

CITY COUNCIL AGENDA ITEM
CITY OF SHORELINE, WASHINGTON

AGENDA TITLE: North City Traffic Report
DEPARTMENT: Public Works-Traffic Services
PRESENTED BY: Paul Haines, Public Works Director
Jesus Sanchez, Operations Manager
Rich Meredith, City Traffic Engineer

PROBLEM/ISSUE STATEMENT:

In December, 2003, Public Works completed a project to reconfigure 15th Ave NE between NE 150 St and NE 175 St from a 4-lane roadway, two lanes in each direction, to a 3 lane roadway with one lane in each direction, a center turn lane, and bike lanes.

There were concerns raised about increased traffic congestion on 15th Ave NE, and increased traffic volumes and speeds on parallel arterial collectors, 5th Ave NE, 10th Ave NE, and 25th Ave NE, and neighborhood streets. Staff has been monitoring these issues through traffic counts, speed studies, accident review, and traffic studies.

FINDINGS/CONCLUSIONS

The operation of 15th Ave NE as a three-lane roadway meets the planned expectations:

- Lower speeds – The 85% speeds fell from 39.3 to 38.6
- Lower volumes – The average weekday traffic (AWDT) declined 696 (4.0%)
- Lower number of collisions – There was a 15% reduction in reported collisions.
- Increase in volume on NE 175th St – The AWDT increased 881 (6.0%)

Some local streets experienced small gains in traffic volumes and speeds, and some experienced small reductions. The increases on local streets are within the range that these streets can accommodate, and are manageable with controls through the Neighborhood Traffic Safety program (NTSP). The North City project includes budget to monitor the impacts and construct traffic calming devices as necessary to mitigate impacts.

RECOMMENDATION

No council action is required or recommended. Staff will continue to work with local residents to manage traffic impacts on non-arterial streets and implement appropriate neighborhood traffic mitigation improvements.

Approved By: City Manager  City Attorney 

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ACTION/BACKGROUND

Historically, 15th Ave NE consisted of two lanes in each direction between NE 150 St and NE 175 St. There was not enough room for a center turn lane. The character of the land uses along 15th Ave NE is primarily residential. The speed limit is 35 MPH. There were complaints raised about pedestrian safety along the corridor. The City of Shoreline funded a study to examine the corridor and recommend improvements. One of the recommendations was to reconfigure the roadway to one lane in each direction to reduce the "multiple threat" situation for pedestrians. A "multiple threat" occurs when one car stops for a pedestrian, but a vehicle in the adjacent lane doesn't, in part due to the visibility of the pedestrian is obscured by the stopped vehicle.

North City business district was also planned as a three-lane roadway between NE 175 St and NE 180 St to improve the pedestrian environment, improve pedestrian safety while crossing 15th Ave NE, and improve turning movements into and out of adjacent businesses. 15th Ave NE south on NE 175 St was reconfigured to three lanes to facilitate the transition into and out of the North city CBD.

Subsequently, in December, 2004, the City Council directed the channelization through the North City CBD be maintained as 4 lanes with the currently planned construction between NE 175th St and NE 180th St.

The City Council asked for a review of the traffic behavior changes resulting from the three lane section between NE 175th St and NE 150th St. This report summarizes those findings.

DISCUSSION

In March, 2003, prior to implementing the three-lane design, traffic counts were taken at 56 locations, and speed studies were conducted at 15 locations to establish a baseline to measure against after the project was implemented. Traffic signal equipment was upgraded to improve synchronization and coordination along to corridor. Construction of the project began in December, 2003.

Follow up traffic data was collected in February 2004 and November 2004 to help monitor the effects of the reconfiguration. In February, 2005, data was collected at the original 56 locations to compare the changes after one year to the baseline data.

The following is some of the results of the comparison:

15th Ave NE

Overall, traffic volumes declined 696 vehicles per day (4.0%) on 15th Ave NE between NE 145th St and NE 175th St. Peak hour volumes also dropped, 91 (6.2%) in the morning and 138 (8.0%) in the evening. The 85 percentile speeds dropped 1.8% from 39.25 MPH to 38.56 MPH. The speed limit is posted at 35 MPH.

According to the Police Department, the number of citations issued on 15th Ave NE south of NE 175 St has dropped. They report that the three lane configuration had a significant effect on the declining number of speeding violations they observed.

	2001	2002	2003	2004
Number of reported collisions between NE 150 St & NE 175 St	31	32	34	28*

* - This number will be updated pending inclusion of WSDOT data in Oct, 2005.

Vehicle collisions between NE 145th St and NE 175th St declined 15%. We will be able to calculate the reduction in injuries in October, 2005, after the Washington State DOT makes the data for 2004 collisions available. Collision statistics on neighboring streets will be reviewed

5th Ave NE

Overall, traffic volumes declined 152 vehicles per day (2.3%) on 5th Ave NE between NE 145th St and NE 175th St. Peak hour volumes grew, 30 (6.6%) in the morning and declined 42 (5.6%) in the evening. The 85 percentile speeds grew 4.6% from 35.5 MPH to 37.1 MPH. The speed limit is posted at 30 MPH.

10 Ave NE

Overall, traffic volumes grew 96 vehicles per day (5.4%) on 10th Ave NE between NE 155th St and NE 175th St. Peak hour volumes grew, 12 (6.6%) in the morning and declined 2 (1.1%) in the evening. The 85 percentile speeds grew 6.3% from 34.8 MPH to 36.9 MPH. The speed limit is posted at 30 MPH.

25 Ave NE

Overall, traffic volumes declined 124 vehicles per day (2.9%) south of NE 150th St, and grew 140 (3.6%) between NE 150th St and NE 177th St. Peak hour volumes grew, 8 (1.7%) in the morning. In the evening, they declined 79 (17.4%) south of NE 150th St, and declined 10 (2.4%) to the north. The 85 percentile speeds north of NE 150th St grew 3.5% from 33.5 MPH to 34.7 MPH. The speed limit is posted at 30 MPH, with a 20MPH school zone north of NE 155th St.

NE 175 St

Overall, traffic volumes increased 881 vehicles per day (6.0%) on NE 175th St between 5th Ave NE and 15th Ave NE. Peak hour volumes grew, 116 (12.9%) in the morning and 32 (2.5%) in the evening. The 85 percentile speeds grew 6.3% from 38.5 MPH to 40.9 MPH. The speed limit is posted at 35 MPH.

ISSUES

Since the completion of the reconfiguration, residents have voiced a number of concerns. These include congestion on 15th Ave NE. Preliminary traffic modeling

showed that there would be added delay to traffic on 15th Ave NE, and suggested that some commuter traffic would find other routes. According to field observations by staff and residents, it appears that congestion has increased on 15th Ave NE. Traffic count data shows a reduction in volume.

Another concern was increased traffic on neighboring streets. While some streets have seen some increase in the total daily traffic, most of the streets south of NE 175th St actually decreased in the PM peak hours, when hourly volumes are the highest.

Residents have commented that speeding appears to be more of a problem. The comparison showed that, except for 15th Ave NE, there has been an increase in the 85 percentile speeds over a 24 hour period, as shown in the attachments.

There have been complaints about drivers using the center turn lane as a passing lane. This problem developed in other cities making a similar change. It will be mitigated by building traffic islands periodically in the center turn lane.

There have been compliments on the new lane by bicycle users, who feel safer using the new bike lanes.

Some concerns were raised about transit stop locations. Working with King County Metro, stop placement was reviewed, and some were moved, and a couple eliminated, to improve traffic flow.

Lastly, one fact from the comparison is that overall, traffic volumes decreased 0.8% in the study area over the past year.

CONCLUSION

The current operation of 15th Ave NE is meeting expectations. While the vehicle volumes have declined slightly, records show improvement to both vehicle and pedestrian safety. While some of the non-arterial roadways in the surrounding area have seen a increase in vehicles and speeds, several roadways actually saw a decrease in volume.

RECOMMENDATION

No council action is required or recommended. Staff will continue to work with local residents to manage traffic impacts on non-arterial streets and implement appropriate neighborhood traffic mitigation improvements.


ATTACHMENTS


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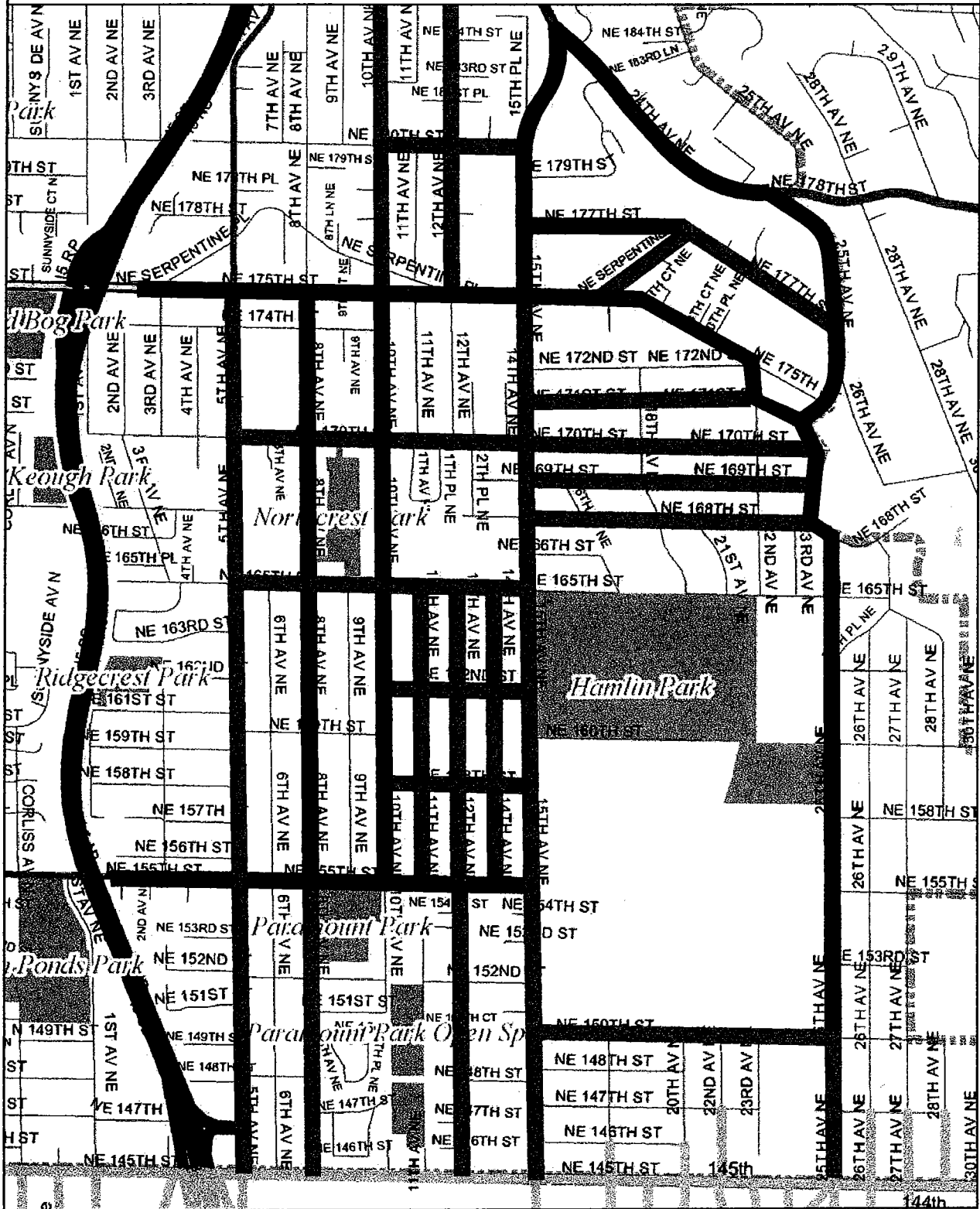
North City Traffic Monitoring Study

March 2003 to February 2005 Comparison

Average Weekday Volume Change

Increase - 

Decrease - 



North City Traffic Monitoring Study

Average Weekday Volume Summary

March 2003 to February 2005

North/South

5 Ave NE	2003	2005	diff	% diff
NE 148 St	7,831	7,764	(67)	
NE 156 St	7,005	6,447	(558)	
NE 163 St	6,557	6,430	(127)	
NE 165 St	6,363	6,283	(80)	
NE 170 Ln	5,916	5,988	72	
NE 180 St	3,213	2,972	(241)	
average 145 to 175	6,734	6,582	(152)	(2.3)
average 145 to 180	6,148	5,981	(167)	(2.7)

8 Ave NE	2003	2005	diff	% diff
NE 145 St	530	524	(6)	
NE 155 St	639	642	3	
NE 160 St	504	585	81	
NE 170 St	506	584	78	
NE 175 St	548	531	(17)	
average 145 to 155	530	524	(6)	(1.1)
average 155 to 175	549	586	36	6.6

10 Ave NE	2003	2005	diff	% diff
NE 155 St	1,261	1,361	100	
NE 160 St	1,261	1,417	156	
NE 165 St	2,216	2,318	102	
NE 170 St	2,378	2,404	26	
NE Serpentine Pl	3,994	3,736	(258)	
NE 182 St	5,230	5,328	98	
average 155 to 175	1,779	1,875	96	5.4
average 175 to 185	4,612	4,532	(80)	(1.7)
average 155 to 185	2,723	2,761	37	1.4

11 Ave NE	2003	2005	diff	% diff
NE 155 St	398	312	(86)	
average north of 155	398	312	(86)	(21.6)

12 Ave NE	2003	2005	diff	% diff
NE 155 St	423	379	(44)	
NE 175 St	992	587	(405)	
average 155 to 165	423	379	(44)	(10.4)
average north of 175	992	587	(405)	(40.8)

14 Ave NE	2003	2005	diff	% diff
NE 155 St	327	225	(102)	
average 155 to 165	327	225	(102)	(31.2)

24 Ave NE	2003	2005	diff	% diff
15 Ave NE	4,446	4,645	199	
average 25 to 15	4,446	4,645	199	4.5

15 Ave NE	2003	2005	diff	% diff
NE 146 St	16,315	16,658	343	
NE 152 St	18,963	16,787	(2,176)	
NE 158 St	15,433	15,581	148	
NE 170 St	18,158	17,061	(1,097)	
NE 177 St	17,169	17,619	450	
24 Ave NE	15,123	15,785	662	
average 145 to 175	17,217	16,522	(696)	(4.0)
average 175 to 24 Av NE	16,146	16,702	556	3.4
average 145 to 24 Av NE	16,860	16,582	(278)	(1.7)

25 Ave NE	2003	2005	diff	% diff
NE 147 St	4,242	4,118	(124)	
NE 155 St	4,837	5,067	230	
NE 168 St	4,626	5,182	556	
NE 171 St	2,355	2,140	(215)	
NE 177 St	3,840	3,830	(10)	
average 145 to 150	4,242	4,118	(124)	(2.9)
average 150 to 178	3,915	4,055	140	3.6

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North City Traffic Monitoring Study

Average Weekday Volume Summary

March 2003 to February 2005

East/West

NE 150 St	2003	2005	diff	% diff
15 Ave NE	3,740	3,106	(634)	
average 15 to 25	3,740	3,106	(634)	(17.0)

NE 158 St	2003	2005	diff	% diff
15 Ave NE	344	264	(80)	
average 10 to 15	344	264	(80)	(23.3)

NE 165 St	2003	2005	diff	% diff
15 Ave NE	2,606	1,735	(871)	
average 5 to 15	2,606	1,735	(871)	(33.4)

NE 170 St	2003	2005	diff	% diff
10 Ave NE	1,689	1,169	(520)	
15 Ave NE	735	667	(68)	
average 5 to 15	1,689	1,169	(520)	(30.8)
average 15 to 25	735	667	(68)	(9.3)

NE 171 St	2003	2005	diff	% diff
15 Ave NE	457	406	(51)	
average 25 to 15	457	406	(51)	(11.2)

NE 172 St	2003	2005	diff	% diff
15 Ave NE	620	538	(82)	
average 25 to 15	620	538	(82)	(13.2)

NE 177 St	2003	2005	diff	% diff
15 Ave NE	685	1,214	529	
25 Ave NE	840	740	(100)	
average 25 to 15	763	977	215	28.1

NE Serpentine Pl	2003	2005	diff	% diff
NE 175 St	864	749	(115)	
average 175 to 177	864	749	(115)	(13.3)

NE 155 St	2003	2005	diff	% diff
5 Ave NE	11,368	11,674	306	
8 Ave NE	9,187	10,120	933	
14 Ave NE	8,642	8,684	42	
average west of 5th	11,368	11,674	306	2.7
average 5 to 15	8,915	9,402	488	5.5

NE 162 St	2003	2005	diff	% diff
15 Ave NE	208	157	(51)	
average 10 to 15	208	157	(51)	(24.5)

NE 168 St	2003	2005	diff	% diff
18 Ave NE	2,897	2,544	(353)	
average 25 to 15	2,897	2,544	(353)	(12.2)

NE 169 St	2003	2005	diff	% diff
22 Ave NE	147	126	(21)	
average 25 to 15	147	126	(21)	(14.3)

NE 175 St	2003	2005	diff	% diff
5 Ave NE	14,792	15,628	836	
12 Ave NE	14,606	15,531	925	
15 Ave NE	4,023	4,121	98	
25 Ave NE	2,058	2,180	122	
average 5 to 15	14,699	15,580	881	6.0
average 15 to 25	3,041	3,151	110	3.6

NE 180 St	2003	2005	diff	% diff
11 Ave NE	2,951	2,814	(137)	
average 10 to 15	2,951	2,814	(137)	(4.6)



NE Perkins Way	2003	2005	diff	% diff
15 Ave NE	2,984	2,831	(153)	
average south of 15	2,984	2,831	(153)	(5.1)

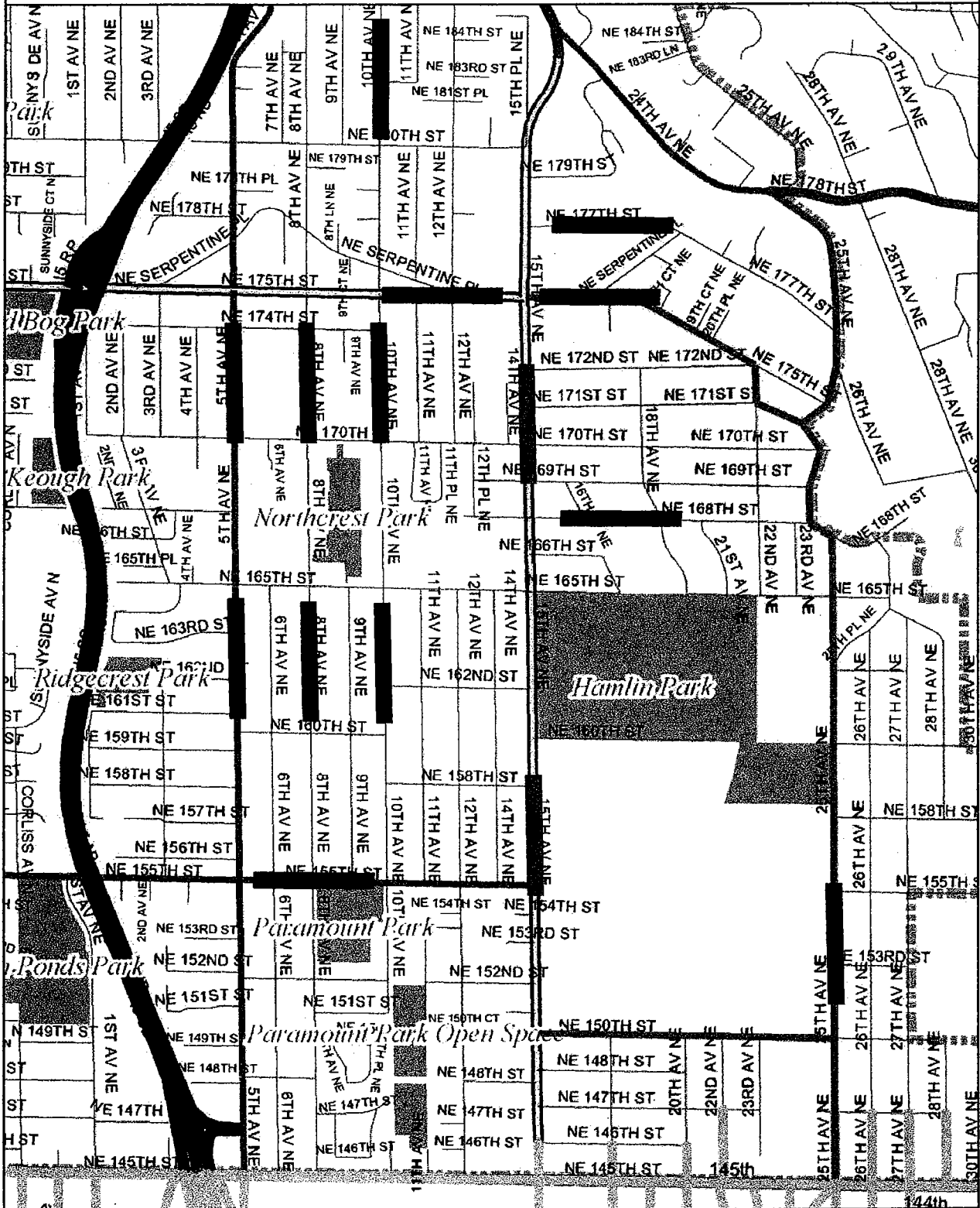
revised 03/11/2004

North City Traffic Monitoring Study

March 2003 to February 2005 Comparison

85 Percentile Speed Change

Increase - 
Decrease - 



North City Traffic Monitoring Study 85 Percentile Speed Comparison

March 2003 to February 2005

On-Street	Direction	Cross-St	2003	2005	diff	% diff
			85% Speed (MPH)			
5 Ave NE	s/o	NE 163 St	36.0	37.0	1.0	2.6%
5 Ave NE	n/o	NE 170 Ln	35.0	37.3	2.3	6.6%
average					1.6	4.6%
8 Ave NE	n/o	NE 160 St	32.0	33.8	1.8	5.7%
8 Ave NE	n/o	NE 170 St	32.0	34.3	2.3	7.3%
average					2.1	6.5%
10 Ave NE	n/o	NE 160 St	35.0	36.6	1.6	4.5%
10 Ave NE	n/o	NE 170 St	34.5	37.3	2.8	8.2%
average					2.2	6.3%
10 Ave NE	s/o	NE 182 St	34.5	36.0	1.5	4.2%
15 Ave NE	s/o	NE 158 St	40.5	40.3	(0.2)	-0.5%
15 Ave NE	n/o	NE 170 St	38.0	36.8	(1.2)	-3.1%
average					(0.7)	-1.8%
25 Ave NE	s/o	NE 155 St	33.5	34.7	1.2	3.5%
NE 155 St	w/o	8 Ave NE	35.0	37.2	2.2	6.2%
NE 168 St	w/o	18 Ave NE	36.5	37.6	1.1	3.0%
NE 175 St	w/o	12 Ave NE	38.5	40.9	2.4	6.3%
NE 175 St	e/o	15 Ave NE	32.5	34.2	1.7	5.2%
NE 177 St	e/o	15 Ave NE	29.5	30.3	0.8	2.8%

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