1712 PACIFIC AVENUE • SUITE 100 • EVERETT, WA 98201 • PH: (425) 339-8266 • FAX: (425) 258-2922

May 11, 2004

TRC LEVEL III

Mr. Joseph Seet, PE Traffic Engineer City of Woodinville 13203 NE 175th Street Woodinville, WA 98072

RE:

Georgian Heights Phase IV Residential Development, 45 Single-Family Units Traffic Impact Analysis for City of Woodinville; GTC #04-073

Dear Mr. Seet:

Gibson Traffic Consultants (GTC) has been retained by Randolf Cherewick of Lakewood Construction to conduct a traffic impact study to satisfy City of Woodinville requirements for the proposed Georgian Heights Phase IV residential development. According to detailed scoping discussions with Patrick Lynch (City transportation planner), this traffic study contains the following elements: trip generation, trip distribution, site distance analysis and mitigation determination at impacted City CIP projects for the proposed residential development.

BACKGROUND

Proposed Site Development & Access

The proposed residential development is located on the south side of NE 205th Street, west of 136th Avenue NE. The proposed development would include a total of 45 single-family residential units. The proposed residential development is expected to be fully constructed and occupied in the year 2006. Site access would be provided primarily onto NE 205th Street through a single access intersection located approximately 400 feet east of 51st Avenue SE. A secondary access for approximately 5 of the 45 units will be provided east to 136th Avenue SE via Georgian Heights Phase III. A site vicinity map has been included in Figure 1. 1322 Bu NE

Scope & Methodology

Trip generation for the proposed Georgian Heights Phase IV residential development is based on national research data for similar residential developments contained in the Institute of Transportation Engineers' (ITE) Trip Generation, 7th Edition (2003). The average trip

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generation rates have been used for the trip generation calculations. The development trip distribution has been determined from the previously approved Georgian Heights development on 136th Avenue NE. Development trips have been assigned to the road system in order to identify road segments and intersections impacted by 10 or more PM peak-hour development trips. Terry Gibson, responsible for the traffic analysis and report, is a licensed professional engineer (Civil) in the State of Washington and past-President of the Washington State section of ITE.

EXISTING CONDITIONS

Roadway Description

The major roadways in the site vicinity are NE 205th Street and 136th Avenue NE.

NE 205th Street is an east-west arterial with one lane in each direction. There are unpaved shoulders on each side of the roadway. The posted speed limit is 35 mph.

136th Avenue NE is a north-south collector that connects NE 205th Street and NE 195th Street. The roadway is a two lane section with unpaved shoulders, curb separated paved shoulders and curb, gutter and sidewalk in various sections. The posted speed limit along 136th Avenue NE is 25 mph.

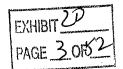
Existing Intersection Level of Service

Existing turning movement volumes have been obtained for intersections in the City of Woodinville impacted with 10 or more PM peak-hour development trips. The development will impact several intersections with 10 or more PM peak-hour trips:

- NE 205th Street at 136th Avenue NE
- NE 195th Street at 136th Avenue NE
- NE 195th Street at SR-522 Westbound On-Ramp
- NE 195th Street at SR-522 Eastbound Off-Ramp
- NE 195th Street at 130th Avenue NE
- NE 205th Street at Site Access

The existing turning movements for the study intersections were all obtained in the year 2004. The turning movements at the intersection of NE 205th Street at 136th Avenue NE have been used for the access intersection level of service. The intersection of NE 205th Street at 130th Avenue NE will be impacted with more than 10 PM peak-hour trips, but is not located in the City of Woodinville. The existing turning movements are shown in **Figure 2**. The PM peak-hour is the





only hour analyzed since the AM peak-hour generally has less traffic and the development generates 25% less traffic during the AM peak-hour.

Traffic congestion is generally measured in terms of level of service (LOS). In accordance with the 2000 Highway Capacity Manual (HCM), intersections are rated between LOS A and LOS F, with LOS A being free flow and LOS F being forced flow or over-capacity conditions. The level of service criteria are shown in **Table 1**. The level of service at signalized and all-way stop-controlled intersections is measured in terms of average delay per vehicle in seconds. For two-way stop-controlled intersections the level of service is determined by the worst case of all the calculated lane groups at the intersection. The City's minimum acceptable level of service is LOS E.

All of the study intersections currently operate at LOS D or better, with all but one intersection operating at LOS C or better. The only intersection that operates at LOS D is NE 195th Street at the SR-522 Eastbound Off-Ramp. This intersection has been analyzed with an additional eastbound through lane since the northbound right-turn is a free movement and the HCS software will not analyze a free right-turn. The only other way to analyze a free movement is to eliminate the volume, which is not as accurate as the method GTC has used. This intersection operates at LOS D with 32.8 seconds of delay. The existing lane configurations have been used at all the other study intersections. A summary of the existing level of service has been included in **Table 2**.

FUTURE CONDITIONS

Changes to the Street System

GTC has not assumed any new road connections, channelization improvements or additions of signalization to the off-site study intersections. Therefore, GTC's impact assessment is not dependent on the completion of improvement projects to provide baseline (without development) capacity.

Trip Generation

ITE Land Use Code 210, single-family detached housing, has been used for the trip generation calculations. Average trip rates were used with the dependent variable being the number of dwelling units. The 45 residential units will generate 431 Average Daily Trips with 45 PM peak-hour trips (28 inbound/17 outbound). A summary of the trip generation has been included in Table 3. The trip generation calculations have been included in the attachments.



Trip Distribution and Assignment

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The development trip distribution has been determined from the previously approved Georgian Heights development, which is located just north of this development. It is estimated that 65% of the development's traffic will travel to and from the south along 136th Avenue NE, 8% will travel to and from the north along 58th Avenue NE and 27% will travel to and from the west along NE 205th Street. It is anticipated that twenty percent to the development's traffic will travel to and from the south along 130th Avenue NE. It is estimated that thirty-five percent of the development's traffic will travel to and from the west along SR-522, west of 132nd Avenue NE. A detailed trip distribution showing the ADT and the PM peak-hour trips has been included in Figure 3.

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Intersection Level of Service

The study intersections were analyzed for the 2006 baseline conditions and the 2006 future conditions with the development. The intersection of the site access at NE 205th Street will only exist under the future conditions with the development and was therefore only analyzed for the future conditions with the development. The baseline turning movement volumes were determined by applying a 2.5% annual growth rate to the existing turning movement volumes. The baseline turning movement volumes are shown in **Figure 4**.

All of the intersections will continue to operate at acceptable levels of service under the baseline conditions, LOS E or better. The intersections of NE 195th Street at the SR-522 ramps will degrade one level of service from the existing to the baseline conditions. The westbound on-ramp will degrade from LOS C to LOS D and the eastbound off-ramp will degrade from LOS D to LOS E, which is an acceptable level of service. A summary of the baseline levels of service have been included in **Table 4**.

The addition of the development will not cause any intersection to change in level of service, but will cause an increase in delay. At the SR-522 ramps the delay will increase by approximately 2 seconds, while the delay at the other study intersections will increase by less than a second. The site access intersection will operate at LOS A with 9.1 seconds of delay. A summary of the future with development levels of service have been included in **Table 4**.

Access Analysis

Sight Distance

The sight distance analysis at the proposed site access intersection was performed according to Figure 316 in the City of Woodinville "Transportation Infrastructure Standards and Specifications." The posted speed limit along NE 205th Street is 35 mph and therefore there must be 325 feet of available entering sight distance. The City standards require the sight



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distance to be measured from 20 feet behind the edge of pavement/face of curb. From 20 feet behind the proposed edge of curb there will be more than 350 feet of available sight distance. There is adequate sight distance at the proposed site access intersection.

Left-Turn Channelization

Left-turn channelization was analyzed at the site access intersection. Left-turn channelization analysis was also performed according to the WSDOT standards. With the addition of the development there will be 20 left-turn ingress movements in the PM peak-hour. This will mean that there will be approximately 1 left-turn vehicle every 3 minutes. Based on the WSDOT standards a left-turn lane is not warranted. The left-turn channelization analysis is included in the attachments.

Intersection Level of Service

The intersection level of service was analyzed at the site access intersection. The intersection will operate at LOS A with 9.1 seconds of delay with the current geometry. The site access intersection level of service is included in **Table 4**.

MITIGATION TO THE CITY OF WOODINVILLE

Development-Specific Off-Site Mitigation

All of the study intersections currently operate at LOS D or better and will operate at LOS E, the acceptable level of service threshold, with the addition of the development. The development should therefore not have to construct additional improvements other than required site frontage improvements and standard participation to programmed CIP projects.

Proportionate Share Mitigation

City guidelines and discussions with the City Engineer, Patrick Lynch, require that the development contribute proportionate share mitigation payments to CIP projects that are impacted with 10 or more PM peak-hour trips. The development will impact two CIP projects with 10 or more PM peak-hour trips, NE 195th Street at 136th Avenue NE and NE 195th Street at the SR-522 ramps.

The intersection of NE 195th Street at 136th Avenue NE is anticipated to have 1,027 PM peak-hour trips under the baseline conditions. The development will add 29 PM peak-hour trips, increasing the number of trips at the intersection to 1,056 PM peak-hour trips. The development will therefore account for approximately 2.75% of the total intersection trips and should be responsible for 2.75% of the total CIP cost. Under the 2004-2009 CIP the total improvement cost for the intersection is \$900,000. Under the 2004-2009 CIP the development would be



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responsible for \$24,715.91 for impacts to the intersection of NE 195th Street at 136th Avenue

The SR-522 intersections will NE 195th Street will both be impacted with more than 10 PM peak-hour trips and are both contained in one CIP project. The impacts to the two intersections have been averaged to get the total development impacts to the CIP project. The westbound on-ramp will have 1,782 PM peak-hour trips under the baseline conditions and the development will impact the intersection with 24 PM peak-hour trips, increasing the total impact to 1,806 with the development. The eastbound off-ramp will have 2,523 PM peak-hour trips under the baseline conditions and the development will impact the intersection with 17 PM peak-hour trips, increasing the total impact to 2,540 with the development. The average impact the development will have on these two intersections is approximately 1.00%. Under the 2004-2009 CIP the total improvement cost for these intersections is \$600,000. Under the 2004-2009 CIP the development would be responsible for \$5,994.58 for impacts the SR-522 ramps at NE 195th Street.

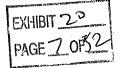
The total mitigation fee that will be due for impacts to City of Woodinville CIP projects is \$30,710.49. A summary of the CIP impacts and mitigation fees are included in Table 5.

Recommended On-Site/Access Improvements

The following on-site access and safety improvements are recommended to enhance the safety of vehicular traffic in the development vicinity:

- Install standard stop signs and stop lines per MUTCD guidelines at the access intersection with NE 205th Street to safely control traffic flow/movements from the development site.
- Maintain sight triangles at the site access intersection to ensure that there is adequate sight distance for egress movements.





We trust that this memorandum letter and attachments adequately address the traffic impacts and mitigation issues for the proposed Georgian Heights Phase IV residential development. If you have any questions on GTC's assessment or findings, please feel free to call us at (425) 339-8266.

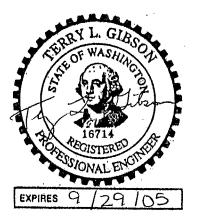
Sincerely,

GIBSON TRAFFIC CONSULTANTS, INC.

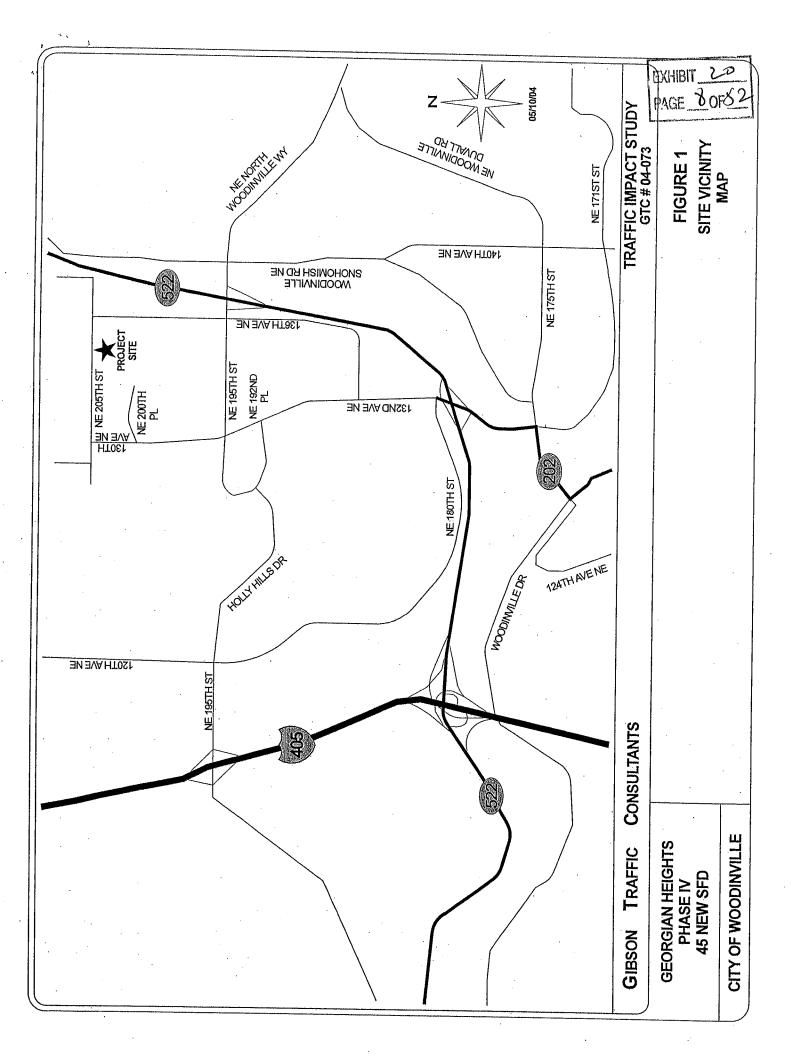
Edward T. Koltonowski Senior Traffic Engineer

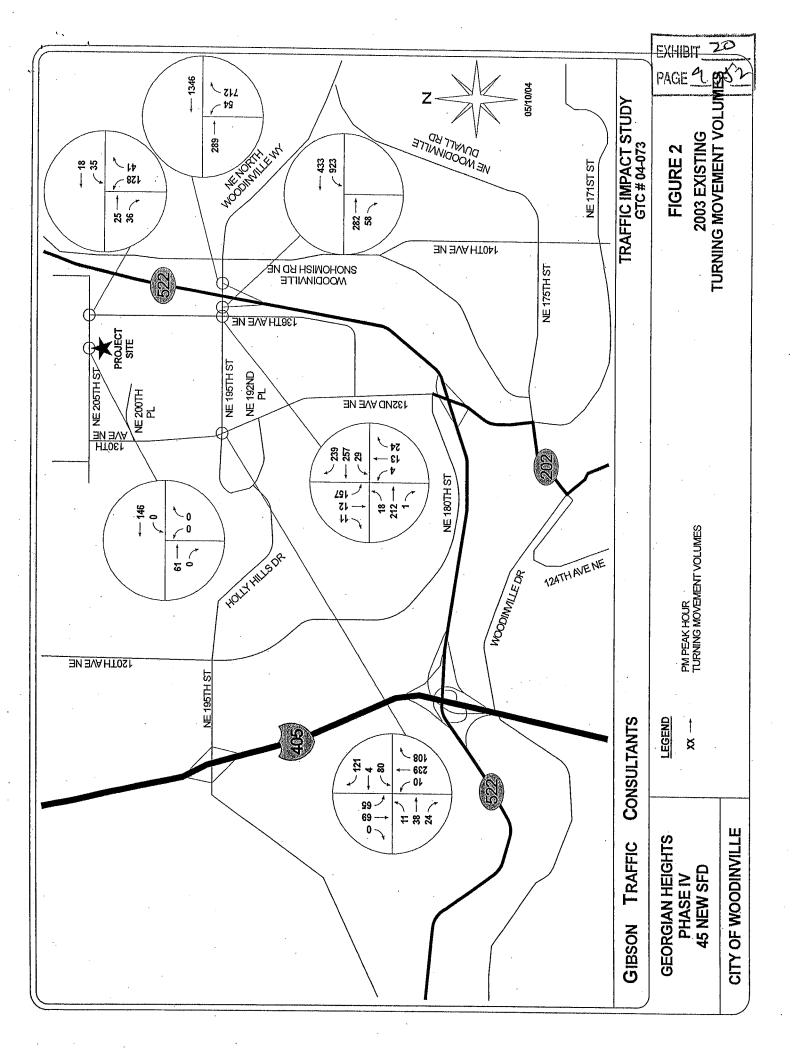
Attachments

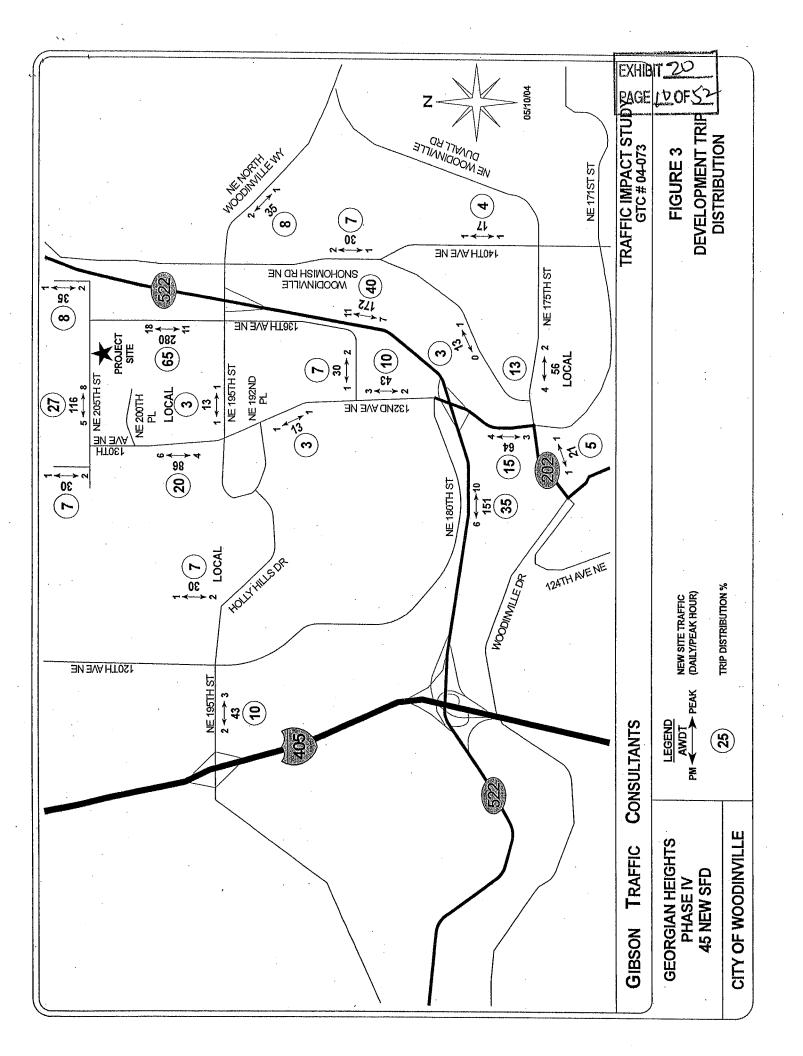
CC: Randolf Cherewick of Lakewood Construction

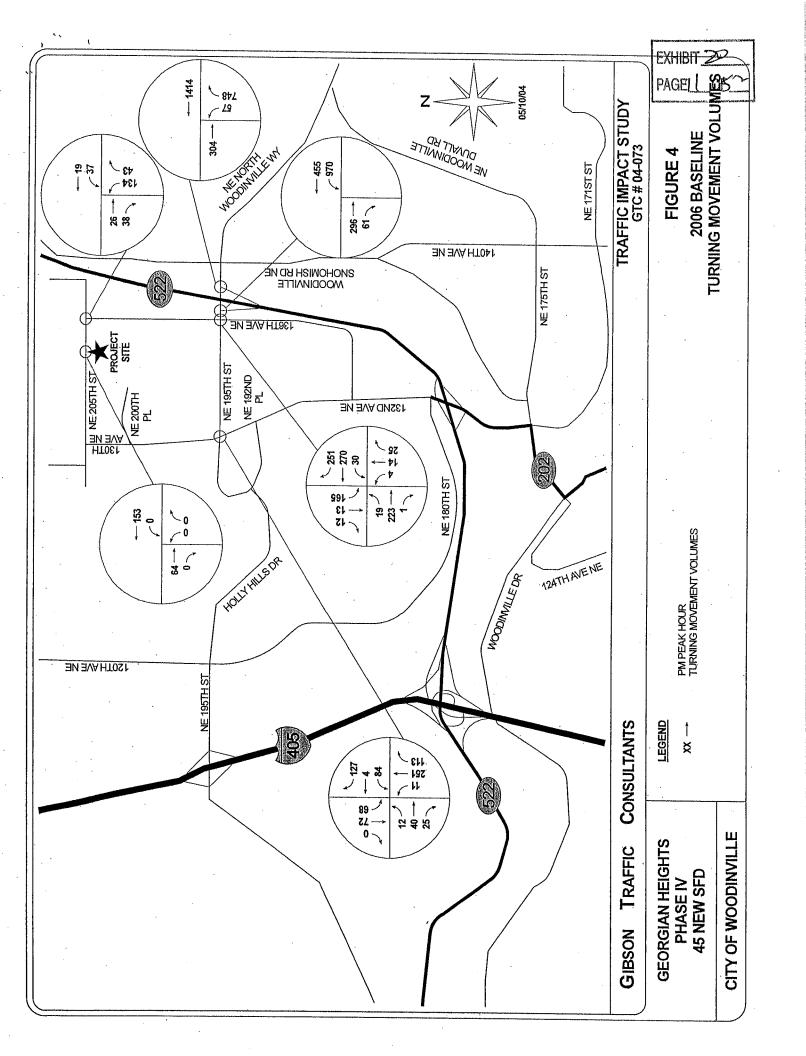












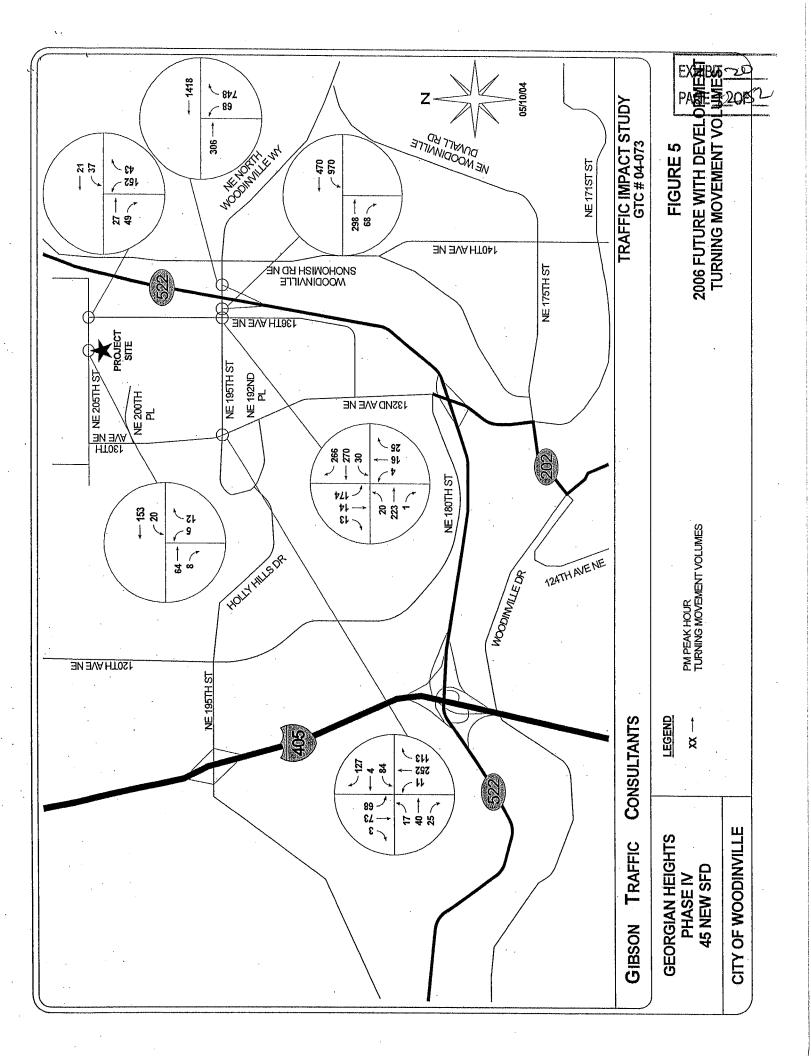


TABLE 1

INTERSECTION LEVEL OF SERVICE (LOS) CRITERIA

		Control Delay (Seconds per Vehicle)			
Level of Service 1	Expected Delay	Unsignalized Intersections	Signalized Intersections		
. A	Little/No Delay	≤10	≤10		
В	Short Delays	>10 and ≤15	>10 and ≤20		
С	Average Delays	>15 and ≤25	>20 and ≤35		
D	Long Delays	>25 and ≤35	>35 and ≤55		
E	Very Long Delays	>35 and ≤50	>55 and ≤80		
F	*	>50	>80		

* When demand volume exceeds the capacity of the lane, extreme delays will be encountered with queuing which may cause severe congestion affecting other traffic movements in the intersection.

Source: Highway Capacity Manual 2000.

- LOS A: free-flow traffic conditions, with minimal delay to stopped vehicles (no vehicle is delayed longer than one cycle at signalized intersection).
 - LOS B: generally stable traffic flow conditions.
 - LOS C: occasional back-ups may develop, but delay to vehicles is short term and still tolerable.
 - LOS D: during short periods of the peak hour, delays to approaching vehicles may be substantial but are tolerable during times of less demand (i.e. vehicles delayed one cycle or less at signal).
 - LOS E: intersections operate at or near capacity, with long queues developing on all approaches and long delays.
 - LOS F: jammed conditions on all approaches with excessively long delays and vehicles unable to move at times.





TABLE 2

EXISTING LEVEL OF SERVICE Weekday PM Peak-Hour

Intersection	EXISTING CONDITIONS			
	LOS	Delay		
1. NE 205th Street @	В	10.2 ann		
136th Avenue NE	D	10.2 sec		
2. NE 195th Street @	С	17.7 sec		
136th Avenue NE		17.7 860		
3. NE 195th Street @	С	21.9 sec		
SR-522 WB On-Ramp		21.9 Sec		
4. NE 195th Street @	D	32.8 sec		
SR-522 EB Off-Ramp	D	32.8 Sec		
5. NE 195th Street @	В	11.3 sec		
130th Avenue NE	В	11.5 860		
6. NE 205th Street @				
Site Access				



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TABLE 3

TRIP GENERATION SUMMARY

Proposed Land Use	Size	Average Daily	PM Peak-Hour Trips		
	Size	Trips	Total	Inbound	Outbound
Single-Family Residential	45 Units	431	45	28	17



TABLE 4

EXISTING AND FUTURE LEVEL OF SERVICE Weekday PM Peak-Hour

	•		EXISTING CONDITIONS		FUTURE 2006 CONDITIONS 1			
	Intersection	CONI			seline	w. Development		
		LOS	Delay	LOS	Delay	LOS	Delay	
1.	NE 205th Street @ 136th Avenue NE	В	10.2 sec	В	10.3 sec	В	· 10.6 sec	
2.	NE 195th Street @ 136th Avenue NE	C .	17:7 sec	С	20.5 sec	С	22.7 sec	
3.	NE 195th Street @ SR-522 WB On-Ramp	C .	21.9 sec	D	27.8 sec	D	28.8 sec	
4.	NE 195th Street @ SR-522 EB Off-Ramp	D	32.8 sec	Е	42.3 sec	Е	42.5 sec	
	NE 195th Street @ 130th Avenue NE	B	11.3 sec	В	11.9 sec	В	12.0 sec	
6.	NE 205th Street @ Site Access					A	9.1 sec	

 $^{^{1}}$ Includes a 2.5% annual growth factor.



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TABLE 5

SUNSHINE PLAZA 2004-2009 MITIGATION

Intersection	Project #	Total Cost	Baseline Volume	Future Volume	Development % Impact	Development Mitigation
NE 195th Street @ 136th Avenue NE	I-15	\$ 900,000.00	1,027	1,056	2.75%	\$24,715.91
NE 195th Street @ SR-522 WB On-Ramp	RM 15A	\$ 600,000.00	1,782	1,806	1.000/	\$5,994.58
NE 195th Street @ SR-522 EB Off-Ramp	KW 15A		2,523	2,540	1.00%	

Total \$3

\$30,710.49



Trip Generation Worksheet for Rate-Based Calculations

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Project: Georgian Heights Phase IV

Project Number: 04-073 Land Use: Single-Family Detached Housing

Land Use Code: 210

Analyst: BJL

Date: <u>5/8/2004</u>

Checked By:

Date:

PM Version

Site Information								
Component	Quantity	Units of Measure	Source					
Project / Site Variable (X)	45	Dwelling Units	Site Plan					

Weekday Daily Traffic (ADT)								
Component	Quantity	Units of Measure	Source					
ADT Trip Generation Rate	9.57	Trips / Dwelling Units	ITE Trip Generation , 7th Edition					
Gross ADT	431	Gross ADT	Rate x Site Variable (X)					
New ADT	431	New ADT	100% of Gross Trips					

Weekday PM Peak Hour of Adjacent Street Traffic									
Component			Source						
PM Peak Hour Trip Generation Rate	1,01	Trips / Dwelling Units	ITE Trip Generation, 7th Edition						
Gross PM Peak Trips	45	Gross Trips	Rate x Site Variable (X)						
New PM Peak Hour Trips	45	New Trips	100% of Gross Trips						

	Trip Fac	etors (%)	ADT	PM Peak Hour Trip		
	ADT	Peak Hour	Total	Tota1	63% In	37% Out
Gross Total	100%	100%	430,65	45,45	28,63	16.82
TDM Credit	0%	0%	0,00	0.00	0,00	0.00
Pass-By Trips	0%	0%	0.00	0.00	0,00	
Diverted Trips	0%	0%	0.00	0.00	0.00	0,00
New Trips	100%	100%	430.65	45,45	28.63	16.82
Subtotal Check	100%	100%	430,65	45,45	28,63	16.82
Subtotal vs. Gross	OK	OK	OK	OK	OK	OK

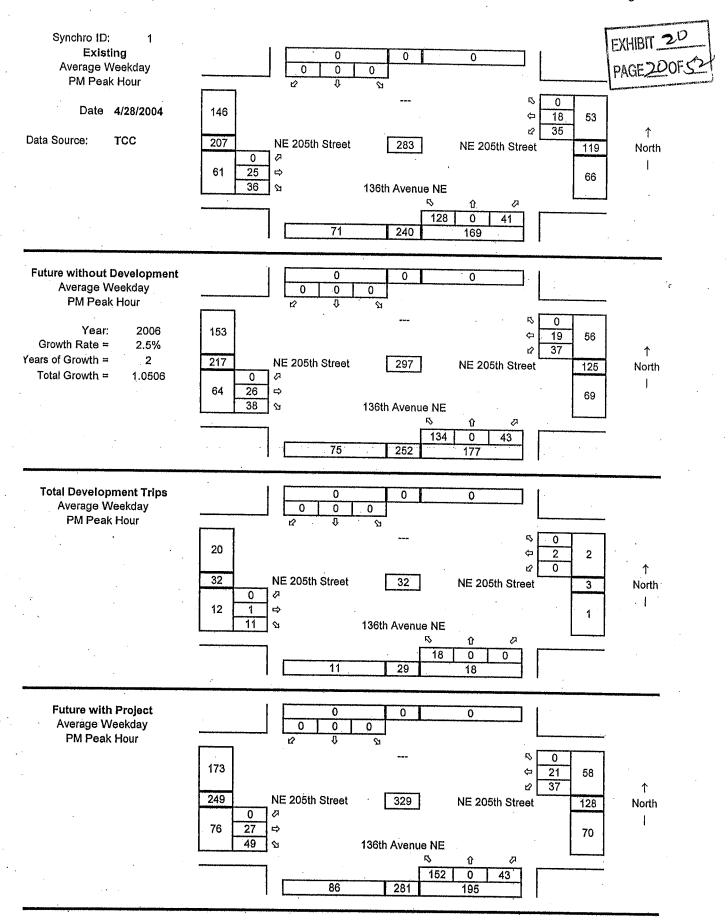
	Lable to	Check for	Kounding	Inaccuracies			
•	Trip Fac	Trip Factors (%)		PM :	rips		
	ADT	Peak Hour	Total	Total	63% In	37% Out	
Gross Total	OK	OK	OK	OK	OK	OK	
TDM Credit	OK	OK	OK	OK	OK	OK	
Pass-By Trips	OK	OK	OK	OK	OK	OK	
Diverted Trips	OK	OK	OK	OK	OK	OK	
New Trips	OK	OK	OK	OK	OK	OK	
Subtotal Check	OK	OK	OK	OK	OK.	OK	

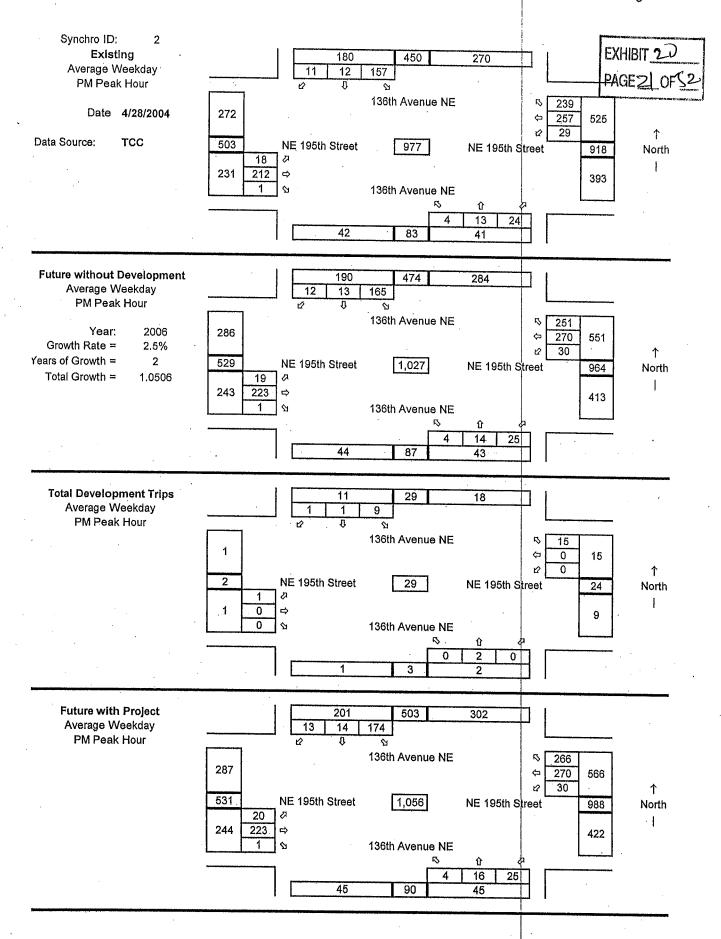
Georgian Heights Phase IV GTC #04-073

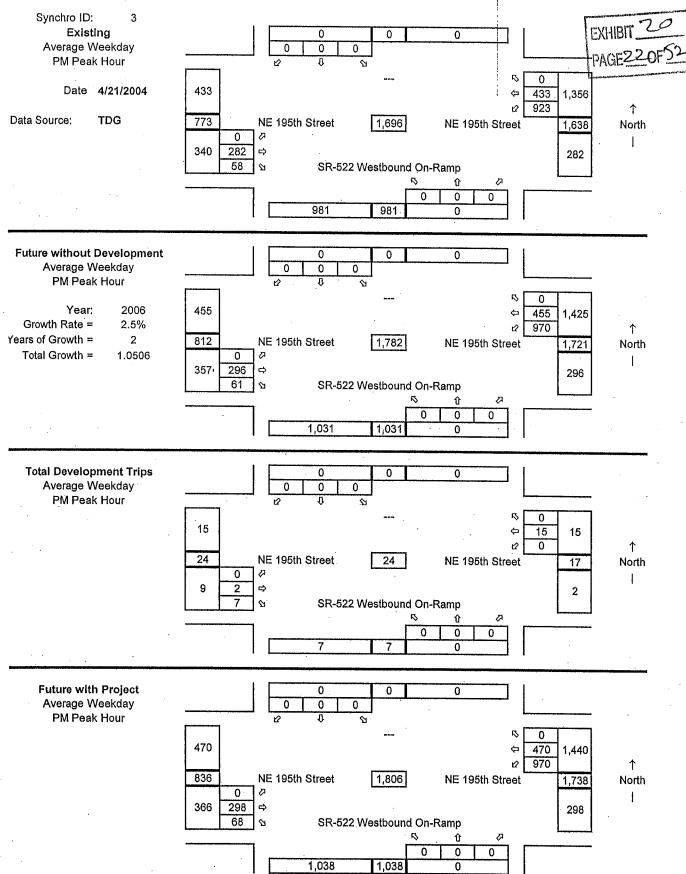
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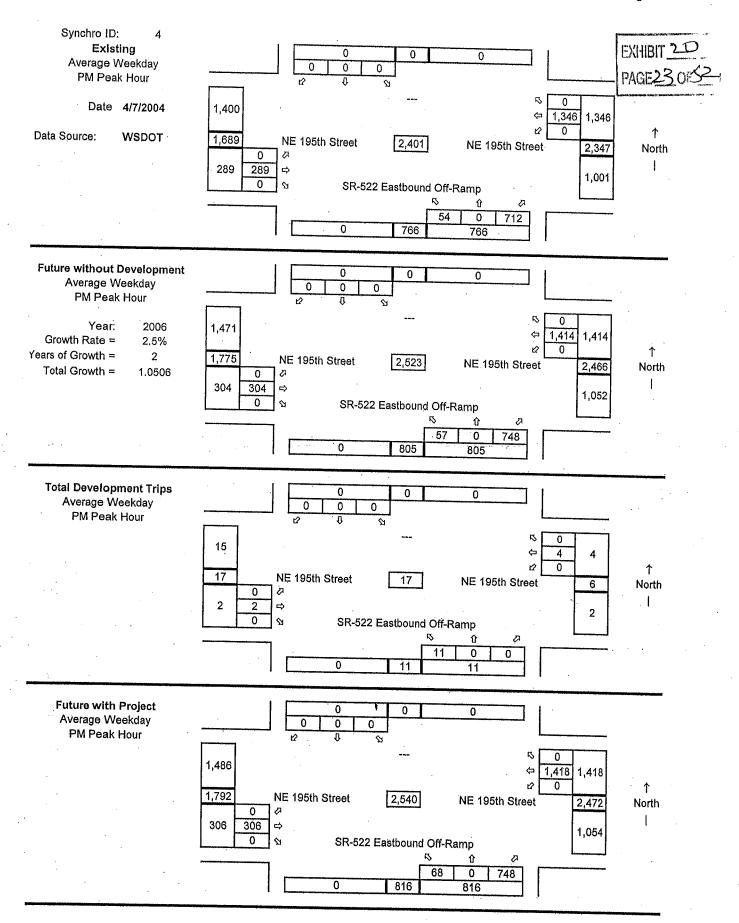
PM Peak-Hour

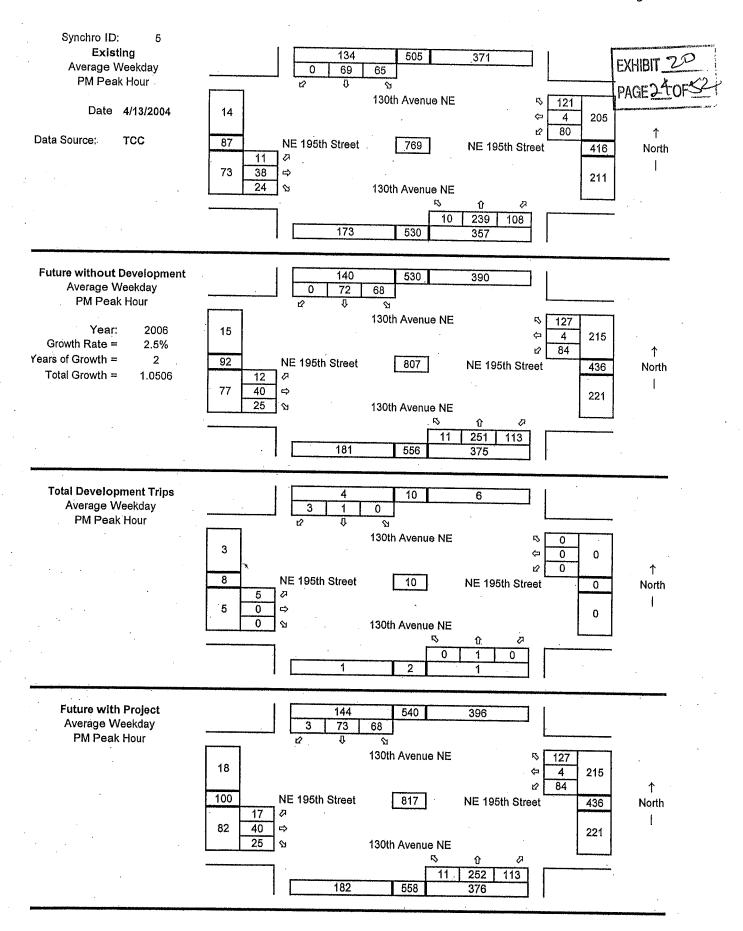
	New	New P	M Peak Hou	r Trips		New	New P	M Peak Hou	r Trine
%	AD.T	ln	Out	Total	%	ADT	In	Out	Total
100%	431	28	17	45	100%	431	. 28	17	45
1%	4.31	0.28	0.17	0,45	51%	219,63	14.28	8.67	22.95
2%	8,61	0.56	0.34	0,90	52%	223.94	14.56	8,84	23,40
3%	12.92	0.84	0.51	1,35	53%	228.24	14.84	9.01	23,85
4%	17.23	1.12	0.68	1.80	54%	232,55	15.12	9.18	24.30
5%	21,53	1.40	0.85	2.25	55%	236,86	15.40	9.35	24.75
6%	25,84	1.68	1.02	2.70	56%	241.16	15.68	9,52	25,20
7%	30.15	1.96	1.19	3.15	57%	245,47	15,96	9.69	25,65
8%	34.45	2.24	1,36	3,60	58%	249.78	16.24	9.86	26,10
9%	38.76	2.52	1.53	4.05	59%	254.08	16.52	10,03	26,55
10%	43.07	2.80	1.70	4,50	60%	258.39	16.80	10.20	27.00
11%	47,37	3,08	1.87	4.95	61%	262.70	17.08	10.37	27,45
12%	51.68	3.36	2.04	5.40	62%	267.00	17.36	10,54	27.90
13%	55.98	3.64	2.21	5.85	63%	271,31	17.64	10.71	28,35
14%	60,29	3.92	2,38	6,30	64%	275,62	17.92	10.88	28,80
15%	64.60	4.20	2.55	6.75	65%	279.92	18.20	11.05	29,25
16%	68.90	4.48	2.72	7,20	66%	284.23	18,48	11.22	29,70
17%	73.21	4.76	2,89	7,65	67%	288,54	18.76	11.39	30.15
18%	77,52	5.04	3.06	8,10	68%	292,84	19,04	11.56	30,60
19%	81.82	5.32	3.23	8.55	69%	297,15	19.32	11.73	31,05
20%	86.13	5.60	3.40	9,00	70%	301.46	19.60	11.90	31,50
21%	90,44	5,88	3.57	9,45	71%	305,76	19.88	12.07	31.95
22%	94.74	6.16	3,74	9.90	72%	310,07	20.16	12,24	32.40
23%	99.05	6.44	3.91	10,35	73%	314.37	20.44	12.41	32.85
24%	103,36	6.72	4.08	10.80	74%	318.68	20,72	12.58	33.30
25%	107.66	7.00	4.25	11.25	75%	322.99	21.00	12.75	33,75
26%	111.97	7,28	4,42	11.70	76%	327,29	21.28	12.92	34.20
27%	116.28	7.56	4.59	12,15	77%	331,60	21.56	13,09	34.65
28% 29%	120,58	7.84	4.76	12,60	78%	335,91	21.84	13.26	35,10
30%	124.89 129.20	8.12	4.93	13.05	79%	340.21	22.12	13,43	35,55
31%		8.40	5.10	13,50	80%	344.52	22.40	13.60	36.00
32%	133.50 137.81	8,68	5.27	13,95	81%	348,83	22.68	13.77	36,45
33%	142.11	8,96	5.44	14.40	82%	353.13	22,96	13,94	36,90
34%	146.42	9.24 9.52	5,61 5,78	14.85	83%	357,44	23.24	14.11	37.35
35%	150.73	9.80		15,30	84%	361.75	23,52	14.28	37.80
36%	155,03	10.08	5.95 6,12	15.75 16.20	85%	366.05	23.80	14.45	38.25
37%	159.34	10.36	6.12	16.20	86%	370,36	24.08	14.62	38.70
38%	163,65	10.64	6.46	17.10	87% 88%	374.67 378.97	24,36	14.79	39.15
39%	167,95	10.92	6,63	17.10	89%	383.28	24.64	14,96	39.60
40%	172,26	11.20	6.80	18.00	90%	387.59	24.92 25.20	15.13	40.05
41%	176.57	11.48	6.97	18.45	91%	391.89		15.30	40.50
42%	180.87	11.76	7.14	18.90	92%	396.20	25.48 25.76	15.47	40,95
43%	185,18	12.04	7.31	19,35	93%	****		15.64	41.40
44%	189.49	12,32	7,48	19,80	94%	400.50 404.81	26.04	15.81	41.85
45%	193.79	12.60	7.65	20.25	95%	404.61	26.32	15.98	42,30
46%	198.10	12.88	7.82	20.70	96%		26.60	16.15	42.75
47%	202,41	13.16	7,99	21.15		413,42	26,88	16.32	43.20
48%	206.71	13,44	8.16	21.16	97% 98%	417.73	27.16	16.49	43,65
49%	211.02	13.72	8,33	22.05	99%	422.04	27.44	16.66	44.10
50%	215.33	14.00	8.50	22.50		426.34	27,72	16.83	44.55
00 /8	¥ 10.00	14.00	0.00	22,50	100%	430.65	28.00	17.00	45.00

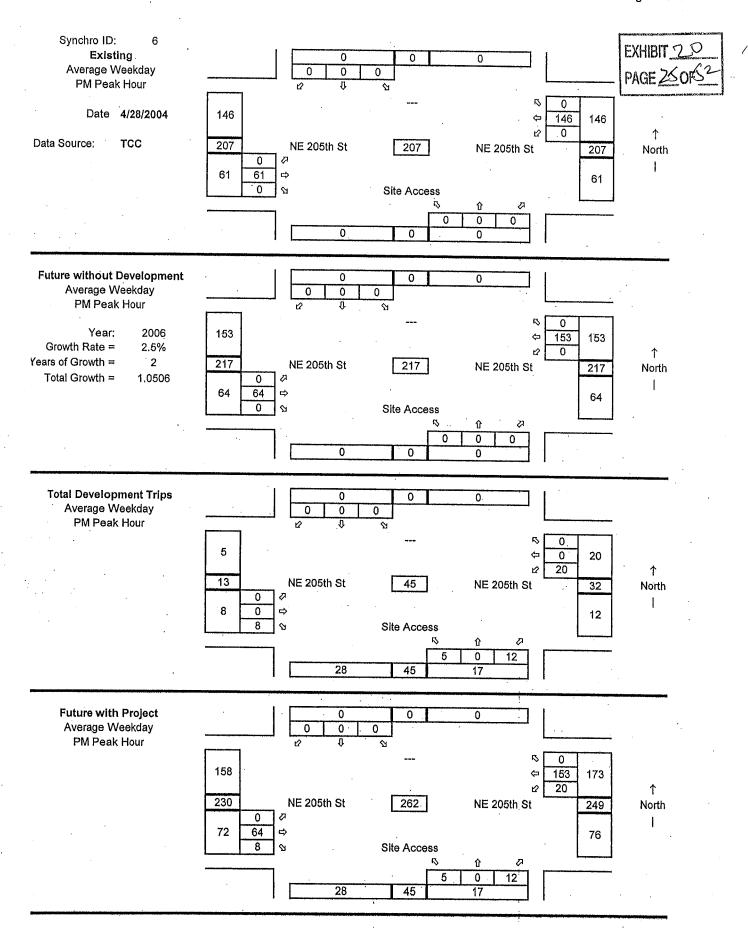












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Agency/Co.		fic Consultants	Jurisdic			City of Woo				
Date Performed	5/4/2004		Analysis	Year		2003				
Analysis Time Perlod	PM Peak-Ho									
Project Description 2003 Ex East/West Street: NE 205th	xisting Conditions	(04-073)	01 11 10							
ntersection Orientation: Eas			North/Sc	outh Street: eriod (hrs):	136th Stree	et NE	· · · · · · · · · · · · · · · · · · ·			
			Jointy Pe	anou (ms).	0.25					
/ehicle Volumes and Ad //ajor Street	Justinents	Eastbound		·····	<u> </u>					
Movement	1	2	3		. 4	Westboun 5	<u> </u>	6		
	L	T	R		L.	 		R		
/olume (veh/h)	0	25			35	18		Ö		
eak-hour factor, PHF	0.92	0.92	0.92		0.92	0,92		0.92		
lourly Flow Rate (veh/h)	0	. 27	39 38		19		0			
Proportion of heavy vehicles, hv	0		1				-			
Median type				Undivided	d					
RT Channelized?			0		····	T	·I	0		
anes	0	1	0		0	1		0.		
Configuration			TR		LT	1		<u> </u>		
Jpstream Signal		0				0				
Minor Street		Northbound			Southbour					
Movement	7	8	9	9 10		11	iu .	12		
	L	Т	R		L,	T		R		
/olume (veh/h)	128	0	41	0		0		0		
Peak-hour factor, PHF	0.92	0.92	0.92		0.92	0.92		0.92		
Hourly Flow Rate (veh/h)	- 139	. 0	44		0	0		.0		
Proportion of heavy vehicles, PHV	1	0	1		0	0		0		
Percent grade (%)		0				.0		,		
Flared approach		N				N				
Storage		0				0				
RT Channelized?			0					0		
_anes	0	0	0		0.	0		o`		
Configuration		LR .								
Control Delay, Queue Lengi	th, Level of Servi	ce								
Approach	EB	WB		Northboun	d	T 8	outhbound	1		
Movement	1	. 4	7	8	9 .	10	11	12		
Lane Configuration		· LT .		LR						
Volume, v (vph)		38		183						
Capacity, c _m (vph)		1542		872			:			
v/c ratio		0.02		0.21						
Queue length (95%)		0.08		0.79						
Control Delay (s/veh)	· · · · · · · · · · · · · · · · · · ·	7,4		10.2		†!		1		
Los		A	†	В				 		
Approach delay (s/veh)	6 -1			10.2			·····	<u> </u>		
Approach LOS		**		В		1	···			
White the state of		Conveight © 2003 Unive	.L	, , , , , , , , , , , , , , , , , , , 						

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		TWO-WAY STOR	CONTRO	L SUMMA	RY			EXHIBI
General Information			Site Inf	ormation	····	- 	· //	PAGE?
Analyst	Brad Lincol	n	Intersec			NE 205th	Ave @ 136th .	1
Agency/Co.	Gibson Tra	ffic Consultants	Jurisdic			City of Wo	ndinville	OLIVE.
Date Performed	5/4/2004	· · · · · · · · · · · · · · · · · · ·	Analysis			2006	Janvine	
Analysis Time Period	PM Peak-H						· · · · · · · · · · · · · · · · · · ·	
Project Description 2006 Bas	eline Condition	s (04-073)						
East/West Street: NE 205th St			North/Sc	uth Street:	136th Stree	t NE		
ntersection Orientation: East-	West			eriod (hrs):		·		
<mark>Vehicle V</mark> olumes and Adju	stments							,,
Vajor Street		Eastbound				Westbou	nd	····
Movement	1	2	3		4	5		6
	L	Т	R		L.	T		R
Volume (veh/h)	0	26	38		37	19		0
Peak-hour factor, PHF	0.92	0.92	0.92		0.92	0.92	C	.92
Hourly Flow Rate (veh/h)	0	28	41		40 '	20		0
Proportion of heavy vehicles, PHV	0				1			
Median type		······································		Undivide	d	,t,;,		
RT Channelized?			0	1	··		1	0
_anes	0	1 1	0		0	 		<u> </u>
						: 1		0
Configuration Ot	·····		TR		LT	i.		
Jpstream Signal		0				0		
Minor Street		Northbound				Southbou	ınd	
Novement	7	8	9		10	11		12
√olume (veh/h)	L.	T	R		L	T		R
Peak-hour factor, PHF	134 0.92	0.92	43		0	Ò		0
Hourly Flow Rate (veh/h)	145		0.92		0.92	0.92		.92 .
Proportion of heavy vehicles,	140	0	46		0	. 0		0
HV HV	1	. 0	1		0	0		0
Percent grade (%)		0				0		,
lared approach		N				N		
Storage		0	T		•	0		··
RT Channelized?			0					0
anes	0	0	0		0	0		0
Configuration		LR						· · · · · · ·
Control Delay, Queue Length,	Lovel of Com		1					
Approach					····			
Movement	EB 1	WB 4	7	Northboun	~ ₇ · · · · · · · · · · · · · · · · · · ·		Southbound	
_ane Configuration	I	LT		8 LR	9	10	11	12
Volume, v (vph)		40		191		-		· · · · · · · · · · · · · · · · · · ·
Capacity, c _m (vph)		1538		865	 	-		
//c ratio		0.03		0.22		- 		· · · · · · · · · · · · · · · · · · ·
Queue length (95%)		0.08		0.84		:		
Control Delay (s/veh)		7.4		10,3				
_OS		Α		В		1		·····
Approach delay (s/veh)				10.3			·	

		·						EXHIBI
,		TWO-WAY STO	P CONTROL	_ SUMMA	ARY	, • :		PAGE
Seneral Information			Site Inf	ormation				napasitationality const
Analyst	Brad Lincoli	η	Intersec	tion		NE 205th A	Ave @ 136th	St NE
Agency/Co.		fic Consultants	Jurisdict			City of Woo		
Date Performed	5/4/2004		Analysis	Year		2006		
Analysis Time Period	PM Peak-H							
Project Description 2006 Fu	uture Conditions v	vith Development (t						
ast/West Street: NE 205th					. 136th Stree	et NE		
ntersection Orientation: Eas		<u> </u>	Study Pe	erlod (hrs):	0.25			
ehicle Volumes and Ad	ustments							
/lajor Street		Eastbound				Westbou	nd	
Movement ·	1	2	3		4	. 5		6
	<u>L</u>	Т	R		L	Т		R
/olume (veh/h)	0	27	49		37	21		0
Peak-hour factor, PHF	0.92	0.92	0.92	·	0.92	0.92		0.92
lourly Flow Rate (veh/h)	0	29	53		40	22		0
Proportion of heavy vehicles, PHV	0		- 1					
Лedian type				Undivide	nd	<u> </u>	L	
RT Channelized?	1		T 0		· · · · · · · · · · · · · · · · · · ·	<u> Tiji</u>	. T	o ·
-anes	0	1	0		0	 	<u> </u>	***************************************
,	 					1		0
Configuration	ļ <u></u>		TR		LT			
Jpstream Signal		0		<u>l</u>		<u> </u>		
Minor Street		Northbound				['] Southbou	and	
Movement	7	8	9		10	11		12
	<u> </u>	Т	R		L	T		R
Volume (veh/h)	152	0	43		0	0		0
Peak-hour factor, PHF	0.92	0.92	0.92		0.92	0.92	· · · · · · · · · · · · · · · · · · ·	0.92
lourly Flow Rate (veh/h)	. 165	0	46		0 .	0		0
Proportion of heavy vehicles, Phy	1	. 0	1		0	0	0	
Percent grade (%)		0				. 0		
Flared approach		N	<u> </u>		***	N		
Storage	+	0				1 0		
RT Channelized?			- 				0	
Lanes	0	0	0		0	1 . o		0
Configuration		LR	- 					. `
						_l		
Control Delay, Queue Leng			T	-				
Approach	EB	WB	 	Northbour		ļ,	Southbound	1
Movement	1	4	7	8	9	10	11	12
Lane Configuration		. LT		LR			<u> </u>	-
Volume, v (vph)		40		211		 	ļ <u>.</u>	
Capacity, c _m (vph)	· · · · · · · · · · · · · · · · · · ·	1522		850		<u> </u>	<u> </u>	
v/c ratio	·.	0.03		0.25				
Queue length (95%)		0.08		0.98				
Control Delay (s/veh)		7.4		10.6		·		
LOS		Α		В				
Approach delay (s/veh)				10.6				
Approach LOS				В		T.		
C S DOUBLE		Convright © 2003 Univ	Jorgitz of Florida Al	I Diubta Pasani				Versio

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Version 4.1d

							LO MARIANO.	TUBU TUT
								HBIT <u>20</u>
		ALL-WA	Y STOP C	ONTROL	ANALYS	SIS	PV	GE29_0F&
General Information	n	····		Site Info	rmation		- Lanca	NOTICE AND ADDRESS OF THE PARTY
Analyst		incoln		Intersection		195tf	n St @ 136th A	Ve
Agency/Co. Date Performed		n Traffic Cons	ultants	Jurisdiction		City o	of Woodinville	
Analysis Time Period	5/4/20 PM PA	eak-Hour		Analysis Ye	ar	2003		
Project ID 2003 Existing Co				4				
East/West Street: NE 195		<u>/</u>		N = +41-40 = +41	01 1 1001			
Volume Adjustmen		<u> </u>	- 41	North/South	Street: 136th.	Avenue NE		
Approach	is and Site		astbound					
Movement	T L		T	R		We	estbound	
√olume .	18	3	212	1	29		257	R 239
%Thrus Left Lane	5	0			50		207	239
Approach		N N	orthbound				athbound	
Movement	L		T	R	. L	· 1	T	R
Volume	4		13	24	15	7	12	11
%Thrus Left Lane	5	0		1	. 50			
	East	bound	Wes	tbound	Nor	hbound	901	thbound
	L1	L2	L1	L2	L1	L2		
Configuration	LTR	 	LTR				L1	L2
PHF.	0.92		0.92		L	TR	L L	TR
low Rate	250		569		0.92	0.92	0.92	0.92
% Heavy Vehicles	- 200		309	<u> </u>	4	40	170	24
No. Lanes		1		<u> </u>		<u> </u>		
Geometry Group		2		<u>/</u> 2		2		2
Duration, T			_1).25	5		5
Saturation Headway	/ Adjustms	at Morles b			.20			
		it worksn						
Prop. Left-Turns	0.1	ļ	0.1		1.0	0.0	1.0	0.0
Prop. Right-Turns	0.0		0.5		0.0	0.6	0.0	0.5
Prop. Heavy Vehicle								
hLT-adj	0.2	0.2	0.2	0.2	0.5	0.5	0.5	0.5
nRT-adj	-0.6	-0.6	-0.6	-0.6	-0.7	-0.7	-0.7	-0.7
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	5,56		5,56	1	5.56	5.56	5.56	5.56
Departure Headway	and Servic	e Time				1 0.00	1 0.00	1 0.00
hd, initial value	3.20		3.20		3.20	3.20	3.20	3.20
k, initial	0.22		0.51	 	0.00	0.04	0.15	0.02
nd, final value	5.56		5.56	 	5.56	5.56	5.56	5.56
κ, final value	0.39		0.77	† · · · · · · · · · · · · · · · · · · ·	0.01	0.07	0.34	0.04
viove-up time, m		0		.0		2.3		2.3
Service Time	3.6		3.6		3.6	T -	3.6	<u></u>
Capacity and Level		-		-1	<u> </u>		1	<u> </u>
		bound	10/00	lbound	No.	hhound	T -	(In In an
						hbound		thbound
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity .	500		726		254	290	420	274
Delay	12.01		22.32		10.43	9.92	13.66	9.39
LOS	В		. C	-	B	A	В	A
Approach: Delay	1	2.01		.32		97		
LOS .		B				13.13		
ntersection Delay		ט	<u>'</u>	C. 7.	7.68	<u>A</u>	ــــــــــــــــــــــــــــــــــــــ	В
THE SECOND REPORT				1	, m ×			

**************************************	· A	LL-WAY	STOP C	ONTROL	ANALYS	SIS	EX	HBIT 20
General Information		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Site Infor				<u>GE30 OF 2</u>
Analyst	Brad L	incoln		Intersection	mation	105th	St @ 136th Av	ATTENDED TO THE PARTY OF THE PA
Agency/Co.		Traffic Consu	ıltants	Jurisdiction			sı (@ 136in Av f Woodinville	e
Date Performed	5/4/20	04		Analysis Yea	ır	2006		
Analysis Time Period		ak-Hour						
Project ID 2006 Baseline C)						
East/West Street: NE 195	th Street			North/South	Street: 136th	Avenue NE		:
Volume Adjustmen	ts and Site 0	Characteri	stics		,			
Approach Movement		E	astbound			We	stbound	
Volume	19		7 223	R	. <u>L</u>		T	R
%Thrus Left Lane	50		1223	1	30		270	251
Approach			orthbound		50			
Movement		1/4	T I	R		Sou	thbound	
Volume	4		14	25	168	5	13	R 12
%Thrus Left Lane	50				50			14
		bound	1//00	tbound		hbound		hharry 1
	L1	L2	L1	L2				hbound
Configuration	LTR			L- L-	L.1	L2	L1	L2
PHF	0.92		LTR		L	TR	L	TR
Flow Rate	263		0.92	ļ	0.92	0.92	0.92	0.92
% Heavy Vehicles	203	 	597		4	42	179	27
No. Lanes		1.		1		<u></u>	ļ <u>.</u>	
Geometry Group		2		<u>1</u> 2		2		2
Duration, T	····		<u> </u>			5		5
	L Adlustas	4 \4/a ula a la		U	.25		<u> </u>	
Saturation Headwa		it worksn			, 	·	·	
Prop. Left-Turns	0.1		0.1		1.0	0.0	1.0	0.0
Prop. Right-Turns	0.0		0.5		0.0	0.6	0.0	0.5
Prop. Heavy Vehicle	•						1	
nLT-adj	0.2	0.2	0.2	0.2	0.5	0.5	0.5	0,5
hRT-adj	-0.6	-0.6°	-0.6	-0.6	-0.7	-0.7	-0.7	-0.7
nHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	5.69		5.69		5.69	5.69	5.69	5.69
Departure Headway	and Servic	e Time						
nd, initial value	3.20		3.20		3.20	3.20	3,20	3.20
c, initial	0.23		0.53		0.00	0.04	0.16	0.02
hd, final value	5.69		5.69		5.69	5.69	5.69	5.69
x, final value	0.42		0.83		0.01	0.08	0.37	0.05
Move-up time, m		0		.0		2.3		.3
Service Time	3.7		3.7		3.7		3.7	
Capacity and Level	of Service							
	East	bound .	Wes	tbound	Nort	hbound	Sout	hbound
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	513	1	714	 	254	292		
Delay		<u> </u>		1			429	277
	12.69		26.98	<u> </u>	10.64	10.20	14.33	9.57
LOS	В	<u> </u>	D		В	В	В	Α
Approach: Delay	. 1.	2.69	26	.98	10	0.23	13	3.71
LOS		В		D		В		В
Intersection Delay				20	0.45			·····
Intersection LOS					С			W. 11 (F

EXHIBIT 20

	1	ALL-WA	Y STOP C	ONTROL	ANALYS	SIS		PAGE 3LOR		
General Informatio				Site Info		,	·	The state of the s		
Analyst	. Brad	Lincoln		Intersection		195th	St @ 136th	Ave		
Agency/Co.	Gibso	n Trafflo Cons	sultants .	Jurisdiction			f Woodinville			
Date Performed	5/4/20			Analysis Ye	ar	2006	2006			
Analysis Time Period		eak-Hour								
Project ID 2006 Future Co		elopment (04-	-073)							
East/West Street: NE 19				North/South	Street: 136th.					
Volume Adjustmer	nts and Site					·				
Approach Movement		<u> </u>	Eastbound			We	stbound	,		
Volume	20		T 223	R			Ť	. R		
%Thrus Left Lane	5		223	1	30		270	266		
Approach			lodbbound	***************************************	50	<u> </u>				
Movement	L		orthbound	R		Sot	thbound			
Volume	4	!	16	25	17	a 	T 14	R 13		
%Thrus Left Lane		0			50		1.4	73		
The second secon		lbound								
		· · · · · · · · · · · · · · · · · · ·		stbound		hbound	Sc	uthbound		
O	L1	L2	L1	L2	L1 .	L2	L1	L2		
Configuration	LTR	<u> </u>	LTR		. L	TR	L	TR		
PHF	0.92		0.92		0.92	0.92	0.92	0.92		
Flow Rate	264		614		4	44 .	189	29		
% Heavy Vehicles		1								
No. Lanes		1		1		2	1	2		
Geometry Group		2		2		5		5		
Ouration, T				0	.25		:			
Saturation Headwa	y Adjustmer	nt Worksh	eet							
Prop. Left-Turns	0.1		0.1		1.0	0.0	1.0	0.0		
Prop. Right-Turns	0.0		0.5	 	0.0	0.6	0.0			
rop. Heavy Vehicle				_	- 0.0	- 0.0	0.0	0.5		
nLT-adj	0,2	0.2	0.2	0.2	0.5	0.5				
nRT-adj	-0.6	-0.6	-0.6		0.5	0.5	0.5	0.5		
nHV-adj	1.7	1.7		-0.6	-0.7	-0.7	-0.7	-0.7		
nad), computed		1.7	1.7	1.7	1.7	1.7	1.7	1.7		
	5.80		5.80	<u> </u>	5,80	5.80	5.80	5.80		
Departure Headway		e Time			,					
nd, initial value	3.20		3.20		3.20	3.20	3.20	3.20		
, initial	0.23		0.55		0.00	0.04	0.17	0.03		
nd, final value	5.80		5.80		5.80	5.80	5.80	5.80		
, final value	0.43		0.86		0.01	0.09	0.39	0.05		
Nove-up time, m		0 .		.0		.3		2.3		
Service Time	3.8	<u> </u>	3.8		3.8		3.8	T .		
Capacity and Level	of Service									
	East	bound	Wes	tbound	Nort	nbound	, è	uthbound		
	L1	L2	L1	L2	L1					
Capacity	514			L-C		L2	L1	L2		
		 	707	 	254	294	439	279		
Delay	13.03	·	30.82		10.77	10.38	14.93	9.69		
.OS	В		D.		B	В	В	A		
pproach: Delay	1.	3.03	30	.82	10	.41	_	4.23		
LOS		В		5		 				
ntersection Delay				22		В				
				97	n M					

	TWO-WAY STO	PCONTRO	A CHARACA	LA POLZ	¥	EXHIBIT		
	· · · · · · · · · · · · · · · · · · ·				PAGE 320F52			
				n		and the state of t	- Comments of Links	
		Interse	ction		195th St @ SR-522 WB On			
	tic Consultants				City of W	oodinville/		
	OLIV.	Analys	is Year		2004			
Street	(04-073)	N- 0.76						
st-West		North/S	outh Stree	t: SR-522 W	estbound On	-Ramp		
		Jolddy F	enou (ms)	1. 0,25				
	Eastbound				Westbo	und	·	
1	2	3		4	5		6	
				L	Т		R	
					433		0	
					0.92		0.92	
J	306	63		1003	470		0	
0		-		2		'	w	
			Undivid	ed ·		I		
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7		0		10		ound		
L							12	
. 0	0						R 0	
0.92	0.92						0.92	
0	0	0		0			0.02	
o	0	0		0	0		0	
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	1003	·					-	
	1186					1	-	
	11.08					-	_	

	C					-		
	**		L		<u> </u>		I	
	Gibson Trai 5/10/2004 PM Peak-H	PM Peak-Hour	Brad Lincoln Gibson Traffic Consultants 5/10/2004 PM Peak-Hour Street Study P Interset Interset Interset Interset Interset Interset Interset Interset Interset Interset Interset Interset Interset Interset Interset Interset Interset Interset Interset Interset Interset Interset Interset Interset I	Brad Lincoln Gibson Traffic Consultants 5/10/2004 PM Peak-Hour	Gibson Traffic Consultants 5/10/2004 PM Peak-Hour Individual Individual	Bred Lincoln	Bred Lincoln Gibson Traffic Consultants Sr 10/2004 FM Peak-Hour Visting Conditions (04-073) Street North/South Street SR-522 Westbound On-Ramp Study Period (hrs): 0.25 Ustments Eastbound	

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		TWO-WAY STO	P CONTROL	- SUM	WARY				涯330	
General Information			Site Inf	ormat	lon					
Analyst	Brad Linco		Intersec				195th St @	SR-522	WB On	
Agency/Co.		affic Consultants	Jurisdic				City of Woo	odinville		
Date Performed	5/10/2004	, ,	Analysis	Year			2006			
Analysis Time Period	PM Peak-I			·						
Project Description 2006 Bast/West Street: NE 195th	aseline Conditioi Stroot	ns (04-073)	l. North/Co	uille Cir	2041 000	E00 W-	tbound On-F			·
ntersection Orientation: Eas			Study Pe				toouna On-F	катр.	· · · · · · · · · · · · · · · · · · ·	
/ehicle Volumes and Ad			10(44)	1100 (11	.0), 0,2					
Major Street	T	Eastbound		 1	,		Westbou	nd		
Movement	1	2	3		***************************************	4	5	1	6	
	· L	Т	R	·		L.	Т		R	
/olume (veh/h)	0	296	61		97		455		0.	
Peak-hour factor, PHF	0.92	0,92	0.92		0.8		0.92		0.92	
fourly Flow Rate (veh/h)	0.	321	66		10	54	.494		0	
Proportion of heavy vehicles, Hv	0			2		prime.				
Median type				Undi	/ided					
RT Channelized?			0						0	
anes.	0	1	1		1	1	2		0	
Configuration	- 	T	R				T			
Jpstream Signal	+	 					0		•	
Minor Street	1	Northbound					Southbou	ind		
Movement	7	8	9			10	11	1119	12	
	L	Т	R			L	T		R	
/olume (veh/h)	0	. 0	0		0.		0		0	
Peak-hour factor, PHF	0.92	0.92	0.92		0.92		0,92		0,92	
lourly Flow Rate (veh/h)	0 .	0	0		()	• 0		0	
Proportion of heavy vehicles, PHV	Q	0	0		()	o		0	
Percent grade (%)	<u> </u>	0 .					0			
Flared approach		N					Ν			
Storage		0					0			
RT Channelized?			0						0	
anes	0	.0	0			0	0		0	
Configuration	1									
Control Delay, Queue Lengi	th, Level of Ser	vice								
Approach	EB	WB	1	Northb	ound		Ì	Southbo	und	
Movement	1	4	7	8		9 .	10	11		12
Lane Configuration	•	L								
Volume, v (vph)		1054								
Capacity, c _m (vph)		1168		<u></u>						
v/c ratio		0.90			<i>.</i>					
Queue length (95%)		13.99		<u> </u>				1		
Control Delay (s/veh)		27.8						1		
LOS		D					<u> </u>	1		
	······		1				·			
Approach delay (s/veh)			1				1			

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		TWO-WAY STO	P CONTRO	L SUI	MARY			EXH	1811 <u>2</u> 1	
General Information			Site In	forma	tion			PAG	F340F	
Analyst	Brad Linco	In .	Interse				195th St @		- Ottomore to	
Agency/Co.	Gibson Tra	iffic Consultants	Jurisdie				City of Wo		VB OII	
Date Performed	5/10/2004		Analys	s Year	***************************************		2006			
Analysis Time Period	PM Peak-l									
Project Description 2006 Fu	uture_Conditions	with Development ((04-073)							
East/West Street: NE 195th			North/\$	outh St	reet: <i>SR</i> -	522 W	estbound On-i	Ramp		
ntersection Orientation: Eas			Study P	eriod (I	nrs): 0.28					
ehicle Volumes and Ad	justments							······································		
Major Street		Eastbound					Westbou	ınd.		
Movement .	1	2	3		4		5		6	
/	<u> </u>	Т	R		L		T		R	
/olume (veh/h) Peak-hour factor, PHF	. 0	298	68		97		470		0	
	0.92	0.92	0.92		0,9		0.92		0.92	
lourly Flow Rate (veh/h)	0	323	73		105	4	510		. 0	
Proportion of heavy vehicles, PHV	0				2					
ledian type				Undi	vided	***********	· · · · · · · · · · · · · · · · · · ·		·····	
RT Channelized?			0		<u> </u>				0	
anes	. 0	1	1		1	· · · · · · · · · · · · · · · · · · ·	2			
Configuration		T							0	
Jpstream Signal			R		<u></u>		T			
		0					0			
linor Street		Northbound					Southbou	ınd		
lovement	7	8 -	9		10		11		12	
/olume (veh/h)	0	T	R		L		T		R	
eak-hour factor, PHF	0.92	0.92	0 000		0		0		0 .	
lourly Flow Rate (veh/h)	0.92	0.92	0.92		0.9	2	0.92		0.92	
Proportion of heavy vehicles,	 	- 	0		0		0		0	
HV	. 0	0	0		0		0		0	
Percent grade (%)		0			 		<u> </u>	L		
lared approach		T Ň	T	·	 			-i		
Storage		7 0	- 	··········			N .			
RT Channelized?	-	 -					0			
anes	0	0	- 0						0	
Configuration	· · · · · · · · · · · · · · · · · · ·	0	0	·····	. 0		0		0 .	
Control Delay, Queue Lengt					,					
pproach	EB	WB		Northb	ound			Southboun	d	
Novement	1	4	7	8	T	9	10	11	12	
ane Configuration		L .			_		 			
/olume, v (vph)	, · 	1054		 				l		
Capacity, c _m (vph)	**************************************	1159		<u> </u>					-	
/c ratio		0.91	 		·····	···	-			
Queue length (95%)		14.37		 -			-	·		
Control Delay (s/veh)	····	28.8		 	· ·		_			
OS		D 20.6		<u> </u>					_	
Approach delay (s/veh)				L	<u>l</u> ,	***************************************		l		
Approach LOS		**								
pproduit EOO			1							

TWO-WAY STOP CONTROL SUMMARY									
General Information				317 50					
Analyst	Brad Linco	ln	Interse	formatio	11	1/05//		- Acres de la constante de la	
Agency/Co.		in Iffic Consultants	Jurisdi				@ SR-522	EB Off	
Date Performed	5/10/2004	ino Consultarits		is Year	····		oodinville		
Analysis Time Period	PM Peak-F	lour	Allalys	is i cai		2004		, , , , , , , , , , , , , , , , , , , 	
Project Description 2004									
East/West Street: Ne 195	th Street	10113 (04-073)	North/9	outh Stree	4. OD 500		000	 	
ntersection Orientation:		· · · · · · · · · · · · · · · · · · ·	Study F	eriod (hrs	et: SR-522): 0.25	Eastboung	Оп-Катр		
Vehicle Volumes and A				Oriod (riis). V.ZU				
Major Street	tujustinents T	Eastbound			····			· · · · ·	
Movement	 	2	3	<u>-</u>		Westbou	ınd		
11010111	 	 	R		4	5 T		6	
/olume (veh/h)	ō	289	 		. 0	1346		. R	
Peak-hour factor, PHF	0.92	0.92	0.92		0.92	0.92		0 .	
lourly Flow Rate (veh/h)	0	314	0.32	 	0.92	1463		0.92	
Proportion of heavy			 		· ·	1403		. U	
ehicles, P _{HV}	0				0				
Median type	 		I	Undivide	d	<u> </u>	L		
RT Channelized?	 		. 0	I	u	T	-		
anes	0	2						0	
Configuration	ļ		0		0	2	<u>. </u>	0	
	<u> </u>	T				T		•	
Jpstream Signal		. 0				0			
Minor Street		Northbound				Southbo	und	_	
Movement	7	8	9		10	11		12	
7-1	<u> </u>	Т	R		L	T		R	
Volume (veh/h) Peak-hour factor, PHF	54	0	712		0	0		0	
	0.92	0.92	0.92		0.92	0.92		0.92	
Hourly Flow Rate (veh/h)	58	0	773		0	0		0	
Proportion of heavy vehicles, P _{HV}	2	0	- 2		0	0		0	
			<u> </u>			<u></u>			
Percent grade (%)		0 .				0	0		
lared approach		N				N			
Storage		0				0			
RT Channelized?			. 0					0	
anes	1	0	1		0	0		Q	
Configuration	L		R						
Control Delay, Queue Lei	ngth, Level of S	Service		,					
Approach	EB	WB	. 1	Northboun	d		Southbour	nd.	
Viovement	1	4	7	8	9	10			
ane Configuration				· · ·		10	11	12	
			L		R	ļ <u>.</u>			
Volume, v (vph)	<u> </u>	·	58		773	<u> </u>			
Capacity, c _m (vph)			224		861			_	
//c ratio			0.26		0.90				
Queue length (95%)			1.00		-	 	ļ	- 	
					12.39	<u> </u>	<u> </u>		
Control Delay (s/veh)			26.6		33.3				
_OS			D		D				
Approach delay (s/veh)				32.8					
Approach LOS				D		 			
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		TWO-WAY STO	PCONTRO	DL SUN	MAF	₹Y		1	EXHIB	IT 7-1
General Information		·	Site In	format	ion	····				
Analyst	Brad Lincol		Interse				195th St	@ SR-5	20 E	JU OF
Agency/Co.		ffic Consultants	Jurisdi	ction			City of W	oodinviili	9	JII
Date Performed Analysis Time Period	5/10/2004	,	Analys	is Year			2006			· · · · · · · · · · · · · · · · · · ·
	PM Peak-H									************
Project Description 2006 Ba East/West Street: No 195th S	iseline Condition	s (04-073)								
ntersection Orientation: East	t-West		North/S	outh Str	eet:	SR-522 Eas	stbound Off-	Ramp		
Vehicle Volumes and Adj			Study F	eriod (h	rs): (0.25				
Major Street	I	Eastbound								
Movement	1 1	Lastbound 2	3			4	Westbo	und.		
	L	T T	R			<u>4</u>	5 T			6
/olume (veh/h)	0	304	1 0			0	1414			R 0
Peak-hour factor, PHF	0.92	0,92	0.92			0.92	0.92		0	.92
lourly Flow Rate (veh/h)	0	330	. 0			0	1536		-	0
Proportion of heavy vehicles, Phv	. 0					0			<u>-</u> -	
Median type				Undiv	vided		<u> </u>			······································
RT Channelized?			0	-11001			T			
anes	0	2	10			0	2			0
Configuration		$-\frac{1}{T}$	 							0
Jpstream Signal		· · · · · ·				·	<u> </u>			
Minor Street		Northbound	1				0			
Movement	7	8	9			10	Southbo	und		
	i i	Ť	R				11 T			12
/olume (veh/h)	57	0	748			0		0		R 0
Peak-hour factor, PHF	0.92	0.92	0.92		0,92		0.92			.92
lourly Flow Rate (veh/h)	61	0	813			0	0			0
Proportion of heavy vehicles, PHV	2	0	. 2			0	0			o,
Percent grade (%)	,	. 0				, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0	· ·		···
lared approach		N.					N			**
Storage [:]		0 .				·	0		<u>_</u>	
RT Channelized?	•		0						******	0
anes	1	0	. 1			0	. 0			0
Configuration	L		R							
Control Delay, Queue Length	, Level of Servi	ce								
pproach	EB	WB		Northbo	ound		T T	Southbo	ound	
Novement	. 1	4	7	8	Т	9	10			40
ane Configuration	•		L	 		R	1. 10	11		12
/olume, v (vph)			61	 	\dashv	813	<u> </u>	1	_	·
Capacity, c _m (vph)			207		$\neg +$	850		 		
/c ratio			0.29	<u> </u>		0.96		+		<u> </u>
Queue length (95%)			1.18	 		15.30		 		
Control Delay (s/veh)			29.5		-	43.2		 		
os			D			E			-	
approach delay (s/veh)		***	~ 	42.3	- -L			<u></u>		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Approach LOS		**		E					77 -	
`\$2000'M		Copyright © 2003 Univer			······································	· · · · · · · · · · · · · · · · · · ·	<u> </u>		· · ·	

Version 4.1

		TWO-WAY STOF	CONTRO	LSUM	//ARY			EXHIBIT 2
General Information			Site Inf	ormatic	n n		·/·	PAGE
Analyst	Brad Lincol	n	Intersec			195th St @	0 OD 500	
Agency/Co.		ffic Consultants	Jurisdic			City of Wo		EB UII
Date Performed	5/10/2004		Analysi			2006	OUITVIIIO	
Analysis Time Period	PM Peak-H	lour				2000		
Project Description 2006 Fu	iture Conditions	with Development (C	04-073)					
East/West Street: Ne 195th 8	Street			outh Stre	et: <i>SR-522 Ea</i>	stbound Off-F	Ramp	
ntersection Orlentation: Eas	st-West			eriod (hre				· · · · · · · · · · · · · · · · · · ·
Vehicle Volumes and Ad	justments							
Major Street		Eastbound				Westbou	ınd	····
Vovement	1	2	3		4 ·	5		6
	L	T	R		L	T		R
/olume (veh/h)	0	306	0		0	1418		0
Peak-hour factor, PHF	0.92	0.92	0.92		0.92	0,92		0.92
lourly Flow Rate (veh/h)	0	332	. 0		0	1541		0
Proportion of heavy vehicles, PHV	0		hw		o			
Median type				Undivi	ded	· · · · · · · · · · · · · · · · · · ·		*
RT Channelized?			1 0	<u> </u>		T		0
anes	0	2	0		0	2		
Configuration	 	$\frac{2}{T}$	<u>-</u> -		· · · · · · · · · · · · · · · · · · ·			0
	<u> </u>					T		
Jpstream Signal		0				0		
Minor Street		Northbound	· ·			Southbou	und	
Movement	7	8	9		10 ·	11		12
Volume (veh/h)	L	T	R	 _	<u> </u>	T		R .
Peak-hour factor, PHF	0,92	0.92	748 0.92		0	. 0		0
Hourly Flow Rate (veh/h)	73	0.92	813		0.92	0,92		0.92
Proportion of heavy vehicles,	13	·	013		0 .	, o		O.
P _{HV}	2	0	2		0	0		0
Percent grade (%)	<u> </u>	0			•	o		
Flared approach		N				N		
Storage		0				0		
RT Channelized?			0		·			0
Lanes	1	0	1		0	0		.0
Configuration	L		R	I				
Control Delay, Queue Lengt		ico						
Approach	EB	WB	T	Northbo	und	T	O-Miller	
Movement	1 .	4	7	8	unu . 9	10	Southbo 11	
Lane Configuration			L		R	1	 	
Volume, v (vph)			73		813		 	
Capacity, c _m (vph)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		206	 	849	1	1	-
v/c ratio			0.35		0.96		 	
Queue length (95%)			1.51		15.36	1	 	
Control Delay (s/veh)			31.8		43.5		 	
LOS			D		E		1	
Approach delay (s/veh)	44	***		42.5				
Approach LOS	***		·	E				
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		\	V STOR O	ONTROL	A 3 1 A 1 3 4 4			EXHBIT_2
General Informatio		TLL-VVA	Y STOP C	Site Infor		518		PAGES80
Analyst	"	Incoln		Intersection	mation	Itaou	. Aug @ 4050	more and a second and a second and
Agency/Co.		n Traffic Cons	sultants	Jurisdiction	···		n Ave @ 195th of Woodinville	St
Date Performed	4/19/2	004		Analysis Yea	ar .	2004		
Analysis Time Period		eak-Hour .]				
Project ID 2004 Existing C								
ast/West Street: NE 195			·	North/South	Street: 130th	Avenue NE		
/olume Adjustmen	its and Site	Character	istics					
ppreach			Eastbound			We	stbound	
lovement Olume	L	, 	T	R	L		T	R
6Thrus Left Lane	1:		38	24	80		4	121
	50				50			
pproach lovement			lorthbound			Sot	ıthbound	
olume	10	, -	T 239	. R 108	L		T	R
6Thrus Left Lane	5		۵.۷۵	100	65		69	0
					50			
.,		bound	Wes	tbound	Nort	hbound	Sot	ıthbound
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR ·	 	LTR	
HF	0.92		0.92		0.92	1	0.92	-
low Rate	78		221		386		144	~
Heavy Vehicles				* *************************************		1	1,1,1	
o, Lanes		1		1		1		1
eometry Group		1		1		1		1
uration, T				0.	25			
aturation Headwa	y Adjustmer	ıt Worksh	eet					
rop. Left-Turns	0.1		0.4		0.0		TAF	
rop, Right-Turns	0.3		0.6				0.5	
rop. Heavy Vehicle			- 0.0		0.3		. 0.0	
LT-adj	0.2							
RT-adj		0.2	0.2	0.2	0.2	0.2	0.2	0.2
HV-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-Ó.6	-0.6
	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
adj, computed	5.50		5.50		5.50		5.50	
eparture Headway		e Time						
d, initial value	3.20		3.20		3.20		3.20	
, initial	0.07		0.20		0.34		0.13	
d, final value	5.50		5.50		5.50		5,50	
, final value	0.12		0.32		0.51		0.22	
love-up time, m	2.	0	2	.0	2	.0		2.0
ervice Time	3.5		3.5		3.5		3.5	T.
apacity and Level	of Service					-	<u> </u>	
		oound	Was	lbound	Mort	nbound		41-1
	L1	L2			· · · · · · · · · · · · · · · · · · ·			thbound
		L.Z	L1	L2	L1	L2	L1	L2
apacity	328	<u> </u>	471		636		394	
elay	9.24		10.50		12.78		9.87	
os	A		В	T'	В		A	
oproach: Delay	9	.24		50		.78		07
LOS	- 	A		3				.87
itersection Delay	- 	Λ	<u></u>			3	<u> </u>	<u> </u>
itersection LOS		· · · · · · · · · · · · · · · · · · ·			.33 3			

	·	\LL-WA	STOP C	ONTROL	ANALYS	IS		EXHIBIT
General Informatio				Site Infor	· · · · · · · · · · · · · · · · · · ·			-PAGE 3
Analyst	Brad I	incoln		Intersection	·	130#	n Ave @ 195th S	<u> </u>
Agency/Co.		n Traffic Cons	ultants	Jurisdiction			of Woodinville	7.
Date Performed	4/19/2			Analysis Yea	ır	2006		
Analysis Time Period	····	eak-Hour						
Project ID 2006 Baseline C							1	
East/West Street; NE 195	the state of the s			North/South S	Street: 130th A	venue NE		
/olume Adjustmen	its and Site (
Approach Movement		t	astbound T	R		We	estbound	
/olume	12	,	40	25	84		4	127
6Thrus Left Lane	50				50			121
Approach			orthbound		1	I	uthbound	
Movement .	L		T	R	L		T	R
/olume	11	1	251	113	68		72	0
%Thrus Left Lane	5	0			50			
	East	bound	Wes	tbound	North	nbound	Sout	hbound
	L1	L2	L1	L2	L1	L2	. L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.92		0.92		0.92	 	0.92	
low Rate	83		233	·	405		151	+
6 Heavy Vehicles						1	 	1.
lo. Lanes		1		1		1		1.
Beometry Group		1		1	,	1		1
Ouration, T				0.	25			
Saturation Headwa	y Adjustmer	nt Worksh	eet					
Prop. Left-Turns	0.2		0.4		0.0		0.5	T T
rop. Right-Turns	0.3		0.6		0.3	,	0.0	
Prop. Heavy Vehicle							0.0	
nLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
nRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
nHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
adj, computed	5.64		5.64	<u> </u>	5.64	1.1	5.64	1./
Departure Headway		e Time		<u> </u>	1 0.07		1 0.04	<u> L</u>
nd, initial value	3.20	1	3.20		3.20		T 2.00	
k, Initial	0.07		0.21		0.36		3.20 0.13	
nd, final value	5.64	 	5.64	-	5.64	<u> </u>	5.64	
, final value	0.13		0.34		0.55		0.23	
/love-up time, m		.0		2.0		.0		.0
Service Time	3.6		3.6	T	3.6	1	3.6	Ť
Capacity and Level	of Service							<u>:</u>
		bound	۱۸/۵۵	tbound	Morte	ıbound	Carit	hbound
	L1	L2	L1	~ ` 				
Concelle		1.4		L2	L1 .	L2	L1	L2
Capacity	333	 	483		655		401	
Delay	9.48	<u> </u>	10.93		13.69		10.15	
.08	A	<u> </u>	В		В		В	
pproach: Delay	9	9.48	10	9.93	13	.69	10	.15
LOS		A		В .		3		В
ntersection Delay					.94		_1	· · · · · · · · · · · · · · · · · · ·
ntersection LOS		······································			В		·*************************************	·

**************************************		\	/ STOD C	ONTROL	ANIALNO			EXHIBIT
General Informatio		1	STOP C	Site Infor		518		PAGE 40
Analyst		Lincoln		Intersection	mation	Izoou	4 - 0 - 10 7/1	Services assessment as a service assessment
Agency/Co.		n Traffic Cons	ultants	Jurisdiction			n Ave @ 195th of Woodinville	St
Date Performed	4/19/2		artanto	Analysis Yea	ar .	2006		
Analysis Time Period		eak-Hour						
Project ID 2006 Future Cor		elopment (04-i	073)					
East/West Street: NE 195	ith Street			North/South	Street: 130th /	Avenue NE		
/olume Adjustmen	ts and Site	Characteri	stics					
Approach		E	astbound			We	stbound	
lovement olume		7	T (2)	R	L		Т	R
6Thrus Left Lane	17		. 40	25	84		4	127
pproach .	50				50			
lovement		N	orthbound	R			ıthbound	
olume	1.1	1	252	113	68 68		73	Ř
Thrus Left Lane	5			1,10	50		/3	3
		bound	10/	lls a road				
				lbound		hbound	Sou	thbound
`anfiguration	L1	L2	L1 / 75	L2	L1	L2	L1	L2
Configuration PHF	LTR	 	LTR	<u> </u>	LTR		LTR	
low Rate	0.92 88	 	0.92	<u> </u>	0.92	ļ	0.92	
6 Heavy Vehicles	88		233		406		155	
lo, Lanes		<u> </u>		<u> </u>		<u> </u>		
eometry Group	~~-	<u>1</u> .,, 1.		<u> </u>		1		1
uration, T		<i>i</i> .		1	<u> </u>	1		1
Saturation Headwa	v Adiustma	14 \Marka	4	. 0.	.25		<u> </u>	
· · · · · · · · · · · · · · · · · · ·		it vvorksn		Ţ				
rop. Left-Turns	0.2		0.4		0.0		0.5	:
rop. Right-Turns	0.3		0.6	<u> </u>	0.3		0.0	
rop. Heavy Vehicle								
LT-adj	0.2	0.2	0,2	0.2	0.2	0.2	0.2	0.2
RT-adj	-0.6	-0.6	-0,6	-0.6	-0.6	-0.6	-0.6	-0.6
HV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
adj, computed	5.68		5.68		5.68		5.68	
Departure Headway	and Servic	e Time		•				
d, initial value	3.20		3.20		3.20	T	3.20	T
, initial	0.08		0.21		0.36		0.14	+
d, final value	5.68		5.68		5.68	T	5.68	
, final value	0.14	,	0.34		0.55		0.24	
love-up time, m		0	2.	0		.0		2.0
ervice Time	3.7		3.7		3.7		3.7	1
Capacity and Level	of Service							
	East	bound	West	bound	Nort	hbound	Sout	thbound
	L1	L2	L1	L2	L1	L2	L1	L2
apacity	338		483	 	656		405	
elay	9.60			 		 	-	
			11.00		13.86		10.24	<u> </u>
OS	A	<u> </u>	В	<u> </u>	В		В	
pproach: Delay	9	0.60	11.	00	13	.86	10).24
LOS		Α	Ĭ.	3		В		В
ntersection Delay				12	.04			
ntersection LOS					В			

								EXHIBIT_2
		TWO-WAY STO	P CONTRO	L SUMM	ARY			PAGE 410
General Information			Site In	formatio	n	····		TO DE MANY
Analyst	Brad Linco	oln	Interse			205th St (@ C//o 4=	
Agency/Co.	Gibson Tr	affic Consultants	Jurisdi		·	City of W		cess
Date Performed	5/10/2004			is Year	· · · · · · · · · · · · · · · · · · ·	2006	oginville	
Analysis Time Period	PM Peak-			10 1 001	····	2000	· · · · · · · · · · · · · · · · · · ·	
Project Description 2006 F	uture Conditions	with Development	(04-073)					<u> </u>
East/West Street: NE 205th	Street	With Bottolopinoin (North/S	outh Stree	t: Site Acces	· ·		
Intersection Orientation: Ea	ast-West	**	Study F	eriod (hrs)	. 0.25	38		· · · · · · · · · · · · · · · · · · ·
Vehicle Volumes and Ac	diustments		1333.77		, 0.20			
Major Street		Eastbound			····	M/s offer		
Movement	1	2	3		4	Westbo	una	
-	L	T	R		L	5 T		6
Volume (veh/h)	0	64	8		20 .	153		R
Peak-hour factor, PHF	0.92	0.92	0.92		0.92	0.92		0
Hourly Flow Rate (veh/h)	. 0	69	8		21			0.92
Proportion of heavy vehicles.			-		· · · · · · · · · · · · · · · · · · ·	166	<u> </u> :_	0
P _{HV}	0			•	2	-		
Median type				Undivid	ed .			
RT Channelized?			0					0
Lanes	0	1	0		0	1		0
Configuration			TR		LT	- 		· · · · · · · · · · · · · · · · · · ·
Upstream Signal		0				0		·
Minor Street		Northbound				Southbo	und	
Movement.	7 .	8	. 9		10	30011100	una	40
	L	Т	R		i i	T		12 R
Volume (veh/h)	5	O.	12	· · · · · · · · · · · · · · · · · · ·	0	0		0
Peak-hour factor, PHF	0.92	0.92	0.92		0.92	0.92		0.92
Hourly Flow Rate (veh/h)	. 5	0	13.		0	0		0.32
Proportion of heavy vehicles, P _{HV}	2	0	2		0	0		0
Percent grade (%)		. 0				0		
Flared approach		N				T N		
Storage		0				1 0	 -	
RT Channelized?			0			<u>-</u>		0
Lanes	0	. 0	0		0	0		0
Configuration		LR	<u> </u>					<u> </u>
Control Delay, Queue Leng	th, Level of Serv	ice						
Approach	EB	WB		Northbour	ıd	.1	Southbou	ınd
Movement	1	4	7	8	9	10	11	
Lane Configuration		LT		LR			- ''	12
Volume, v (vph)		21		18		 	 	
Capacity, c _m (vph)		1522		887		 	 	
v/c ratio		0.01	l	0.02				-
Queue length (95%)		0.04		0.02		·	<u> </u>	
Control Delay (s/veh)		7.4		9,1				
LOS		, A		3.1 A		 		
Approach delay (s/veh)	·	MM .		9,1			<u> </u>	<u>l</u>
Approach LOS				A A		-		
			L	. ^		1 .		

11C930001W

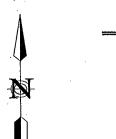
Version 4.1d

 TC^2

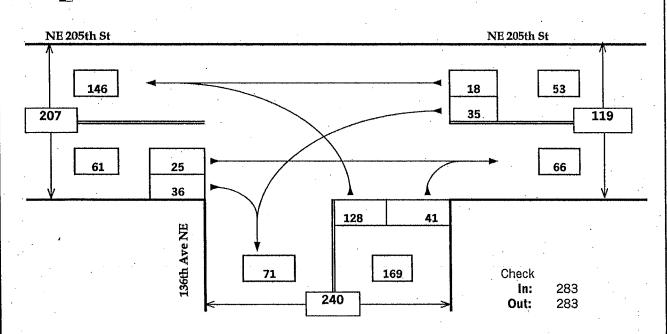
Traffic Count Consultants, Inc.

13623 184th Avenue NE, Woodinville, WA 98072

Phone: (425) 861-8866 FAX: (425) 861-8877



Turning Movement Diagram



Intersection: NE 205th St @ 136th Ave NE

Location: Bothell

Date of Count: Wed 4.28.04

Peak Period:

4:45 P

5:45 P

Checked By: FH

Prepared For: Gibson Traffic Consultants

%HV PHF EB 0.0% 0.59

 WB
 0.0%
 0.78

 NB
 0.6%
 0.88

 SB
 n/a
 n/a

 SB
 n/a
 n/a

 Intersection
 0.4%
 0.94

K04u034-002p

Traffic Count Consultants, Inc.

13623 184th Avenue NE, Woodinville, WA 98072 Phone: (425) 861-8866 FAX: (425) 861-8877

Vehicle Volume Summary

Intersection:

NE 205th St @ 136th Ave NE

Location:

Bothell

Date of Count:

Wed 4.28.04

Checked By:

FΗ

Time Interval	F	rom N	orth on n/a	(\$B)	F	rom Soutl 136th A		3)	Fi	om Eas	st on (W O5th St	В)	F	rom We	st on (E	B)	Interval Total
Ending at	Τ	Ļ	S	R	Τ	L.	S	R	T	L	S	Ŕ	T	L	S	I R	10,00
4:15 P	0.		0	0	0	19	× 0	7	0	10		. 0	0	0	4	- 8	51
4:30 P	0	.0	0	0	1	21	0	13	0	12	3	0	0	0	5	9	63
4:45 Pi	0	(0)	0	0	(O)	34	0	12	0	.5	6	0.	204	0.7	:5	6	68
5:00 P	0	0	0	0	0	36	0	12	0	7	2	0	0	0.	4	9	70
5:15 P	0	0	0	0	0	32	.0	6 .	.0	110	7.0	0.	×0	0.34	3	46.°	64
5:30 P	0	0	0	.0	0	35	0	10	. 0	. 12	. 4	0	0	0	6	7	74
5 45 P	10	0	.0	. × 0	1	25	0.0	13	0	£6.	//5//	×0*	10	013	#12	14	75
6:00 P	0	0	0	0	.0	25	0	6	0	- 8	5	0	0	0	2	6	52
6:15 P	?0 %	0.1	0	0	0 /4	.0	. 0	×0.5	20%	0 0	0.0	0	0.	0	9.02	*0*	- O
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0.9	0	. 0	*0 *	0	- O -	/ .0#	0.7	0	0	¥0;	.0	× 0.9	940	×0.*	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total																	
Survey	0	0	. 0	0	2	227	0	79	0	70	35	0	0	0	41	65	517
			ni sasa	4:45 P	to	5:45 P	Peak	HAME	enimin	a rib oto	SCHOOL OF THE	(%26314x	1788-1986	isamakasu	halasatsa dise	COSCINECTO	
Total	0	0	0	0	1	128	0	41	0	35	18	0	0	0	25	36	283
Approach		0				169	L			53			<u> </u>	61		. 50	283
%HV		n/a				1%	1:4			0%				0%		-	0%
PHF		n/a				0.88				0.78				0.59			0.94

Legend:

T= Number of heavy vehicles (greater than 4 wheels)

L= Left -Turn

S= Straight R= Right-Turn

HV= Heavy Vehicles

PHF= Peak hour Factor (Peak hour volume / (4*Highest 15 minutes))

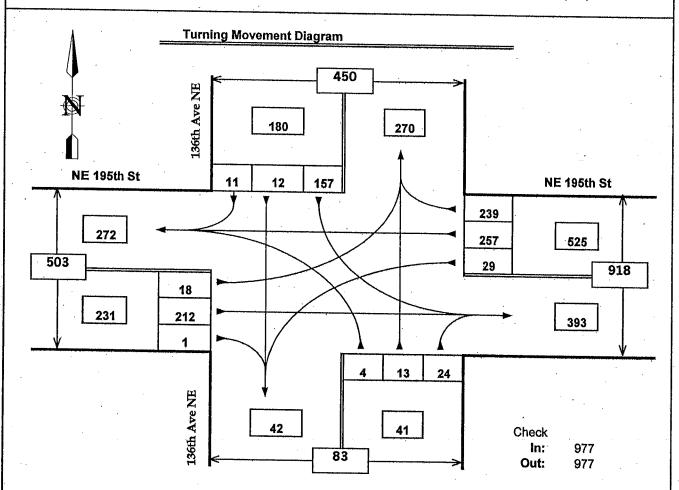
Prepared For:

Gibson Traffic Consultants

TC²

Traffic Count Consultants, Inc.

13623 184th Ave NE, Woodinville, WA 98072 Phone: (425) 861-8866 FAX: (425) 861-8877



Intersection: NE 195th St @ 136th Ave NE

Location: Bothell

Date of Count: Wed 4.28.04

Peak Period:

4:15 P

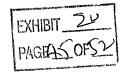
5:15 P

Checked By: FH

Prepared For: Gibson Traffic Consultants

%HV PHF EB 0.0% 0.98 WB 0.6% 0.92 NB 0.0% 0.64 SB 0.6% 0.71 Intersection 0.4% 0.94

K04u034-001p



TC2

Traffic Count Consultants, Inc.

13623 184th Ave NE, Woodinville, WA 98072

Phone: (425) 861-8866 FAX: (425) 861-8877

Vehicle Volume Summary

Intersection:

NE 195th St @ 136th Ave NE Bothell

Location:

Date of Count:

Wed 4.28.04

Checked By:

FH

Time Interval		From No 136th	Ave N	Ξ .	F	rom Sou 136th /	Ave NÈ	B)	F	rom Ea: NE 1:	st on (W 95th St	/B)	F		st on (I 95th St	EB)	Interval Total
Ending at	· T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	**O**	32	2	- 3	0		2	4 A	000	5	53	48	118	4	39	11%	194
4:30 P	0	47	/	9	0	2	2	5	1	10	. 62	56	0	5	54	0	259
4.45 P	0	37	3	3.0	00/		7	8)	313	- 8	59	- 55	0	201	55	0.0	234
5:00 P	0	30	2	0	0	0	3	3	1	5	66	61	0	4	54	0	228
5x15 PX		43	***O	2	60	14.14.3		.8	*0×	6	差70条	67	零0票	8 -	49	2018	256
5:30 P	0	40	0	5	0	0	2	4	0	3	58	51	0	. 5	50	0	218
,5 45 P	0.0	27	2	5	.0	##10##	11.5	3	A	. 2	59	46	0	4	3.59	×0	209
6:00 P	0	22	2	1	0	1	1	7	0	8	46	45	0	1	71	0	205
6:15 P	0 /	0	0	0.11	0	0	80 43	• 0 ×	0	0	0.0	(70%)	20.5	7.0	0	0.6%	0
6:30 P	0	0	0	0	0	0	0	0.	0	0.	0	0	0	0	0	0	0
6.45 P	0	0	0.//	0	0 %	0	0	0	※0%	0.8	20%	#0 3	%0%	*0 *	× 0 ×	2.0%	0.0
7:00 P	0	0	0	0	0	0.	0	.0	0	0	0	0	0	0	0	0	0
Total																	
Survey	1	278	.18	25	0	7	19	42	7	47	473	429	1	32	431	2	1803
				4:15 P	* to #	5:15 P	. Peak	Hour S	umma	rvies in		la XVIII de la					
Total	1	157	12	11	0	4	13	24	3	29	257	239	0	18	212	1	977
Approach		180				41				525				231			977
%HV		1%	····		0% 1% 0%				0%								
PHF		0.71				0.64	,			0.92				0.98			0.94

Legend:

T= Number of heavy vehicles (greater than 4 wheels)

L= Left -Turn S= Straight R= Right-Turn

HV= Heavy Vehicles
PHF= Peak hour Factor (Peak hour volume / (4*Highest 15 minutes))

Prepared For:

Gibson Traffic Consultants

K04u034-001



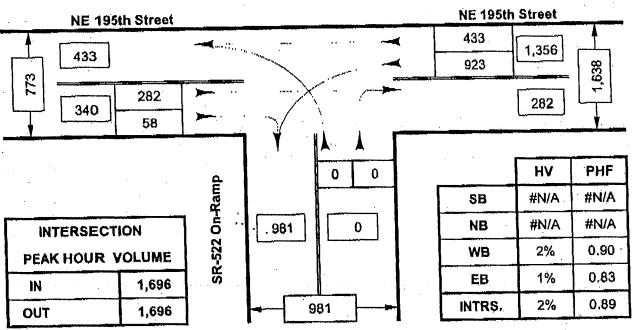
EXHIBIT 20 PAGE ALOOF SZ

TURNING MOVEMENTS DIAGRAM

4:00 - 6:00 PM PEAK HOUR:

4:30 PM TO

5:30 PM



HV = HEAVY VEHICLES PHF = PEAK HOUR FACTOR

NE 195th Street @ SR-522 On-Ramp Woodinville, WA

ZH

DATE OF COUNT:

Wed. 4/21/04

REDUCED BY:

COUNTED BY:

ÇN

TIME OF COUNT:

4:00 - 6:00 PM

DATE OF REDUCTION:

Thu. 4/22/04

WEATHER:

Sunny

TRAFFIC DATA GATHERING INTERSECTION TURNING MOVEMENTS REDUCTION SHEET

EXHIBIT 2V PAGE TOFS 2

		О	

NE 195th Street @ SR-522 On-Ramp

DATE OF COUNT:

Wed. 4/21/04

COUNTED BY:

ZH____

Woodinylile, WA

TIME OF COUNT:

4:00 - 6:00 PM WEATHER:

Sunny

TIME INTERVAL ENDING	FF	ROM NO	ORTH C	N			OUTH C				AST ON		•	, , ,	/EST O	- 1	INTERVAL TOTALS
AT	н٧	Left	Thru	Right	Н٧	Left	Thru	Right	н٧	Left	Thru	Right	н٧	Left	Thru	Right	
02:15 PM	0	0	0	Ó.	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	Q	0	0_	0	0	0_	0	0	0,	0	0	0_	0	0_	0	0	0
02:45 PM	Ö	. 0	0	0	0_	0	0	0	0	0	0	0	0	0	0	-	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	Q	0	o	0	0.	0	0_	0	0	0	0_	0	0_	0	0	0	0
03:30 PM	0	o	0	0	0	0	0	0_	0	0_	0_	0	0	0		-9-	0
03:45 PM	_0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	·
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0.	0	0	0	0
04:15 PM	0	.0	0_	0	0	0	0	0	13	212	88	0	3_	0	63	12	375
. 04:30 PM	0	0_	0_	0_	0	0	0	0	9	200	93	0	3	0	81	14	388
04:45 PM	0	0	0	0	0	0	0	0	9	254	122	0	1_1_	0	81	22	479
05:00 PM	٥	0	0	0	0	0	0	0	7	218	78	0	1_1_	0	67	14	377
05:15 PM	0	0	0	0	0	. o	0	0_	9	239	127	0	0	0	66	12	444
05:30 PM	0	0	0_	0	0	0	0	0	1_1_	212	106	0	11	0	68	10	396
05:45 PM	0	_0	0	0	0	0	0	0	11	175	110	0	2	0	59	12	356
06:00 PM	0	0	0	0	0	0	٥	0	10	141	108	0	3	0	82	4	335
PEAK HOUR	0	0	0	0	. 0	0	0	0	26	923	433	0	3	0	282	58	INTERSECTION
ALL MOVEMENTS			0				. 0				1356		 		340		1696
% HV			#N/A				#N/A				2%	•	1%				2%
PEAK HOUR FACTOR			#N/A				#N/A				0.90		0.83			0.89	

HV = Heavy Vahicles

PHF = Peak Hour Factor

4:00 - 6:00 PM PEAK HOUR:

4:30 PM TO 5:30 PM

REDUCED BY:

CN

DATE OF REDUCTION:

4/22/2004

WASHINGTON STATE DEPT OF TRANSPORTATION

Site Code : 00000522

LOCATION : SR 522 EB OFF-RAMP

JCT : NE 195TH ST

MILEPOST : 12.92

DAY TOTAL

Movements by: Primary

PAGEA XOES &

FILE: 01292PM

'ime	Fr	om Nort	h	Fr	om Eas	t	Fr	om Sou	th	Fr	om West	<u>.</u> .	Vehicle
egin	RT	THRU	LT	 RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	Total
3:30	0	0	0	 0	312	0	178	0	9	0	60	0	559
3:45	0	0	0	0	275	0 .	176	0	. 8	0	76	0	535
R TOTAL	0	0	0.	0	587	. 0	354	0	17	. 0	136	0	1094
1:00 PM	0	0	0	0	296	0	193	· Ó	13	. 0	64	0	566
1:15	0	0	0	0	313	0	164	0	12	0	73	0	562
130	. 0	0	0	0	397	0	156	0	11	0	70	0	634
1:45	0	0	0	0.	267	0	174	0	16	0	74	0	53i
R TOTAL	0	. 0	0	0,	1273	0	687	0.		0	281	,o	2293
100 PM	0	0	. 0	ο.	352	0	168		15	0	71	0	606- ·
:15	0	0	0	0	330	0	214	0	12	0	74	ò	630
5:30	0	0	0	. 0	265	0	179	0	9	0	63	0	516
145	0	0	0	0	247	0	183	0	24	0	78	0	532
R TOTAL	0	0	0	0	1194	0	744	0	60	0	286	0	2284

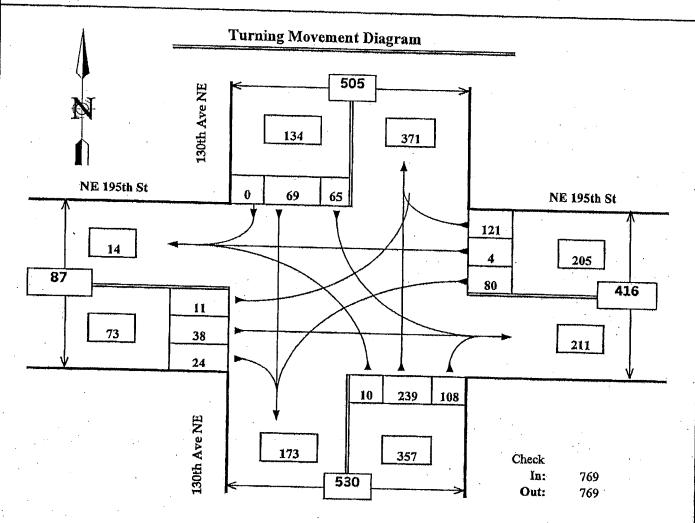
PEAK PERIOD ANALYSIS FOR THE PERIOD: 3:30 PM - 6:00 PM

DIRECTION	START	PEAK HR	· · · · ·	v oi	UMES .		· P	ERCENT	s
FROM	PEAK HOUR	FACTOR	Right	Thru	Left	Total	Right	Thru	Left
North	12:00 AM	0.00	0	0	0	. 0	0	0	0
East	4:30 PM	0.85	0	1346	0	1346	0	%100	0
South	5:00 PM	0.89	744	0	60	804	93	0	7
West	4:30 PM	0.98	0.	289	0	289	. 0	%100	0 -
			Entire	Interse	ection	•	:		
North	4:30 PM	0.00	. 0	0	o	0	0	0	0
East		0.85	. 0	1346	0	1346	0	*100	0
South	•	0.85	712	0	54	766	93	0	7
West	•	0.98	0	289	0	289	0	%1 00	. 0

 TC^{2}

Traffic Count Consultants, Inc. 13623 184th Ave NE, Woodinville, WA 98072

Phone: (425) 861-8866 FAX: (425) 861-8877



Intersection: 130th Ave NE @ NE 195th St

Location: Woodinville Date of Count: Tue 4.13.04

Peak Period: 5:00 P - 6:00 P

Checked By: Kg

Prepared For: Gibson Traffic Consultants, Inc

%HV PHF EB 0.0% 0.73 WB 1.0% 0.95 NB 0.8% 0.84 SB 0.7% 0.86 Intersection 0.8% 0.94

k04u029-001p

 TC^2

Traffic Count Consultants, Inc.

13623 184th Ave NE, Woodinville, WA 98072

Phone: (425) 861-8866 FAX; (425) 861-8877

Vehicle Volume Summary

Intersection:

130th Ave NE @ NE 195th St

Location:

Woodinville

Date of Count:

Tue 4.13.04

Checked By:

Kg

Time Interval		130t	orth on the NI	3		From Sou 130th	ith on (N. Ave NE	В)]	From E2 NE.1	st on (W 95th St	/B)	Į į		est on (I 95th St	(B)	Interva
Ending at 4:15 P	T	L L	S	R	T	L	S	R	T	L	S	R		L	S	R	Total
4:30 P	0	7	15	0	0	2	44	25	0	8	1	17	0	0	12	3	.04
4:45 P	***************************************	9	17	0	1	2	43	14	Ī	10	0	26	0	l i	7	9	134
	0	9	16	0	1	0	62	27	1	13	0	22	0		7		138
5:00 P		16	27	0	1	0	56	16	0	13	Ť	25	0	<u> </u>			158
5:15 P	1	15	12	0	0	2	55	28	0	20	2	31		2	6	3	165
5:30 P	0	18	21	0	1	3	78	25	2	19	0		0	4	13	6	188
5:45 P	0	18	15 ·	0	2	3	55	29	0	-	U	27	0	2	6	5	204
6:00 P	0	14	21	0	0	2	-51	26		23	1	30	0	4	10	11	199
6:15 P	0	0	0	0	0	0	0		0	18		33	0	. 1	9	2	178
6:30 P	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
6:45 P	Ö	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					-0	0 .	0	0	0	0	0	0	0	0	0	0	0
Total	-																
Survey	3	106	144	. 0	6	14	444	190	4	124	6	211	0	15	70	40	1364
				5:00 P	to	6:00 P	Peak I	lour Su	mmarv						1501		
Total	1	65	69	0	3	10	239	108	2	80	4	121	0	11	38	24	
pproach		134.				357				205	-7	1,21		769			
%HV		1%			1%					1%	·		·	73			769
PHF		0.86				0,84				0.95			. 0%				1%
					-	A STATE OF THE PERSON NAMED IN			·					0.73			0.94

Legend:

T= Number of heavy vehicles (greater than 4 wheels)

L= Left -Turn S= Straight R= Right-Turn

HV= Heavy Vehicles

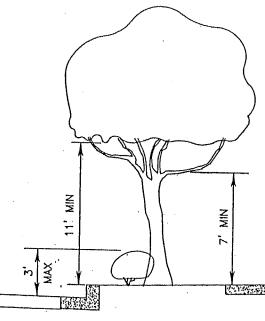
PHF= Peak hour Factor (Peak hour volume / (4*Highest 15 minutes))

Prepared For:

Gibson Traffic Consultants, Inc

k04u029-001p

EXHIBIT 24



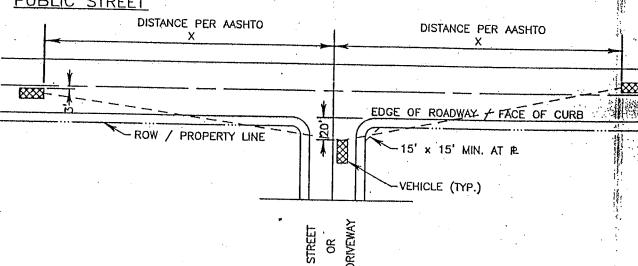
NOTES:

- FOLIAGE AT MATURITY AND BERM, IF ANY, SHALL NOT EXCEED 3 FT IN HEIGHT.
- A VISUAL CLEARANCE FROM THE STREET TO 11 FT IN HEIGHT SHALL BE MAINTAINED WITH ALL TREE FOLIAGE WITHIN THE SITE TRIANGLE.
- A VISUAL CLEARANCE FROM THE SIDEWALK TO 7 FT IN HEIGHT SHALL BE MAINTAINED WITH ALL TREE FOLIAGE WITHIN THE SITE TRIANGLE.

AASHTO

POSTED SPEED LIMIT (MPH)	DESIGN SPEED (MPH)	MINIMUM X (DISTANCE (FT)
25 30 35 40 45 50	30 35 40 45 50	200' 250' 325' 400' 475'
55	55 60	550 ' 650 '

PUBLIC STREET



City of Woodinville

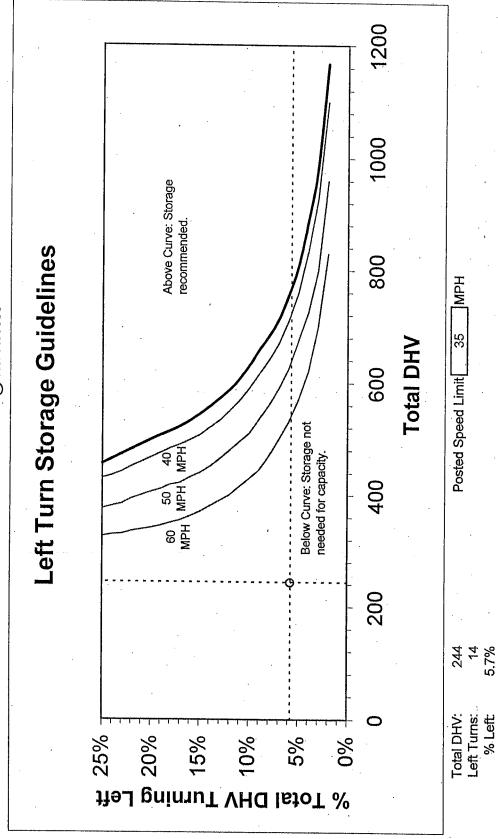
DEPARTMENT OF PUBLIC WORKS

DRIVEWAY & INTERSECTION SITE TRIANGLES

revision date NOV, 98

GIBSON TRAFFIC CONSULTANTS

NE 205th Street @ Site Access



MPH 35 Posted Speed Limit

244 14 5.7%

Based on WSDOT September 2002 Design Manual: Figure 910-10a, Page 910-20.