 PK HR VOLS (NOT seas. adj.)		2020 PK HR VOLS (* (NOT seas. adj.)		2020 PK HR VOLS with site traffic	
				AM	PM	AM	PM	AM	PM
Canton (cont.)	Route 138 at Orchard Cove/ '99s Rest'nt (CTPS, '99)	U	EB l	9	14	11	16		
			EB th	1	1	1	1		
			EB r	9	21	11	25		
			WB l	5	8	6	9		
			WB th	1	1	1	1		
			WB r	3	8	4	9		
			NB l	7	15	8	18		
			NB th	997	924	1166	1081		
			NB r	5	14	6	16		
			SB l	6	15	7	18		
			SB th	1054	938	1233	1097		
			SB r	8	18	9	21		
	Route 138 at Whitman Rd (CTPS, '99)	U	EB l	1	4	1	5		
			EB th	1	1	1	1		
			EB r	1	8	1	9		
			WB l	10	27	12	32		
			WB th	1	1	1	1		
			WB r	21	49	25	57		
			NB l	5	1	6	1		
			NB th	818	886	957	1037		
			NB r	22	10	26	12		
			SB l	31	14	36	16		
			SB th	929	800	1087	936		
			SB r	3	3	4	4		
	Route 138 at Merkert Corp. (north drive) (CTPS, '99)	U	WB l	1	1	1	1		
			WB r	4	17	5	20		
			NB th	845	882	989	1032		
			NB r	1	1	1	1		
			SB l	14	4	16	5		
			SB th	781	853	914	998		
	Route 138 at Merkert Corp. (south drive) (CTPS, '99)	U	EB l	1	30	1	35		
			EB th	1	1	1	1		
			EB r	3	21	4	25		
			WB l	3	53	4	62		
			WB th	1	1	1	1		
			WB r	1	5	1	6		
			NB l	21	2	25	2		
			NB th	826	799	966	935		
			NB r	83	3	97	4		
			SB l	4	1	5	1		
			SB th	817	864	956	1011		
			SB r	27	2	32	2		

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(ReS, 010613, Vols20.xls)

Growth based on historical data as well as EIRs for local developments.

1999 Existing and 2020 Estimated Traffic Volumes by Intersection (cont.)

TOWN	INTERSECTION (Source of count)	SIGN'D or UN- SIGN'D	MOVE- MENT	1999		2020		2020	
				PK HR VOLS (NOT seas. adj.)		PK HR VOLS (*) (NOT seas. adj.)		PK HR VOLS with site traffic	
				AM	PM	AM	PM	AM	PM
Canton (cont.)	Route 138 at Tuthill Corp. (CTPS, '99)	U	EB l	1	16	1	19		
			EB r	1	20	1	23		
			NB l	13	2	15	2		
			NB th	1047	823	1225	963		
			SB th	770	1005	901	1176		
			SB r	18	1	21	1		
	Route 138 at J. Baker/ Arboretum Way (CTPS, '99)	U	EB l	2	119	2	139		
			EB th	1	1	1	1		
			EB r	4	101	5	118		
			WB l	23	25	27	29		
			WB th	1	1	1	1		
			WB r	60	17	70	20		
			NB l	86	13	101	15		
			NB th	965	752	1129	880		
			NB r	17	16	20	19		
			SB l	24	24	28	28		
			SB th	734	1067	859	1248		
			SB r	98	14	115	16		
	Route 138 at Dan Rd (CTPS, '99)	S	EB l	34	275	40	322		
			EB r	17	189	20	221		
			NB l	134	26	157	30		
			NB th	1109	516	1297	604		
			SB th	343	1007	401	1178		
			SB r	286	33	335	39		
	Route 138 at Foxford Bus. Ctr (# 960) (CTPS, '99)	U	WB l	4	33	5	39		
			WB r	7	11	8	13		
			NB th	1336	381	1563	446		
			NB r	26	2	30	2		
			SB l	11	3	13	4		
			SB th	314	1214	367	1420		
	Route 138 at Boston Dr/ # 980 (CTPS, '99)	U	EB l	1	3	1	4		
			EB th	1	1	1	1		
			EB r	12	87	14	102		
			WB l	2	8	2	9		
			WB th	1	1	1	1		
			WB r	2	9	2	11		
			NB l	162	6	190	7		
			NB th	1360	371	1591	434		
			NB r	7	3	8	4		
			SB l	10	5	12	6		
			SB th	306	1241	358	1452		
			SB r	2	1	2	1		

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or a total of + 11.04 % and + 16.99 %, respectively, between 1999 and 2020 (compounded).

(ReS, 010613, Vols20.xls)

Growth based on historical data as well as EIRs for local developments.

1999 Existing and 2020 Estimated Traffic Volumes by Intersection (cont.)

TOWN	INTERSECTION (Source of count)	SIGN'D or UN- SIGN'D	MOVE- MENT	1999		2020		2020		
				PK HR VOLS (NOT seas. adj.)		PK HR VOLS (*) (NOT seas. adj.)		PK HR VOLS with site traffic		
				AM	PM	AM	PM	AM	PM	
Canton (cont.)	Route 138 at Tracy Wood Rd (CTPS, '99)	U	WB l	1	6	1	7	1	7	(2003 Indian Woods trips added)
			WB r	4	2	5	2	5	2	
			NB th	1497	495	1751	579	1779	593	
			NB r	1	4	1	5	1	5	
			SB l	1	3	1	4	1	4	
			SB th	284	1433	332	1676	338	1704	
	Route 138 at Stagecoach Rd (CTPS, '00)	U	WB l	4	4	5	5	9	7	(2003 Indian Woods trips added)
			WB r	1	1	1	1	29	15	
			NB th	1553	367	1817	429	1817	429	
			NB r	3	5	4	6	5	10	
			SB l	1	1	1	1	7	29	
			SB th	286	1368	335	1600	335	1600	
Stough- ton	Route 138 at York St (CTPS, '99)	U	WB l	55	101	64	118			
			WB r	293	55	343	64			
			NB th	1367	361	1599	422			
			NB r	109	131	128	153			
			SB l	41	254	48	297			
			SB th	277	1231	324	1440			
	Route 138 at Stop & Shop (north drive) (CTPS, '99)	S	EB l	1	3	1	4			
			EB th	1	1	1	1			
			EB r	1	17	1	20			
			WB l	12	138	14	161			
			WB th	1	1	1	1			
			WB r	24	70	28	82			
			NB l	1	3	1	4			
			NB th	1327	494	1552	578			
			NB r	14	19	16	22			
			SB l	6	120	7	140			
			SB th	278	1233	325	1442			
			SB r	1	1	1	1			
	Route 138 at Kimball Ave (south Stop & Shop drive) (CTPS, '99)	U	WB l	11	84	13	98			
			WB r	3	7	4	8			
			NB th	1382	522	1617	611			
			NB r	53	174	62	204			
			SB l	1	8	1	9			
			SB th	330	1377	386	1611			

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1999 Existing and 2020 Estimated Traffic Volumes by Intersection (cont.)

TOWN	INTERSECTION (Source of count)	SIGN'D or UN- SIGN'D	MOVE- MENT	1999		2020		2020	
				PK HR VOLS (NOT seas. adj.)		PK HR VOLS (* (NOT seas. adj.)		PK HR VOLS with site traffic	
				AM	PM	AM	PM	AM	PM
Stoughton (cont.)	Route 138 at Central St (CTPS, '99)	S	EB l	300	140	351	164		
			EB th	440	520	515	608		
			EB r	150	150	175	175		
			WB l	80	140	94	164		
			WB th	440	400	515	468		
			WB r	410	160	480	187		
			NB l	150	110	175	129		
			NB th	730	330	854	386		
			NB r	120	130	140	152		
			SB l	70	350	82	409		
			SB th	200	770	234	901		
			SB r	180	320	211	374		
	Central St at Pearl St (CTPS, '99)	S	EB l	14	10	16	12		
			EB th	618	521	723	610		
			EB r	49	35	57	41		
			WB l	49	15	57	18		
			WB th	438	527	512	617		
			WB r	283	239	331	280		
			NB l	64	45	75	53		
			NB th	387	226	453	264		
			NB r	50	47	58	55		
			SB l	221	347	259	406		
			SB th	204	364	239	426		
			SB r	21	18	25	21		
	Route 138 at Block Buster (CTPS, '99)	U	EB l	33	58	39	68		
			EB r	28	80	33	94		
			NB l	47	77	55	90		
			NB th	1033	610	1208	714		
			SB th	354	1017	414	1190		
			SB r	17	93	20	109		
	Route 138 at Lincoln St/ Parkway (CTPS, '99)	U	EB l	1	12	1	14		
			EB th	1	7	1	8		
			EB r	5	10	6	12		
			WB l	92	139	108	163		
			WB th	1	8	1	9		
			WB r	209	191	245	223		
			NB l	7	21	8	25		
			NB th	832	643	973	752		
			NB r	85	49	99	57		
			SB l	35	211	41	247		
			SB th	348	1021	407	1194		
			SB r	1	2	1	2		

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(ReS, 010613, Vols20.xls)

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1999 Existing and 2020 Estimated Traffic Volumes by Intersection (cont.)

TOWN	INTERSECTION (Source of count)	SIGN'D or UN- SIGN'D	MOVE- MENT	1999		2020		2020	
				PK HR VOLS (NOT seas. adj.)		PK HR VOLS (*) (NOT seas. adj.)		PK HR VOLS with site traffic	
				AM	PM	AM	PM	AM	PM
Stough- ton (cont.)	Pearl St at School St (all-way stop) (CTPS, '99)	U	EB l	83	44	97	51		
			EB th	197	211	230	247		
			EB r	24	23	28	27		
			WB l	6	12	7	14		
			WB th	156	259	183	303		
			WB r	181	138	212	161		
			NB l	14	12	16	14		
			NB th	382	208	447	243		
			NB r	6	8	7	9		
			SB l	86	72	101	84		
			SB th	242	377	283	441		
			SB r	14	18	16	21		
	Route 138 at School St (CTPS, '99)	U	EB l	228	167	267	195		
			EB r	42	91	49	106		
			NB l	72	113	84	132		
			NB th	746	433	873	507		
			SB th	302	726	353	849		
			SB r	138	288	161	337		
	Route 138 at Stoughton Sq (north inter- section) (CTPS, '99)	U	EB l	1	0	1	0		
			EB th	0	1	0	1		
			EB r	476	550	557	643		
			WB l	228	690	267	807		
			WB th	50	41	58	48		
			WB r	8	4	9	5		
			NB l	414	332	484	388		
			NB th	357	202	418	236		
			NB r	601	451	703	528		
			SB l	0	0	0	0		
			SB th	245	404	287	473		
			SB r	12	10	14	12		
	Route 138 at Stoughton Sq (middle inter- section) (CTPS, '99)	U	EB l	57	5	67	6		
			EB th	3	0	4	0		
			EB r	174	164	204	192		
			WB l	0	2	0	2		
			WB th	0	0	0	0		
			WB r	11	16	13	19		
			NB l	99	7	116	8		
			NB th	1444	926	1689	1083		
			NB r	14	25	16	29		
			SB l	28	21	33	25		
			SB th	833	1505	975	1761		
			SB r	88	118	103	138		

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1999 Existing and 2020 Estimated Traffic Volumes by Intersection (cont.)

TOWN	INTERSECTION (Source of count)	SIGN'D or UN- SIGN'D	MOVE- MENT	1999		2020		2020	
				PK HR VOLS		PK HR VOLS (*)		PK HR VOLS	
				(NOT seas. adj.)		(NOT seas. adj.)		with site traffic	
				AM	PM	AM	PM	AM	PM
Stoughton (cont.)	Route 138 at Stoughton Sq (south inter- section) (CTPS, '99)	U	EB l	385	233	450	273		
			EB th	36	52	42	61		
			EB r	0	1	0	1		
			WB l	1	0	1	0		
			WB th	1	2	1	2		
			WB r	186	146	218	171		
			NB l	1	1	1	1		
			NB th	986	579	1154	677		
			NB r	22	22	26	26		
			SB l	216	168	253	197		
			SB th	527	901	617	1054		
			SB r	274	577	321	675		
	Route 138 at Plain St (CTPS, '99)	U	EB l	204	132	239	154		
			EB r	107	142	125	166		
			NB l	122	143	143	167		
			NB th	595	371	696	434		
			SB th	255	609	298	712		
			SB r	90	274	105	321		

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APPENDIX D-2

Intersection Level of Service (LOS)

- **1999 Existing Conditions**
- **2020 No-Build**
- **2020 Build**

1999, 2020 No-Build, 2020 Build Intersection Level of Service

(TOWN) INTERSECTION	SIGNALIZED or UN- SIGNALIZED	MOVEMENT	1999			2020 No-Build			2020 Build		
			Level of Service / Average Total Delay		AM Pk Hr	Level of Service / Average Total Delay		AM Pk Hr	Level of Service / Average Total Delay		AM Pk Hr
(MILTON) Route 138 at Brook Rd	S	Brook Rd EB, all turns Route 138 NB, all turns Route 138 SB, all turns	C / 19 B / 8 A / 5	C / 20 A / 5 B / 6		B / 13 C / 19 B / 7	B / 14 B / 6 B / 9		No Improvements Recommended		
Route 138 at Milton St/Dollar La.	S	Milton St EB, all turns Dollar Lane WB, all turns Route 138 NB lefts Route 138 SB lefts	B / 13 B / 14 A / 5 A / 5	C / 19 B / 12 A / 4 B / 5		B / 12 B / 13 A / 5 A / 5	C / 20 B / 11 A / 4 B / 6		No Improvements Recommended		
Route 138 at Neponset Vall. Pkwy	U	Nep. Vall. Pkwy EB lefts and rights Route 138 NB lefts	C / 13 B / 8	B / 9 B / 6		F / * C / 11	C / 12 B / 8		C / 14 C / 11	C / 11 B / 8	
Route 138 at Brush Hill Rd	S	Brush Hill Rd EB lefts and rights Brush Hill Rd WB lefts Br. Hill Rd WB throughs and rights Route 138 NB throughs Route 138 SB throughs and rights	B / 14 C / 16 B / 13 C / 16 C / 18	B / 15 B / 12 B / 11 B / 13 D / 26		D / 26 E / 48 C / 20 B / 13 C / 25	D / 32 C / 15 B / 14 B / 9 C / 17		C / 16 C / 24 B / 12 C / 23 A / 4	C / 24 B / 11 B / 10 B / 9 A / 4	
(CANTON) Route 138 at Royall St / Blue Hill River Road	S	Royall St EB lefts Royall St EB throughs Royall St EB rights Blue Hill River Rd WB lefts Blue Hill River Rd WB throughs Blue Hill River Rd WB rights Route 138 NB lefts Route 138 NB throughs and rights Route 138 SB lefts Route 138 SB throughs and rights	C / 24 C / 24 C / 22 D / 37 D / 37 C / 24 B / 8 B / 8 C / 18 F / *	F / * F / * C / 25 F / * F / * C / 17 B / 6 B / 6 F / * F / *		F / 61 D / 35 B / 12 F / * F / * F / * A / 5 C / 25 F / *	D / 26 C / 22 E / 48 F / * C / 20 C / 20 D / 28 B / 7 E / 41 D / 39		2002 Reebok Build with mitigation E / 40 D / 28 B / 9 D / 37 E / 55 E / 55 D / 29 B / 7 D / 28 D / 33	C / 16 D / 27 D / 26 D / 32 C / 21 C / 21 D / 36 B / 13 D / 29 D / 28	
(Source: Reebok EIR, VHB, Inc., January 1998)											

(NOTE: shaded cells denote movements with unacceptable levels of service (E or F);

* = delay of 75 seconds or more for signalized intersections, 60 seconds or more for unsignalized intersections)

1999, 2020 No-Build, 2020 Build Intersection Level of Service (cont.)

(TOWN) INTERSECTION	SIGNALIZED or UN- SIGNALIZED	MOVEMENT	1999		2020 No-Build		2020 Build	
			Level of Service / Average Total Delay		Level of Service / Average Total Delay		Level of Service / Average Total Delay	
			AM Pk Hr	PM Pk Hr	AM Pk Hr	PM Pk Hr	AM Pk Hr	PM Pk Hr
(CANTON, cont.) Route 138 at Greenlodge St	U	Greenlodge St EB lefts and rights Greenlodge St EB rights Route 138 NB lefts	F / *	F / *	F / *	F / *	N.A.	N.A.
			N.A.	N.A.	N.A.	N.A.	D / 25	F / *
			C / 13	C / 14	C / 20	D / 26	C / 20	D / 26
Route 138 at Washington St / Ponkapoag Golf Club (Source: Reebok EIR, VHB, Inc., January 1998)	S	Washington St EB, all turns Ponkapoag Golf Club WB, all turns Route 138 NB lefts Route 138 NB throughs and rights Route 138 NB all turns Route 138 SB lefts and throughs Route 138 SB throughs and rights Route 138 SB rights	1997		2020 Reebok Build		2020 Reebok Build with mitigation	
			F / *	D / 29	F / *	E / 44	D / 30	F / 69
			B / 8	B / 9	B / 8	B / 9	B / 5	B / 9
			N.A.	N.A.	N.A.	N.A.	N.A.	B / 7
			N.A.	N.A.	N.A.	N.A.	N.A.	C / 18
			F / *	F / *	F / *	F / *	C / 25	N.A.
			C / 17	C / 18	C / 25	F / *	N.A.	N.A.
Route 138 at Randolph St (Source: Reebok EIR, VHB, Inc., January 1998)	S	Randolph St EB, all turns Randolph St EB lefts and throughs Randolph St EB rights Randolph St WB, all turns Randolph St WB lefts Randolph St WB throughs and rights Route 138 NB lefts Route 138 NB throughs and rights Route 138 NB, all turns Route 138 SB lefts Route 138 SB throughs and rights Route 138 SB, all turns	1997		2020 Reebok Build		2020 Reebok Build with mitigation	
			F / *	F / *	F / *	F / *	N.A.	N.A.
			N.A.	N.A.	N.A.	N.A.	C / 18	C / 16
			N.A.	N.A.	N.A.	N.A.	B / 11	B / 11
			F / *	F / *	F / *	F / *	N.A.	N.A.
			N.A.	N.A.	N.A.	N.A.	E / 55	E / 42
			N.A.	N.A.	N.A.	N.A.	B / 13	B / 12
Route 138 at Randolph St (Source: Reebok EIR, VHB, Inc., January 1998)	S	Randolph St EB, all turns Randolph St EB lefts and throughs Randolph St EB rights Randolph St WB, all turns Randolph St WB lefts Randolph St WB throughs and rights Route 138 NB lefts Route 138 NB throughs and rights Route 138 NB, all turns Route 138 SB lefts Route 138 SB throughs and rights Route 138 SB, all turns	1997		2020 Reebok Build		2020 Reebok Build with mitigation	
			F / 64	F / *	F / 64	F / *	N.A.	N.A.
			B / 8	B / 8	B / 12	B / 9	N.A.	N.A.
			N.A.	N.A.	N.A.	N.A.	B / 13	N.A.
			B / 6	D / 30	B / 9	F / *	N.A.	N.A.
			C / 23	B / 13	D / 38	E / 43	N.A.	N.A.
			N.A.	N.A.	N.A.	N.A.	B / 10	D / 39

(NOTE: shaded cells denote movements with unacceptable levels of service (E or F);

* = delay of 75 seconds or more for signalized intersections, 60 seconds or more for unsignalized intersections)

1999, 2020 No-Build, 2020 Build Intersection Level of Service (cont.)

(TOWN) INTERSECTION	SIGNALIZED or UN- SIGNALIZED	MOVEMENT	1999		2020 No-Build		2020 Build	
			Level of Service / Average Total Delay	AM Pk Hr	Level of Service / Average Total Delay	AM Pk Hr	Level of Service / Average Total Delay	AM Pk Hr
(CANTON, cont.) Route 138 at Pequot Pk/US Trust	U	US Trust EB, all turns	D / 27	D / 26	F / 55	F / 49	F / 55	F / 49
		Pequot Park WB, all turns	D / 26	F / 53	F / *	F / *	F / *	F / *
		Route 138 NB lefts	B / 8	B / 5	B / 10	B / 6	B / 10	B / 6
		Route 138 SB lefts	B / 6	B / 7	B / 7	B / 8	B / 7	B / 8
Route 138 at #320-348/Plaza	U	Plaza EB, all turns	F / *	E / 40	F / *	F / *	F / *	F / *
		#320-348 WB, all turns	E / 38	E / 36	F / *	F / *	F / *	F / *
		Route 138 NB lefts	B / 7	B / 5	B / 8	B / 6	B / 8	B / 6
		Route 138 SB lefts	B / 8	B / 7	B / 10	B / 8	B / 10	B / 8
Route 138 at Dunkin' Donuts (Northern entrance)	U	North entrance WB lefts and rights	F / *	E / 42	F / *	F / *	F / *	F / *
		Route 138 SB lefts	B / 7	B / 6	B / 8	B / 7	B / 8	B / 7
Route 138 at Dunkin' Donuts (Southern entrance)	U	South entrance WB lefts and rights	F / *	E / 38	F / *	F / *	F / *	F / *
		Route 138 SB lefts	B / 9	B / 7	C / 13	B / 9	C / 13	B / 9
Route 138 at Orchard Cove/ '99s Restaurant	U	Orchard Cove EB, all turns	F / 57	E / 41	F / *	F / *	F / *	F / *
		'99s Restaurant WB, all turns	F / 59	E / 41	F / *	F / *	F / *	F / *
		Route 138 NB lefts	B / 8	B / 7	B / 9	B / 8	B / 9	B / 8
		Route 138 SB lefts	B / 7	B / 6	B / 9	B / 8	B / 9	B / 8
Route 138 at Whitman Rd/#425	U	#425 EB, all turns	E / 38	D / 29	F / *	F / 55	F / *	F / 55
		Whitman Rd WB, all turns	E / 30	F / 50	F / *	F / *	F / *	F / *
		Route 138 NB lefts	B / 7	B / 6	B / 8	B / 7	B / 8	B / 7
		Route 138 SB lefts	B / 6	B / 7	B / 7	B / 8	B / 7	B / 8
Route 138 at Merkert Corp. (Northern Merkert driveway)	U	Merkert Corp. WB lefts and rights	C / 15	B / 10	D / 21	C / 12	D / 21	C / 12
		Route 138 SB lefts	B / 6	B / 6	B / 8	B / 7	B / 8	B / 7
Route 138 at Merkert Corp./#437 (Southern Merkert driveway)	U	#437 EB, all turns	D / 24	E / 41	E / 31	F / *	F / *	No Improvements Recommended
		Merkert Corp. WB, all turns	E / 43	F / *	F / *	F / *	F / *	
		Route 138 NB lefts	B / 6	B / 6	B / 8	B / 7	B / 8	
		Route 138 SB lefts	B / 7	B / 5	B / 8	B / 6	B / 7	
Route 138 at Tuthill Corp.	U	Tuthill Corp. EB lefts and rights	D / 25	E / 33	E / 39	F / *	F / *	No Improvements Recommended
		Route 138 NB lefts	B / 5	B / 7	B / 6	B / 8	B / 8	

(NOTE: shaded cells denote movements with unacceptable levels of service (E or F);

* = delay of 75 seconds or more for signalized intersections, 60 seconds or more for unsignalized intersections)

1999, 2020 No-Build, 2020 Build Intersection Level of Service (cont.)

(TOWN) INTERSECTION	SIGNALIZED or UN- SIGNALIZED	MOVEMENT	1999		2020 No-Build		2020 Build	
			Level of Service / Average Total Delay		Level of Service / Average Total Delay		Level of Service / Average Total Delay	
			AM Pk Hr	PM Pk Hr	AM Pk Hr	PM Pk Hr	AM Pk Hr	PM Pk Hr
(CANTON, cont.) Route 138 at #555/Arboretum Wy	U	#555 EB, all turns	E / 41	F / *	F / *	F / *	B / 8	D / 25
		Arboretum Way WB, all turns	F / *	F / *	F / *	F / *	F / *	F / *
		Route 138 NB lefts	B / 6	B / 8	B / 8	C / 10	B / 7	B / 10
		Route 138 SB lefts	B / 7	B / 6	B / 9	B / 7	B / 9	B / 7
Route 138 at Dan Rd	S	Dan Rd EB lefts	B / 14	C / 19	C / 24	E / 47	C / 24	F / 61
		Dan Rd EB rights	B / 14	B / 15	C / 24	C / 25	C / 24	C / 20
		Route 138 NB lefts	A / 2	A / 3	A / 2	A / 4	A / 4	C / 17
		Route 138 NB throughs	B / 13	A / 3	C / 16	A / 4	C / 16	B / 6
		Route 138 SB throughs	A / 2	B / 13	A / 2	D / 26	A / 2	E / 59
		Route 138 SB rights	A / 2	A / 2	A / 2	A / 2	A / 2	A / 4
Route 138 at #960 (Foxford Business Center)	U	#980 WB lefts and rights	D / 23	E / 38	E / 35	F / *	No Improvements Recommended	
		Route 138 SB lefts	C / 10	A / 3	C / 13	A / 4		
Route 138 at Boston Dr / #980	U	Boston Dr EB, all turns	E / 31	C / 20	F / *	E / 37	No Improvements Recommended	
		#980 WB, all turns	F / *	E / 34	F / *	F / *		
		Route 138 NB lefts	A / 4	B / 9	A / 4	C / 12		
		Route 138 SB lefts	C / 10	A / 3	C / 13	A / 4		
Route 138 at Tracy Wood Rd	U	Tracy Wood Rd WB lefts and rights	D / 26	F / 58	E / 39	F / *	No Improvements Recommended	
		Route 138 SB lefts	C / 13	A / 4	C / 18	A / 4		
Route 138 at Stagecoach Rd	U	Stagecoach Rd WB lefts and rights	E / 42	E / 37	F / 56	F / *	N.A.	N.A.
		Stagecoach Rd WB lefts	N.A.	N.A.	N.A.	N.A.	F / *	F / *
		Stagecoach Rd WB rights	N.A.	N.A.	N.A.	N.A.	E / 31	A / 5
		Route 138 SB lefts	C / 13	A / 3	C / 18	A / 4	C / 18	A / 4
(STOUGHTON) Route 138 at York St	U / S	York St WB lefts and rights	F / *	F / *	F / *	F / *	N.A.	N.A.
		York St WB lefts	N.A.	N.A.	N.A.	N.A.	B / 10	D / 34
		York St WB rights	N.A.	N.A.	N.A.	N.A.	C / 21	D / 30
		Route 138 NB throughs and rights	N.A.	N.A.	N.A.	N.A.	B / 9	A / 2
		Route 138 SB lefts	C / 14	B / 5	D / 21	B / 7	B / 5	B / 7
		Route 138 SB throughs	N.A.	N.A.	N.A.	N.A.	A / 4	D / 39

(NOTE: shaded cells denote movements with unacceptable levels of service (E or F);

* = delay of 75 seconds or more for signalized intersections, 60 seconds or more for unsignalized intersections)

1999, 2020 No-Build, 2020 Build Intersection Level of Service (cont.)

(TOWN) INTERSECTION	SIGNALIZED or UN- SIGNALIZED	MOVEMENT	1999		2020 No-Build		2020 Build	
			Level of Service / Average Total Delay		Level of Service / Average Total Delay		Level of Service / Average Total Delay	
			AM Pk Hr	PM Pk Hr	AM Pk Hr	PM Pk Hr	AM Pk Hr	PM Pk Hr
(STOUGHTON, cont.) Route 138 at Stop & Shop/T.Bell (Northern entrance)	S	Taco Bell EB, all turns	B / 14	B / 9	B / 14	C / 21	No Improvements Recommended	
		Stop & Shop WB, all turns	B / 14	B / 9	B / 14	D / 27		
		Route 138 NB, all turns	A / 3	A / 3	A / 4	A / 2		
		Route 138 SB, all turns	A / 2	B / 10	A / 2	B / 12		
Route 138 at Kimball Ave (Stop & Shop, southern entrance)	U	Kimball Ave WB lefts and rights	F / 50	F / *	F / *	F / *	No Improvements Recommended	
		Route 138 SB lefts	C / 14	B / 5	C / 19	B / 6		
Central St at Pearl St	S	Central St EB, all turns	F / *	F / *	F / *	F / *	No Improvements Recommended	
		Central St WB lefts	B / 15	B / 9	C / 19	B / 9		
		Central St WB throughs and rights	F / *	F / *	F / *	F / *		
		Pearl St NB, all turns	E / 45	C / 17	F / *	C / 24		
		Pearl St SB, all turns	F / *	F / *	F / *	F / *		
Route 138 at Central St	S	Central St EB, all turns	F / *	D / 28	F / *	F / *	F / *	F / *
		Central St WB lefts and throughs	C / 19	C / 21	D / 35	F / *	F / 40	F / *
		Central St WB rights	C / 24	C / 19	D / 33	C / 16	D / 36	C / 16
		Route 138 NB lefts	E / 42	D / 33	E / 55	D / 33	E / 41	D / 33
		Route 138 NB throughs and rights	C / 24	C / 24	E / 44	D / 27	E / 57	D / 27
		Route 138 SB lefts	D / 38	F / *	E / 58	F / *	E / 48	F / *
		Route 138 SB throughs and rights	C / 21	F / *	D / 33	F / *	D / 33	F / *
		Plaza EB lefts	E / 39	F / *	F / *	F / *	F / *	F / *
Route 138 at Block Buster Plaza	U	Plaza EB rights	A / 4	C / 12	A / 5	C / 18	A / 5	C / 18
		Route 138 NB lefts	A / 3	B / 9	A / 4	C / 13	A / 4	C / 13
Route 138 at Lincoln St/Parkway	U	Parkway EB, all turns	C / 14	F / *	D / 23	F / *	D / 23	F / *
		Lincoln St WB, all turns	F / *	F / *	F / *	F / *	N.A.	N.A.
		Lincoln St WB lefts and throughs	N.A.	N.A.	N.A.	N.A.	F / *	F / *
		Lincoln St WB rights	N.A.	N.A.	N.A.	N.A.	E / 31	C / 16
		Route 138 NB lefts	A / 3	B / 8	A / 3	C / 10	A / 3	C / 10
		Route 138 SB lefts	B / 7	B / 8	B / 8	C / 11	B / 8	C / 11

(NOTE: shaded cells denote movements with unacceptable levels of service (E or F);

* = delay of 75 seconds or more for signalized intersections, 60 seconds or more for unsignalized intersections)

1999, 2020 No-Build, 2020 Build Intersection Level of Service (cont.)

(TOWN) INTERSECTION	SIGNALIZED or UN- SIGNALIZED	MOVEMENT	Level of Service / Average Total Delay		Level of Service / Average Total Delay		Level of Service / Average Total Delay		
			AM Pk Hr	PM Pk Hr	AM Pk Hr	PM Pk Hr	AM Pk Hr	PM Pk Hr	
(STOUGHTON, cont.) Pearl St at School St (all-way Stop-controlled intersection)	U	School St EB, all turns	B / 10	N.A.	C / 14	N.A.	No Improvements Recommended		
		School St WB, all turns	E / 36	N.A.	F / 66	N.A.			
		Pearl St NB, all turns	D / 22	N.A.	E / 36	N.A.			
		Pearl St SB, all turns	C / 11	N.A.	C / 17	N.A.			
Route 138 at School St	U / S	School St EB lefts and rights	F / *	F / *	F / *	F / *	D / 34	C / 22	
		Route 138 NB throughs	N.A.	N.A.	N.A.	N.A.	D / 30	B / 11	
		Route 138 NB lefts	A / 4	B / 9	A / 4	C / 13	Prohibited	Prohibited	
		Route 138 SB throughs and rights	N.A.	N.A.	N.A.	N.A.	B / 8	B / 13	
Stoughton Square North	U	Route 27 EB rights	B / 7	C / 14	B / 10	E / 30	B / 10	E / 30	
		Route 138 SB throughs and rights	F / *	F / *	F / *	F / *	F / *	F / *	
		Routes 138/27 NB lefts	A / 4	B / 5	B / 5	B / 6	B / 5	B / 6	
		Wyman St EB, all turns	F / *	N.A.	F / *	N.A.	N.A.	No Improve- ments Re- commended	
Stoughton Square Middle	U	Wyman St EB rights	N.A.	C / 11	N.A.	C / 16	B / 9	No Improve- ments Re- commended	
		Freeman St WB, all turns	B / 7	A / 5	B / 8	B / 5	B / 8		
		Route 138 NB lefts	B / 9	C / 17	C / 12	D / 25	C / 12		
		Route 138 SB lefts	C / 16	B / 8	D / 23	B / 10	D / 23		
Stoughton Square South	U	Route 138 NB throughs and rights	F / *	F / *	F / *	F / *	No Improvements Recommended		
		Route 139 WB rights	B / 6	A / 5	B / 8	B / 5			
		Routes 138/27 SB lefts	C / 11	B / 5	C / 20	B / 7			
Route 138 at Plain St	U	Plain St EB lefts and rights	F / *	F / *	F / *	F / *	N.A.	N.A.	
		Plain St EB lefts	N.A.	N.A.	N.A.	N.A.	C / 23	C / 24	
		Plain St EB rights	N.A.	N.A.	N.A.	N.A.	C / 18	D / 26	
		Route 138 NB lefts	A / 4	B / 8	A / 4	C / 10	B / 7	B / 14	
		Route 138 NB throughs	N.A.	N.A.	N.A.	N.A.	B / 13	B / 6	
		Route 138 SB throughs	N.A.	N.A.	N.A.	N.A.	B / 14	C / 21	
		Route 138 SB rights	N.A.	N.A.	N.A.	N.A.	B / 12	B / 12	

(NOTE: shaded cells denote movements with unacceptable levels of service (E or F);

* = delay of 75 seconds or more for signalized intersections, 60 seconds or more for unsignalized intersections)

APPENDIX D-3

Traffic Signal Warrants Analyses (based on 1999 volumes)

- Summary
- Individual Warrants

*Warrant**

- | | |
|----|------------------------------------|
| 1 | Minimum Vehicular Volume |
| 2 | Interruption of Continuous Traffic |
| 6 | Accident Experience |
| 7 | Systems Warrant |
| 8 | Combination of Warrants |
| 9 | Four-hour Volumes |
| 10 | Peak-Hour Delay |
| 11 | Peak-Hour Volume |

*Warrants not tested: (3) Minimum Pedestrian Volume; (4) School Crossing; (5) Progressive Movement

SUMMARY OF TRAFFIC SIGNAL WARRANTS APPLIED TO STUDY AREA UNSIGNALIZED INTERSECTIONS
(based on 1999 volumes)

	Are warrants met ? (Yes / Probably / Probably Not / No)										
	W A R R A N T										
	1	2	3	4	5	6	7	8	9	10	11
Unsignalized Intersection	"Minimum Vehicular Volume"	"Interrup'tn of Contin. Traffic"	"Minimum Pedestrian Volume"	"School Crossing"	"Progressive Movement"	"Accident Experience"	"Systems Warrant"	"Combination of Warrants"	"Four-Hour Volumes"	"Peak-Hour Delay"	"Peak-Hour Volume"
STOUGHTON											
-- Route 138 at Plain St	Yes	Yes				Yes	Yes	Yes	Yes	Yes	Yes
-- Route 138 at School St	Probably	Probably	N	N	N	Probably	Probably	Probably	Yes	Yes	Yes
-- Route 138 at Lincoln St/Parkway	Probably	Probably	O	O	O	Probably	Probably	Probably	Yes	Yes	Yes
-- Route 138 at Block Buster	No	Prob. Not	T	T	T	N.A.	N.A.	No	Probably	No	Yes
-- Route 138 at York St	Prob. Not	Probably				Probably	Prob. Not	Probably	Yes	Yes	Yes
CANTON											
-- Route 138 at J.Baker/Arboretum Way	No	Prob. Not	T	T	T	N.A.	N.A.	Prob. Not	Probably	Yes	Yes
-- Route 138 at "new" driveway/Orchard Gr	Probably	Probably	E	E	E	N.A.	N.A.	Probably	Yes	Yes	Yes
-- Route 138 at Greenlodge St	No	No	S	S	S	Prob. Not	N.A.	No	Prob. Not	Yes	Yes
MILTON											
-- Route 138 at Neponset Valley Pkwy	Yes	Yes	D	D	D	Yes	Yes	Yes	Yes	No	Yes

**TRAFFIC SIGNAL WARRANT NO. 1 ("MINIMUM VEHICULAR VOLUME")
APPLIED TO STUDY AREA UNSIGNALIZED INTERSECTIONS
(based on 1999 volumes)**

<i>WARRANT 1</i>		Unsignalized Intersection	Major street	Minor street
<i>Major street vol., (lanes) both appr.</i>	<i>Minor street vol., (lanes) one appr.</i>		Hours meeting warrant 1 ?	Hours meeting warrant 1 ?
<i>a: 500 (1)</i>	<i>a: 150 (1)</i>	Route 138 at Plain St (Stoughton) (a)	7- 8: 1080	7- 8: 240
<i>b: 600 (2+)</i>	<i>b: 150 (1)</i>		8- 9: 1010	8- 9: 320
<i>c: 600 (2+)</i>	<i>c: 200 (2+)</i>		9-10: 850	9-10: 230
<i>d: 500 (1)</i>	<i>d: 200 (2+)</i>		10-11: 630	10-11: 170
			11-12: 730	11-12: 160
			12-13: 840	12-13: 180
			13-14: 810	13-14: 170
			14-15: 910	14-15: 160
			15-16: 1060	15-16: 220
			16-17: 1150	16-17: 240
			17-18: 1420	17-18: 280
			18-19: 1120	18-19: 260
			19-20: 760	19-20: 170
			(13 hrs. met, any 8 hrs. needed)	
			7- 8: 1210	7- 8: 290
			8- 9: 1260	8- 9: 270
			9-10:	9-10:
			10-11:	10-11:
			11-12: (9-16	11-12: (9-16
			12-13: not	12-13: not
			13-14: available)	13-14: available)
			14-15:	14-15:
			15-16:	15-16:
			16-17: 1520	16-17: 270
			17-18: 1560	17-18: 260
			18-19:	18-19:
			(Warrant 1 most likely met; 4 hrs. met easily, any 8 hrs. needed)	
		Route 138 at Lincoln St/ Parkway (Stoughton) (a)	7- 8: 1260	7- 8: 320
			8- 9: 1240	8- 9: 230
			9-10:	9-10:
			10-11:	10-11:
			11-12: (9-16	11-12: (9-16
			12-13: not	12-13: not
			13-14: available)	13-14: available)
			14-15:	14-15:
			15-16:	15-16:
			16-17: 1500	16-17: 260
			17-18: 1950	17-18: 340
			18-19:	18-19:
			(Warrant 1 most likely met; 4 hrs. met easily, any 8 hrs. needed)	

-- STOUGHTON --

Traffic Signal Warrant No. 1 ("Minimum Vehicular Volume")
 Applied to Study Area Unsignalized Intersections
 (based on 1999 volumes) (cont.)

WARRANT 1		Unsignalized Intersection	Major street	Minor street
Major street vol., (lanes) both appr.	Minor street vol., (lanes) one appr.		Hours meeting warrant 1 ?	Hours meeting warrant 1 ?
-- STOUGHTON --			Route 138 at Block Buster (Stoughton) (a)	7- 8: 1370
		8- 9: 1420		8- 9: 60
		9-10:		9-10:
		10-11:		10-11:
		11-12: (9-16		11-12: (9-16
		12-13: not		12-13: not
		13-14: available)		13-14: available)
		14-15:		14-15:
		15-16:		15-16:
		16-17: 1730		16-17: 100
		17-18: 1800	17-18: 140	
		18-19:	18-19:	
		(Warrant 1 not met; 0 hrs. of minor street warrant met, 8 hrs. needed)		
		Route 138 at York St (Stoughton) (a)	7- 8: 1680	7- 8: 300
			8- 9: 1660	8- 9: 300
			9-10: 1070	9-10:
			10-11: 1040	10-11:
			11-12: 1290	11-12: (9-16
			12-13: 1690	12-13: not
			13-14: 1510	13-14: available)
14-15: 1350	14-15:			
15-16: 1590	15-16:			
16-17: 1810	16-17: 160			
17-18: 1940	17-18: 140			
18-19: 1310	18-19:			
(Warrant 1 possibly met; 3 hrs. met, any 8 hrs. needed)				
-- CANTON --		Route 138 at J. Baker/Tuthill/ Arboretum (Canton) (a) (This scenario assumes combined volumes at one EB driveway from J. Baker and Tuthill Corp.)	7- 8: 1780	7- 8: 90
			8- 9: 1710	8- 9: 40
			9-10:	9-10:
			10-11:	10-11:
			11-12: (9-16	11-12: (9-16
			12-13: not	12-13: not
			13-14: available)	13-14: available)
			14-15:	14-15:
			15-16:	15-16:
			16-17: 1610	16-17: 100
			17-18: 1790	17-18: 230
			18-19:	18-19:
			(Warrant 1 not met; 1 hr. of minor street warrant met, 8 hrs. needed)	

Traffic Signal Warrant No. 1 ("Minimum Vehicular Volume")
 Applied to Study Area Unsignalized Intersections
 (based on 1999 volumes) (cont.)

WARRANT 1		Unsignalized Intersection	Major street	Minor street
Major street vol., (lanes) both appr.	Minor street vol., (lanes) one appr.		Hours meeting warrant 1 ?	Hours meeting warrant 1 ?
a: 500 (1) b: 600 (2+) c: 600 (2+) d: 500 (1)	a: 150 (1) b: 150 (1) c: 200 (2+) d: 200 (2+)		Route 138 at "new" WB drive-way/Orchard Gr. (Canton) (a) (Combined WB vols. assumed from Pequot Pk, #320-348, Dunk. Don., '99s, Whitman Rd, Merkert)	7- 8: 1960 8- 9: 1820 9-10: 10-11: 11-12: (9-16 12-13: not 13-14: available) 14-15: 15-16: 16-17: 1900 17-18: 1810 18-19: (Warrant 1 most likely met; 4 hrs. met easily, any 8 hrs. needed)
-- CANTON --		Route 138 at Greenlodge St (Canton) (a)	7- 8: 2790 8- 9: 2810 9-10: 2060 10-11: 1910 11-12: 2060 12-13: 2190 13-14: 2050 14-15: 2390 15-16: 2950 16-17: 2800 17-18: 2980 18-19: 2300 (Warrant 1 not met; 0 hrs. of minor street warrant met, 8 hrs. needed)	7- 8: 50 8- 9: 60 9-10: 10-11: 11-12: (9-16 12-13: not 13-14: available) 14-15: 15-16: 16-17: 70 17-18: 140 18-19:
		Route 138 at Neponset Valley Parkway (Milton) (a)	7- 8: 1520 8- 9: 1490 9-10: 1020 10-11: 960 11-12: 980 12-13: 1040 13-14: 1050 14-15: 1190 15-16: 1220 16-17: 1350 17-18: 1490 18-19: 1220 19-20: 930 (19 hrs. met, any 8 hrs. needed)	7- 8: 380 8- 9: 420 9-10: 380 10-11: 380 11-12: 360 12-13: 340 13-14: 400 14-15: 510 15-16: 480 16-17: 400 17-18: 400 18-19: 430 19-20: 400
		-- MILTON --		

**TRAFFIC SIGNAL WARRANT NO. 2 ("INTERRUPTION OF CONTINUOUS
TRAFFIC") APPLIED TO STUDY AREA UNSIGNALIZED INTERSECTIONS
(based on 1999 volumes)**

<i>WARRANT 2</i>		Unsignalized Intersection	Major street	Minor street
<i>Major street vol., (lanes) both appr.</i>	<i>Minor street vol., (lanes) one appr.</i>		Hours meeting warrant 2 ?	Hours meeting warrant 2 ?
<i>a: 750 (1)</i> <i>b: 900 (2+)</i> <i>c: 900 (2+)</i> <i>d: 750 (1)</i>	<i>a: 75 (1)</i> <i>b: 75 (1)</i> <i>c: 100 (2+)</i> <i>d: 100 (2+)</i>	Route 138 at Plain St (Stoughton) (a)	7- 8: 1080 8- 9: 1010 9-10: 850 10-11: 630 11-12: 730 12-13: 840 13-14: 810 14-15: 910 15-16: 1060 16-17: 1150 17-18: 1420 18-19: 1120 19-20: 760 (11 hrs. met, any 8 hrs. needed)	7- 8: 240 8- 9: 320 9-10: 230 10-11: 170 11-12: 160 12-13: 180 13-14: 170 14-15: 160 15-16: 220 16-17: 240 17-18: 280 18-19: 260 19-20: 170
-- STOUGHTON --		Route 138 at School St (Stoughton) (a)	7- 8: 1210 8- 9: 1260 9-10: 10-11: 11-12: (9-16 12-13: not 13-14: available) 14-15: 15-16: 16-17: 1520 17-18: 1560 18-19: (Warrant 2 most likely met; 4 hrs. met easily, any 8 hrs. needed)	7- 8: 290 8- 9: 270 9-10: 10-11: 11-12: (9-16 12-13: not 13-14: available) 14-15: 15-16: 16-17: 270 17-18: 260 18-19:
		Route 138 at Lincoln St/ Parkway (Stoughton) (a)	7- 8: 1260 8- 9: 1240 9-10: 10-11: 11-12: (9-16 12-13: not 13-14: available) 14-15: 15-16: 16-17: 1500 17-18: 1950 18-19: (Warrant 2 most likely met; 4 hrs. met easily, any 8 hrs. needed)	7- 8: 320 8- 9: 230 9-10: 10-11: 11-12: (9-16 12-13: not 13-14: available) 14-15: 15-16: 16-17: 260 17-18: 340 18-19:

Traffic Signal Warrant No. 2 ("Interruption of Continuous Traffic")
 Applied to Study Area Unsignalized Intersections
 (based on 1999 volumes) (cont.)

WARRANT 2		Unsignalized Intersection	Major street	Minor street
Major street vol., (lanes) both appr.	Minor street vol., (lanes) one appr.		Hours meeting warrant 2 ?	Hours meeting warrant 2 ?
-- STOUGHTON --			Route 138 at Block Buster (Stoughton) (a)	7- 8: 1370
		8- 9: 1420		8- 9: 60
		9-10:		9-10:
		10-11:		10-11:
		11-12: (9-16		11-12: (9-16
		12-13: not		12-13: not
		13-14: available)		13-14: available)
		14-15:		14-15:
		15-16:		15-16:
		16-17: 1730		16-17: 100
		17-18: 1800	17-18: 140	
		18-19:	18-19:	
		(Warrant 2 possibly not met; 2 hrs. met, any 8 hrs. needed)		
		Route 138 at York St (Stoughton) (a)	7- 8: 1680	7- 8: 300
			8- 9: 1660	8- 9: 300
			9-10: 1070	9-10:
			10-11: 1040	10-11:
			11-12: 1290	11-12: (9-16
			12-13: 1690	12-13: not
			13-14: 1510	13-14: available)
14-15: 1350	14-15:			
15-16: 1590	15-16:			
16-17: 1810	16-17: 160			
17-18: 1940	17-18: 140			
18-19: 1310	18-19:			
(Warrant 2 very likely met; 4 hrs. met, any 8 hrs. needed)				
-- CANTON --	Route 138 at J. Baker/Tuthill/ Arboretum (Canton) (a) (This scenario assumes combined volumes at one EB driveway from J. Baker and Tuthill Corp.)	7- 8: 1780	7- 8: 90	
		8- 9: 1710	8- 9: 40	
		9-10:	9-10:	
		10-11:	10-11:	
		11-12: (9-16	11-12: (9-16	
		12-13: not	12-13: not	
		13-14: available)	13-14: available)	
		14-15:	14-15:	
		15-16:	15-16:	
		16-17: 1610	16-17: 100	
		17-18: 1790	17-18: 230	
		18-19:	18-19:	
		(Warrant 2 possibly not met; 3 hrs. met, any 8 hrs. needed)		

Traffic Signal Warrant No. 2 ("Interruption of Continuous Traffic")
 Applied to Study Area Unsignalized Intersections
 (based on 1999 volumes) (cont.)

WARRANT 2		Unsignalized Intersection	Major street	Minor street
Major street vol., (lanes) both appr.	Minor street vol., (lanes) one appr.		Hours meeting warrant 2 ?	Hours meeting warrant 2 ?
a: 750 (1)	a: 75 (1)	Route 138 at "new" WB drive- way/Orchard Gr. (Canton) (a) (Combined WB vols. assumed from Pequot Pk, #320-348, Dunk. Don., '99s, Whit- man Rd, Merkert)	7- 8: 1960	7- 8: 220
b: 900 (2+)	b: 75 (1)		8- 9: 1820	8- 9: 270
c: 900 (2+)	c: 100 (2+)		9-10:	9-10:
d: 750 (1)	d: 100 (2+)		10-11:	10-11:
-- CANTON --			11-12: (9-16	11-12: (9-16
			12-13: not	12-13: not
			13-14: available)	13-14: available)
			14-15:	14-15:
			15-16:	15-16:
			16-17: 1900	16-17: 360
		17-18: 1810	17-18: 430	
		18-19:	18-19:	
		(Warrant 2 most likely met; 4 hrs. met easily, any 8 hrs. needed)		
		Route 138 at Greenlodge St (Canton) (a)	7- 8: 2790	7- 8: 50
			8- 9: 2810	8- 9: 60
			9-10: 2060	9-10:
			10-11: 1910	10-11:
			11-12: 2060	11-12: (9-16
			12-13: 2190	12-13: not
			13-14: 2050	13-14: available)
			14-15: 2390	14-15:
			15-16: 2950	15-16:
			16-17: 2800	16-17: 70
		17-18: 2980	17-18: 140	
		18-19: 2300	18-19:	
		(Warrant 2 not met; 1 hr. met, any 8 hrs. needed)		
-- MILTON --		Route 138 at Neponset Valley Parkway (Milton) (a)	7- 8: 1520	7- 8: 380
			8- 9: 1490	8- 9: 420
			9-10: 1020	9-10: 380
			10-11: 960	10-11: 380
			11-12: 980	11-12: 360
			12-13: 1040	12-13: 340
			13-14: 1050	13-14: 400
			14-15: 1190	14-15: 510
			15-16: 1220	15-16: 480
			16-17: 1350	16-17: 400
			17-18: 1490	17-18: 400
			18-19: 1220	18-19: 430
			19-20: 930	19-20: 400
			(16 hrs. met, any 8 hrs. needed)	

**TRAFFIC SIGNAL WARRANT NO. 6 ("ACCIDENT EXPERIENCE")
APPLIED TO STUDY AREA UNSIGNALIZED INTERSECTIONS
(based on 1999 volumes)**

<i>WARRANT 6</i>		
1. 2. <i>At least 5 reported accidents in a 12-month period.</i> 3. <i>At least 80 % of Warrants 1 and 2.</i> 4.	Unsignalized Intersection	How is Warrant 6 met?
	Route 138 at Plain St (Stoughton) (Major street one lane, minor street one lane; intersection 3-legged)	1. 2. 19 accidents reported during 1997-1999, 6.3 per year. 3. Both Warrants 1 and 2 are met more than 100 %. 4.
	Route 138 at School St (Stoughton) (Major street one lane, minor street one lane; intersection 3-legged)	1. 2. 23 accidents reported during 1997-1999, 7.7 per year. 3. Both Warrants 1 and 2 are most likely met at 80 %. 4.
	Route 138 at Lincoln St/ Parkway (Stoughton) (Major street one lane, minor street one lane; intersection 4-legged)	1. 2. 17 accidents reported during 1995-1997, 5.7 per year. 3. Both Warrants 1 and 2 are most likely met at 80 %. 4.

-- STOUGHTON --

Traffic Signal Warrant No. 6 ("Accident Experience")
 Applied to Study Area Unsignalized Intersections
 (based on 1999 volumes) (cont.)

<i>WARRANT 6</i>		
1. 2. <i>At least 5 reported accidents in a 12-month period.</i> 3. <i>At least 80 % of Warrants 1 and 2.</i> 4.	Unsignalized Intersection	How is Warrant 6 met?
	Route 138 at Block Buster (Stoughton) (Major street one lane, minor street two lanes; intersection 3-legged)	1. 2. Accident data not gathered for this location. 3. Warrant 1 probably not met; Warrant 2 possibly met at 80 %. 4.
	Route 138 at York St (Stoughton) (Major street one lane, minor street one lane; intersection 3-legged)	1. 2. 20 accidents reported during 1995-1997, 6.7 per year. 3. Warrant 1 possibly met; Warrant 2 most likely met at 80 %. 4.
-- STOUGHTON --		
	Route 138 at J. Baker/Tuthill/Arboretum (Canton) (Major street one lane, minor street one lane; intersection 4-legged) (This scenario assumes combined volumes at one EB driveway from J. Baker and Tuthill Corp.)	1. 2. Accident data not gathered for this location. 3. Warrant 1 probably not met; Warrant 2 possibly met at 80 %. 4.
	-- CANTON --	

Traffic Signal Warrant No. 6 ("Accident Experience")
 Applied to Study Area Unsignalized Intersections
 (based on 1999 volumes) (cont.)

<i>WARRANT 6</i>		
1.	Unsignalized Intersection	How is Warrant 6 met?
2. <i>At least 5 reported accidents in a 12-month period.</i>		
3. <i>At least 80 % of Warrants 1 and 2.</i>		
4.		
-- CANTON --	Route 138 at "new" WB drive-way/Orchard Gr. (Canton) (Major street one lane, minor street one lane; intersection 4-legged) (Combined WB vols. assumed from Pequot Pk, #320-348, Dunk. Don., '99s, Whitman Rd, Merkert)	1. 2. Accident data not gathered for this location. 3. Both Warrants 1 and 2 are most likely met at 80 %. 4.
	Route 138 at Greenlodge St (Canton) (Major street one lane, minor street one lane; intersection 3-legged)	1. 2. 19 accidents reported during 1997-1999, 6.3 per year. 3. Warrants 1 and 2 are most likely not met at 80 %. 4.
-- MILTON --	Route 138 at Neponset Valley Parkway (Milton) (Major street one lane, minor street one lane; intersection 3-legged)	1. 2. 18 accidents reported during 1995-1997, 6.0 per year. 3. Both Warrants 1 and 2 are met more than 100 %. 4.

**TRAFFIC SIGNAL WARRANT NO. 7 ("SYSTEMS WARRANT")
APPLIED TO STUDY AREA UNSIGNALIZED INTERSECTIONS
(based on 1999 volumes)**

<i>WARRANT 7</i>		
1. <i>At least 1000 vehicles entering intersection in the peak hour; and, 5-yr projected volumes meeting any of Warrants 1, 2, 8, 9 or 11.</i> 2.	Unsignalized Intersection	How is Warrant 7 met?
	Route 138 at Plain St (Stoughton) (Major street one lane, minor street one lane; intersection 3-legged)	1. At least 1000 vehicles enter the intersection 9 different hours; 5-yr projected volumes meet: -- Warrant 1, YES -- Warrant 2, YES -- Warrant 8, YES -- Warrant 9, YES -- Warrant 11, YES 2.
	Route 138 at School St (Stoughton) (Major street one lane, minor street one lane; intersection 3-legged)	1. At least 1000 vehicles enter the intersection 4 known hours; 5-yr projected volumes meet: -- Warrant 1, most likely -- Warrant 2, most likely -- Warrant 8, most likely -- Warrant 9, YES -- Warrant 11, YES 2.
	Route 138 at Lincoln St/ Parkway (Stoughton) (Major street one lane, minor street one lane; intersection 4-legged)	1. At least 1000 vehicles enter the intersection 4 known hours; 5-yr projected volumes meet: -- Warrant 1, most likely -- Warrant 2, most likely -- Warrant 8, most likely -- Warrant 9, YES -- Warrant 11, YES 2.

-- STOUGHTON --

Traffic Signal Warrant No. 7 ("Systems Warrant")
 Applied to Study Area Unsignalized Intersections
 (based on 1999 volumes) (cont.)

WARRANT 7		
1. At least 1000 vehicles entering intersection in the peak hour; and, 5-yr projected volumes meeting any of Warrants 1, 2, 8, 9 or 11. 2.	Unsignalized Intersection	How is Warrant 7 met?
-- STOUGHTON --	Route 138 at Block Buster (Stoughton) (Major street one lane, minor street two lanes; intersection 3-legged)	Warrant 7 does not apply to this (driveway) intersection (i.e., it is not an intersection of two MAJOR routes).
	Route 138 at York St (Stoughton) (Major street one lane, minor street one lane; intersection 3-legged)	1. At least 1000 vehicles enter the intersection 4 known hours; 5-yr projected volumes meet: -- Warrant 1, possibly not -- Warrant 2, most likely -- Warrant 8, most likely -- Warrant 9, YES -- Warrant 11, YES 2.
-- CANTON --	Route 138 at J. Baker/Tuthill/Arboretum (Canton) (Major street one lane, minor street one lane; intersection 4-legged) (This scenario assumes combined volumes at one EB driveway from J. Baker and Tuthill Corp.)	Warrant 7 does not apply to this (driveway) intersection (i.e., it is not an intersection of two MAJOR routes).

Traffic Signal Warrant No. 7 ("Systems Warrant")
 Applied to Study Area Unsignalized Intersections
 (based on 1999 volumes) (cont.)

WARRANT 7		
1. At least 1000 vehicles entering intersection in the peak hour; and, 5-yr projected volumes meeting any of Warrants 1, 2, 8, 9 or 11. 2.	Unsignalized Intersection	How is Warrant 7 met?
-- CANTON --	Route 138 at "new" WB drive-way/Orchard Gr. (Canton) (Major street one lane, minor street one lane; intersection 4-legged) (Combined WB vols. assumed from Pequot Pk, #320-348, Dunk. Don., '99s, Whitman Rd, Merkert)	Warrant 7 does not apply to this (driveway) intersection (i.e., it is not an intersection of two MAJOR routes).
	Route 138 at Greenlodge St (Canton) (Major street one lane, minor street one lane; intersection 3-legged)	Warrant 7 does not apply to this (minor route) intersection (i.e., it is not an intersection of two MAJOR routes).
-- MILTON --	Route 138 at Neponset Valley Parkway (Milton) (Major street one lane, minor street one lane; intersection 3-legged)	1. At least 1000 vehicles enter the intersection 13 known hours; 5-yr projected volumes meet: -- Warrant 1, YES -- Warrant 2, YES -- Warrant 8, YES -- Warrant 9, YES -- Warrant 11, YES 2.

**TRAFFIC SIGNAL WARRANT NO. 8 ("COMBINATION OF WARRANTS")
 APPLIED TO STUDY AREA UNSIGNALIZED INTERSECTIONS
 (based on 1999 volumes)**

WARRANT 8		Unsignalized Intersection	Major street	Minor street	
1. At least 80 % of Warrants 1 and 2:			Hours meeting warrant 8 ?	Hours meeting warrant 8 ?	
-- 80 % of WARRANT 1:					
Major street vol., (lanes) both appr.	Minor street vol., (lanes) one appr.	Route 138 at Plain St (Stoughton) (a)	7- 8: 1080	7- 8: 240	
a: 400 (1)	a: 120 (1)		8- 9: 1010	8- 9: 320	
b: 480 (2+)	b: 120 (1)		9-10: 850	9-10: 230	
c: 480 (2+)	c: 160 (2+)		10-11: 630	10-11: 170	
d: 400 (1)	d: 160 (2+)		11-12: 730	11-12: 160	
-- 80 % of WARRANT 2:			12-13: 840	12-13: 180	
Major street vol., (lanes) both appr.	Minor street vol., (lanes) one appr.		13-14: 810	13-14: 170	
a: 600 (1)	a: 60 (1)		14-15: 910	14-15: 160	
b: 720 (2+)	b: 60 (1)		15-16: 1060	15-16: 220	
c: 720 (2+)	c: 80 (2+)		16-17: 1150	16-17: 240	
d: 600 (1)	d: 80 (2+)	17-18: 1420	17-18: 280		
-- STOUGHTON --		Route 138 at School St (Stoughton) (a)	18-19: 1120	18-19: 260	
			19-20: 760	19-20: 170	
			(At least 11 hrs. met, any 8 hrs. needed)		
			Route 138 at Lincoln St/ Parkway (Stoughton) (a)	7- 8: 1210	7- 8: 290
				8- 9: 1260	8- 9: 270
				9-10:	9-10:
				10-11:	10-11:
				11-12: (9-16	11-12: (9-16
				12-13: not	12-13: not
				13-14: available)	13-14: available)
		14-15:		14-15:	
		15-16:		15-16:	
		16-17: 1520		16-17: 270	
		17-18: 1560	17-18: 260		
		18-19:	18-19:		
		(Warrant 8 most likely met; 4 hrs. met easily, any 8 hrs. needed)			
		7- 8: 1260		7- 8: 320	
		8- 9: 1240		8- 9: 230	
		9-10:		9-10:	
		10-11:		10-11:	
11-12: (9-16		11-12: (9-16			
12-13: not		12-13: not			
13-14: available)		13-14: available)			
14-15:		14-15:			
15-16:		15-16:			
16-17: 1500		16-17: 260			
17-18: 1950		17-18: 340			
18-19:		18-19:			
(Warrant 8 most likely met; 4 hrs. met easily, any 8 hrs. needed)					

-- STOUGHTON --

Applied to Study Area Unsignalized Intersections
(based on 1999 volumes) (cont.)

(ReS, 010620, Warrant8.xls)

Traffic Signal Warrant No. 8 ("Combination of Warrants")

Applied to Study Area Unsignalized Intersections

(based on 1999 volumes) (cont.)

WARRANT 8		Unsignalized Intersection	Major street	Minor street		
1. At least 80 % of Warrants 1 and 2:			Hours meeting warrant 8 ?	Hours meeting warrant 8 ?		
-- 80 % of WARRANT 1:						
Major street vol., (lanes) both appr.	Minor street vol., (lanes) one appr.	Route 138 at "new" WB drive-way/Orchard Gr. (Canton) (a) (Combined WB vols. assumed from Pequot Pk, #320-348, Dunk. Don., '99s, Whitman Rd, Merkert)	7- 8: 1960	7- 8: 220		
a: 400 (1)	a: 120 (1)		8- 9: 1820	8- 9: 270		
b: 480 (2+)	b: 120 (1)		9-10:	9-10:		
c: 480 (2+)	c: 160 (2+)		10-11:	10-11:		
d: 400 (1)	d: 160 (2+)		11-12: (9-16	11-12: (9-16		
-- 80 % of WARRANT 2:			12-13: not	12-13: not		
Major street vol., (lanes) both appr.	Minor street vol., (lanes) one appr.		13-14: available)	13-14: available)		
a: 600 (1)	a: 60 (1)		14-15:	14-15:		
b: 720 (2+)	b: 60 (1)		15-16:	15-16:		
c: 720 (2+)	c: 80 (2+)		16-17: 1900	16-17: 360		
d: 600 (1)	d: 80 (2+)		17-18: 1810	17-18: 430		
-- CANTON --			18-19:	18-19:		
			(Warrant 8 most likely met; 4 hrs. met easily, any 8 hrs. needed)			
			7- 8: 2790	7- 8: 50		
			8- 9: 2810	8- 9: 60		
		9-10: 2060	9-10:			
		Route 138 at Greenlodge St (Canton) (a)	10-11: 1910	10-11:		
			11-12: 2060	11-12: (9-16		
			12-13: 2190	12-13: not		
			13-14: 2050	13-14: available)		
			14-15: 2390	14-15:		
			15-16: 2950	15-16:		
			16-17: 2800	16-17: 70		
			17-18: 2980	17-18: 140		
			18-19: 2300	18-19:		
					(Warrant 8 not met; just 1 hr. met, any 8 hrs. needed)	
-- MILTON --		Route 138 at Neponset Valley Parkway (Milton) (a)	7- 8: 1520	7- 8: 380		
			8- 9: 1490	8- 9: 420		
			9-10: 1020	9-10: 380		
			10-11: 960	10-11: 380		
			11-12: 980	11-12: 360		
			12-13: 1040	12-13: 340		
			13-14: 1050	13-14: 400		
			14-15: 1190	14-15: 510		
			15-16: 1220	15-16: 480		
			16-17: 1350	16-17: 400		
			17-18: 1490	17-18: 400		
			18-19: 1220	18-19: 430		
			19-20: 930	19-20: 400		
					(At least 16 hrs. met, any 8 hrs. needed)	

**TRAFFIC SIGNAL WARRANT NO. 9 ("FOUR-HOUR VOLUMES")
APPLIED TO STUDY AREA UNSIGNALIZED INTERSECTIONS
(based on 1999 volumes)**

WARRANT 9		Unsignalized Intersection	Major street	Minor street
Any four hours meet the volumes above the major street/minor street curve:			Hours meeting warrant 9 ?	Hours meeting warrant 9 ?
Major street volumes, both appr.	Minor street volumes, one appr.			
400	300	Route 138 at Plain St (Stoughton) (Major street one lane, minor street one lane; inter-section 3-legged)	7- 8: 1080	7- 8: 240
500	250		8- 9: 1010	8- 9: 320
600	210		9-10: 850	9-10: 230
700	175		10-11: 630	10-11: 170
800	145		11-12: 730	11-12: 160
900	115		12-13: 840	12-13: 180
1000	100		13-14: 810	13-14: 170
1100	85		14-15: 910	14-15: 160
1200	80		15-16: 1060	15-16: 220
1300	80		16-17: 1150	16-17: 240
1400	80		17-18: 1420	17-18: 280
			18-19: 1120	18-19: 260
			19-20: 760	19-20: 170
			(11 hrs. met, any 4 hrs. needed)	
-- STOUGHTON --		Route 138 at School St (Stoughton) (Major street one lane, minor street one lane; inter-section 3-legged)	7- 8: 1210	7- 8: 290
			8- 9: 1260	8- 9: 270
			9-10:	9-10:
			10-11:	10-11:
			11-12: (9-16	11-12: (9-16
			12-13: not	12-13: not
			13-14: available)	13-14: available)
			14-15:	14-15:
			15-16:	15-16:
			16-17: 1520	16-17: 270
			17-18: 1560	17-18: 260
			18-19:	18-19:
			(Warrant 9 met; 4 hrs. met easily, any 4 hrs. needed)	
			Route 138 at Lincoln St/ Parkway (Stoughton) (Major street one lane, minor street one lane; inter-section 4-legged)	7- 8: 1260
		8- 9: 1240		8- 9: 230
		9-10:		9-10:
		10-11:		10-11:
		11-12: (9-16		11-12: (9-16
		12-13: not		12-13: not
		13-14: available)		13-14: available)
		14-15:		14-15:
		15-16:		15-16:
	16-17: 1500	16-17: 260		
	17-18: 1950	17-18: 340		
	18-19:	18-19:		
	(Warrant 9 met; 4 hrs. met easily, any 4 hrs. needed)			

Traffic Signal Warrant No. 9 ("Four-Hour Volumes")
 Applied to Study Area Unsignalized Intersections
 (based on 1999 volumes) (cont.)

WARRANT 9		Unsignalized Intersection	Major street	Minor street		
Any four hours meet the volumes above the major street/minor street curve:			Hours meeting warrant 9 ?	Hours meeting warrant 9 ?		
Major street volumes, both appr.	Minor street volumes, one appr.					
400	300	Route 138 at Block Buster (Stoughton) (Major street one lane, minor street two lanes; intersection 3-legged)	7- 8: 1370	7- 8: 70		
500	250		8- 9: 1420	8- 9: 60		
600	210		9-10:	9-10:		
700	175		10-11:	10-11:		
800	145		11-12: (9-16	11-12: (9-16		
900	115		12-13: not	12-13: not		
1000	100		13-14: available)	13-14: available)		
1100	85		14-15:	14-15:		
1200	80		15-16:	15-16:		
1300	80		16-17: 1730	16-17: 100		
1400	80		17-18: 1800	17-18: 140		
		18-19:	18-19:			
		(Warrant 9 possibly met; 2 hrs. met, any 4 hrs. needed)				
-- STOUGHTON --		Route 138 at York St (Stoughton) (Major street one lane, minor street one lane; intersection 3-legged)	7- 8: 1680	7- 8: 300		
			8- 9: 1660	8- 9: 300		
			9-10: 1070	9-10:		
			10-11: 1040	10-11:		
			11-12: 1290	11-12: (9-16		
			12-13: 1690	12-13: not		
			13-14: 1510	13-14: available)		
			14-15: 1350	14-15:		
			15-16: 1590	15-16:		
			16-17: 1810	16-17: 160		
			17-18: 1940	17-18: 140		
			18-19: 1310	18-19:		
					(Warrant 9 met; 4 hrs. met easily, any 4 hrs. needed)	
			-- CANTON --		Route 138 at J. Baker/Tuthill/Arboretum (Canton) (Major street one lane, minor street one lane; intersection 4-legged) (This scenario assumes combined volumes at one EB driveway from J. Baker and Tuthill Corp.)	7- 8: 1780
8- 9: 1710	8- 9: 40					
9-10:	9-10:					
10-11:	10-11:					
11-12: (9-16	11-12: (9-16					
12-13: not	12-13: not					
13-14: available)	13-14: available)					
14-15:	14-15:					
15-16:	15-16:					
16-17: 1610	16-17: 100					
17-18: 1790	17-18: 230					
18-19:	18-19:					
		(Warrant 9 probably met; 3 hrs. met, any 4 hrs. needed)				

Traffic Signal Warrant No. 9 ("Four-Hour Volumes")
 Applied to Study Area Unsignalized Intersections
 (based on 1999 volumes) (cont.)

WARRANT 9		Unsignalized Intersection	Major street	Minor street			
Any four hours meet the volumes above the major street/minor street curve:			Hours meeting warrant 9 ?	Hours meeting warrant 9 ?			
Major street volumes, both appr.	Minor street volumes, one appr.						
400	300	Route 138 at "new" WB drive-way/Orchard Gr. (Canton) (Major street one lane, minor street one lane; inter-section 4-legged) (Combined WB vols. assumed from Pequot Pk, #320-348, Dunk. Don., '99s, Whit-man Rd, Merkert)	7- 8: 1960	7- 8: 220			
500	250		8- 9: 1820	8- 9: 270			
600	210		9-10:	9-10:			
700	175		10-11:	10-11:			
800	145		11-12: (9-16	11-12: (9-16			
900	115		12-13: not	12-13: not			
1000	100		13-14: available)	13-14: available)			
1100	85		14-15:	14-15:			
1200	80		15-16:	15-16:			
1300	80		16-17: 1900	16-17: 360			
1400	80		17-18: 1810	17-18: 430			
			18-19:	18-19:			
		(Warrant 9 met; 4 hrs. met easily, any 4 hrs. needed)					
-- CANTON --		Route 138 at Greenlodge St (Canton) (Major street one lane, minor street one lane; inter-section 3-legged)	7- 8: 2790	7- 8: 50			
			8- 9: 2810	8- 9: 60			
			9-10: 2060	9-10:			
			10-11: 1910	10-11:			
			11-12: 2060	11-12: (9-16			
			12-13: 2190	12-13: not			
			13-14: 2050	13-14: available)			
			14-15: 2390	14-15:			
			15-16: 2950	15-16:			
			16-17: 2800	16-17: 70			
			17-18: 2980	17-18: 140			
			18-19: 2300	18-19:			
			(Warrant 9 probably not met; 1 hr. met, any 4 hrs. needed)				
			-- MILTON --		Route 138 at Neponset Valley Parkway (Milton) (Major street one lane, minor street one lane; inter-section 3-legged)	7- 8: 1520	7- 8: 380
						8- 9: 1490	8- 9: 420
9-10: 1020	9-10: 380						
10-11: 960	10-11: 380						
11-12: 980	11-12: 360						
12-13: 1040	12-13: 340						
13-14: 1050	13-14: 400						
14-15: 1190	14-15: 510						
15-16: 1220	15-16: 480						
16-17: 1350	16-17: 400						
17-18: 1490	17-18: 400						
18-19: 1220	18-19: 430						
19-20: 930	19-20: 400						
(16 hrs. met, any 4 hrs. needed)							

**TRAFFIC SIGNAL WARRANT NO. 10 ("PEAK-HOUR DELAY")
APPLIED TO STUDY AREA UNSIGNALIZED INTERSECTIONS
(based on 1999 volumes)**

<i>WARRANT 10</i>		
<i>1. Total stop-sign controlled minor street delay exceeds 14,400 veh-secs (1-lane appr.) or 18,000 veh-secs (2-lane appr.) for at least one hour, and</i> <i>2. At least 100 vehicles on the same 1-lane minor street approach, or 150 vehicles on the same 2-lane minor street for the same hour, and</i> <i>3. Total intersection volume of 800 vehicles (4-legged) or 650 vehicles (3-legged) for the same hour.</i>	Unsignalized Intersection	How is Warrant 10 met?
	Route 138 at Plain St (Stoughton) (Major street one lane, minor street one lane; intersection 3-legged)	1. AM: 85,370 veh-secs, and PM: 60,360 veh-secs. (Warrant met). 2. AM: 310 vehicles, and PM: 270 vehicles. (Warrant met). 3. AM: 1,370 vehicles, and PM: 1,670 vehicles. (Warrant met).
	Route 138 at School St (Stoughton) (Major street one lane, minor street one lane; intersection 3-legged)	1. AM: 75,630 veh-secs, and PM: 133,490 veh-secs. (Warrant met). 2. AM: 270 vehicles, and PM: 260 vehicles. (Warrant met). 3. AM: 1,530 vehicles, and PM: 1,820 vehicles. (Warrant met).
-- STOUGHTON --	Route 138 at Lincoln St/ Parkway (Stoughton) (Major street one lane, minor street one lane; intersection 4-legged)	1. AM: 41,590 veh-secs, and PM: N.A. (Warrant met). 2. AM: 302 vehicles, and PM: 340 vehicles. (Warrant met). 3. AM: 1,620 vehicles, and PM: 2,310 vehicles. (Warrant met).

Traffic Signal Warrant No. 10 ("Peak-Hour Delay")
 Applied to Study Area Unsignalized Intersections
 (based on 1999 volumes) (cont.)

<i>WARRANT 10</i>		
<i>Total stop-sign controlled minor street delay exceeds 14,400 veh-secs (1-lane appr.) or 18,000 veh-secs (2-lane appr.) for at least one hour, and</i> <i>At least 100 vehicles on the same 1-lane minor street approach, or 150 vehicles on the same 2-lane minor street for the same hour, and</i> <i>Total intersection volume of 800 vehicles (4-legged) or 650 vehicles (3-legged) for the same hour.</i>	Unsignalized Intersection Route 138 at Block Buster (Stoughton) (Major street one lane, minor street two lanes; intersection 3-legged)	How is Warrant 10 met? 1. AM: 1,410 veh-secs, and PM: 12,210 veh-secs. (Warrant NOT met). 2. AM: 60 vehicles, and PM: 140 vehicles. (Warrant NOT met). 3. AM: 1,510 vehicles, and PM: 1,940 vehicles. (Warrant met).
-- STOUGHTON --	Route 138 at York St (Stoughton) (Major street one lane, minor street one lane; intersection 3-legged)	1. AM: 211,830 veh-secs, and PM: N.A. (Warrant met). 2. AM: 350 vehicles, and PM: 160 vehicles. (Warrant met). 3. AM: 2,140 vehicles, and PM: 2,130 vehicles. (Warrant met).
-- CANTON --	Route 138 at J. Baker/Tuthill/Arboretum (Canton) (Major street one lane, minor street one lane; intersection 4-legged) (This scenario assumes combined volumes at one EB driveway from J. Baker and Tuthill Corp.)	1. AM: 5,830 veh-secs, and PM: 241,250 veh-secs. (Warrant met). 2. AM: 80 vehicles, and PM: 260 vehicles. (Warrant met). 3. AM: 2,020 vehicles, and PM: 2,190 vehicles. (Warrant met).

Traffic Signal Warrant No. 10 ("Peak-Hour Delay")
 Applied to Study Area Unsignalized Intersections
 (based on 1999 volumes) (cont.)

WARRANT 10	Unsignalized Intersection	How is Warrant 10 met?
1. Total stop-sign controlled minor street delay exceeds 14,400 veh-secs (1-lane appr.) or 18,000 veh-secs (2-lane appr.) for at least one hour, and 2. At least 100 vehicles on the same 1-lane minor street approach, or 150 vehicles on the same 2-lane minor street for the same hour, and 3. Total intersection volume of 800 vehicles (4-legged) or 650 vehicles (3-legged) for the same hour.	Route 138 at "new" WB drive-way/Orchard Gr. (Canton) (Major street one lane, minor street one lane; intersection 4-legged) (Combined WB vols. assumed from Pequot Pk, #320-348, Dunk. Don., '99s, Whitman Rd, Merkert)	1. AM: 81,580 veh-secs*, and PM: 15,870 veh-secs* (Warrant met). 2. AM: 310 vehicles, and PM: 270 vehicles. (Warrant met). 3. AM: 1,370 vehicles, and PM: 1,670 vehicles. (Warrant met). * Assumed delays: AM, 326.3 secs/veh (Dunkin Donuts, north driveway), and PM, 35.9 secs/veh (#320-348)
-- CANTON --	Route 138 at Greenlodge St (Canton) (Major street one lane, minor street one lane; intersection 3-legged)	1. AM: N.A., and PM: N.A. (Warrant met). 2. AM: 60 vehicles, and PM: 140 vehicles (Warrant met). 3. AM: 2,990 vehicles, and PM: 3,120 vehicles. (Warrant met).
-- MILTON --	Route 138 at Neponset Valley Parkway (Milton) (Major street one lane, minor street one lane; intersection 3-legged)	1. AM: 4,220 veh-secs, and PM: 2,860 veh-secs. (Warrant NOT met). 2. AM: 320 vehicles, and PM: 330 vehicles. (Warrant met). 3. AM: 1,720 vehicles, and PM: 1,540 vehicles. (Warrant met).

**TRAFFIC SIGNAL WARRANT NO. 11 ("PEAK-HOUR VOLUME")
APPLIED TO STUDY AREA UNSIGNALIZED INTERSECTIONS
(based on 1999 volumes)**

WARRANT 11		Unsignalized Intersection	Major street	Minor street
Any one hour meets the volumes above the major street/minor street curve:			Hours meeting warrant 11 ?	Hours meeting warrant 11 ?
Major street volumes, both appr.	Minor street volumes, one appr.			
500	415	Route 138 at Plain St (Stoughton) (Major street one lane, minor street one lane; inter-section 3-legged)	7- 8: 1080	7- 8: 240
600	365		8- 9: 1010	8- 9: 320
700	310		9-10: 850	9-10: 230
800	270		10-11: 630	10-11: 170
900	240		11-12: 730	11-12: 160
1000	200		12-13: 840	12-13: 180
1100	175		13-14: 810	13-14: 170
1200	150		14-15: 910	14-15: 160
1300	130		15-16: 1060	15-16: 220
1400	110		16-17: 1150	16-17: 240
1500	100		17-18: 1420	17-18: 280
1600	100		18-19: 1120	18-19: 260
1700	100		19-20: 760	19-20: 170
1800	100		(7 hrs. met, any 1 hr. needed)	
-- STOUGHTON --		Route 138 at School St (Stoughton) (Major street one lane, minor street one lane; inter-section 3-legged)	7- 8: 1210	7- 8: 290
			8- 9: 1260	8- 9: 270
			9-10:	9-10:
			10-11:	10-11:
			11-12: (9-16	11-12: (9-16
			12-13: not	12-13: not
			13-14: available)	13-14: available)
			14-15:	14-15:
			15-16:	15-16:
			16-17: 1520	16-17: 270
			17-18: 1560	17-18: 260
			18-19:	18-19:
			(4 hrs. met, any 1 hr. needed)	
			Route 138 at Lincoln St/ Parkway (Stoughton) (Major street one lane, minor street one lane; inter-section 4-legged)	7- 8: 1260
		8- 9: 1240		8- 9: 230
		9-10:		9-10:
		10-11:		10-11:
		11-12: (9-16		11-12: (9-16
	12-13: not	12-13: not		
	13-14: available)	13-14: available)		
	14-15:	14-15:		
	15-16:	15-16:		
	16-17: 1500	16-17: 260		
	17-18: 1950	17-18: 340		
	18-19:	18-19:		
	(4 hrs. met, any 1 hr. needed)			

-- STOUGHTON --

Traffic Signal Warrant No. 11 ("Peak-Hour Volume")
 Applied to Study Area Unsignalized Intersections
 (based on 1999 volumes) (cont.)

WARRANT 11		Unsignalized Intersection	Major street	Minor street		
Any one hour meets the volumes above the major street/minor street curve:			Hours meeting warrant 11 ?	Hours meeting warrant 11 ?		
Major street volumes, both appr.	Minor street volumes, one appr.					
500	415	Route 138 at Block Buster (Stoughton) (Major street one lane, minor street one lane; inter-section 3-legged)	7- 8: 1370	7- 8: 70		
600	365		8- 9: 1420	8- 9: 60		
700	310		9-10:	9-10:		
800	270		10-11:	10-11:		
900	240		11-12: (9-16	11-12: (9-16		
1000	200		12-13: not	12-13: not		
1100	175		13-14: available)	13-14: available)		
1200	150		14-15:	14-15:		
1300	130		15-16:	15-16:		
1400	110		16-17: 1730	16-17: 100		
1500	100		17-18: 1800	17-18: 140		
1600	100		18-19:	18-19:		
1700	100		(2 hrs. met, any 1 hr. needed)			
1800	100		Route 138 at York St (Stoughton) (Major street one lane, minor street one lane; inter-section 3-legged)	7- 8: 1680	7- 8: 300	
-- STOUGHTON --		8- 9: 1660		8- 9: 300		
		9-10: 1070		9-10:		
		10-11: 1040		10-11:		
		11-12: 1290		11-12: (9-16		
		12-13: 1690		12-13: not		
		13-14: 1510		13-14: available)		
		14-15: 1350		14-15:		
		15-16: 1590		15-16:		
		16-17: 1810		16-17: 160		
		17-18: 1940		17-18: 140		
		18-19: 1310		18-19:		
				(4 hrs. met, any 1 hr. needed)		
		-- CANTON --		Route 138 at J. Baker/Tuthill/ Arboretum (Canton) (Major street one lane, minor street one lane; inter-section 4-legged) (This scenario assumes com-bined volumes at one EB driveway from J. Baker and Tuthill Corp.)	7- 8: 1780	7- 8: 90
					8- 9: 1710	8- 9: 40
9-10:	9-10:					
10-11:	10-11:					
11-12: (9-16	11-12: (9-16					
12-13: not	12-13: not					
13-14: available)	13-14: available)					
14-15:	14-15:					
15-16:	15-16:					
16-17: 1610	16-17: 100					
17-18: 1790	17-18: 230					
18-19:	18-19:					
					(2 hrs. met, any 1 hr. needed)	

Traffic Signal Warrant No. 11 ("Peak-Hour Volume")
 Applied to Study Area Unsignalized Intersections
 (based on 1999 volumes) (cont.)

WARRANT 11		Unsignalized Intersection	Major street	Minor street		
Any one hour meets the volumes above the major street/minor street curve:			Hours meeting warrant 11 ?	Hours meeting warrant 11 ?		
Major street volumes, both appr.	Minor street volumes, one appr.					
500	415	Route 138 at "new" WB drive-way/Orchard Gr. (Canton) (Major street one lane, minor street one lane; inter-section 4-legged) (Combined WB vols. assumed from Pequot Pk, #320-348, Dunk. Don., '99s, Whitman Rd, Merkert)	7- 8: 1960	7- 8: 220		
600	365		8- 9: 1820	8- 9: 270		
700	310		9-10:	9-10:		
800	270		10-11:	10-11:		
900	240		11-12: (9-16	11-12: (9-16		
1000	200		12-13: not	12-13: not		
1100	175		13-14: available)	13-14: available)		
1200	150		14-15:	14-15:		
1300	130		15-16:	15-16:		
1400	110		16-17: 1900	16-17: 360		
1500	100		17-18: 1810	17-18: 430		
1600	100		18-19:	18-19:		
1700	100		(4 hrs. met, any 1 hr. needed)			
1800	100		Route 138 at Greenlodge St (Canton) (Major street one lane, minor street one lane; inter-section 3-legged)	7- 8: 2790	7- 8: 50	
-- CANTON --				8- 9: 2810	8- 9: 60	
			9-10: 2060	9-10:		
			10-11: 1910	10-11:		
			11-12: 2060	11-12: (9-16		
			12-13: 2190	12-13: not		
			13-14: 2050	13-14: available)		
			14-15: 2390	14-15:		
			15-16: 2950	15-16:		
			16-17: 2800	16-17: 70		
			17-18: 2980	17-18: 140		
			18-19: 2300	18-19:		
				(1 hr. met, any 1 hr. needed)		
		-- MILTON --		Route 138 at Neponset Valley Parkway (Milton) (Major street one lane, minor street one lane; inter-section 3-legged)	7- 8: 1520	7- 8: 380
					8- 9: 1490	8- 9: 420
					9-10: 1020	9-10: 380
	10-11: 960			10-11: 380		
	11-12: 980			11-12: 360		
	12-13: 1040			12-13: 340		
	13-14: 1050			13-14: 400		
	14-15: 1190			14-15: 510		
	15-16: 1220			15-16: 480		
	16-17: 1350			16-17: 400		
	17-18: 1490			17-18: 400		
	18-19: 1220			18-19: 430		
	19-20: 930			19-20: 400		
				(13 hrs. met, any 1 hr. needed)		

APPENDIX D-4

Existing Public Transportation Service in the Route 138 Corridor

(NOT AVAILABLE)

APPENDIX E

Comments on Draft Improvement Alternatives (in chronological order)

(NOT AVAILABLE)