

Summary

The majority of streets after construction of the Interstate MAX light rail extension experienced a reduction in traffic volumes as compared to counts taken before construction. With the expected reduction in overall traffic volumes there were a few street segments that went against the trend and experienced an increase in volume. These streets are discussed in more detail in the section on anomalies. Recommendations are proposed to mitigate the increase in traffic volumes on N Denver Avenue and possibly on N Alberta Street.

Expected Changes

In general it was expected that total traffic volume in the general area would reduce or remain steady when area residents began using the train as their primary mode of transportation. Total traffic in the general vicinity of the north Light Rail has decreased slightly as compared to typical volumes five years before. Total trips on major streets decreased by approximately 54,000 trips per day. Though this number seems high it represents only an 8% reduction in area daily trips.

Interstate Avenue experienced the greatest reduction in total traffic. Seven of the ten street segments experiencing the greatest percent drop in traffic volumes were on Interstate. An eighth location, Denver north of Columbia, is a continuation of N Interstate. This is to be expected given that Interstate Avenue is the site of the project and was reduced from two lanes in each direction to one.

Table 1. Greatest Reductions in Traffic Volume

Street	Of	General Area	Change	Percent
Denver	N	Columbia	-3950	-22.1%
Interstate Ave	S	Portland	-3240	-23.5%
Interstate Ave	N	Killingsworth	-3470	-24.5%
Interstate Ave	S	Skidmore	-3147	-26.4%
Ainsworth	W	Interstate	-920	-26.6%
Interstate Ave	S	Alberta	-5090	-28.1%
Mississippi	N	Interstate	-840	-34.6%
Interstate Ave	S	Mississippi	-8026	-36.5%
Interstate Ave	N	Portland	-5640	-37.1%
Interstate Ave	N	Lombard	-10350	-54.2%

Many lower volume local streets were also counted as part of the traffic monitoring for this project, but are not reported here. None of the low-volume local service streets measured after construction of light rail on north Interstate had increases in traffic volumes that did not directly relate to the elimination of access points along Interstate. The vast majority of such streets had traffic volume reductions.

Anomalies

Traffic volume counts fluctuate daily and the Portland Office of Transportation considers a 10% variance to be within this daily fluctuation. Over time traffic volumes on streets also change as the population changes. Increases in daily traffic over an extended period are to be expected unless other factors influence those normal trends. On the streets around north Interstate the total daily trips have been holding steady or slightly reducing when comparing traffic counts before and after light rail construction on north Interstate. Streets that increase in total volume during the same time period deserve another look to determine if the project has had unintended negative consequences.

Table 2. Greatest Increases in Traffic Volume

Street	Of	General Area	Change	Percent
Mississippi	S	Skidmore	1835	48.4%
Alberta	W	Albina	3090	39.0%
Fremont	E	Mississippi	1226	38.1%
Skidmore	E	Interstate	730	22.2%
Denver	N	Killingsworth	560	19.8%
Denver	S	Portland	660	16.9%
Denver	S	Humboldt	63	10.5%
Vancouver	N	Cook*	960	9.9%
Alberta	E	Albina	1021	9.7%
Denver	N	Portland	460	9.4%

*One way street.

ALBINA-MISSISSIPPI CORRIDOR

The Albina-Mississippi corridor experienced the most difficult to discern increase in traffic upon completion of the light rail line. It appears that recent revitalization of the business district may be the primary contributor to the significant increases in traffic volume because the increases are localized and do not extend much farther north or south.

Table 3. Albina-Mississippi Corridor Traffic Volumes

Street	Of	General Area	Change	Percent
Fremont	E	Mississippi	1226	38.1%
Fremont	E	Williams	-260	-2.2%
Mississippi	N	Interstate	-840	-34.6%
Mississippi	S	Fremont	-57	-1.8%
Mississippi	S	Skidmore	1835	48.4%
Albina	N	Killingsworth	-990	-16.6%
Albina	N	Ainsworth	-210	-4.2%
Albina	N	Alberta	-360	-7.3%
Albina	S	Alberta	-470	-8.0%
Albina	N	Portland	-390	-11.0%

Skidmore	W	Vancouver	-550	-11.0%
Skidmore	W	Albina	40	0.7%
Skidmore	E	Interstate	730	22.2%
Skidmore	W	Interstate	-170	-10.2%
Alberta	E	Albina	1021	9.7%
Alberta	W	Albina	3090	39.0%
Alberta	E	Interstate	- 270	-4.6%
Alberta	W	Interstate	216	7.0%

NORTH DENVER AVENUE

Denver Avenue is another story. N Denver Avenue is a parallel pathway to Interstate Avenue and was identified early on, along with Greeley Avenue, as a potential diversion route for traffic from Interstate. N Greeley is a collector-level street, where traffic volume increases are planned to occur. The traffic volumes on N Greeley before light rail construction were commonly in excess of 10,000 vehicles per day. With such high volumes already, shifts from Interstate Avenue, though expected, were not anticipated to have a significant impact on Greeley residents. Much of Greeley is also designated as Neighborhood Collector; meaning vehicle use is given more weight than on a Local Service street like much of Denver.

North Denver is a Local Service street with traffic volumes over 5,000 vehicles per day north of Lombard, but less than that south of Portland Boulevard with a steady decrease the farther south on Denver you go. Between Lombard and Portland Denver is classified as a Neighborhood Collector and is the only segment where an increase in volume may be acceptable.

Table 4. Denver Corridor Traffic Volumes

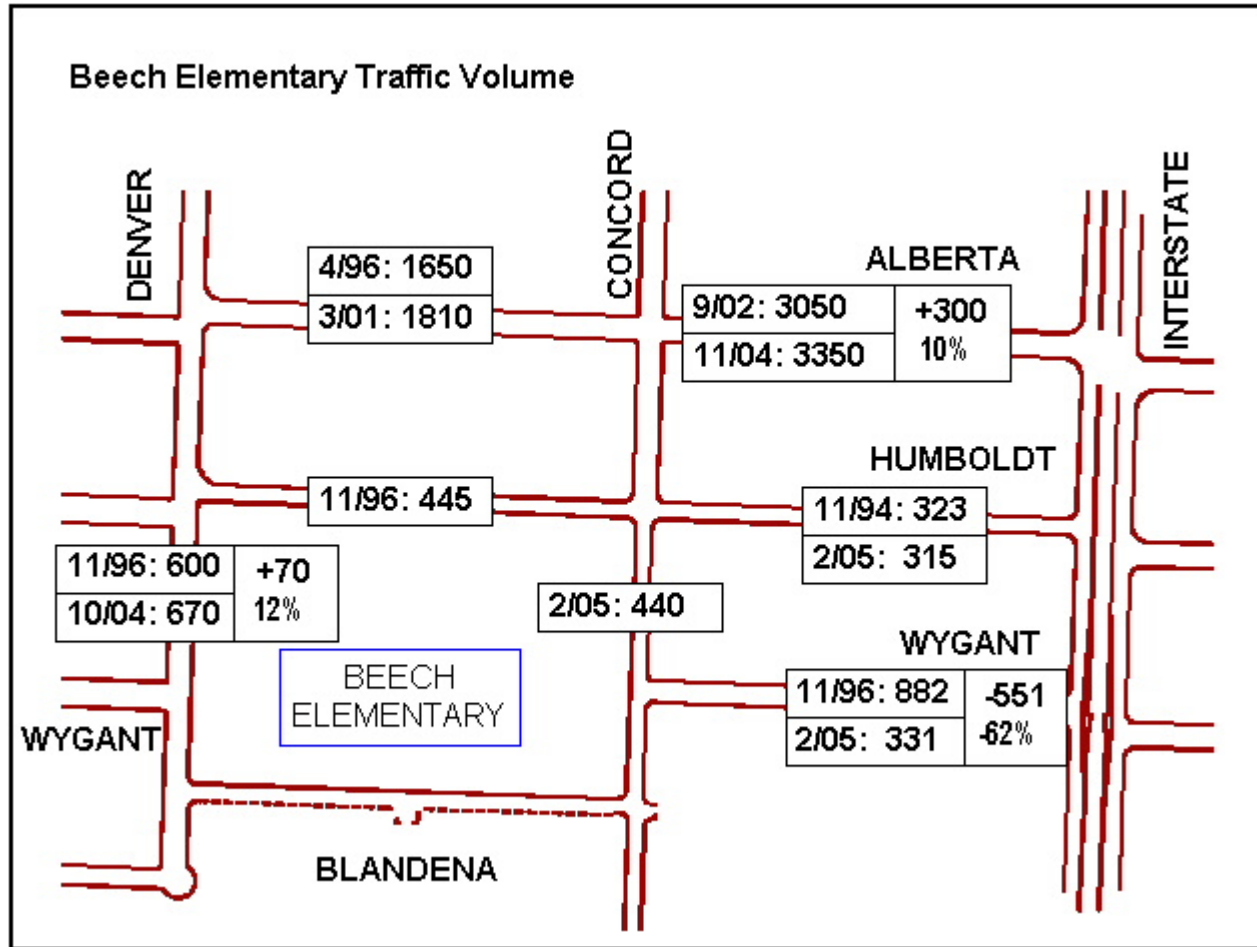
Street	Of	General Area	Change	Percent
Denver	N	Columbia	-3950	-22.1%
Denver	S	Interstate	-790	-11.8%
Denver	N	Lombard	60	0.7%
Denver	S	Lombard	430	8.8%
Denver	N	Portland	460	9.4%
Denver	S	Portland	660	16.9%
Denver	N	Killingsworth	560	19.8%
Denver	S	Killingsworth	-110	-5.2%
Denver	S	Humboldt	63	10.5%

N Denver, Portland to Killingsworth, is a Local Service street with residential uses along its frontage. The increase in traffic volume on this segment of N Denver is sufficient to warrant some type of mitigation.

BEECH ELEMENTARY

The map in Figure 1 (next page) describes the data collected around Beech Elementary.

Figure 1. Beech Elementary Traffic Volumes



Before construction of the light rail line several hundred vehicles accessed the school from Interstate via Wygant. Since the rail tracks were constructed in the center of Interstate, N Alberta, a signalized intersection, serves as the primary pathway between the school and Interstate Avenue as well as the neighborhood north of Alberta. Denver Avenue is a logical new pathway to serve the school, but none of the volumes currently measured around the school are excessive for local streets. Alberta Avenue has volumes that are high, but not unexpected given the number of pathways that have been severed by the introduction of the rail tracks on Interstate. Table 5, below, indicates the vehicle speeds on Alberta have reduced from past years but remain high and may warrant treatment, though it is difficult to connect the driver behavior of speeding directly to the construction of light rail on Interstate. Alberta is posted for 25-mph.

Table 5. North Alberta 85th Percentile Vehicle Speeds

Location	Eastbound	Westbound
Denver to Concord, April 1996	34 mph	34 mph
Concord to Interstate, Sept. 2002	32 mph	30 mph
Concord to Interstate, Nov. 2004	29 mph	31 mph

North Denver Traffic Speed and Gap Study

Speed counts and a gap study were conducted on north Denver to better understand the depth of the effect the current traffic volumes have on local residents.

TRAFFIC SPEED

North Denver from Interstate to Watts is posted for 25 miles per hour. From Watts to Killingsworth it is posted for 35 miles per hour. South of Killingsworth, Denver is posted for 25 miles per hour. Table six reports the speeds measured on Denver between Interstate and Killingsworth.

Table 6. North Denver 85th Percentile Vehicle Speeds

Location	Northbound	Southbound
North of Winchell, April 2005	35 mph	35 mph
North of Buffalo, April 2005	37 mph	36 mph
North of Dekum, April 2005	38 mph	38 mph
North of Holman, April 2005	35 mph	35 mph
North of Jessup, April 2005	35 mph	35 mph

The 85th percentile speed is the benchmark for comparing driver behavior to posted limits. For any 85th percentile speed, 85% of the drivers are going that speed or less, while 15% of drivers exceed that speed. It is preferred the 85th percentile speed matched the posted limit. The State Speed Control Board places great weight in the 85th percentile speed when considering changes in posted speed orders. Based on the 85th percentile speed alone, most drivers using Denver between Watts and Killingsworth appear to be respecting the current posted speed. Table 7, below, describes the number of speeders on an average day. From this table it appears the segment of north Denver from Lombard to Portland has the most non-compliant drivers.

Table 7. North Denver Speed Compliance

Location	Volume	> 35 mph	> 45 mph
North of Winchell, April 2005	8850	1369 (16%)	17 (0.2%)
North of Buffalo, April 2005	5170	1165 (22%)	31 (0.6%)
North of Dekum, April 2005	5130	1671 (32%)	67 (1.3%)
North of Holman, April 2005	4560	740 (16%)	32 (0.7%)
North of Jessup, April 2005	3560	583 (16%)	16 (0.4%)

GAP STUDY

A gap study compares the needed time for an average pedestrian to cross a street (curb to curb) with the typical gaps available in the traffic stream. The City of Portland has set a standard of 60 gaps per hour as the minimum acceptable number of gaps for pedestrian convenience. This implies that during the busiest traffic of the day a pedestrian would only need to wait an average of a minute to find a safe gap in traffic in order to cross a street. Streets with less than 60 gaps per hour are termed deficient and streets with less than 30 gaps per hour are termed severely deficient. Table 8 compares the available gaps to cross two opposing traffic streams at selected locations along north Denver Avenue.

Table 8. North Denver Gap Study

Location	Gap Needed	Available Gaps per Hour	
		AM	PM
North of Winchell, April 2005	21 sec.	36	31
North of Buffalo, April 2005	18 sec.	82	78
North of Dekum, April 2005	15 sec.	79	59
North of Holman, April 2005	18 sec.	68	46
North of Jessup, April 2005	18 sec.	68	65

The gap study indicates that north Denver Avenue north of Lombard is the most difficult segment to cross during both the morning and evening commutes. Denver to Portland is the second most difficult to cross, especially during the evening commute. The middle segment of north Denver, Lombard to Portland appears to be the easiest to cross during peak hours for vehicle use. This may be due to the signals at each end that tend to bunch traffic together into platoons. Traffic that moves in groups may introduce larger gaps between the platoons that offset the very short gaps between the individual vehicles.

Recommendations

North Denver Avenue from Interstate to Lombard did not have significant changes in traffic volume, nor does it have a defined speeding problem, but it does have the least hospitable crossing environment for pedestrians. Pedestrian crossing enhancements are the recommended mitigation to reduce the crossing distance and/or pedestrian exposure to vehicles in this widest section of Denver.

North Denver Avenue between Lombard Street and Portland Boulevard is classified as a Neighborhood Collector street in Portland’s Transportation System Plan. The traffic volumes measured approximately 5300 vehicles per day. This volume is not excessive for a Neighborhood Collector street but does represent an increase of approximately 9% from volumes measured before construction when the more common trend on other streets has been a reduction in volume. This segment of Denver also has the most speeders with 22% to 32% of drivers exceeding the 35-mph speed limit; though crossing opportunities appear adequate. Pedestrian crossing enhancements could mitigate the increase in traffic volume with the current level of speeding. Statutory crossings on N Denver north of Bryant are substandard in spacing, with over 500 feet between Bryant and Buffalo and just over 600 feet between Buffalo and Lombard. Mid-block crossings on these two blocks are one possible solution to enhancing pedestrian crossing opportunities. Curb extensions from Bryant to Portland, inclusive, would improve crossing opportunities at the statutory crossing locations. Speed tables could also address specific concerns about vehicle speed.

North Denver Avenue between Portland Boulevard and Killingsworth Street is classified as a Local Service street in Portland’s Transportation System Plan. The traffic volumes measured on the street varied from 3300 to 4500 vehicles per day with a 500 to 600 vehicle per day increase since light rail construction (16-19%). This volume is excessive for a Local Service street and is caused in part by the loss of capacity on N Interstate by the construction of light rail. Vehicle speeds are not excessive by City standards but do contribute to decreased safety when considering the volume increase. Pedestrian

crossing opportunities are sufficient in the morning but deficient during the evening commute. Speed tables preserve the current street capacity and would help to ensure that vehicle speeds remain near the posted speed limit. Speed tables may also make the street less attractive to drivers that do not have local destinations. The relocation of cut-through drivers with the use of speed tables may present a less costly method to mitigate traffic volume increases on N Denver than pedestrian enhancements. A typical project of this length would employ up to six speed tables. Pedestrian crossing enhancements would increase the crossing opportunities for pedestrians also without significant impact on street capacity. The segment of N Denver from Portland to Killingsworth is divided into four long blocks. These blocks are 585 to over 600 feet long. City standards for pedestrian crossings are 200 to 300-foot maximum spacing. Mid-block crossings with pedestrian refuge islands or curb extensions are one way to increase the pedestrian crossing opportunities on this segment of north Denver.

North Alberta Street currently carries up to 3200 vehicles per day. This is a large number of vehicles, though not a significant increase from 2002. Alberta is signalized at Interstate and has been for many years, which is the likely reason for higher than typical traffic volumes. Alberta has had an increase in volume since light rail construction, though this was expected since alternative routes into and out of the neighborhood have been significantly reduced. The vehicle speeds on the street are sufficient to trigger a speed bump traffic calming project under Portland guidelines.

Treatment Options

The most common treatment to enhance a pedestrian crossing is a curb extension. At specified crossing locations the roadside curb is constructed approximately seven feet closer to the street centerline. Curb extensions shorten the distance a pedestrian is exposed to traffic while crossing the street and increase the visibility between pedestrians and drivers. The most common alternative is a pedestrian refuge island constructed at the centerline of the street. Refuge islands make it possible for pedestrians to cross one half of a street at a time. In this way shorter gaps in each direction of traffic can be combined with a short pause at the center of the street to increase total crossing opportunities. Each pedestrian crossing location that is improved could cost from \$10,000 to \$20,000 for capital costs. Mid-block crossings would require removal of on street parking adjacent to the marked crossings or islands.

Speed tables are the common name for Portland's 22-foot speed bump design. This design is commonly used on higher speed and higher volume streets, and where Tri-Met operates. Speed tables slow drivers based on how close they are spaced and typically reduce the average 85th percentile speed into the 28 to 32 mph range. Standard speed tables cost approximately \$2,000 each for construction, including staff time for the public process. Speed tables do not impact parking.

Speed bumps are the common name for Portland's 14-foot speed bump design. This design is commonly used on Local Service streets. Speed bumps slow drivers based on how close they are spaced and typically reduce the average 85th percentile speed into the 20 to 28 mph range. Standard speed bumps cost approximately \$2,000 each including construction and staff time for the public process. Speed bumps do not impact parking.

Appendix A - Data Summary – Streets Listed Alphabetically

Rank	Street	Of	General Area	Volume 1	Year 1	Volume 2	Year 2	Change	Percent
20	Ainsworth	E	Greeley	1500	2000	1540	2004	40	2.7%
24	Ainsworth	W	Denver	2130	1998	2150	2004	20	0.9%
52	Ainsworth	E	Albina	5240	2000	4750	2004	-490	-9.4%
60	Ainsworth	E	Interstate	4050	2000	3530	2004	-520	-12.8%
70	Ainsworth	W	Interstate	3460	2000	2540	2004	-920	-26.6%
2	Alberta	W	Albina	7930	1998	11020	2004	3090	39.0%
9	Alberta	E	Albina	10560	1999	11581	2005	1021	9.7%
13	Alberta	W	Interstate	3050	2002	3350	2004	300	10.0%
44	Alberta	E	Interstate	5860	2001	5590	2004	-270	-4.6%
42	Albina	N	Ainsworth	5060	1999	4850	2004	-210	-4.2%
49	Albina	N	Alberta	4940	1997	4580	2004	-360	-7.3%
50	Albina	S	Alberta	5890	2000	5420	2004	-470	-8.0%
57	Albina	N	Portland	3540	2001	3150	2004	-390	-11.0%
62	Albina	N	Killingsworth	5960	1999	4970	2004	-990	-16.6%
51	Argyle Way	W	Denver	7580	1994	6900	2004	-680	-9.0%
5	Denver	N	Killingsworth	2830	2001	3390	2004	560	19.8%
6	Denver	S	Portland	3900	2001	4560	2004	660	16.9%
7	Denver	S	Humboldt	598	1996	661	2004	63	10.5%
10	Denver	N	Portland	4910	1996	5370	2004	460	9.4%
12	Denver	S	Lombard	4910	1996	5340	2004	430	8.8%
28	Denver	N	Lombard	8840	1995	8900	2004	60	0.7%
45	Denver	S	Killingsworth	2110	2000	2000	2004	-110	-5.2%
58	Denver	S	Interstate	6700	2000	5910	2004	-790	-11.8%
66	Denver	N	Columbia	17910	2000	13960	2004	-3950	-22.1%
3	Fremont	E	Mississippi	3220	1995	4446	2005	1226	38.1%
34	Fremont	E	Williams	12050	2000	11790	2004	-260	-2.2%
35	Going	W	Interstate	24629	2000	24070	2005	-559	-2.3%
23	Greeley	N	Killingsworth	16320	2001	16550	2004	230	1.4%
32	Greeley	S	Going	28230	2000	27792	2005	-438	-1.6%
36	Greeley	N	Portland	6390	2000	6220	2004	-170	-2.7%
46	Greeley	S	Killingsworth	18320	1999	17360	2004	-960	-5.2%
47	Greeley	N	Going	18850	2000	17792	2005	-1058	-5.6%
48	Greeley	S	Portland	17560	2000	16380	2004	-1180	-6.7%
64	Interstate Ave	S	Overlook	10510	2000	8545	2005	-1965	-18.7%
67	Interstate Ave	S	Portland	13790	1995	10550	2004	-3240	-23.5%
68	Interstate Ave	N	Killingsworth	14170	1996	10700	2004	-3470	-24.5%
69	Interstate Ave	S	Skidmore	11912	2000	8765	2005	-3147	-26.4%
71	Interstate Ave	S	Alberta	18140	2001	13050	2004	-5090	-28.1%
73	Interstate Ave	S	Mississippi	22000	2000	13974	2005	-8026	-36.5%
74	Interstate Ave	N	Portland	15210	2000	9570	2004	-5640	-37.1%

75	Interstate Ave	N	Lombard	19080	1999	8730	2004	-10350	-54.2%
37	Interstate Pl	N	Willis	2010	2001	1956	2005	-54	-2.7%
15	Killingsworth	W	Interstate	5120	2000	5409	2005	289	5.6%
19	Killingsworth	E	Albina	11650	2001	12000	2003	350	3.0%
31	Killingsworth	W	Denver	4610	1998	4570	2004	-40	-0.9%
38	Killingsworth	E	Interstate	7760	2000	7538	2005	-222	-2.9%
41	Killingsworth	W	Albina	12270	2000	11761	2005	-509	-4.1%
30	Lombard	E	Greeley	23810	1995	23660	2004	-150	-0.6%
40	Lombard	W	Vancouver	24940	2000	23980	2004	-960	-3.8%
1	Mississippi	S	Skidmore	3795	1996	5630	2004	1835	48.4%
33	Mississippi	S	Fremont	3120	2000	3063	2005	-57	-1.8%
72	Mississippi	N	Interstate	2430	2000	1590	2004	-840	-34.6%
14	Portland	E	Albina	9740	1998	10345	2005	605	6.2%
17	Portland	W	Denver	10760	1998	11190	2004	430	4.0%
39	Portland	E	Greeley	11370	2000	11020	2004	-350	-3.1%
61	Portland	W	Albina	14420	1998	12410	2004	-2010	-13.9%
65	Portland	E	Interstate	17840	2000	14320	2003	-3520	-19.7%
59	Russell	E	Mississippi	3789	1995	3313	2005	-476	-12.6%
4	Skidmore	E	Interstate	3290	2000	4020	2004	730	22.2%
26	Skidmore	W	Albina	5410	1998	5450	2004	40	0.7%
54	Skidmore	W	Interstate	1670	2000	1500	2004	-170	-10.2%
56	Skidmore	W	Vancouver	5020	2000	4470	2004	-550	-11.0%
8	Vancouver	N	Cook*	9730	1999	10690	2004	960	9.9%
16	Vancouver	N	Portland	3900	1999	4090	2005	190	4.9%
22	Vancouver	S	Columbia Blvd	4270	2000	4349	2005	79	1.9%
27	Vancouver	S	Skidmore*	6140	1996	6183	2005	43	0.7%
29	Vancouver	S	Killingsworth*	4710	1999	4722	2005	12	0.3%
43	Vancouver	S	Alberta*	5410	2000	5170	2004	-240	-4.4%
53	Vancouver	N	Columbia Blvd	11000	2000	9930	2004	-1070	-9.7%
55	Vancouver	S	Portland	4940	1996	4410	2004	-530	-10.7%
63	Vancouver	S	Cook*	7770	1996	6418	2005	-1352	-17.4%
11	Williams	S	Killingsworth*	4990	1999	5457	2005	467	9.4%
18	Williams	S	Cook*	8090	2000	8357	2005	267	3.3%
21	Williams	N	Skidmore*	6190	2000	6320	2004	130	2.1%
25	Williams	N	Cook*	11620	2000	11720	2004	100	0.9%

	Sum	Average	Sum	Average	Change	Percent
	673437	1999	619237	2004	-54200	-8.0%

Average time from before to after data: 5 years

* One way street

Appendix B – Streets Sorted from Greatest Increase to Greatest Decrease

#	Street	Of	General Area	Volume 1	Year 1	Volume 2	Year 2	Change	Percent
1	Mississippi	S	Skidmore	3795	1996	5630	2004	1835	48.4%
2	Alberta	W	Albina	7930	1998	11020	2004	3090	39.0%
3	Fremont	E	Mississippi	3220	1995	4446	2005	1226	38.1%
4	Skidmore	E	Interstate	3290	2000	4020	2004	730	22.2%
5	Denver	N	Killingsworth	2830	2001	3390	2004	560	19.8%
6	Denver	S	Portland	3900	2001	4560	2004	660	16.9%
7	Denver	S	Humboldt	598	1996	661	2004	63	10.5%
8	Vancouver	N	Cook*	9730	1999	10690	2004	960	9.9%
9	Alberta	E	Albina	10560	1999	11581	2005	1021	9.7%
10	Denver	N	Portland	4910	1996	5370	2004	460	9.4%
11	Williams	S	Killingsworth*	4990	1999	5457	2005	467	9.4%
12	Denver	S	Lombard	4910	1996	5340	2004	430	8.8%
13	Alberta	W	Interstate	3050	2002	3350	2004	300	10.0%
14	Portland	E	Albina	9740	1998	10345	2005	605	6.2%
15	Killingsworth	W	Interstate	5120	2000	5409	2005	289	5.6%
16	Vancouver	N	Portland	3900	1999	4090	2005	190	4.9%
17	Portland	W	Denver	10760	1998	11190	2004	430	4.0%
18	Williams	S	Cook*	8090	2000	8357	2005	267	3.3%
19	Killingsworth	E	Albina	11650	2001	12000	2003	350	3.0%
20	Ainsworth	E	Greeley	1500	2000	1540	2004	40	2.7%
21	Williams	N	Skidmore*	6190	2000	6320	2004	130	2.1%
22	Vancouver	S	Columbia Blvd	4270	2000	4349	2005	79	1.9%
23	Greeley	N	Killingsworth	16320	2001	16550	2004	230	1.4%
24	Ainsworth	W	Denver	2130	1998	2150	2004	20	0.9%
25	Williams	N	Cook*	11620	2000	11720	2004	100	0.9%
26	Skidmore	W	Albina	5410	1998	5450	2004	40	0.7%
27	Vancouver	S	Skidmore*	6140	1996	6183	2005	43	0.7%
28	Denver	N	Lombard	8840	1995	8900	2004	60	0.7%
29	Vancouver	S	Killingsworth*	4710	1999	4722	2005	12	0.3%
30	Lombard	E	Greeley	23810	1995	23660	2004	-150	-0.6%
31	Killingsworth	W	Denver	4610	1998	4570	2004	-40	-0.9%
32	Greeley	S	Going	28230	2000	27792	2005	-438	-1.6%
33	Mississippi	S	Fremont	3120	2000	3063	2005	-57	-1.8%
34	Fremont	E	Williams	12050	2000	11790	2004	-260	-2.2%
35	Going	W	Interstate	24629	2000	24070	2005	-559	-2.3%
36	Greeley	N	Portland	6390	2000	6220	2004	-170	-2.7%
37	Interstate Pl	N	Willis	2010	2001	1956	2005	-54	-2.7%
38	Killingsworth	E	Interstate	7760	2000	7538	2005	-222	-2.9%
39	Portland	E	Greeley	11370	2000	11020	2004	-350	-3.1%

40	Lombard	W	Vancouver	24940	2000	23980	2004	-960	-3.8%
41	Killingsworth	W	Albina	12270	2000	11761	2005	-509	-4.1%
42	Albina	N	Ainsworth	5060	1999	4850	2004	-210	-4.2%
43	Vancouver	S	Alberta*	5410	2000	5170	2004	-240	-4.4%
44	Alberta	E	Interstate	5860	2001	5590	2004	-270	-4.6%
45	Denver	S	Killingsworth	2110	2000	2000	2004	-110	-5.2%
46	Greeley	S	Killingsworth	18320	1999	17360	2004	-960	-5.2%
47	Greeley	N	Going	18850	2000	17792	2005	-1058	-5.6%
48	Greeley	S	Portland	17560	2000	16380	2004	-1180	-6.7%
49	Albina	N	Alberta	4940	1997	4580	2004	-360	-7.3%
50	Albina	S	Alberta	5890	2000	5420	2004	-470	-8.0%
51	Argyle Way	W	Denver	7580	1994	6900	2004	-680	-9.0%
52	Ainsworth	E	Albina	5240	2000	4750	2004	-490	-9.4%
53	Vancouver	N	Columbia Blvd	11000	2000	9930	2004	-1070	-9.7%
54	Skidmore	W	Interstate	1670	2000	1500	2004	-170	-10.2%
55	Vancouver	S	Portland	4940	1996	4410	2004	-530	-10.7%
56	Skidmore	W	Vancouver	5020	2000	4470	2004	-550	-11.0%
57	Albina	N	Portland	3540	2001	3150	2004	-390	-11.0%
58	Denver	S	Interstate	6700	2000	5910	2004	-790	-11.8%
59	Russell	E	Mississippi	3789	1995	3313	2005	-476	-12.6%
60	Ainsworth	E	Interstate	4050	2000	3530	2004	-520	-12.8%
61	Portland	W	Albina	14420	1998	12410	2004	-2010	-13.9%
62	Albina	N	Killingsworth	5960	1999	4970	2004	-990	-16.6%
63	Vancouver	S	Cook*	7770	1996	6418	2005	-1352	-17.4%
64	Interstate Ave	S	Overlook	10510	2000	8545	2005	-1965	-18.7%
65	Portland	E	Interstate	17840	2000	14320	2003	-3520	-19.7%
66	Denver	N	Columbia	17910	2000	13960	2004	-3950	-22.1%
67	Interstate Ave	S	Portland	13790	1995	10550	2004	-3240	-23.5%
68	Interstate Ave	N	Killingsworth	14170	1996	10700	2004	-3470	-24.5%
69	Interstate Ave	S	Skidmore	11912	2000	8765	2005	-3147	-26.4%
70	Ainsworth	W	Interstate	3460	2000	2540	2004	-920	-26.6%
71	Interstate Ave	S	Alberta	18140	2001	13050	2004	-5090	-28.1%
72	Mississippi	N	Interstate	2430	2000	1590	2004	-840	-34.6%
73	Interstate Ave	S	Mississippi	22000	2000	13974	2005	-8026	-36.5%
74	Interstate Ave	N	Portland	15210	2000	9570	2004	-5640	-37.1%
75	Interstate Ave	N	Lombard	19080	1999	8730	2004	-10350	-54.2%

	Sum	Average	Sum	Average	Change	Percent
	673437	1999	619237	2004	-54200	-8.0%

Average time from before to after data: 5 years

* One way street