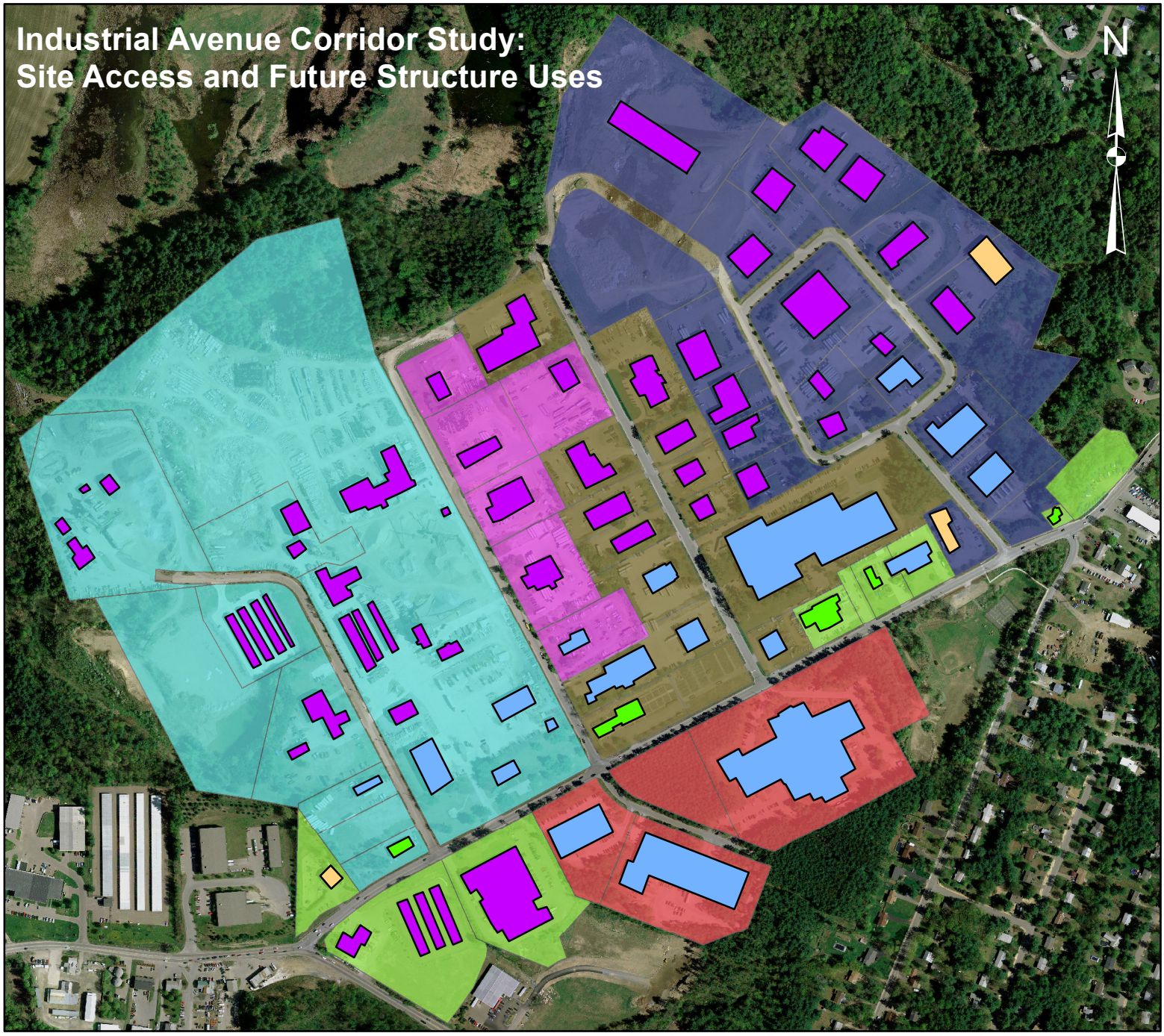
APPENDIX A

Existing Land Use

Industrial Avenue Corridor Study:
Site Access and Future Structure Uses



Legend

Structures By Use

Future Use

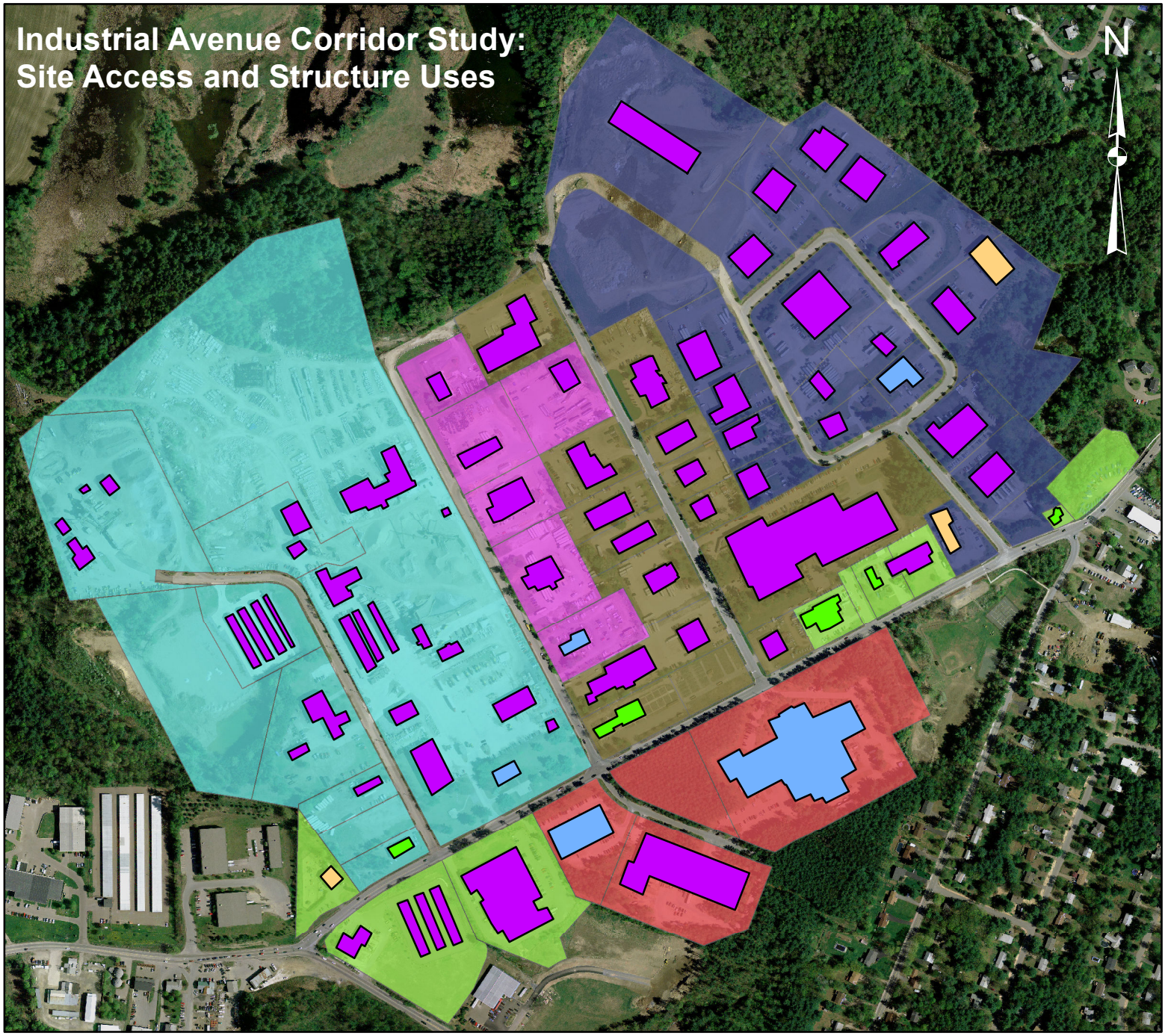
- Industrial
- Office
- Other
- Retail

Parcels by Access

- Avenue A
- Avenue B
- Avenue C
- Avenue D
- Other
- Wintersport Lane

Item		A Avenue A	B Avenue B	C Avenue C	D Avenue D	WS Wintersport Ln & White Cap Drive	Other	Totals
Building Floor Area (ft^2)								
	Industrial/Mining	172,271	61,704	129,175	263,588	0	134,947	761,685
	Office/Incubator	45,975	6,546	209,769	57,393	323,810	14,011	657,504
	Retail	4,634	0	12,310	0	0	20,558	37,502
	Other	0	0	0	28,022	0	4,498	32,520
	Total	222,880	68,249	351,254	349,003	323,810	174,014	1,489,211

Industrial Avenue Corridor Study: Site Access and Structure Uses



Legend

Structures By Use

Current Use

- Industrial
- Office
- Other
- Retail

Parcels by Access

- Avenue A
- Avenue B
- Avenue C
- Avenue D
- Other
- Wintersport Lane

Item		A Avenue A	B Avenue B	C Avenue C	D Avenue D	WS Wintersport Ln & White Cap Drive	Other	Totals
Number of Parcels		10	6	14	20	4	9	63
Land Area (acres)								
	Industrial/Mining	68.82	12.19	28.93	33.74	5.37	12.05	161.1
	Office/Incubator	0	2.18	0	1.13	14.95	0	18.26
	Retail	0.99	0	1.78	4.74	0	2.09	9.6
	No Structure	9.24	0	1.32	0	0	1.58	12.14
	Other	0	0	0	17.12	2.46	2.05	21.63
	Total	79.05	14.37	32.03	56.73	22.78	17.77	222.73
Building Floor Area (ft^2)								
	Industrial/Mining	211,936	61,703	338,944	267,483	124,841	148,957	1,153,864
	Office/Incubator	6,309	6,545	0	13,812	198,969	0	225,635
	Retail	4,634	0	12,309	0	0	20,558	37,501
	Other	0	0	0	28,021	0	4,497	32,518
	Total	222,879	68,248	351,253	309,316	323,810	174,012	1,449,518

Occupancy based on "drive by" survey conducted by Stantec, August 2012

Legend

Structures By Use

Occupancy

- 0%
- 25%
- 50%
- 67%
- 75%
- 100%

APPENDIX B

Traffic Data

Vermont Agency of Transportation

General Yearly Summaries - Crash Listing: State Highways and All Federal Aid Highway Systems

From 01/01/06 To 12/31/10 General Yearly Summaries Information

*	Reporting Agency/ Number	Town	Mile Marker	Date MM/DD/YY	Time	Weather	Contributing Circumstances	Direction Of Collision	Number Of Injuries	Number Of Fatalities	Direction	Road Group
Route: INDUSTRIAL AVE., WILLISTON												
	0417/17685-06	Williston	0	12/29/2006	14:02	Cloudy	Inattention, No improper driving	Rear End	0	0	E	FAU
	0417/1648-07	Williston	0	01/25/2007	08:48	Clear	Inattention, No improper driving	Rear End	0	0	S	FAU
	0417/1671-07	Williston	0	02/01/2007	22:19	Cloudy	Driving too fast for conditions, No improper driving	Rear End	0	0		FAU
	0417/7022-07	Williston	0	05/22/2007	14:30	Clear	Inattention	Rear End	0	0	E	FAU
	VT0041000/08WT0 0150	Williston	0	01/15/2008	08:10	Cloudy	Failed to yield right of way, No improper driving	Rear End	0	0	W	FAU
	VT0041000/08WT0 0384	Williston	0	02/06/2008	07:06	Snow	Driving too fast for conditions, No improper driving	Rear End	0	0	W	FAU
	VT0041000/08WT0 3722	Williston	0	11/20/2008	16:00	Snow	Inattention, No improper driving	Rear End	0	0	W	FAU
	VT0041000/10WT0 1107	Williston	0	04/22/2010	15:38	Clear	Inattention, Distracted, No improper driving	Rear End	0	0	W	FAU
	VT0041000/10WT0 1977	Williston	0	07/07/2010	08:41				0	0	W	FAU
	0417/5964-07	Williston	0.04	04/27/2007	00:35	Cloudy	Under the influence of medication/drugs/alcohol, Driving too fast for conditions	Single Vehicle Crash	0	0	E	FAU
	0417/17661-06	Williston	0.05	12/18/2006	05:25	Clear	Other improper action, No improper driving	Same Direction Sideswipe	0	0		FAU
	VT0041000/10WT0 2468	Williston	0.05	08/19/2010	21:36	Cloudy	Under the influence of medication/drugs/alcohol, Fatigued, asleep	Head On	0	0		FAU
	0417/13545-07	Williston	0.06	10/23/2007	07:43	Clear	Distracted, Inattention, No improper driving	Rear End	0	0	W	FAU
	VT0041000/10WT0 2291	Williston	0.11	08/04/2010	13:46	Clear	Failed to yield right of way, No improper driving	Rear End	0	0	E	FAU
	0417/6489-06	Williston	0.12	05/13/2006	14:34	Cloudy	Failed to yield right of way, No improper driving	No Turns, Thru moves only, Broadside ^<	0	0	N	FAU
	0417/16844-06	Williston	0.13	12/21/2006	15:31	Cloudy	Inattention, No improper driving	Rear End	0	0	E	FAU
	0417/12243-07	Williston	0.13	09/20/2007	14:12	Clear	Followed too closely, No improper driving	Rear End	0	0	E	FAU
	0417/10162-06	Williston	0.28	06/27/2006	16:27	Clear	Inattention, Unknown	Rear End	0	0	E	FAU
	0417/12466-07	Williston	0.28	09/19/2007	16:52	Clear	Inattention, No improper driving	Rear End	0	0	N	FAU
	VT0041000/08WT0 3718	Williston	0.28	11/21/2008	11:35	Cloudy	No improper driving, Other improper action	No Turns, Thru moves only, Broadside ^<	0	0	N	FAU
	VT0041000/08WT0 3773	Williston	0.28	11/25/2008	19:32	Unknown	No improper driving, Failed to yield right of way, Inattention	No Turns, Thru moves only, Broadside ^<	0	0	E	FAU
	VT0041000/10WT0 0977	Williston	0.33	04/07/2010	16:39	Rain	Inattention, No improper driving	Rear End	0	0	N	FAU
	0417/7185-07	Williston	0.41	05/23/2007	08:09	Clear	Driving too fast for conditions, Followed too closely	Single Vehicle Crash	1	0	W	FAU
	0417/12465-07	Williston	0.43	09/21/2007	12:33	Clear	Other improper action, No improper driving	Left Turn and Thru, Angle Broadside -->v--	0	0	E	FAU
	VTVSP0100/09A10 0442	Williston	0.43	01/20/2009	15:31	Cloudy	Failed to yield right of way, Made an improper turn	No Turns, Thru moves only, Broadside ^<	0	0	E	FAU
	VT0041000/09WT0 0301	Williston	0.43	01/30/2009	15:40	Clear	Failure to keep in proper lane	Left Turn and Thru, Head On ^v--	0	0	E	FAU
	VT0041000/09WT0 1310	Williston	0.43	05/05/2009	16:22	Clear	Inattention, No improper driving	Rear End	0	0	N	FAU
	VT0041000/09WT0 1411	Williston	0.43	05/15/2009	12:29	Clear	Failed to yield right of way, No improper driving	Left Turn and Thru, Angle Broadside -->v--	0	0	E	FAU
	VT0041000/10WT O3889	Williston	0.43	12/22/2010	16:56	Snow	No improper driving	Single Vehicle Crash	0	0		FAU
	VT0041000/08WT0 4114	Williston	0.5	12/20/2008	06:52	Snow	Swerving or avoiding due to wind, slippery surface, vehicle, object, non-motorist in roadway etc, No improper driving	Rear End	0	0	E	FAU
	0417/16934-07	Williston	0.7	12/06/2007	10:36	Clear	Inattention, Distracted, No improper driving	Rear End	0	0	W	FAU
	0417/408-06	Williston	0.73	01/05/2006	10:44	Snow	No improper driving, Driving too fast for conditions	No Turns, Thru moves only, Broadside ^<	0	0		FAU
	0417/13011-06	Williston	0.73	10/08/2006	19:15	Clear	Failed to yield right of way, Inattention, No improper driving	Left Turn and Thru, Broadside v<--	0	0	N	FAU
	VT0041000/08WT0 2240	Williston	0.73	07/16/2008	15:51	Cloudy	Inattention, No improper driving	Rear End	2	0	W	FAU

**Crash occurred prior to the last Highway Improvement Project. This data should not be used in a crash analysis. UNK indicates the Mile Marker is Unknown.*

Vermont Agency of Transportation

General Yearly Summaries - Crash Listing: State Highways and All Federal Aid Highway Systems

From 01/01/06 To 12/31/10 General Yearly Summaries Information

*	Reporting Agency/ Number	Town	Mile Marker	Date MM/DD/YY	Time	Weather	Contributing Circumstances	Direction Of Collision	Number Of Injuries	Number Of Fatalities	Direction	Road Group
Route: INDUSTRIAL AVE., WILLISTON Continued ...												
	0417/16673-07	Williston	0.74	12/19/2007	17:03	Snow	Inattention, Distracted, No improper driving	Rear End	0	0	W	FAU
	VT0041000/08WT0 0335	Williston	0.74	02/02/2008	03:36	Snow	Driving too fast for conditions	Single Vehicle Crash	0	0	W	FAU
	0417/12647-07	Williston	0.75	09/28/2007	00:23	Rain	Driving too fast for conditions	Head On	1	0	W	FAU
	VT0041000/09WT0 2482	Williston	0.75	08/18/2009	19:00	Cloudy	No improper driving, Swerving or avoiding due to wind, slippery surface, vehicle, object, non-motorist in roadway etc	Head On	1	0	E	FAU
	0417/16265-07	Williston	0.77	12/13/2007	16:25	Snow	Swerving or avoiding due to wind, slippery surface, vehicle, object, non-motorist in roadway etc	Single Vehicle Crash	0	0	W	FAU
	0417/1967-06	Williston	0.82	02/03/2006	18:08	Cloudy	No improper driving	Single Vehicle Crash	0	0	N	FAU
	0417/13527-06	Williston	0.95	10/19/2006	14:25	Clear	Inattention	Single Vehicle Crash	1	0	E	FAU
	VT0041000/10WT0 1023	Williston	0.96	04/13/2010	17:50	Clear	Followed too closely, No improper driving	Rear End	0	0		FAU
	VT0041000/10WT0 2421	Williston	0.96	08/16/2010	16:52	Clear	Distracted, Inattention, No improper driving	Rear End	0	0		FAU
	0417/3832-07	Williston	1.04	03/08/2007	14:42	Clear	No improper driving, Followed too closely	Rear End	0	0		FAU
	0417/16757-07	Williston	1.04	12/21/2007	08:00	Clear	No improper driving, Other improper action	Rear End	0	0	E	FAU
	VT0041000/08WT0 4007	Williston	1.04	12/12/2008	11:38	Snow	Swerving or avoiding due to wind, slippery surface, vehicle, object, non-motorist in roadway etc, No improper driving	Rear End	0	0	E	FAU
	VT0041000/09WT0 1510	Williston	1.04	05/24/2009	17:07	Clear	Failure to keep in proper lane	Single Vehicle Crash	0	0	W	FAU
	VT0041000/09WT0 1914	Williston	1.04	06/26/2009	21:34	Clear	No improper driving, Made an improper turn, Failure to keep in proper lane	Left Turn and Thru, Head On ^v--	2	0	S	FAU
	VT0041000/09WT0 2865	Williston	1.04	09/23/2009	16:34	Rain	Followed too closely, Inattention, No improper driving	Rear End	0	0	E	FAU
	VT0041000/10WT0 3724	Williston	1.04	12/07/2010	15:21	Clear	Inattention, No improper driving	Rear End	0	0	E	FAU
	0417/1960-06	Williston	1.049	02/06/2006	23:10	Snow	Unknown	Opp Direction Sideswipe	0	0		FAU
	VT0041000/08WT0 1395	Williston	1.049	05/05/2008	14:01	Clear	Inattention, No improper driving	Rear End	0	0	E	FAU
	VT0041000/10WT0 1805	Williston	1.049	06/24/2010	12:13	Clear	Failed to yield right of way, No improper driving	Rear End	0	0	E	FAU
	VT0041000/10WT0 2477	Williston	1.049	08/20/2010	16:28	Cloudy		Rear End	0	0	E	FAU
	0417/7541-06	Williston	UNK	06/05/2006		Cloudy	Operating defective equipment	Single Vehicle Crash	0	0		FAU
								Totals:	**8**	**0**		

Total Crash Count = 55 **Fatal Crash Count = 0** **Injury Crash Count = 6** **PDO Crash Count = 49**

Note: FAU-5504 (Industrial Ave.) Williston.
US-2 intersects Industrial Ave. at mile point 0.00.
VT-2A intersects Industrial Ave. at mile point 1.049.
L. Roberts - VTrans

THIS DOCUMENT IS EXEMPT FROM DISCOVERY OR ADMISSION UNDER 23 U.S.C 409.

**Crash occurred prior to the last Highway Improvement Project. This data should not be used in a crash analysis. UNK indicates the Mile Marker is Unknown.*

Chittenden County MPO

30 Kimball Ave., Suite 206
South Burlington, Vermont 05403
http://www.ccmpo.org

ID : WILL-32 ~AGGREGATE COUNT
LOC : Industrial Ave. & N.Brownell
TOWN : Williston
COUNTERS : MS

File Name : will32
Site Code : 00000032
Start Date : 7/19/2007
Page No : 1

Groups Printed- Autos/ Peds - Trucks/ Bikes - Buses

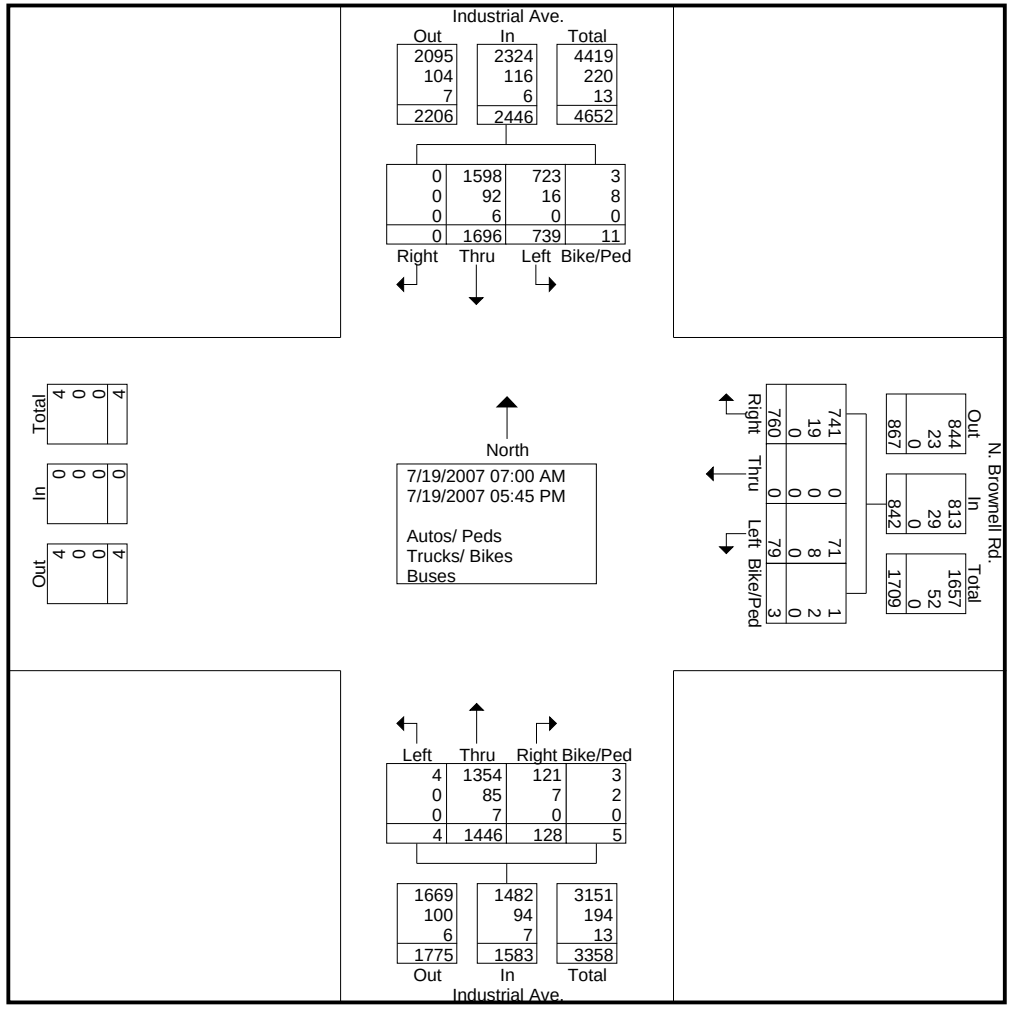
	Industrial Ave. From North					N. Brownell Rd. From East					Industrial Ave. From South					
Start Time	Right	Thru	Left	Bike/Ped	App. Total	Right	Thru	Left	Bike/Ped	App. Total	Right	Thru	Left	Bike/Ped	App. Total	Int. Total
07:00 AM	0	119	43	0	162	21	0	8	0	29	1	45	0	0	46	237
07:15 AM	0	127	59	1	187	20	0	3	0	23	5	55	0	2	62	272
07:30 AM	0	172	73	1	246	33	0	4	1	38	10	66	0	0	76	360
07:45 AM	0	163	86	2	251	43	0	4	0	47	6	63	0	0	69	367
Total	0	581	261	4	846	117	0	19	1	137	22	229	0	2	253	1236
08:00 AM	0	122	63	1	186	44	0	7	0	51	9	63	0	0	72	309
08:15 AM	0	145	52	0	197	33	0	13	0	46	5	62	0	1	68	311
08:30 AM	0	127	48	2	177	31	0	2	0	33	7	58	0	1	66	276
08:45 AM	0	95	30	0	125	37	0	12	1	50	7	63	0	0	70	245
Total	0	489	193	3	685	145	0	34	1	180	28	246	0	2	276	1141
*** BREAK ***																
04:00 PM	0	77	26	0	103	54	0	4	0	58	9	112	1	0	122	283
04:15 PM	0	96	34	0	130	44	0	1	0	45	6	123	0	0	129	304
04:30 PM	0	66	39	0	105	65	0	3	0	68	10	140	0	0	150	323
04:45 PM	0	96	36	1	133	65	0	4	0	69	6	123	1	0	130	332
Total	0	335	135	1	471	228	0	12	0	240	31	498	2	0	531	1242
05:00 PM	0	76	41	1	118	69	0	3	0	72	18	171	1	1	191	381
05:15 PM	0	79	52	2	133	81	0	7	1	89	10	98	1	0	109	331
05:30 PM	0	71	30	0	101	81	0	3	0	84	16	113	0	0	129	314
05:45 PM	0	65	27	0	92	39	0	1	0	40	3	91	0	0	94	226
Total	0	291	150	3	444	270	0	14	1	285	47	473	2	1	523	1252
Grand Total	0	1696	739	11	2446	760	0	79	3	842	128	1446	4	5	1583	4871
Apprch %	0	69.3	30.2	0.4		90.3	0	9.4	0.4		8.1	91.3	0.3	0.3		
Total %	0	34.8	15.2	0.2	50.2	15.6	0	1.6	0.1	17.3	2.6	29.7	0.1	0.1	32.5	
Autos/ Peds	0	1598	723	3	2324	741	0	71	1	813	121	1354	4	3	1482	4619
% Autos/ Peds	0	94.2	97.8	27.3	95	97.5	0	89.9	33.3	96.6	94.5	93.6	100	60	93.6	94.8
Trucks/ Bikes	0	92	16	8	116	19	0	8	2	29	7	85	0	2	94	239
% Trucks/ Bikes	0	5.4	2.2	72.7	4.7	2.5	0	10.1	66.7	3.4	5.5	5.9	0	40	5.9	4.9
Buses	0	6	0	0	6	0	0	0	0	0	0	7	0	0	7	13
% Buses	0	0.4	0	0	0.2	0	0	0	0	0	0	0.5	0	0	0.4	0.3

Chittenden County MPO

30 Kimball Ave., Suite 206
South Burlington, Vermont 05403
http://www.ccmpo.org

ID : WILL-32 ~AGGREGATE COUNT
LOC : Industrial Ave. & N.Brownell
TOWN : Williston
COUNTERS : MS

File Name : will32
Site Code : 00000032
Start Date : 7/19/2007



Vermont Agency of Transportation
Policy, Planning and Intermodal Development Division
Highway Research

SUMMARY STATEWIDE AVERAGE CRASH RATES
2006-2010

SECTIONS

	Functional Classification	Rate (Crashes/MVM *)
Rural:		
1	Interstate	0.6202
2	Principal Arterial	0.9218
6	Minor Arterial	1.2554
7	Major Collector	1.2864
8	Minor Collector	1.1642
9	Local	1.1642
Urban:		
11	Interstate	0.4521
12	Other Freeways and Expressways	1.1481
14	Principal Arterial	4.8519
16	Minor Arterial	3.4071
17	Urban Collector	3.3862
19	Local	3.2204

INTERSECTIONS

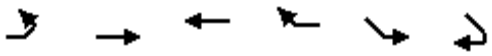
	Rate (Crashes/MV **)
Interstate, Rural (r)/Minor Arterial (r)	0.789
Interstate, Urban (u)/Minor Arterial (u)	1.153
Principal Arterial (r)/ Minor Arterial (r)	0.789
Principal Arterial (r)/Major Collector (r)	0.428
Freeway/Expressway (u)/Principal Arterial (u)	0.413
Principal Arterial (u)/Urban Collector (u)	0.590
Freeway/Expressway (u)/Minor Arterial (u)	0.703
Principal Arterial (u)/Minor Arterial (u)	1.153
Freeway/Expressway (u)	0.413
Principal Arterial (u)	0.684
Major Collector (r)	0.415
Minor Arterial (u)	0.495
Minor Arterial (u)/Urban Collector (u)	0.574
Minor Arterial (r)/Major Collector (r)	0.595
Principal Arterial (r)	0.472
Urban Collector (u)	0.498
Minor Arterial (r)	0.353
Major Collector (r)/Non-Federal Aid Collectors (r)	0.415
Major Collector(r)/Local,Rural (r)	0.415
Minor Arterial (r)/Non-Federal Aid Collectors (r)	0.595
Freeway/Expressway (u)/ Urban Collector (u)	0.590
Non-Federal Aid Collectors (r)	0.415

* Crashes per Million Vehicle Miles.
** Crashes per Million Vehicles.

NOTES:
(r) = Rural
(u) = Urban

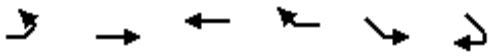
APPENDIX C

Synchro



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Volume (vph)	54	287	590	93	30	44
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	7%	2%	4%	0%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	54	287	590	93	30	44
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	341	683	0	74	0

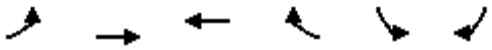
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (veh/h)	54	287	590	93	30	44
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	54	287	590	93	30	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	683				1032	636
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	683				1032	636
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				88	91
cM capacity (veh/h)	919				245	478

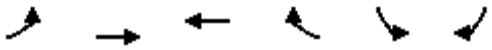
Direction, Lane #	EB 1	WB 1	SE 1
Volume Total	341	683	74
Volume Left	54	0	30
Volume Right	0	93	44
cSH	919	1700	345
Volume to Capacity	0.06	0.40	0.21
Queue Length 95th (ft)	5	0	20
Control Delay (s)	2.0	0.0	18.3
Lane LOS	A		C
Approach Delay (s)	2.0	0.0	18.3
Approach LOS			C

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	17	500	623	7	3	11
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	29%	7%	7%	71%	100%	36%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	17	500	623	7	3	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	517	630	0	14	0

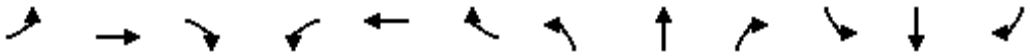
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	17	500	623	7	3	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	17	500	623	7	3	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		687				
pX, platoon unblocked						
vC, conflicting volume	630				1160	626
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	630				1160	626
tC, single (s)	4.4				7.4	6.6
tC, 2 stage (s)						
tF (s)	2.5				4.4	3.6
p0 queue free %	98				98	97
cM capacity (veh/h)	835				138	428

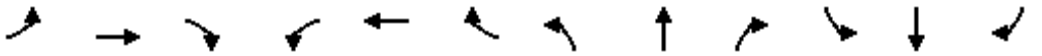
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	517	630	14
Volume Left	17	0	3
Volume Right	0	7	11
cSH	835	1700	295
Volume to Capacity	0.02	0.37	0.05
Queue Length 95th (ft)	2	0	4
Control Delay (s)	0.6	0.0	17.8
Lane LOS	A		C
Approach Delay (s)	0.6	0.0	17.8
Approach LOS			C

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	27	404	87	19	569	18	30	1	16	6	0	23
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	19%	3%	1%	0%	3%	17%	0%	0%	13%	50%	0%	57%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	27	404	87	19	569	18	30	1	16	6	0	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	518	0	0	606	0	0	47	0	0	6	23

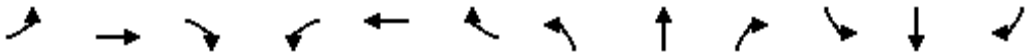
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	27	404	87	19	569	18	30	1	16	6	0	23
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	27	404	87	19	569	18	30	1	16	6	0	23
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	587			491			1129	1126	448	1134	1161	578
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	587			491			1129	1126	448	1134	1161	578
tC, single (s)	4.3			4.1			7.1	6.5	6.3	7.6	6.5	6.8
tC, 2 stage (s)												
tF (s)	2.4			2.2			3.5	4.0	3.4	4.0	4.0	3.8
p0 queue free %	97			98			82	99	97	96	100	95
cM capacity (veh/h)	910			1083			167	197	589	136	188	426

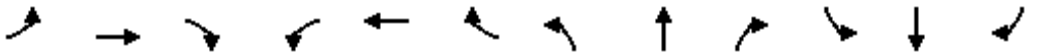
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	518	606	47	29
Volume Left	27	19	30	6
Volume Right	87	18	16	23
cSH	910	1083	222	537
Volume to Capacity	0.03	0.02	0.21	0.05
Queue Length 95th (ft)	2	1	20	4
Control Delay (s)	0.8	0.5	25.6	17.8
Lane LOS	A	A	D	C
Approach Delay (s)	0.8	0.5	25.6	17.8
Approach LOS			D	C

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	48	340	31	60	560	29	8	0	5	11	0	35
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	1%	0%	0%	1%	3%	0%	0%	0%	9%	2%	29%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	48	340	31	60	560	29	8	0	5	11	0	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	419	0	0	649	0	8	0	5	0	11	35

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	48	340	31	60	560	29	8	0	5	11	0	35
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	48	340	31	60	560	29	8	0	5	11	0	35
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	589			371			1181	1160	356	1151	1162	574
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	589			371			1181	1160	356	1151	1162	574
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.2	6.5	6.5
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.6	4.0	3.6
p0 queue free %	95			95			94	100	99	93	100	93
cM capacity (veh/h)	957			1199			144	178	693	156	176	470

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	419	649	8	5	11	35
Volume Left	48	60	8	0	11	0
Volume Right	31	29	0	5	0	35
cSH	957	1199	144	693	156	470
Volume to Capacity	0.05	0.05	0.06	0.01	0.07	0.07
Queue Length 95th (ft)	4	4	4	1	6	6
Control Delay (s)	1.5	1.3	31.4	10.2	29.9	13.3
Lane LOS	A	A	D	B	D	B
Approach Delay (s)	1.5	1.3	23.3		17.2	
Approach LOS			C		C	

Intersection Summary				
Average Delay	2.3			
Intersection Capacity Utilization	57.4%	ICU Level of Service		B
Analysis Period (min)	15			

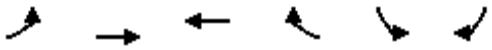
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	227	40	275	660	28	130
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	3%	1%	5%	4%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	227	40	275	660	28	130
Shared Lane Traffic (%)						
Lane Group Flow (vph)	267	0	0	935	158	0

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	227	40	275	660	28	130
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	227	40	275	660	28	130
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			267		1457	247
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			267		1457	247
tC, single (s)			4.1		6.4	6.3
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			79		75	83
cM capacity (veh/h)			1303		111	782

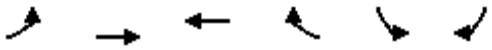
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	267	935	158
Volume Left	0	275	28
Volume Right	40	0	130
cSH	1700	1303	379
Volume to Capacity	0.16	0.21	0.42
Queue Length 95th (ft)	0	20	50
Control Delay (s)	0.0	4.6	21.2
Lane LOS		A	C
Approach Delay (s)	0.0	4.6	21.2
Approach LOS			C

Intersection Summary			
Average Delay		5.6	
Intersection Capacity Utilization		83.9%	ICU Level of Service E
Analysis Period (min)		15	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	2	399	911	2	1	10
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	2	399	911	2	1	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	401	913	0	11	0

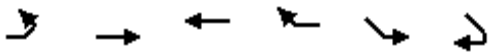
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	2	399	911	2	1	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	399	911	2	1	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			512			
pX, platoon unblocked	0.80				0.80	0.80
vC, conflicting volume	913				1315	912
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	763				1268	762
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				99	97
cM capacity (veh/h)	684				149	325

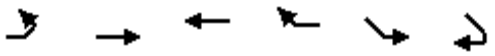
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	401	913	11
Volume Left	2	0	1
Volume Right	0	2	10
cSH	684	1700	294
Volume to Capacity	0.00	0.54	0.04
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.1	0.0	17.7
Lane LOS	A		C
Approach Delay (s)	0.1	0.0	17.7
Approach LOS			C

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		58.1%	ICU Level of Service B
Analysis Period (min)		15	



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Volume (vph)	35	467	347	71	93	116
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	2%	4%	8%	1%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	35	467	347	71	93	116
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	502	418	0	209	0

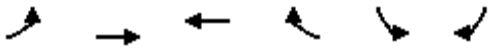
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (veh/h)	35	467	347	71	93	116
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	35	467	347	71	93	116
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	418				920	382
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	418				920	382
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	97				68	82
cM capacity (veh/h)	1094				293	660

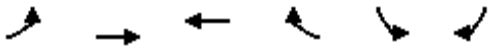
Direction, Lane #	EB 1	WB 1	SE 1
Volume Total	502	418	209
Volume Left	35	0	93
Volume Right	0	71	116
cSH	1094	1700	423
Volume to Capacity	0.03	0.25	0.49
Queue Length 95th (ft)	2	0	66
Control Delay (s)	0.9	0.0	21.5
Lane LOS	A		C
Approach Delay (s)	0.9	0.0	21.5
Approach LOS			C

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	3	570	600	7	5	17
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	67%	6%	2%	0%	0%	24%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	3	570	600	7	5	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	573	607	0	22	0

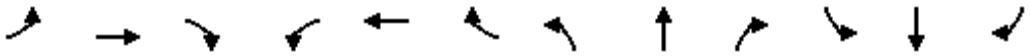
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	3	570	600	7	5	17
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	3	570	600	7	5	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		687				
pX, platoon unblocked						
vC, conflicting volume	607				1180	604
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	607				1180	604
tC, single (s)	4.8				6.4	6.4
tC, 2 stage (s)						
tF (s)	2.8				3.5	3.5
p0 queue free %	100				98	96
cM capacity (veh/h)	721				211	460

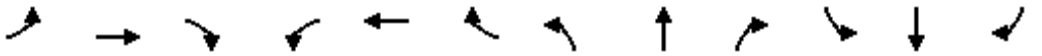
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	573	607	22
Volume Left	3	0	5
Volume Right	0	7	17
cSH	721	1700	363
Volume to Capacity	0.00	0.36	0.06
Queue Length 95th (ft)	0	0	5
Control Delay (s)	0.1	0.0	15.5
Lane LOS	A		C
Approach Delay (s)	0.1	0.0	15.5
Approach LOS			C

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	22	485	50	20	521	7	69	0	30	18	1	31
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	19%	3%	1%	0%	3%	17%	0%	0%	13%	50%	0%	57%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	22	485	50	20	521	7	69	0	30	18	1	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	557	0	0	548	0	0	99	0	0	19	31

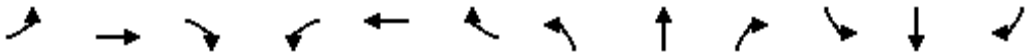
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	485	50	20	521	7	69	0	30	18	1	31
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	22	485	50	20	521	7	69	0	30	18	1	31
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												1
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	528			535			1134	1122	510	1148	1144	524
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	528			535			1134	1122	510	1148	1144	524
tC, single (s)	4.3			4.1			7.1	6.5	6.3	7.6	6.5	6.8
tC, 2 stage (s)												
tF (s)	2.4			2.2			3.5	4.0	3.4	4.0	4.0	3.8
p0 queue free %	98			98			58	100	94	86	99	93
cM capacity (veh/h)	958			1043			163	199	542	130	193	459

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	557	548	99	50
Volume Left	22	20	69	18
Volume Right	50	7	30	31
cSH	958	1043	207	350
Volume to Capacity	0.02	0.02	0.48	0.14
Queue Length 95th (ft)	2	1	59	12
Control Delay (s)	0.6	0.5	37.4	22.2
Lane LOS	A	A	E	C
Approach Delay (s)	0.6	0.5	37.4	22.2
Approach LOS			E	C

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	29	474	7	21	420	10	33	0	44	29	0	39
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	1%	0%	0%	2%	20%	0%	2%	0%	0%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	29	474	7	21	420	10	33	0	44	29	0	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	510	0	0	451	0	33	0	44	0	29	39

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	29	474	7	21	420	10	33	0	44	29	0	39
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	29	474	7	21	420	10	33	0	44	29	0	39
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	430			481			1042	1008	478	1046	1006	425
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	430			481			1042	1008	478	1046	1006	425
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			98			83	100	93	84	100	94
cM capacity (veh/h)	1088			1092			190	230	592	186	230	634

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	510	451	33	44	29	39
Volume Left	29	21	33	0	29	0
Volume Right	7	10	0	44	0	39
cSH	1088	1092	190	592	186	634
Volume to Capacity	0.03	0.02	0.17	0.07	0.16	0.06
Queue Length 95th (ft)	2	1	15	6	13	5
Control Delay (s)	0.8	0.6	27.9	11.6	27.9	11.1
Lane LOS	A	A	D	B	D	B
Approach Delay (s)	0.8	0.6	18.6		18.2	
Approach LOS			C		C	

Intersection Summary				
Average Delay	3.0			
Intersection Capacity Utilization	50.8%	ICU Level of Service		A
Analysis Period (min)	15			

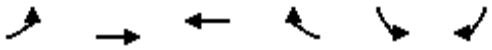
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	500	45	150	370	20	280
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	7%	4%	3%	29%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	500	45	150	370	20	280
Shared Lane Traffic (%)						
Lane Group Flow (vph)	545	0	0	520	300	0

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	500	45	150	370	20	280
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	500	45	150	370	20	280
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			545		1192	522
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			545		1192	522
tC, single (s)			4.1		6.7	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.8	3.3
p0 queue free %			85		87	50
cM capacity (veh/h)			1014		156	558

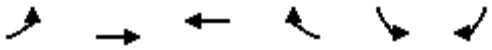
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	545	520	300
Volume Left	0	150	20
Volume Right	45	0	280
cSH	1700	1014	476
Volume to Capacity	0.32	0.15	0.63
Queue Length 95th (ft)	0	13	107
Control Delay (s)	0.0	3.9	24.6
Lane LOS		A	C
Approach Delay (s)	0.0	3.9	24.6
Approach LOS			C

Intersection Summary			
Average Delay	6.9		
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	11	760	484	6	0	6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	11	760	484	6	0	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	771	490	0	6	0

Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	11	760	484	6	0	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	11	760	484	6	0	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			512			
pX, platoon unblocked	0.95				0.95	0.95
vC, conflicting volume	490				1269	487
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	437				1257	433
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	99
cM capacity (veh/h)	1077				179	595

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	771	490	6
Volume Left	11	0	0
Volume Right	0	6	6
cSH	1077	1700	595
Volume to Capacity	0.01	0.29	0.01
Queue Length 95th (ft)	1	0	1
Control Delay (s)	0.3	0.0	11.1
Lane LOS	A		B
Approach Delay (s)	0.3	0.0	11.1
Approach LOS			B

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		58.8%	ICU Level of Service B
Analysis Period (min)		15	

APPENDIX D

Meeting Minutes

Meeting Notes

Alternatives Public Meeting

Industrial Avenue Corridor Study

Date/Time:	November 20, 2012 7:30 PM
Place:	Williston Town Meeting House
Next Meeting:	December 4, 2012 w/Planning Commission
Attendees:	Rick Bryant, Chris Gendron - Stantec
	Ken Belliveau - Town of Williston
	Christine Forde – CCRPC
	Planning Commission
Distribution:	All Attendees, Bruce Hoar, Greg Edwards, Matt Boulanger, Thad Luther

Summary

Meeting was held to present corridor alternatives to the public and Planning Commission for review. The public comments related to potential land takings. Planning Commission comments considered potential land takings and traffic operations. The Planning Commission agreed to continue its review at their December 4, 2012 meeting.

Minutes

1. Opening Remarks

Ken opened the meeting by explaining the purpose and need of the project. He explained that with the changing land uses on industrial Avenue, corridor travel demands and operations will be altered in the future for all modes. The meeting purpose is to inform the public of the issues and solicit input. Kevin Batson of the Planning Commission recommended including the “Bike Path Committee” in the planning process as well.

2. Presentation

Stantec provided a Powerpoint presentation describing the results of the traffic operations analysis and various design alternatives under consideration for the corridor. It was explained that having a corridor plan in place will benefit the Town by defining, in advance, ways in which developers can participate in corridor improvements.

3. Public and Planning Commission Comment

Kevin Batson commented on the Capacity Analysis Results and mentioned the back-ups on North Brownell being quite substantial and not worthy of a “yellow” rating. Stantec noted that the delays observed in the field are often worse than the calculated delays due to vehicle queues extending back from Route 2A.

Ray Demurse, asked if there were any plans for new roads to be built to alleviate the traffic on Industrial Avenue. Stantec mentioned that there is a broad network study that is running parallel with this study that may consider new roadway links. However, it is not anticipated that any new roadways are proposed that would parallel Industrial Avenue.

Ray mentioned that people leaving Industrial Avenue use the gravel shoulders along the roadway as a right-turn lane at Route 2A.

Dom Brissen, who owns an auto parts store on Industrial Avenue, is concerned with the stopped traffic blocking people from leaving their drives. He doesn’t believe that anybody uses the existing sidewalk.

Larry Currier reiterated the fact that it is difficult to get out of driveways. He is very concerned with engine brake noise. He lives on the south side of Industrial Avenue near Route 2A and does not want to see any takings from his lot as he can barely fit two cars in his driveway.

Megan Cope of the planning commission was surprised by the common courtesy displayed at the intersection with N. Brownell Avenue allowing the intersection to run smoothly as a Stop controlled intersection.

Eleanor lives at the corner of Route 2A and mentioned that the sidewalk near her property leads to nowhere and doesn’t get much use.

Shannon of the planning commission mentioned that a big part of the sidewalk being built was in relation to the daycare at Avenue D and the use of strollers.

Christine Forde highlighted the fact the transit use may grow in the area providing more need for sidewalks and vice versa, providing sidewalks may promotes transit.

4. Planning Commission Discussion

Following the presentation the planning commission and the project steering committee had a discussion. Members of the public had left at this point.

A question was asked about cost of each alternative. Ken Belliveau clarified that a detailed investigation of costs is not a part of the study. The goal is to describe a vision of the future. This would facilitate future planning, design and project permitting efforts.

The Planning Commission agree to take more time to review the submitted plans and report with the intent of providing a recommendation to the project steering

committee at a future meeting. The project was added to the Commission's December 4th agenda.

Meeting adjourned at 9:15 PM

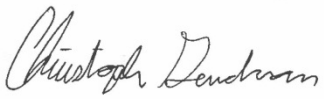
Action Items

1. Planning commission to review alternatives and make a recommendation at the meeting on December 4th.

2. Stantec to continue working on the draft report.

The foregoing is considered to be a true and accurate record of all items discussed. If any discrepancies or inconsistencies are noted, please contact the writer immediately.

STANTEC CONSULTING SERVICES INC.



Christopher Gendron, E.I.

Transportation Designer
Christopher.gendron@stantec.com

Meeting Notes

Alternatives Follow-up Meeting

Industrial Avenue Corridor Study

Date/Time:	December 4, 2012 7 PM
Place:	Williston Town Offices
Next Meeting:	TBD
Attendees:	Rick Bryant - Stantec
	Ken Belliveau – Town of Williston
	Matt Boulanger - Town of Williston
	Christine Forde – CCRPC
	Williston Planning Commission
Distribution:	All Attendees, Greg Edwards

Summary

Purpose of meeting was to review and comment on alternative plans for the Industrial Avenue corridor. Consensus of the Commission supported a combination of elements from the three primary plans presented. There seems to be support for bike lanes throughout the corridor and sidewalks on both the north and south sides of the corridor within the industrial area only. There is no interest in adding signal control or two-way left-turn lanes in the corridor. This option would have minimal land takings and not encourage cut-through traffic along North Brownell Avenue. Phasing of the project (construct south side sidewalk first) is acceptable.

Minutes

- Commission members discussed safety issues relative to cyclists and pedestrians having to cross Industrial Avenue under existing conditions. Creating a safer road is the top priority.

- Right-of-way impacts, particularly adjacent to residential properties are a concern. Evaluations should be conducted to better define potential impacts at the east end of the corridor.

- The Commission supports the ongoing land use changes. These changes will drive the need for better pedestrian accommodations and transit services. Cafes and other service businesses may appear in the corridor to support a larger workforce. Circulation among workplaces and services will create more pedestrian traffic.

- Signals are not considered necessary based on existing traffic conditions. Signals will stop traffic and add to delays and emissions. A signal at North Brownell may encourage cut through traffic. Motorists are generally courteous and operations are

fine without signal control.

- The Commission recognizes that takings will be necessary to provide sidewalks on both sides of the roadway therefore it may be appropriate to phase sidewalk construction.

- SD Ireland is redeveloping its property on Patchen Road. SD Ireland may therefore relocation functions to Industrial Avenue increasing traffic in the corridor.

- With increased pedestrian traffic, new crosswalks should be added at intersections. Lighting will need to be evaluated to ensure that crosswalks are adequately lit. (Following the meeting Stantec visited the corridor and noted street lamps mounted high on utility poles at or near all intersections. Intersection specific lighting is not provided. Light locations are dictated by utility pole locations.)

- End to end bike lanes are supported however a narrow bike lane should be considered eastbound near Route 2A in order to eliminate or minimize takings at the existing single family homes in this area.

Action Items

1. Incorporate the Commission recommendations into the draft report.
2. Schedule a future meeting with the Selectboard.

The foregoing is considered to be a true and accurate record of all items discussed. If any discrepancies or inconsistencies are noted, please contact the writer immediately.

STANTEC CONSULTING SERVICES INC.

Richard Bryant, PE

Richard.Bryant@stantec.com

MINUTES SUBJECT TO CORRECTION BY THE WILLISTON SELECTBOARD. CHANGES, IF ANY, WILL BE RECORDED IN THE MINUTES OF THE NEXT MEETING OF THE BOARD.

TOWN OF WILLISTON
SELECTBOARD
MINUTES OF MEETING
February 25, 2013

DRAFT

MEMBERS PRESENT:	Terry Macaig (Chairman); Jeff Fehrs, Jay Michaud, Chris Roy, Debbie Ingram.
ADMINISTRATION:	Rick McGuire, Town Manager; Ken Belliveau, Planning Director, Jessica Andreoletti, Senior Planner.
OTHERS PRESENT:	Jeff Atwood, Dana Hood, Don Morin, Charlie Giannoni (CCTV-Ch. 17), Stephanie Choate (Williston Observer).

1. Call to Order

Chairman Terry Macaig called the Williston Selectboard meeting to order at 7 PM.

2. Minutes

February 11, 2013

MOTION by Chris Roy, SECOND by Jay Michaud, to approve the minutes of February 11, 2013 as written. VOTING: unanimous (5-0); motion carried.

3. Public Comment

There were no comments from the public at this time.

4. Gallop Hill Pump Station

Rick McGuire explained the application to include the Gallop Hill pump station on the list of projects eligible for a loan through the state revolving loan program. Terms of the loan are more favorable than other sources of funding. Jeff Fehrs disclosed his department issues the revolving loan fund, but he is not involved with the Gallop Hill project. Terry Macaig disclosed the legislative committee he serves on reviews the revolving loan fund and makes appropriations. The Selectboard did not feel there was need for recusal by either member.

MOTION by Chris Roy, SECOND by Debbie Ingram, to authorize the Selectboard Chairman to sign the application for the Gallop Hill pump station project to be placed on the Vermont clean water state loan fund project list. VOTING: unanimous (5-0); motion carried.

5. Management Plan for Lyon Property

The following was noted:

- The management plan for the town owned property behind Town Hall (known as the Lyon property) memorializes current uses on the parcel and what is allowed in the future (municipal, recreational, scenic uses).
- The parcel map needs to be adjusted to reflect existing conditions on the 24.67 acre property.
- Past boundary line adjustments and property transfers involving the parcel include .08 acre boundary line adjustment in 1998, transfer of land to the state for the rest

area expansion, purchase of land behind the Miles property, and exchange of land with the Armory behind Town Hall for the existing parking lot.

- Page 2, Section 2 of the management plan should include mention of Town Hall and the parcel as the center of town and the language referring to "support" of the solar panels should be changed to state existing conditions (i.e. there are solar panels on the property).
- Relative to Page 5, Item E, there are easements for trails connecting town owned parcels in the area. The parcel is part of the primitive trail network in the town.
- Public input on the management plan and the process is needed. A future Selectboard meeting agenda will include a public information meeting on the management plan for the parcel.

6. Request to Waive Impact Fees

Jeff Atwood and Dana Hood explained the request to waive impact fees for their affordable housing project noting the following:

- Regional Planning in 2004 recommended a target of 80 units of affordable housing per year in Williston.
- Williston's town plan (2006 and the recent update) speaks to the town wanting affordable housing.
- The affordable housing project proposed by Mr. Atwood and Mr. Hood has been in process for the past seven years.
- The town should waive impact fees to deserving and desirable projects as an incentive. The Atwood/Hood affordable housing project scored 71, but there has been no reduction in local or state fees for the project.
- Consideration needs to be given of all the associated costs being borne by the builders to the benefit of the community.
- There was no involvement in the conservation easement on the 2.4 acre parcel that was recommended and approved by the town. Taxes have been paid for the past five years on the land where the affordable housing is proposed and the conservation easement is located.
- Time and $5,000 has been spent to draft an affordability agreement for affordable housing that will be a template for future use by the town.
- A security of $30,000 is being set aside to ensure the Atwood/Hood project is affordable in perpetuity.
- The vision for the initial Atwood/Hood project involved 5.5 acres and refurbishing the state historic farmhouse and barn which was rundown and not current with taxes. The landmark was the original site of the Williston Golf Course clubhouse.
- Growth Management allocation for the Atwood/Hood project was divvied out piecemeal from 2009 to 2015 by the town.
- There is need for affordable housing in all zoning districts of the town, but it appears the town does not provide incentives for this to happen.
- There are many positive ramifications to building affordable housing (additional jobs, more housing, low interest rates). The time to act is now.

Mr. Atwood will submit his talking points and request in writing to the Selectboard.

Ken Belliveau reviewed his memo relative to waiver/reduction of impact fees and sewer and water fees for affordable housing highlighting the following:

- The Selectboard has statutory authority to exempt or waive fees to achieve policy objectives in the town plan.
- There is precedent of waiving fees for affordable housing in the town (hamlet project).
- With the seven unit two-bedroom attached multifamily structures proposed by Mr. Atwood and Mr. Hood the impact fees with the discounts allowed through the bylaws total $38,326 less the 50% reduction in water and sewer connection fees allowed per the bylaws for a total impact fee per unit of $6,430.
- The Town Planner does not make decisions relative to growth management allocation or sewer allocation. These decisions are made by the DRB and the Selectboard respectively.
- The number of affordable units pledged by Mr. Atwood and Mr. Hood was greater than the minimum number needed to get points in growth management. The town bylaws state that all representations made by the applicant are binding. Revisiting the growth management number does not happen because the system is constrained and competitive; there is only so much that can be given out.
- The units in the hamlet (which had fees waived) were the last units of affordable housing built in the town.

The Selectboard agreed reducing fees for affordable housing is a good incentive for builders, but it is prudent to research the record to understand past action taken by the town and to be consistent going forward. Jeff Fehrs urged being cognizant when waiving fees of the impact on the fund that is built from impact fees and the potential of pre-empting the affordable housing task force.

7. Industrial Avenue Corridor Study

Ken Belliveau noted the Industrial Ave. corridor study looked at land use changes and options for road improvements. The width of the right-of-way on the road is under 50' which is below the current requirement of 64' to encompass roadway, drainage and sidewalks (if proposed). The Planning Commission recommendation for Industrial Ave. is the hybrid alternative #4 which includes two travel lanes, bike lanes, and sidewalk from Williston Road to Rossignol Park on both sides of the road. There will be no additional signals or a continuous turn lane in the road center.

MOTION by Chris Roy, SECOND by Debbie Ingram, to select the hybrid alternative #4 of the Industrial Ave. Corridor Study as recommended by the Planning Commission. VOTING: unanimous (5-0); motion carried.

8. Town Manager's Report

Rick McGuire reported the following:

- Staff will be attending a tabletop training session on the incident command system (part of emergency preparedness) on April 10, 2013 at the fire station. The Selectboard is invited to attend.

- Next Selectboard meeting is scheduled March 11, 2013. The meeting schedule for the upcoming year will be set at that time.
- Town meeting preparation: follow same format used in past years. It was suggested the cable/internet cost figure be updated for the budget.
- A public informational meeting and open house at the existing public works facility was held. Remarks were positive and in support of the need for a larger facility. Some comment was made on the cost of the proposal. The video by Channel 17 of the facility and the panel discussion was very good.
- The financial report shows expenses and revenues are on schedule. The local option tax is slightly ahead of target.

9. Other Business

Town Manager's Evaluation

Completed evaluation forms by Selectboard members are due to Terry Macaig as soon as possible.

10. Land Negotiations for Public Works Facility and Host Town Agreement Renewals

MOTION by Debbie Ingram, SECOND by Chris Roy, to go into Executive Session to discuss real estate negotiations relative to the purchase of land for the new public works facility and host town agreement negotiations where premature public knowledge would place the Town of Williston at a substantial disadvantage, and to invite the Town Manager to attend. VOTING: unanimous (5-0); motion carried.

Executive Session was convened at 8:14 PM and adjourned at 8:45 PM. No action was taken.

11. Adjournment

The meeting was adjourned at 8:45 PM.

RScty: M.E.Riordan