

Appendix 2.A - Town of Concord Average Daily Traffic Volume Counts												
STA#	ROUTE/STREET	LOCATION	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
S003	Baker Avenue	Noth of Main Street				9,000						
S002	Belknap Street	West of Thoreau St.				1,700						
4166	Cambridge Turnpike	Eat of Rt. 24	6,300			7,200			6,200			6,200
S001	Commonwealth Ave.	South of Concord Rotary			8,600							
S004	Commonwealth Ave.	South of Rt 2.				8,900						
S005	Conant Street	West of Domino Drive				5,700						
0403 L	Route 2	0.2 Miles East of Concord Rotary	47,407	47,161	47,011	46,354	47,595	47,137		45,754	45,662	44,647
S002	Route 2	East of Rt. 126	48,000									
S008	Route 2	West of Concord Rotary									38,300	
S005	Route 2	West of Rt 126									42,800	
S004	Route 2	West of Rt 2A									46,900	
S007	Route 2	West of Rt. 62									36,300	
S001	Route 2	West of Sudbury Rd.	41,200									
S006	Route 2	West of Sudbury Rd.									43,200	
4003	Route 62	At Acton Line			13,900			11,100			13,600	
4890	Route 62	East of Elm Street									16,100	
S001	Route 62	West of Florio Drive									10,100	
S002	Route 62	West of Walden Street									13,900	
S002	Route 117	At Lincoln Town Line			11,700							
S001	Sudbury Road	West of Rt. 2						7,700				
S001	Sudbury Road	West of Thoreau St.				8,700						
4891	Walden Street	South of Everett Street									4,800	
S003	Walden Street	South of Hubbard Street									3,900	

Source: MassHighway

Appendix 2.A - West Concord and Surrounding Area MBTA Commuter Statistics, Winter 2007										
Town	Miles to Porter Square	Schedule AM Peek Min. to Porter Square	Miles to North Station	Schedule AM Peek Min. to North Station	Inbound Trains	Daily Boardings	Station Parking	Observed Utilization	Bicycle Parking	
South Action	21.9	43	25.3	54	18	873	300	99.3%	83	
West Concord	18.5	38	21.9	49	17	460	191	94.8%	10	
Concord	16.6	34	20.0	45	17	432	91	133%	10	
Lincoln	13.3	28	16.7	39	17	329	161	N/A	N/A	

Source: MBTA

Appendix 2B - West Concord Traffic Patterns - 2008 and Projected to 2030

Location	2008 AM Peak (7:30-8:30 AM)	2008 PM Peak (7:30-8:30 AM)	2015 AM Peak No Build (7:30- 8:30 AM)	2015 PM Peak No Build (7:30- 8:30 AM)	2030 AM Peak No Build (7:30- 8:30 AM)	2030 PM Peak No Build (7:30- 8:30 AM)	2015 AM Peak Rotary Alternate 5 (7:30-8:30 AM)	2015 PM Peak Rotary Alternate 5 (7:30-8:30 AM)	2030 AM Peak Rotary Alternate 5 (7:30-8:30 AM)	2030 PM Peak Rotary Alternate 5 (7:30-8:30 AM)
Route 2 @ Rotary - East Bound										
Eastbound	1,945	1,355	2,209	1,412	2,377	1,483	2,685	1,436	2,728	1,516
Westbound	1,165	1,968	1,313	2,378	1,405	2,509	1,393	2,726	1,483	2,923
Route 2 @ Rotary - West Bound										
Eastbound	2,426	1,480	2,727	2,617	1,573	2,743	3,310	1,733	3,424	1,874
Westbound	1,304	1,980	1,457	1,552	2,905	1,666	1,291	2,395	1,379	2,593
Commonwealth Ave. @ Rt. 2 Rotary										
Southbound toward Village	232	342	272	268	281	291	329	336	373	378
Northbound toward rotary	321	535	323	486	312	495	318	416	349	433
Estimated Combined Peak Hour Traffic Volume on Comm. Ave. South of Rotary	553	877	595	754	593	786	647	752	722	811
Commonwealth Ave. @ Laws Brook Road										
From Commonwealth Ave. Southbound										
Southbound toward Village	109	163	114	171	126	188	126	171	126	188
Westbound onto Laws Brook Rd.	87	130	91	136	100	150	91	136	100	150
From Commonwealth Ave. Northbound										
Northbound toward Rotary	76	383	80	401	88	442	80	401	88	442
Westbound onto Laws Brook Rd.	91	352	95	368	105	406	95	368	105	406
From Laws Brook Road Eastbound										
Northbound on Comm. Ave toward rotary	251	165	263	173	289	190	263	173	289	190
Eastbound on Comm. Ave toward Village	520	143	544	150	600	165	397	150	457	165
Estimated Peak Hour Traffic Vol. on Laws Brook Rd. at Comm. Ave	949	790	993	827	1,094	911	846	827	951	911
Estimated Combined Peak Hour Traffic Vol. on Comm. Ave. North of Laws Brook Rd.	523	841	548	881	603	970	560	881	603	970
Estimated Combined Peak Hour Traffic Vol. on Comm. Ave. South of Laws Brook Rd.	796	1,041	833	1,090	919	1,201	698	1,090	776	1,201
Commonwealth Avenue @ Main Street (Rt. 62)										
From Commonwealth Ave Eastbound										
Eastbound onto Main Street (Thru)	398	250	416	262	459	288	269	262	316	288
Westbound onto Main Street	6	37	6	39	7	43	6	39	7	43
From Main Street Westbound										
Westbound on Comm. Ave (Thru)	184	636	193	666	212	733	193	666	212	733
Southbound onto Main Street	268	548	280	573	309	632	280	573	309	632
From Main Street Southbound										
Northbound on Comm. Ave toward village	-	0	0	0	0	0	0	0	0	0
Eastbound onto Main Street (Thru)	630	437	659	457	727	504	659	457	727	504
Estimated Combined Peak Hour Traffic Volume on Comm. Ave. West of Main St.	582	886	609	928	671	1,021	462	928	528	1,021
Estimated Combined Peak Hour Traffic Volume on Main St. South of Comm. Ave.	904	1,022	945	1,069	1,043	1,179	945	1,069	1,043	1,179
Estimated Combined Peak Hour Traffic Volume on Main St. East of Comm. Ave.	1,480	1,871	1,548	1,958	1,707	2,157	1,401	1,958	1,564	2,157
Main St. @ Cottage St./Baker St. Ext.										
From Main Street Eastbound										
Northbound onto Baker St. Ext.	120	68	126	71	138	78	126	71	138	78
Eastbound onto Main Street (Thru)	854	534	894	559	985	616	747	559	842	616
Southbound onto Cottage St.	58	74	61	77	67	85	61	77	67	85

Location	2008 AM Peak (7:30-8:30 AM)	2008 PM Peak (7:30-8:30 AM)	2015 AM Peak No Build (7:30- 8:30 AM)	2015 PM Peak No Build (7:30- 8:30 AM)	2030 AM Peak No Build (7:30- 8:30 AM)	2030 PM Peak No Build (7:30- 8:30 AM)	2015 AM Peak Rotary Alternate 5 (7:30-8:30 AM)	2015 PM Peak Rotary Alternate 5 (7:30-8:30 AM)	2030 AM Peak Rotary Alternate 5 (7:30-8:30 AM)	2030 PM Peak Rotary Alternate 5 (7:30-8:30 AM)
From Main Street Westbound										
Northbound onto Baker St. Ext.	86	29	90	30	99	33	90	30	99	33
Westbound onto Main Street (Thru)	343	844	359	883	396	973	359	883	396	973
Southbound onto Cottage St.	3	3	3	3	3	3	3	3	3	3
From Baker St. Ext. Southbound										
Westbound onto Main Street	51	158	53	165	59	182	53	165	59	182
Eastbound onto Main Street	39	73	41	76	45	84	41	76	45	84
Southbound onto Cottage St.	67	106	70	111	77	122	70	111	77	122
From Cottage Street Northbound										
Westbound onto Main Street	90	173	94	181	104	200	94	181	104	200
Eastbound onto Main Street	10	3	10	3	12	3	10	3	12	3
Northbound onto Baker St. Ext.	108	30	113	31	125	35	113	31	125	35
Estimated Combined Peak Hour Traffic Volume on Main St. West of Cottage St.	1,516	1,851	1,587	1,936	1,749	2,134	1,440	1,936	1,606	2,134
Estimated Combined Peak Hour Traffic Volume on Main St. East of Cottage St.	1,363	1,519	1,426	1,589	1,572	1,750	1,279	1,589	1,429	1,750
Estimated Combined Peak Hour Traffic Volume on Baker Ave at Main St..	471	464	493	484	543	534	493	484	543	534
Estimated Combined Peak Hour Traffic Volume on Cottage St. at Main St	308	356	322	371	356	410	322	371	356	410
Main St. @ Old Bridge Road										
From Main Street Eastbound										
Eastbound onto Main Street (Thru)	780	616	816	645	899	710	669	645	756	710
Southbound onto Old Bridge Rd.	151	27	158	28	174	31	158	28	174	31
From Main Street Westbound										
Westbound onto Main Street (Thru)	411	819	430	857	474	944	430	857	474	944
Southbound onto Old Bridge Rd.	3	1	3	1	3	1	3	1	3	1
From Old Bridge Road Northbound										
Westbound onto Main Street	21	57	22	60	24	66	22	60	24	66
Eastbound onto Main Street	15	11	16	12	17	13	16	12	17	13
Estimated Combined Peak Hour Traffic Volume on Main St. West of Old Bridge Rd.	1,212	1,492	1,268	1,562	1,397	1,720	1,121	1,562	1,254	1,720
Estimated Combined Peak Hour Traffic Volume on Main St. East of Old Bridge Rd.	1,206	1,446	1,262	1,514	1,390	1,667	1,115	1,514	1,247	1,667
Estimated Combined Peak Hour Traffic Volume on Old Bridge Rd South of Main St..	190	96	199	101	218	111	199	101	218	111
Route 2 @ Main Street (Route 62)										
From Route 2 Eastbound										
Eastbound on Route 2 (Thru)	1,692	1,287	1,941	1,469	2,061	1,574	2,293	1,606	2,268	1,735
Southbound onto Main St. toward WC	19	18	8	0	8	0	1	0	1	0
From Route 2 Westbound										
Westbound on Route 2 (Thru)	1,137	1,443	1,332	1,680	1,432	1,698	1,399	1,952	1,511	2,039
Southbound onto Main St. toward WC	323	442	292	699	314	640	265	620	286	653
Northbound onto Main St. toward Concord Center	6	66	0	0	0	0	0	0	0	0
From Main Street Southbound										
Westbound on Route 2	10	16	11	38	11	43	12	99	12	150
Southbound onto Main St. toward WC (Thru)	139	360	144	317	150	383	121	319	128	341
Eastbound on Route 2	3	16	0	0	0	0	0	0	0	0
From Main Street Northbound										
Westbound on Route 2	11	4	0	1	0	3	0	0	0	0
Northbound onto Main St. toward Concord Center (Thru)	429	235	512	298	497	307	469	275	518	282

Location	2008 AM Peak (7:30-8:30 AM)	2008 PM Peak (7:30-8:30 AM)	2015 AM Peak No Build (7:30- 8:30 AM)	2015 PM Peak No Build (7:30- 8:30 AM)	2030 AM Peak No Build (7:30- 8:30 AM)	2030 PM Peak No Build (7:30- 8:30 AM)	2015 AM Peak Rotary Alternate 5 (7:30-8:30 AM)	2015 PM Peak Rotary Alternate 5 (7:30-8:30 AM)	2030 AM Peak Rotary Alternate 5 (7:30-8:30 AM)	2030 PM Peak Rotary Alternate 5 (7:30-8:30 AM)
Eastbound on Route 2	407	388	522	385	502	405	382	311	370	333
Estimated Combined Peak Hour Traffic Volume on Rt 2 South of Rt 2.	1,328	1,447	1,478	1,700	1,471	1,738	1,238	1,525	1,303	1,609
Route 2 @ Baker Ave. Ext. (Route 62)										
From Route 2 Eastbound										
Eastbound on Route 2 (Thru)	1,702	1226	1,892	1,319	2,015	1,425	2,242	1,464	2,226	1,594
Northbound onto Baker St. Ext.	460	212	528	170	578	179	736	206	856	216
Southbound onto Baker St. Ext. toward WC	241	40	307	63	311	62	332	63	342	64
From Route 2 Westbound										
Westbound on Route 2 (Thru)	1,081	1,418	1,274	1,636	1,372	1,661	1,342	2,036	1,457	2,167
Northbound onto Baker St. Ext.	77	45	69	84	71	83	68	16	65	23
From Baker Ave Southbound										
Westbound on Route 2	1	7	0	0	0	0	0	0	0	0
Southbound onto Baker Ave. Ext. toward WC (Thru)	145	50	207	120	206	129	205	55	198	50
Eastbound on Route 2	5	18	6	10	6	10	6	10	5	9
From Baker Ave. Ext. Northbound										
Westbound on Route 2	64	247	69	280	81	281	64	311	64	313
Northbound onto Baker Ave. (Thru)	42	88	66	184	75	180	41	167	48	168
Eastbound on Route 2	4	61	51	140	46	140	46	132	37	131
Estimated Combined Peak Hour Traffic Volume on Baker St. South of Rt. 2	496	486	700	787	719	792	688	728	689	726

Appendix 2 - Concord and Surrounding Area Population Trends and Projections

Town	1990	2000	% Δ	2030	30 Year Δ
Action	17,872	20,331	13.8%	23,139	14%
Concord	17,076	16,993	-0.5%	19,148	13%
Lincoln	7,666	8,056	5.1%	8,677	8%
Maynard	10,325	10,433	1.0%	11,303	8%
Stow	5,328	5,902	10.8%	6,990	18%
Total	58,267	61,715	5.9%	69,257	12%

Source: Montachusett Regional Planning Commission

Level of Service Criteria for Intersections		
Category	Delay (Seconds per vehicle)	
	Unsignalized Intersections	Signalized Intersections
LOS A	0.0 - 10.0	0.0 - 10.0
LOS B	10.1 - 15.0	10.1 - 20.0
LOS C	15.1 - 25.0	20.1 - 35.0
LOS D	25.1 - 35.0	35.1 - 55.0
LOS E	35.1 - 50.0	55.1 - 80.0
LOS F	> 50	> 80

Source: Highway Capacity Manual, TRB, 2000

Route 2 Average Daily Traffic Counts and Monthly Variation - 0.2 km East of Concord Rotary (Station 403)													
Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual Ave
2002	44,954	45,810	46,721	48,169	49,311	51,680	47,639	48,050	48,219	49,947	45,640	45,000	47,595
	0%	-5%	-1%	-2%	-2%	0%	-7%	-3%	-2%	-2%	7%	7%	-1%
2003	44,737	43,740	46,023	47,402	48,225	51,537	44,070	46,781	47,154	49,000	48,980	48,000	47,137
	1%	5%	2%	2%	0%	4%	5%	0%	1%	0%	-6%	-4%	1%
2004	45,000	46,000	46,867	48,260	48,136	53,710	46,206	46,905	47,793	49,000	46,023	45,983	47,490
	-9%	-5%	-3%	-4%	-2%	-5%	-3%	-1%	-4%	0%	-2%	-6%	-4%
2005	41,051	43,677	45,426	46,370	46,939	51,129	44,632	46,318	46,004	49,000	45,178	43,329	45,754
	8%	0%	2%	-2%	-1%	-3%	-3%	-2%	0%	0%	0%	0%	0%
2006	44,150	43,659	46,395	45,607	46,453	49,481	43,449	45,449	45,925	49,000	44,963	43,417	45,662

Source: MassHighway

West Concord Village Center Street Design

Street Segment	Ave. R-O-W	Design
Main Street at Cottage Street		
Main St - Assabet Bridge to Junction Square		
Main St - Junction Square to Church Street		
Commonwealth Ave - Junction Square to Church St	38 feet	
Commonwealth Ave - Church St to Bradford St	40 feet	2 12-foot travel lanes and 2 10-foot concrete sidewalks both sides
Commonwealth Ave - Bradford St to KD Square	40 feet	2 12-foot travel lanes and 2 10-foot concrete sidewalks both sides
Commonwealth Ave - KD Square to Rotary	40 feet	2 12-foot travel lanes and 2 4-foot asphalt sidewalks and planter strips both sides
Church Street at Comm. Ave.		
Laws Brook Road at KD Square		
Beharrel Street		
Bradford Street		
Westgate Park		

West Concord Traffic Issues and Possible Solutions

Issue	Objective	Possible Solutions	Possible Drawbacks	Possible Advantages
Commuter Cut Thru Traffic because of Route 2 Congestion	Make Less Appealing	Install traffic Calming treatments	May not divert signifiant traffic and create more congestions	Attractive and additional safety enhnacements for pedestrians
		Install traffic signal at Kenny Dunn Square	Potential unfavorable to residents; may not warrant signal	Would create gaps (or platoons) in traffic allowing easier pedestrian corssings and side street access
		Roundabout at Kenny Dunn Square	Would process traffic more efficiently but not faster	Would create attractive, less ideling and additional safety enhnacements for pedestrians
		Roundabout at Junction Square	Would process traffic more efficiently but not faster	Would create attractive, less ideling and additional safety enhnacements for pedestrians
Business customers may be deterred by peak hour traffic	Make more appealing	Improve parking signage, circulation and connectivity		
Local commuter traffic contributes to the village congestion at peak hours	Encourage More Walking and Biking to MBTA station	Improve MBTA		
		Increase parking rates to 1/2 of MBTA		

Appendix 2 - West Concord and Surrounding Area Commuter Statistics, Winter 2007

Town	Miles to Porter Square	Schedule AM Peek Min. to Porter Square	Miles to North Station	Schedule AM Peek Min. to North Station	Inbound Trains	Daily Boardings	Station Parking	Observed Utilization	Bicycle Parking
South Action	21.9	43	25.3	54	18	873	300	99.3%	83
West Concord	18.5	38	21.9	49	17	460	191	94.8%	10
Concord	16.6	34	20.0	45	17	432	91	133%	10
Lincoln	13.3	28	16.7	39	17	329	161	N/A	N/A

Source: MBTA

Appendix 2 - Summary of AM Peak Time "Cut-Through Traffic in West Concord

Origin Observation Location	Number of Vehicles Observed	Number/Percent Observed on Main St. EB turning left onto Baker Ave.	Number/Percent Observed on Main St. EB continuing to Rt. 2	Number/Percent Total "Cut-Through" vehicles
Hosmer St. Southbound	247	6 / 2.4%	52 / 2.4%	58 / 23.5%
School St. Southbound	180	10 / 5.6%	47 / 26.1%	57 / 31.7%

Source: Rt. 2 Secondary Corridor Study, April 2009

Appendix 2.C - West Concord Traffic Accidents by Intersection, 01.0.04-07.22.09					
Street	Intersecting Street	Total Accidents	Street	Intersecting Street	Total Accidents
Baker Ave	Main Street	10	Main Street	Academy Lane	1
Beharrell St.	Commonwealth Ave	6		Baker Ave	10
Bradford St	Commonwealth Ave	1		Brown St	1
Church St.	Commonwealth Ave	5		Church St.	6
	Main Street	6		Commonwealth Ave	11
Commonwealth Ave	Beharrell St.	6		Conant Street	9
	Bradford St.	1		Concord Tpke	28
	Church St.	5		Cottage Street	6
	Concord Tpke	4		Edgewood Rd	2
	Laws Brook Rd.	10		Forest Ridge Rd	3
	Main Street	11		Harrington Ave	3
Conant St.	Laws Brook Rd.	1		Macarthur Rd	1
	Main Street	9		Old Bridge Rd	1
Concord Tpke	Commonwealth Ave	4		Orchard Rd	2
	Main Street	28		Pine St.	7
Cottage Street	Main Street	3		Pond Lane	1
	Main Street	6		Water St	1
	Old Marlboro Rd	3		West St	1
Harrington Ave.	Main Street	3		Westgate Dr	1
	Old Marlboro Rd	2		Westgate Park	5
Laws Brook Rd.	Commonwealth Ave	10		Winslow St	1
	Conant Street	1	Old Bridge Rd	Main Street	1
Westgate Park	Main Street	1		Old Marlboro Rd	2

Source: Concord Police Department

Appendix 2.C - Summary of AM Peak Time "Cut-Through Traffic in West Concord				
Origin Observation Location	Number of Vehicles Observed	Number and % Observed on Main St. EB turning left onto Baker Ave.	Number and % Observed on Main St. EB continuing to Rt. 2	Number/Percent Total "Cut-Through" vehicles
Hosmer St. Southbound	247	6 / 2.4%	52 / 2.4%	58 / 23.5%
School St. Southbound	180	10 / 5.6%	47 / 26.1%	57 / 31.7%

Source: Rt. 2 Secondary Corridor Study, April 2009

STA.	CITY/TOW	ROUTE/ST	LOCATION	Tph 99	Tad 99	Tph 00	Tad 00	Tph 01	Tad 01	Tph 02	Tad 02	Tph 03	Tad 03	Tph 04	Tad 04	Tph 05	Tad 05	Tph 06	Tad 06
4003	CONCOR D	RTE. 62	AT ACTON T.L.			5%	4%					1%	2%					1%	2%