GIBSON TRAFFIC CONSULTANTS
TRAFFIC ENGINEERING • TRANSPORTATION PLANNING
1712 PACIFIC AVENUE • SUITE 100 • EVERETT, WA 98201 • PH: (425) 339-8266 • FAX: (425) 258-2922

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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**.

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

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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.

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Trip Distribution and Assignment

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**.

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

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**

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

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.

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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.

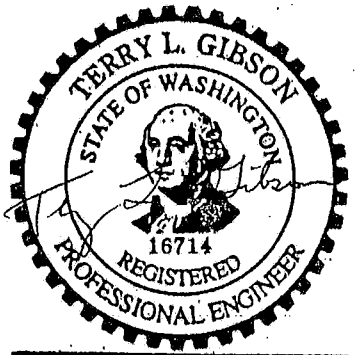
Sincerely,

GIBSON TRAFFIC CONSULTANTS, INC.

Edward T. Koltonowski
Senior Traffic Engineer

Attachments

CC: Randolf Cherewick of Lakewood Construction



EXPIRES 9/29/05

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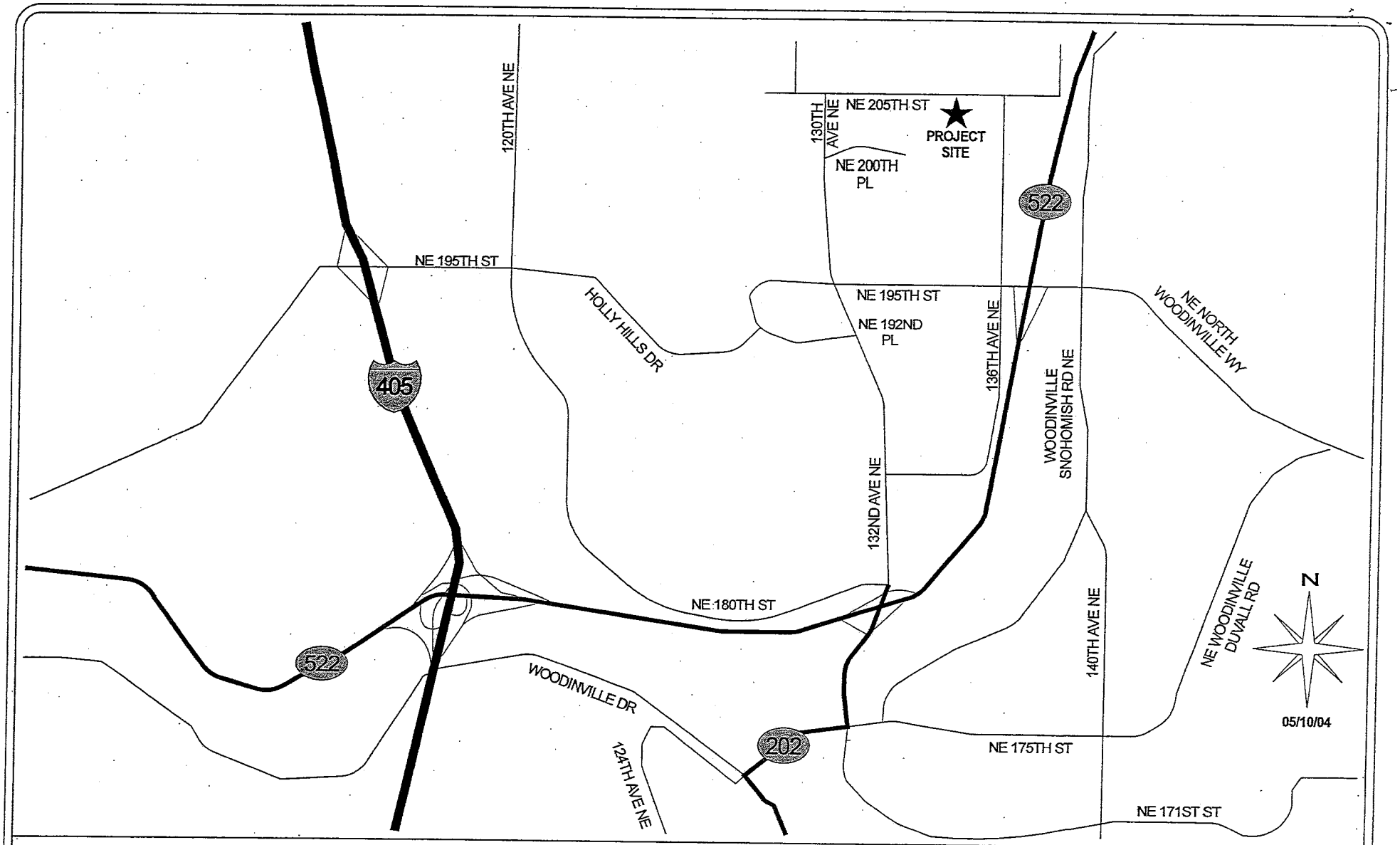

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TRAFFIC IMPACT STUDY
GTC # 04-073

GEORGIAN HEIGHTS
PHASE IV
45 NEW SFD

CITY OF WOODINVILLE

FIGURE 1
SITE VICINITY MAP

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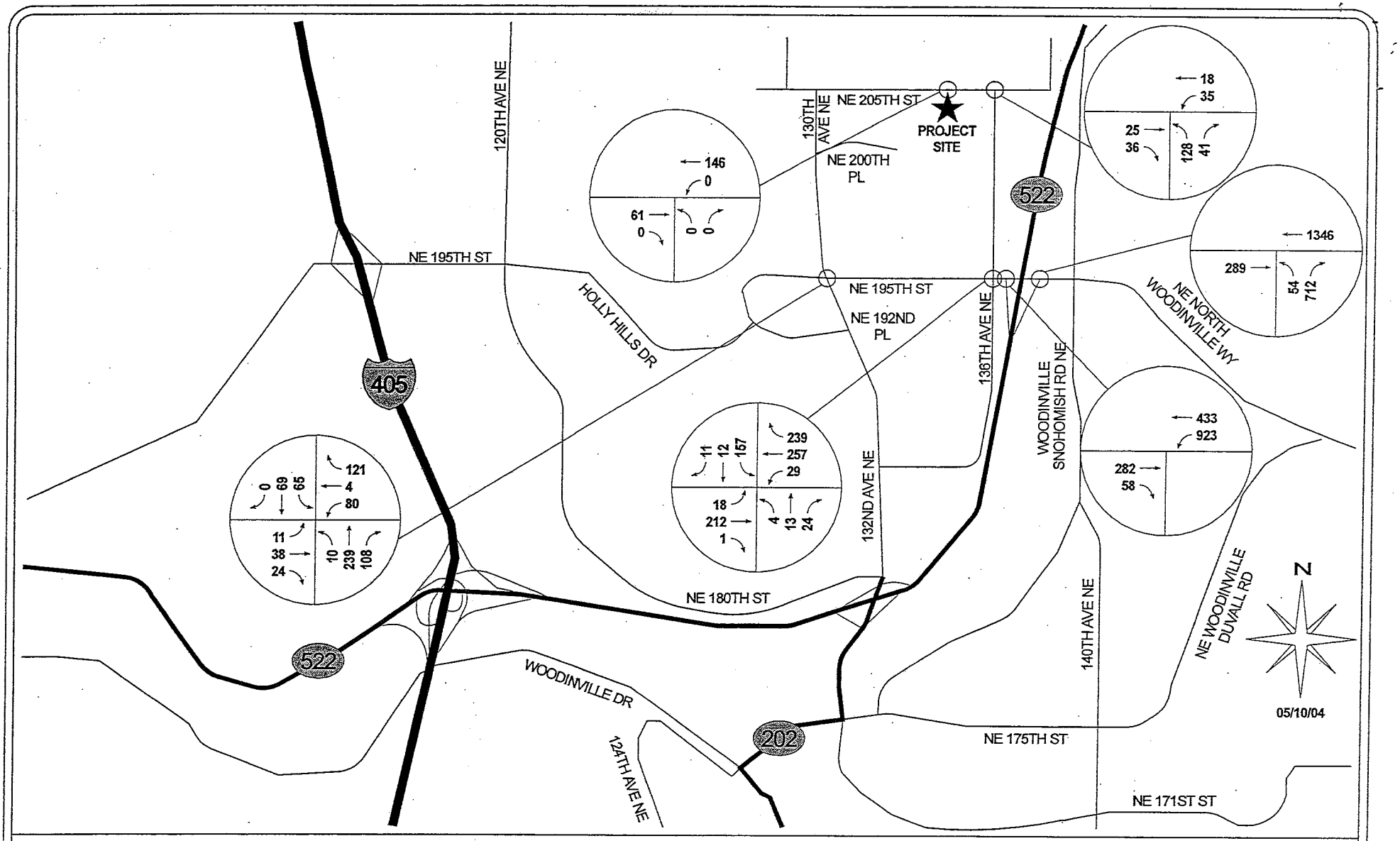

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TRAFFIC IMPACT STUDY
GTC # 04-073

GEORGIAN HEIGHTS
PHASE IV
45 NEW SFD

CITY OF WOODINVILLE

LEGEND

XX → PM PEAK HOUR TURNING MOVEMENT VOLUMES

FIGURE 2
2003 EXISTING TURNING MOVEMENT VOLUMES

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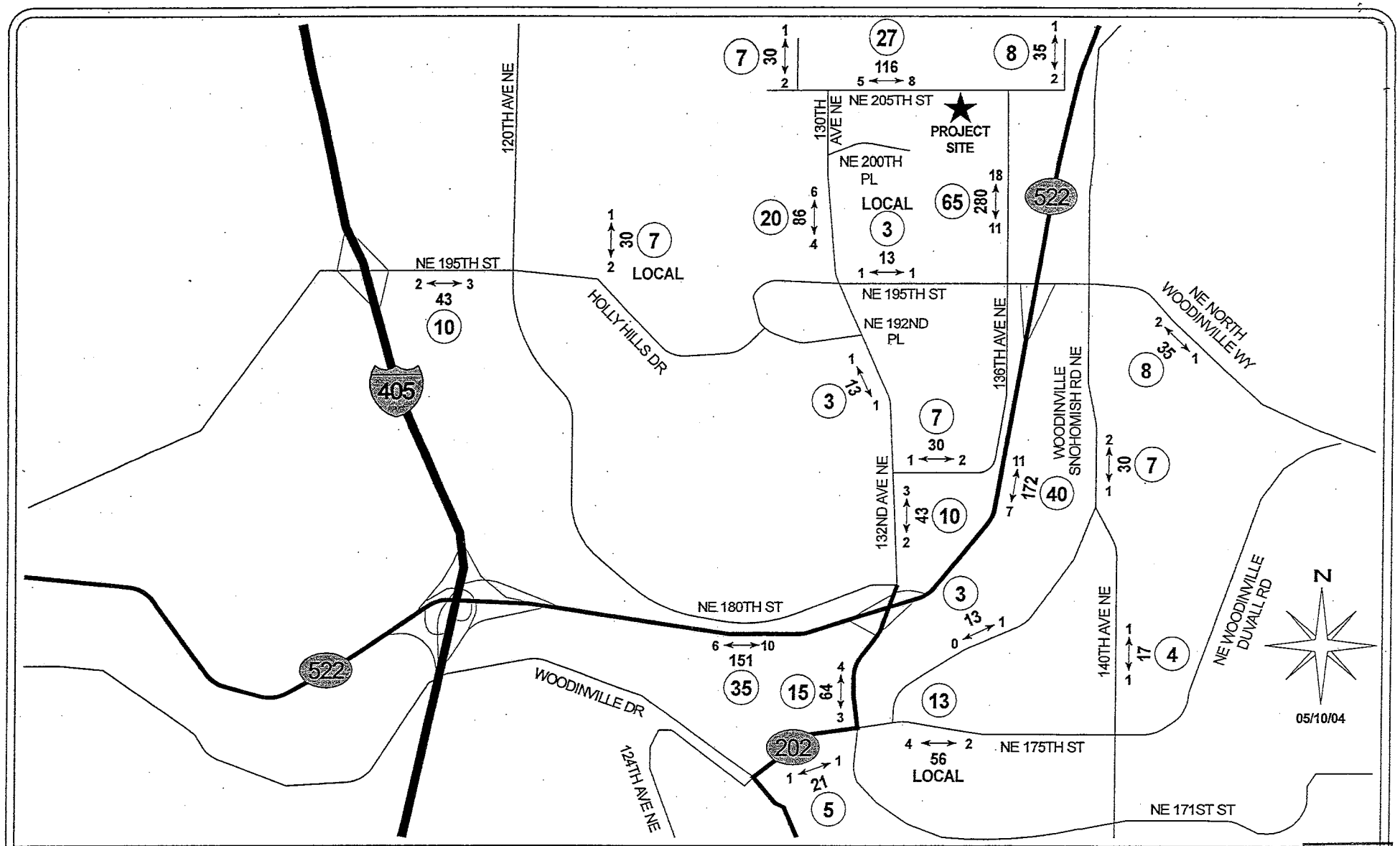

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TRAFFIC IMPACT STUDY
GTC # 04-073

GEORGIAN HEIGHTS
PHASE IV
45 NEW SFD

CITY OF WOODINVILLE

LEGEND
AWDT
PM ⟷ PEAK — NEW SITE TRAFFIC (DAILY/PEAK HOUR)
(25) — TRIP DISTRIBUTION %

FIGURE 3
DEVELOPMENT TRIP DISTRIBUTION

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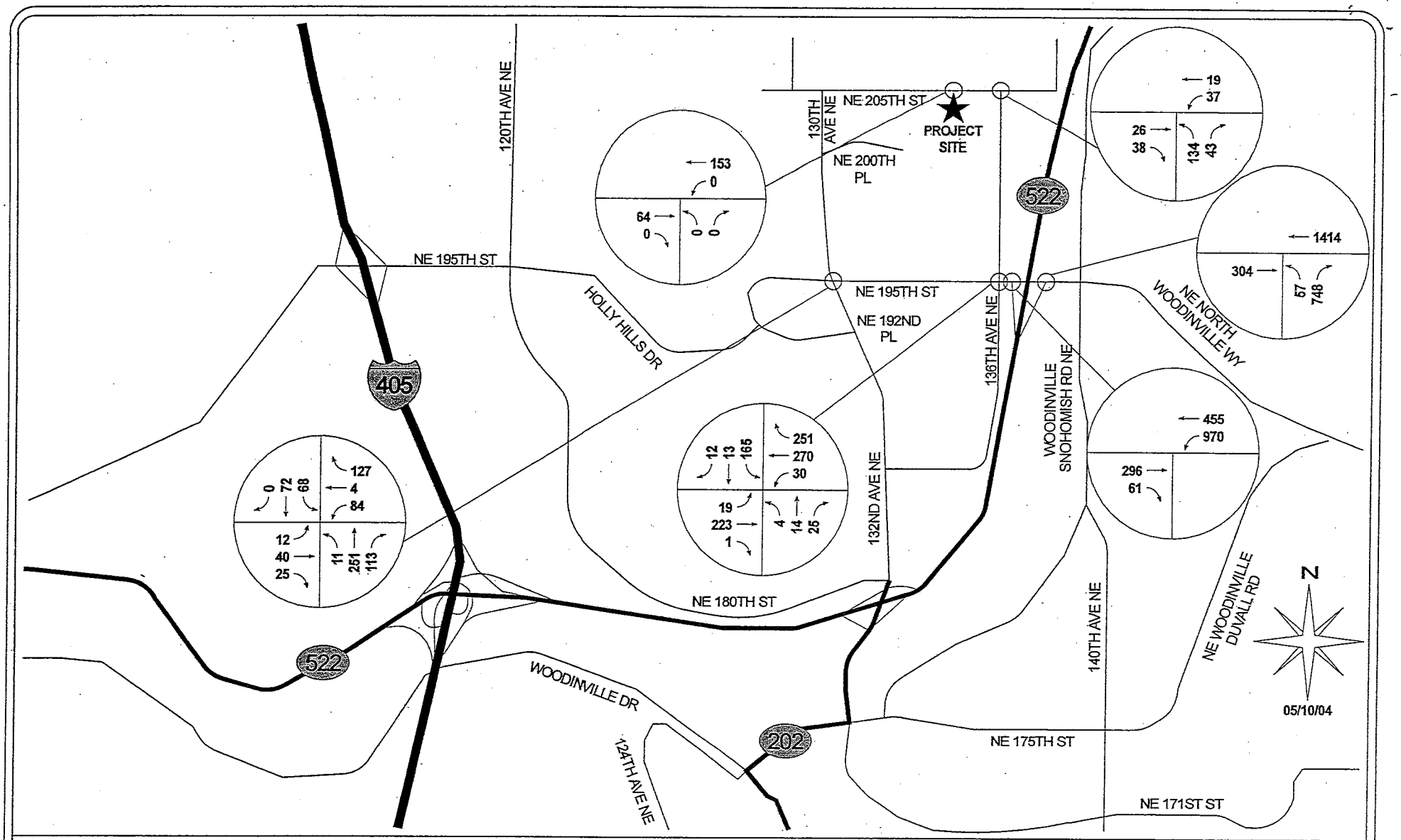

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TRAFFIC IMPACT STUDY
GTC # 04-073

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CITY OF WOODINVILLE

LEGEND

XX → PM PEAK HOUR TURNING MOVEMENT VOLUMES

FIGURE 4
2006 BASELINE
TURNING MOVEMENT VOLUMES

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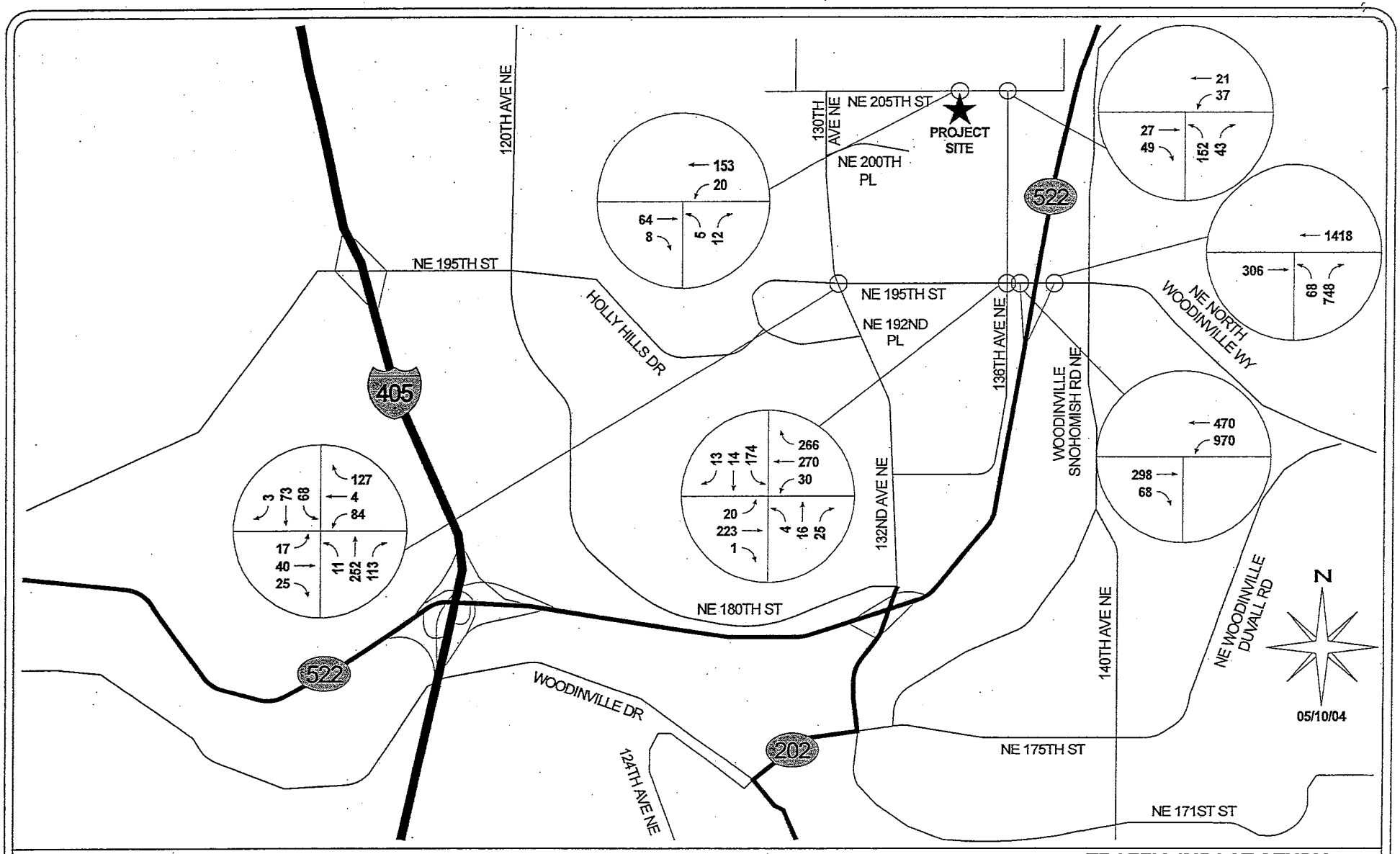

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GEORGIAN HEIGHTS
PHASE IV
45 NEW SFD

CITY OF WOODINVILLE

LEGEND

XX → PM PEAK HOUR TURNING MOVEMENT VOLUMES

FIGURE 5
2006 FUTURE WITH DEVELOPMENT
TURNING MOVEMENT VOLUMES

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TABLE 1

INTERSECTION LEVEL OF SERVICE (LOS) CRITERIA

Level of Service [1]	Expected Delay	Control Delay (Seconds per Vehicle)	
		Unsignalized Intersections	**Signalized** Intersections
A	Little/No Delay	≤10	≤10
B	Short Delays	>10 and ≤15	>10 and ≤20
C	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.

[1] 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.

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TABLE 2

EXISTING LEVEL OF SERVICE
Weekday PM Peak-Hour

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

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TABLE 3

TRIP GENERATION SUMMARY

Proposed Land Use	Size	Average Daily Trips	PM Peak-Hour 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

Intersection	EXISTING CONDITIONS		FUTURE 2006 CONDITIONS [1]			
			Baseline		w. Development	
	LOS	Delay	LOS	Delay	LOS	Delay
1. NE 205th Street @ 136th Avenue NE	B	10.2 sec	B	10.3 sec	B	10.6 sec
2. NE 195th Street @ 136th Avenue NE	C	17.7 sec	C	20.5 sec	C	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	E	42.3 sec	E	42.5 sec
5. NE 195th Street @ 130th Avenue NE	B	11.3 sec	B	11.9 sec	B	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	1.00%	$5,994.58
NE 195th Street @ SR-522 EB Off-Ramp			2,523	2,540		

Total **$30,710.49**

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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: 5/8/2004
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	**Quantity**	**Units of Measure**	**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 Factors (%)		ADT	PM Peak Hour Trips		
	ADT	Peak Hour	Total	Total	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	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

Table to Check for Rounding Inaccuracies

	Trip Factors (%)		ADT	PM Peak Hour Trips		
	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

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Georgian Heights Phase IV
GTC #04-073

PM Peak-Hour

%	New ADT	New PM Peak Hour Trips		
		In	Out	Total
100%	431	28	17	45
1%	4.31	0.28	0.17	0.45
2%	8.61	0.56	0.34	0.90
3%	12.92	0.84	0.51	1.35
4%	17.23	1.12	0.68	1.80
5%	**21.53**	**1.40**	**0.85**	**2.25**
6%	25.84	1.68	1.02	2.70
7%	30.15	1.96	1.19	3.15
8%	34.45	2.24	1.36	3.60
9%	38.76	2.52	1.53	4.05
10%	**43.07**	**2.80**	**1.70**	**4.50**
11%	47.37	3.08	1.87	4.95
12%	51.68	3.36	2.04	5.40
13%	55.98	3.64	2.21	5.85
14%	60.29	3.92	2.38	6.30
15%	**64.60**	**4.20**	**2.55**	**6.75**
16%	68.90	4.48	2.72	7.20
17%	73.21	4.76	2.89	7.65
18%	77.52	5.04	3.06	8.10
19%	81.82	5.32	3.23	8.55
20%	**86.13**	**5.60**	**3.40**	**9.00**
21%	90.44	5.88	3.57	9.45
22%	94.74	6.16	3.74	9.90
23%	99.05	6.44	3.91	10.35
24%	103.36	6.72	4.08	10.80
25%	**107.66**	**7.00**	**4.25**	**11.25**
26%	111.97	7.28	4.42	11.70
27%	116.28	7.56	4.59	12.15
28%	120.58	7.84	4.76	12.60
29%	124.89	8.12	4.93	13.05
30%	**129.20**	**8.40**	**5.10**	**13.50**
31%	133.50	8.68	5.27	13.95
32%	137.81	8.96	5.44	14.40
33%	142.11	9.24	5.61	14.85
34%	146.42	9.52	5.78	15.30
35%	**150.73**	**9.80**	**5.95**	**15.75**
36%	155.03	10.08	6.12	16.20
37%	159.34	10.36	6.29	16.65
38%	163.65	10.64	6.46	17.10
39%	167.95	10.92	6.63	17.55
40%	**172.26**	**11.20**	**6.80**	**18.00**
41%	176.57	11.48	6.97	18.45
42%	180.87	11.76	7.14	18.90
43%	185.18	12.04	7.31	19.35
44%	189.49	12.32	7.48	19.80
45%	**193.79**	**12.60**	**7.65**	**20.25**
46%	198.10	12.88	7.82	20.70
47%	202.41	13.16	7.99	21.15
48%	206.71	13.44	8.16	21.60
49%	211.02	13.72	8.33	22.05
50%	**215.33**	**14.00**	**8.50**	**22.50**

%	New ADT	New PM Peak Hour Trips		
		In	Out	Total
100%	431	28	17	45
51%	219.63	14.28	8.67	22.95
52%	223.94	14.56	8.84	23.40
53%	228.24	14.84	9.01	23.85
54%	232.55	15.12	9.18	24.30
55%	**236.86**	**15.40**	**9.35**	**24.75**
56%	241.16	15.68	9.52	25.20
57%	245.47	15.96	9.69	25.65
58%	249.78	16.24	9.86	26.10
59%	254.08	16.52	10.03	26.55
60%	**258.39**	**16.80**	**10.20**	**27.00**
61%	262.70	17.08	10.37	27.45
62%	267.00	17.36	10.54	27.90
63%	271.31	17.64	10.71	28.35
64%	275.62	17.92	10.88	28.80
65%	**279.92**	**18.20**	**11.05**	**29.25**
66%	284.23	18.48	11.22	29.70
67%	288.54	18.76	11.39	30.15
68%	292.84	19.04	11.56	30.60
69%	297.15	19.32	11.73	31.05
70%	**301.46**	**19.60**	**11.90**	**31.50**
71%	305.76	19.88	12.07	31.95
72%	310.07	20.16	12.24	32.40
73%	314.37	20.44	12.41	32.85
74%	318.68	20.72	12.58	33.30
75%	**322.99**	**21.00**	**12.75**	**33.75**
76%	327.29	21.28	12.92	34.20
77%	331.60	21.56	13.09	34.65
78%	335.91	21.84	13.26	35.10
79%	340.21	22.12	13.43	35.55
80%	**344.52**	**22.40**	**13.60**	**36.00**
81%	348.83	22.68	13.77	36.45
82%	353.13	22.96	13.94	36.90
83%	357.44	23.24	14.11	37.35
84%	361.75	23.52	14.28	37.80
85%	**366.05**	**23.80**	**14.45**	**38.25**
86%	370.36	24.08	14.62	38.70
87%	374.67	24.36	14.79	39.15
88%	378.97	24.64	14.96	39.60
89%	383.28	24.92	15.13	40.05
90%	**387.59**	**25.20**	**15.30**	**40.50**
91%	391.89	25.48	15.47	40.95
92%	396.20	25.76	15.64	41.40
93%	400.50	26.04	15.81	41.85
94%	404.81	26.32	15.98	42.30
95%	**409.12**	**26.60**	**16.15**	**42.75**
96%	413.42	26.88	16.32	43.20
97%	417.73	27.16	16.49	43.65
98%	422.04	27.44	16.66	44.10
99%	426.34	27.72	16.83	44.55
100%	**430.65**	**28.00**	**17.00**	**45.00**

EXHIBIT 2D
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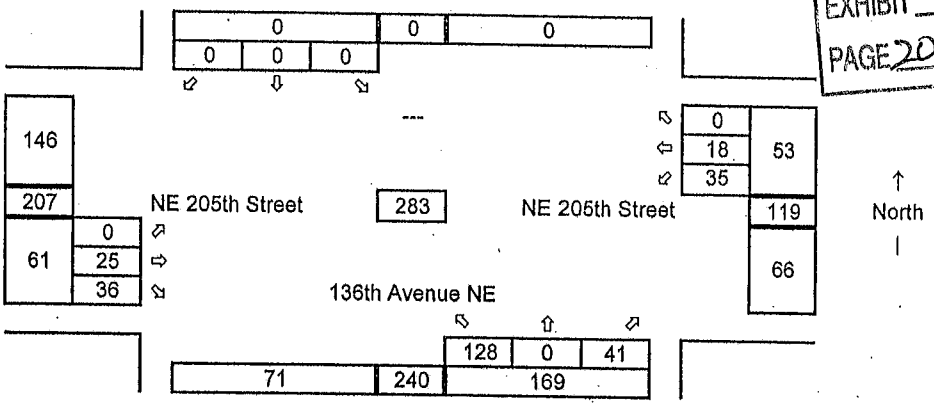
Synchro ID: 1
Existing
Average Weekday
PM Peak Hour

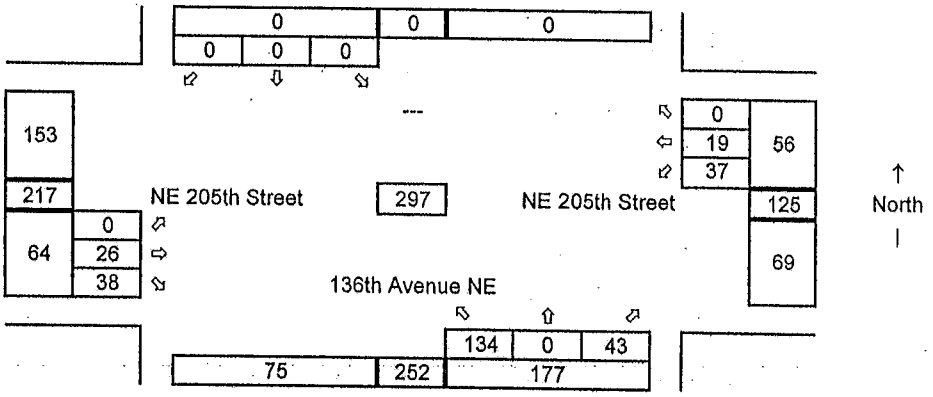
Date **4/28/2004**

Data Source: **TCC**

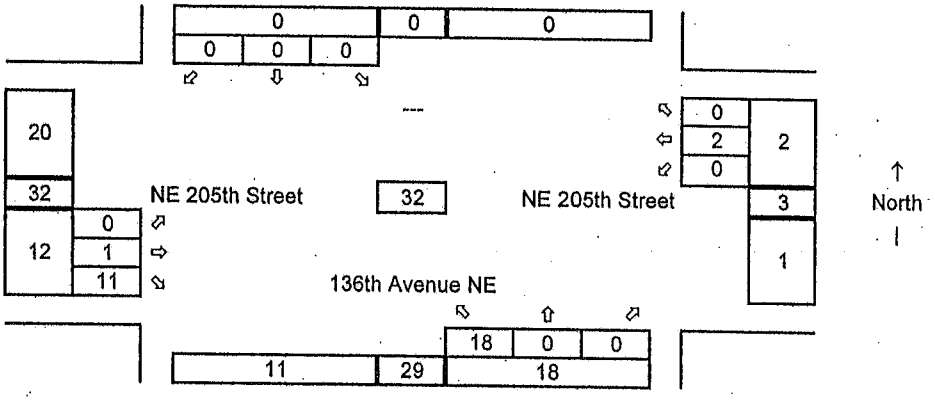


Future without Development
Average Weekday
PM Peak Hour

Year: 2006
Growth Rate = 2.5%
Years of Growth = 2
Total Growth = 1.0506



Total Development Trips
Average Weekday
PM Peak Hour



Future with Project
Average Weekday
PM Peak Hour

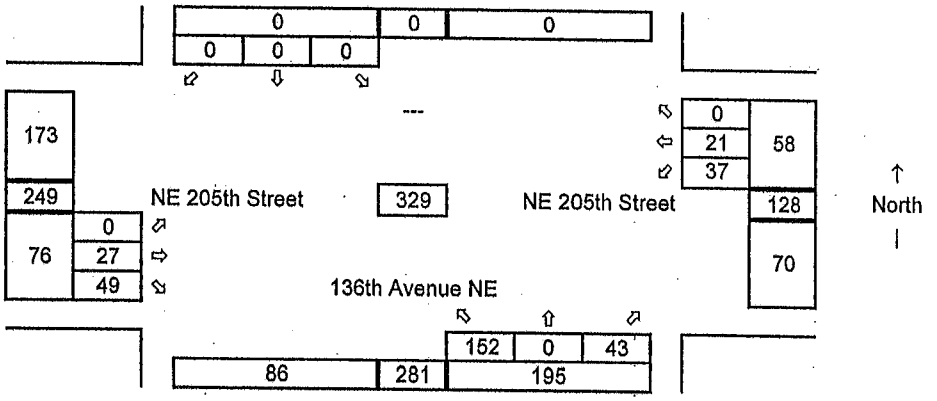


EXHIBIT 2D
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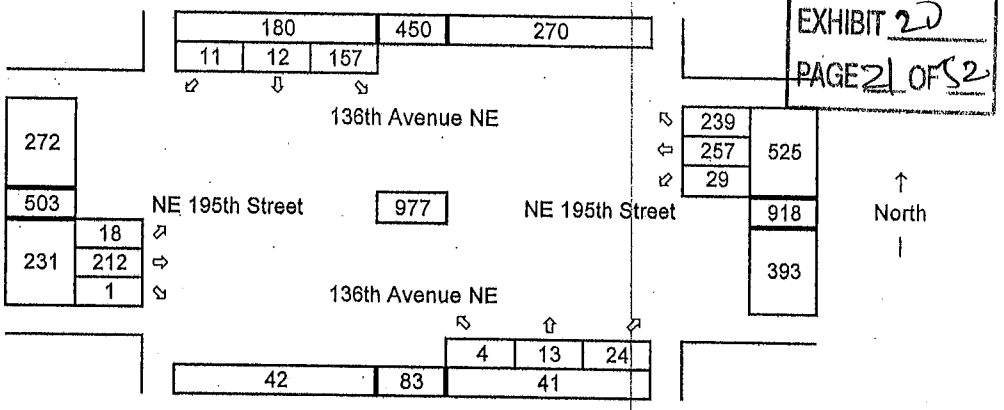
Synchro ID: 2
Existing
Average Weekday
PM Peak Hour

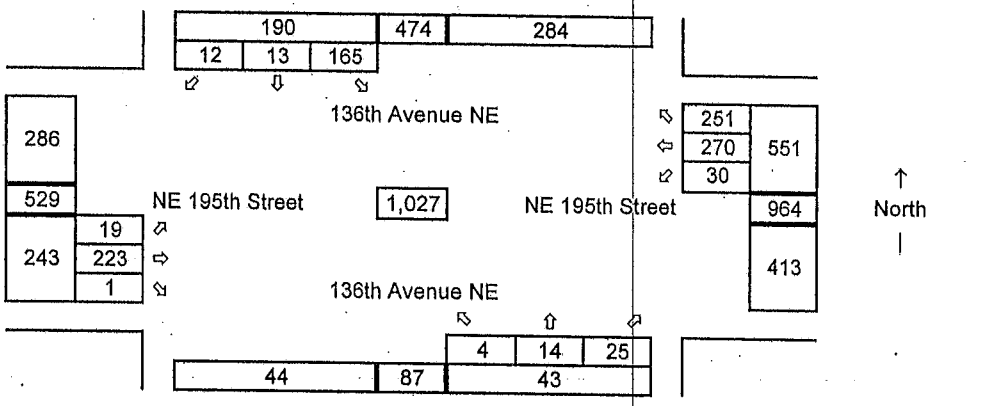
Date **4/28/2004**

Data Source: **TCC**

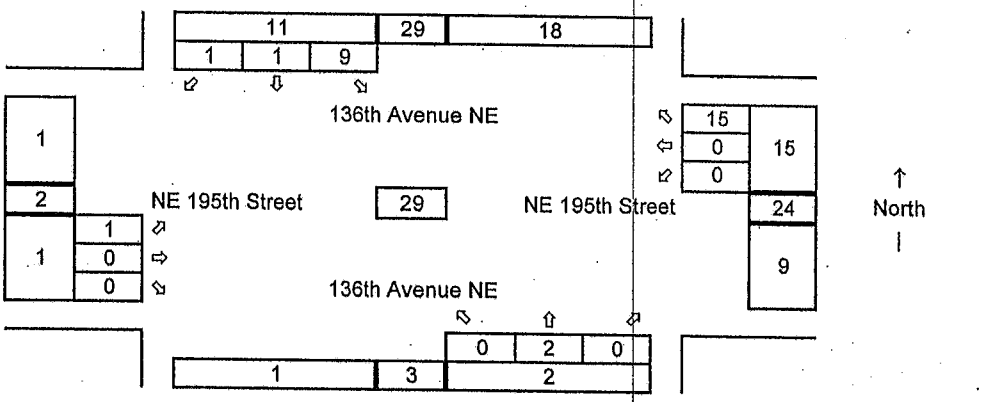


Future without Development
Average Weekday
PM Peak Hour

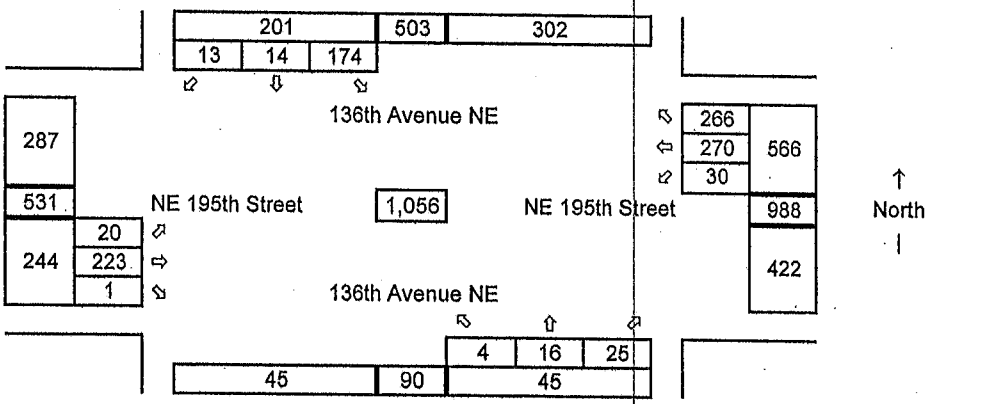
Year: 2006
Growth Rate = 2.5%
Years of Growth = 2
Total Growth = 1.0506



Total Development Trips
Average Weekday
PM Peak Hour



Future with Project
Average Weekday
PM Peak Hour



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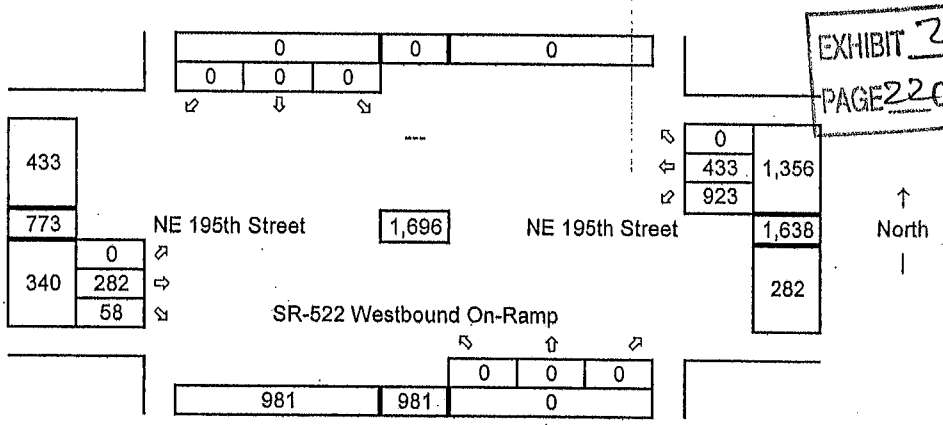
Synchro ID: 3
Existing
Average Weekday
PM Peak Hour

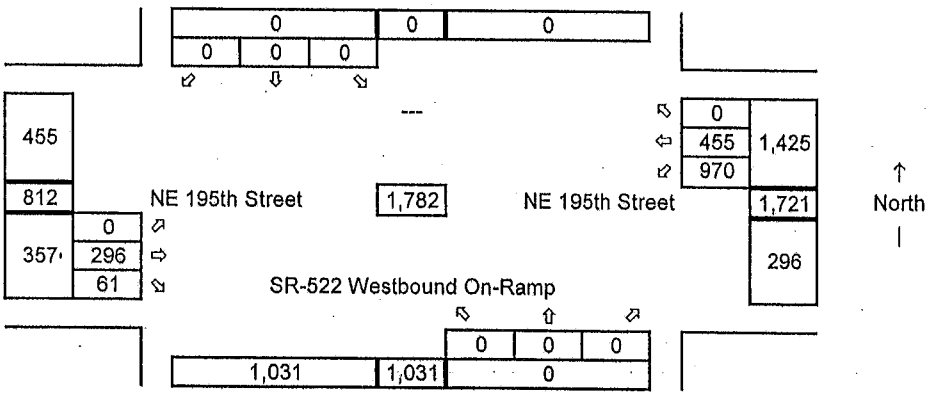
Date **4/21/2004**

Data Source: **TDG**

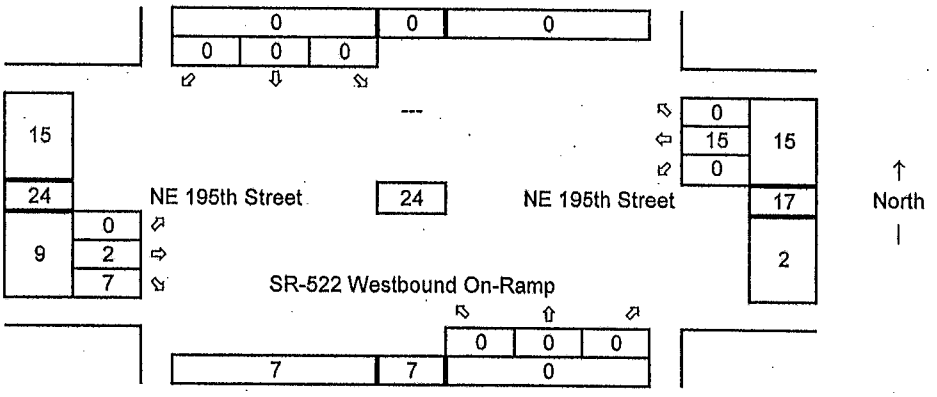


Future without Development
Average Weekday
PM Peak Hour

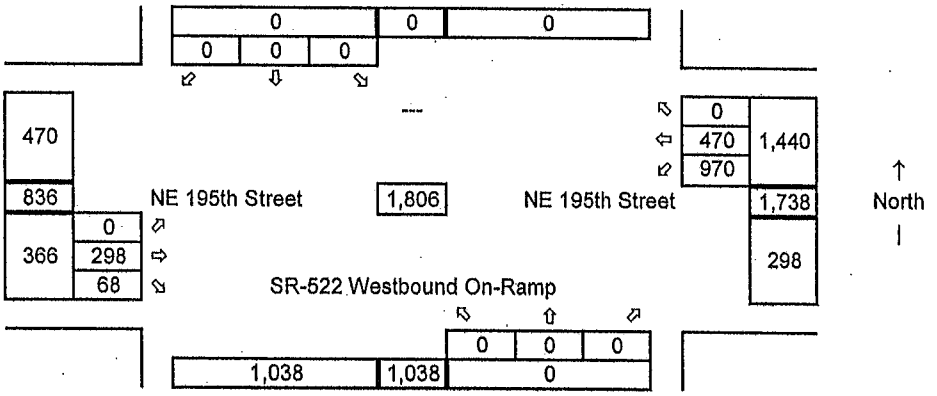
Year: 2006
Growth Rate = 2.5%
Years of Growth = 2
Total Growth = 1.0506



Total Development Trips
Average Weekday
PM Peak Hour



Future with Project
Average Weekday
PM Peak Hour



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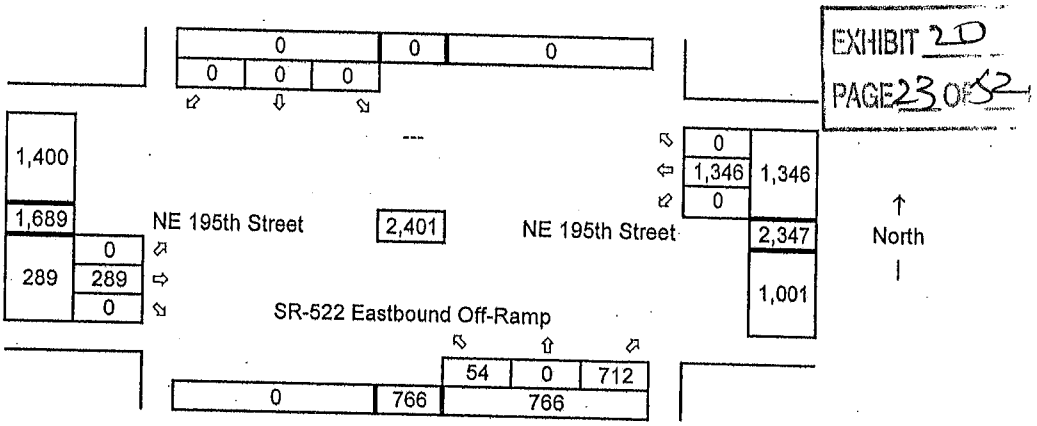
Synchro ID: 4
Existing
Average Weekday
PM Peak Hour

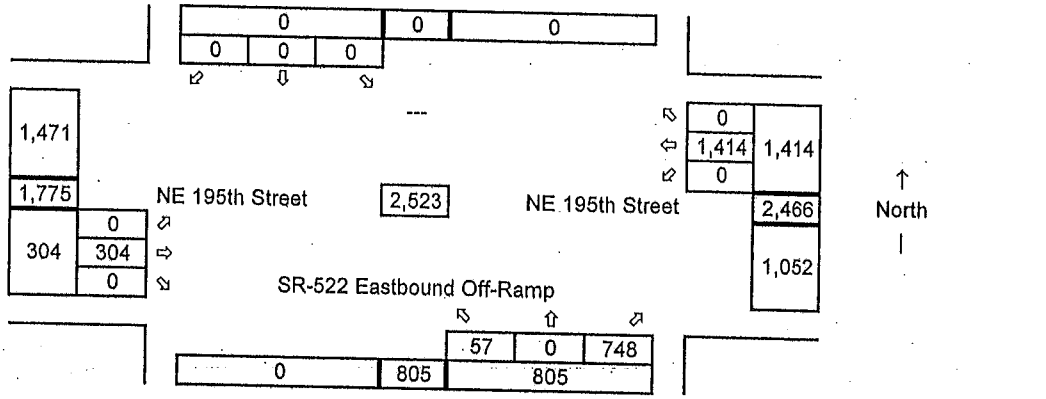
Date **4/7/2004**

Data Source: **WSDOT**

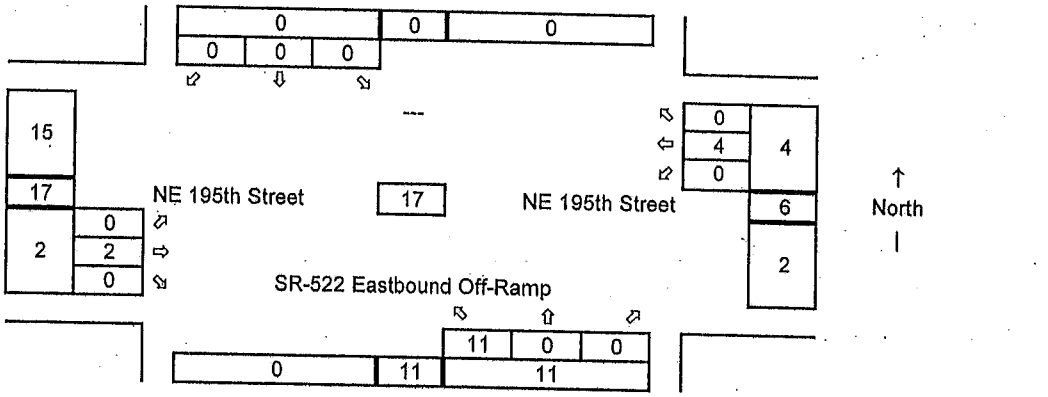


Future without Development
Average Weekday
PM Peak Hour

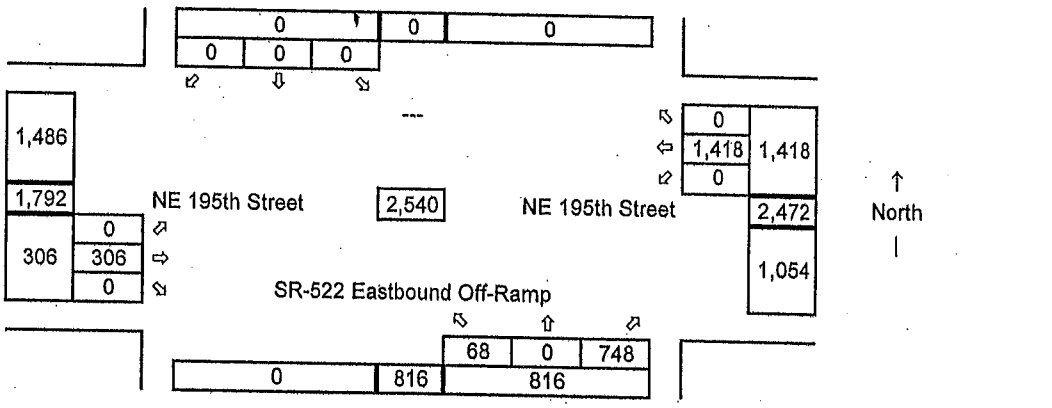
Year: 2006
Growth Rate = 2.5%
Years of Growth = 2
Total Growth = 1.0506



Total Development Trips
Average Weekday
PM Peak Hour



Future with Project
Average Weekday
PM Peak Hour



Synchro ID: 5
Existing
Average Weekday
PM Peak Hour

Date 4/13/2004

Data Source: TCC

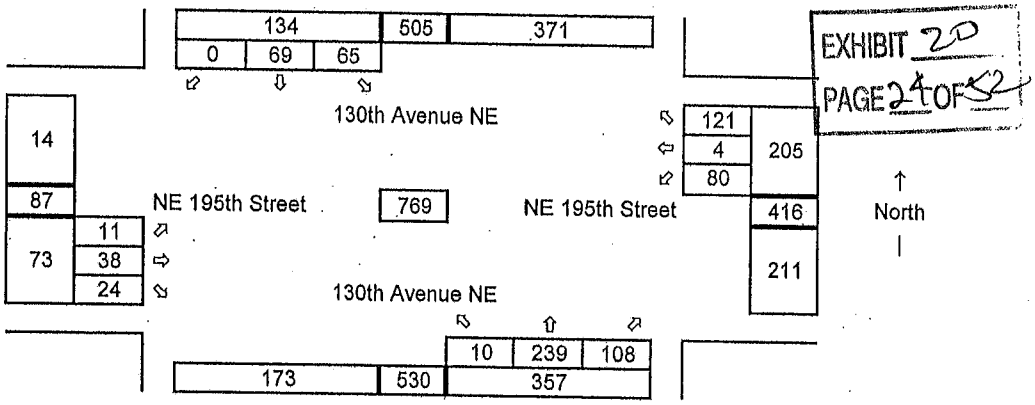


EXHIBIT 2D
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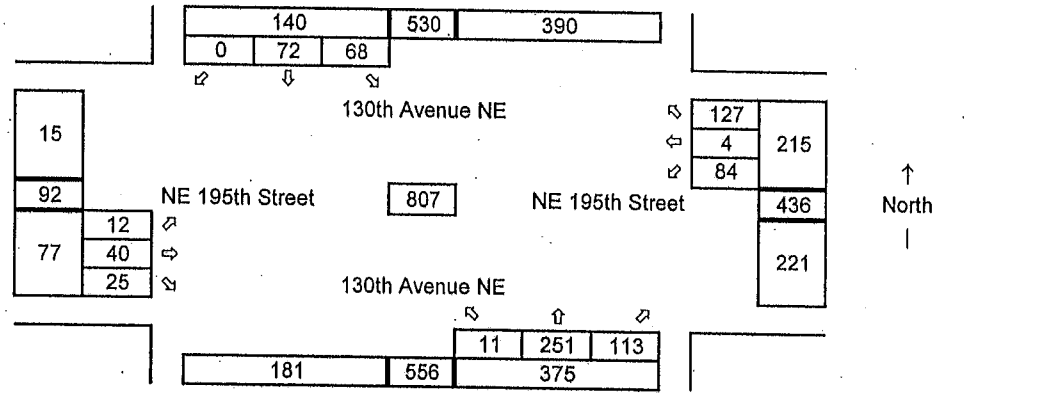
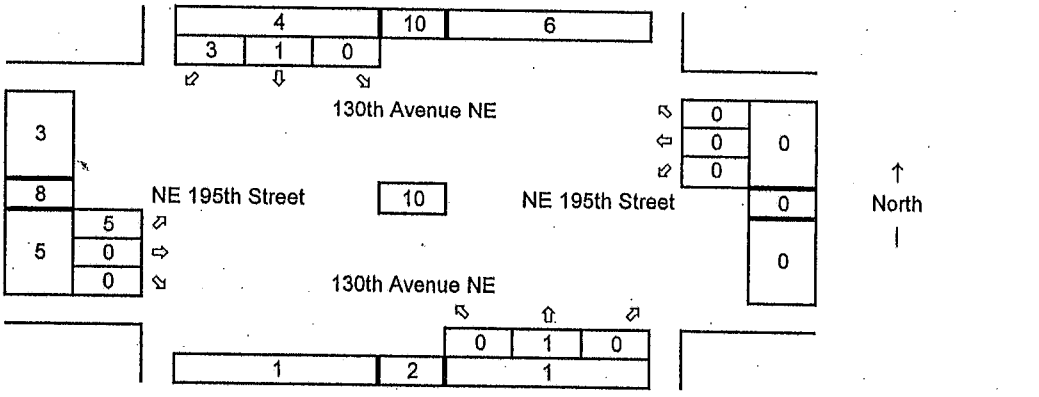
Future without Development
Average Weekday
PM Peak Hour

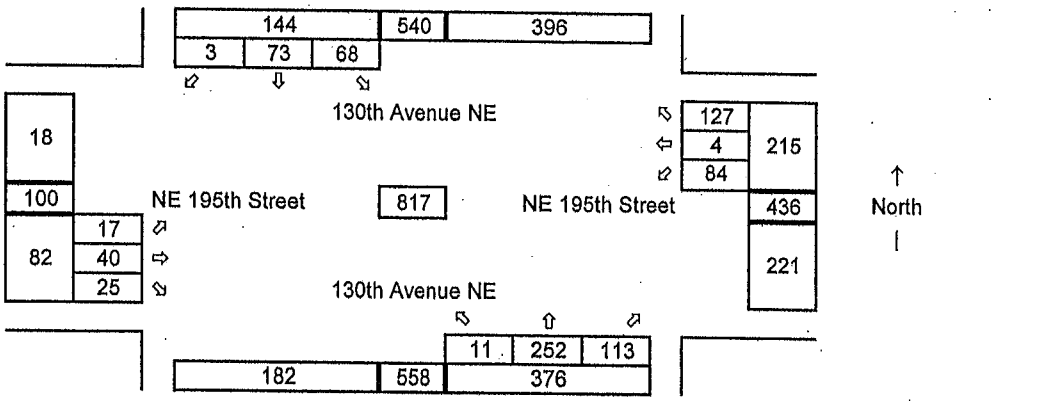
Year: 2006
Growth Rate = 2.5%
Years of Growth = 2
Total Growth = 1.0506



Total Development Trips
Average Weekday
PM Peak Hour



Future with Project
Average Weekday
PM Peak Hour



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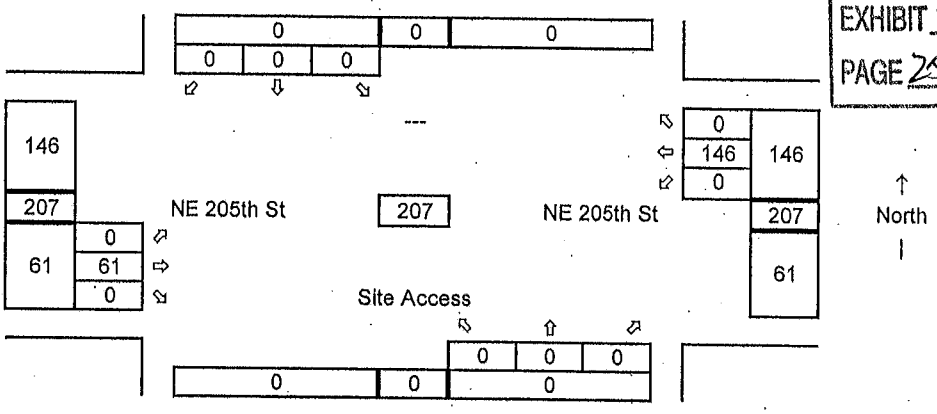
Synchro ID: 6
Existing
Average Weekday
PM Peak Hour

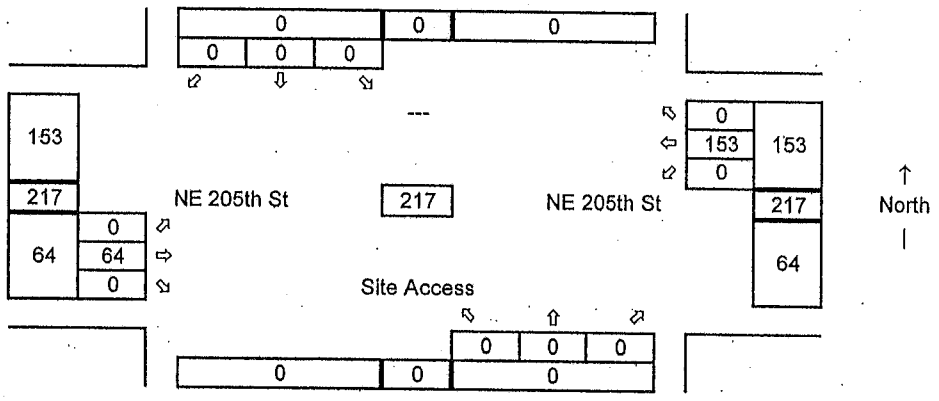
Date **4/28/2004**

Data Source: **TCC**

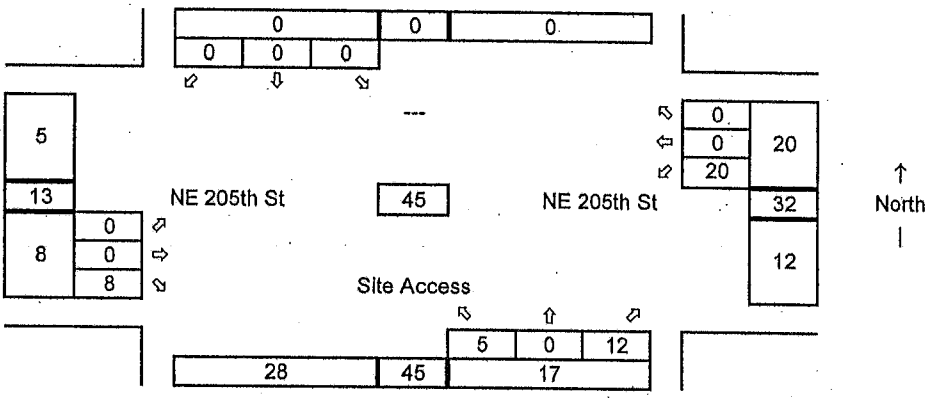


Future without Development
Average Weekday
PM Peak Hour

Year: 2006
Growth Rate = 2.5%
Years of Growth = 2
Total Growth = 1.0506



Total Development Trips
Average Weekday
PM Peak Hour



Future with Project
Average Weekday
PM Peak Hour

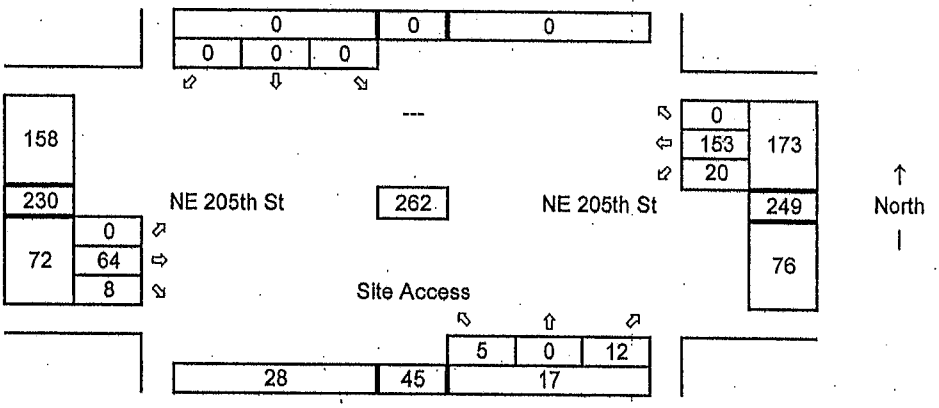


EXHIBIT 2P
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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	Brad Lincoln	Intersection	NE 205th Ave @ 136th St NE
Agency/Co.	Gibson Traffic Consultants	Jurisdiction	City of Woodinville
Date Performed	5/4/2004	Analysis Year	2003
Analysis Time Period	PM Peak-Hour		

Project Description: 2003 Existing Conditions (04-073)

East/West Street: NE 205th Street | North/South Street: 136th Street NE

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	25	36	35	18	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate (veh/h)	0	27	39	38	19	0
Proportion of heavy vehicles, P_{HV}	0	--	--	1	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (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, P_{HV}	1	0	1	0	0	0
Percent grade (%)	0			0		
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
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				
LOS		A		B				
Approach delay (s/veh)	--	--	10.2					
Approach LOS	--	--	B					

EXHIBIT 20
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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	Brad Lincoln	Intersection	NE 205th Ave @ 136th St NE
Agency/Co.	Gibson Traffic Consultants	Jurisdiction	City of Woodinville
Date Performed	5/4/2004	Analysis Year	2006
Analysis Time Period	PM Peak-Hour		

Project Description: 2006 Baseline Conditions (04-073)

East/West Street: NE 205th Street | North/South Street: 136th Street NE

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	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	0.92
Hourly Flow Rate (veh/h)	0	28	41	40	20	0
Proportion of heavy vehicles, P_{HV}	0	--	--	1	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	134	0	43	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate (veh/h)	145	0	46	0	0	0
Proportion of heavy vehicles, P_{HV}	1	0	1	0	0	0
Percent grade (%)	0			0		
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
Volume, v (vph)		40		191				
Capacity, c_m (vph)		1538		865				
v/c ratio		0.03		0.22				
Queue length (95%)		0.08		0.84				
Control Delay (s/veh)		7.4		10.3				
LOS		A		B				
Approach delay (s/veh)	--	--	10.3					
Approach LOS	--	--	B					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Brad Lincoln*	Intersection	*NE 205th Ave @ 136th St NE*
Agency/Co.	*Gibson Traffic Consultants*	Jurisdiction	*City of Woodinville*
Date Performed	*5/4/2004*	Analysis Year	*2006*
Analysis Time Period	*PM Peak-Hour*		

Project Description *2006 Future Conditions with Development (04-073)*

East/West Street: *NE 205th Street*	North/South Street: *136th Street NE*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*27*	*49*	*37*	*21*	*0*
Peak-hour factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate (veh/h)	*0*	*29*	*53*	*40*	*22*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	--	--	*1*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration			*TR*	*LT*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	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*
Hourly Flow Rate (veh/h)	*165*	*0*	*46*	*0*	*0*	*0*
Proportion of heavy vehicles, P_{HV}	*1*	*0*	*1*	*0*	*0*	*0*
Percent grade (%)		*0*			*0*	
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*LT*		*LR*				
Volume, v (vph)		*40*		*211*				
Capacity, c_m (vph)		*1522*		*850*				
v/c ratio		*0.03*		*0.25*				
Queue length (95%)		*0.08*		*0.98*				
Control Delay (s/veh)		*7.4*		*10.6*				
LOS		*A*		*B*				
Approach delay (s/veh)	--	--	*10.6*					
Approach LOS	--	--	*B*					

EXHIBIT 20
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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	Brad Lincoln
Agency/Co.	Gibson Traffic Consultants
Date Performed	5/4/2004
Analysis Time Period	PM Peak-Hour

Site Information

Intersection	195th St @ 136th Ave
Jurisdiction	City of Woodinville
Analysis Year	2003

Project ID 2003 Existing Conditions (04-073)

East/West Street: NE 195th Street

North/South Street: 136th Avenue NE

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	18	212	1	29	257	239
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	4	13	24	157	12	11
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		L	TR	L	TR
PHF	0.92		0.92		0.92	0.92	0.92	0.92
Flow Rate	250		569		4	40	170	24
% Heavy Vehicles								
No. Lanes	1		1		2		2	
Geometry Group	2		2		5		5	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

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								
hLT-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
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	5.56		5.56		5.56	5.56	5.56	5.56

Departure Headway and Service Time

hd, initial value	3.20		3.20		3.20	3.20	3.20	3.20
x, initial	0.22		0.51		0.00	0.04	0.15	0.02
hd, final value	5.56		5.56		5.56	5.56	5.56	5.56
x, final value	0.39		0.77		0.01	0.07	0.34	0.04
Move-up time, m	2.0		2.0		2.3		2.3	
Service Time	3.6		3.6		3.6		3.6	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	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	B		C		B	A	B	A
Approach: Delay	12.01		22.32		9.97		13.13	
LOS	B		C		A		B	
Intersection Delay	17.68							
Intersection LOS	C							

EXHIBIT 20
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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	Brad Lincoln
Agency/Co.	Gibson Traffic Consultants
Date Performed	5/4/2004
Analysis Time Period	PM Peak-Hour

Site Information

Intersection	195th St @ 136th Ave
Jurisdiction	City of Woodinville
Analysis Year	2006

Project ID 2006 Baseline Conditions (04-073)

East/West Street: NE 195th Street

North/South Street: 136th Avenue NE

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	19	223	1	30	270	251
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	4	14	25	165	13	12
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		L	TR	L	TR
PHF	0.92		0.92		0.92	0.92	0.92	0.92
Flow Rate	263		597		4	42	179	27
% Heavy Vehicles								
No. Lanes	1		1		2		2	
Geometry Group	2		2		5		5	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

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								
hLT-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
hHV-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 Service Time

hd, initial value	3.20		3.20		3.20	3.20	3.20	3.20
x, 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	2.0		2.0		2.3		2.3	
Service Time	3.7		3.7		3.7		3.7	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	513		714		254	292	429	277
Delay	12.69		26.98		10.64	10.20	14.33	9.57
LOS	B		D		B	B	B	A
Approach: Delay	12.69		26.98		10.23		13.71	
LOS	B		D		B		B	
Intersection Delay	20.45							
Intersection LOS	C							

EXHIBIT 20
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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	Brad Lincoln
Agency/Co.	Gibson Traffic Consultants
Date Performed	5/4/2004
Analysis Time Period	PM Peak-Hour

Site Information

Intersection	195th St @ 136th Ave
Jurisdiction	City of Woodinville
Analysis Year	2006

Project ID 2006 Future Conditions with Development (04-073)

East/West Street: NE 195th Street

North/South Street: 136th Avenue NE

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	20	223	1	30	270	266
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	4	16	25	174	14	13
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		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								
No. Lanes	1		1		2		2	
Geometry Group	2		2		5		5	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
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								
hLT-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
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	5.80		5.80		5.80	5.80	5.80	5.80

Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
hd, initial value	3.20		3.20		3.20	3.20	3.20	3.20
x, initial	0.23		0.55		0.00	0.04	0.17	0.03
hd, final value	5.80		5.80		5.80	5.80	5.80	5.80
x, final value	0.43		0.86		0.01	0.09	0.39	0.05
Move-up time, m	2.0		2.0		2.3		2.3	
Service Time	3.8		3.8		3.8		3.8	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	514		707		254	294	439	279
Delay	13.03		30.82		10.77	10.38	14.93	9.69
LOS	B		D		B	B	B	A
Approach: Delay	13.03		30.82		10.41		14.23	
LOS	B		D		B		B	
Intersection Delay	22.69							
Intersection LOS	C							

EXHIBIT 2
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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	Brad Lincoln	Intersection	195th St @ SR-522 WB On
Agency/Co.	Gibson Traffic Consultants	Jurisdiction	City of Woodinville
Date Performed	5/10/2004	Analysis Year	2004
Analysis Time Period	PM Peak-Hour		

Project Description: 2004 Existing Conditions (04-073)

East/West Street: NE 195th Street | North/South Street: SR-522 Westbound On-Ramp

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	282	58	923	433	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate (veh/h)	0	306	63	1003	470	0
Proportion of heavy vehicles, P_{HV}	0	--	--	2	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	0	1	1	1	2	0
Configuration		T	R	L	T	
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	0	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate (veh/h)	0	0	0	0	0	0
Proportion of heavy vehicles, P_{HV}	0	0	0	0	0	0
Percent grade (%)	0			0		
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	0	0	0	0	0	0
Configuration						

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L						
Volume, v (vph)		1003						
Capacity, c_m (vph)		1186						
v/c ratio		0.85						
Queue length (95%)		11.08						
Control Delay (s/veh)		21.9						
LOS		C						
Approach delay (s/veh)	--	--						
Approach LOS	--	--						

EXHIBIT 20
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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Brad Lincoln*	Intersection	*195th St @ SR-522 WB On*
Agency/Co.	*Gibson Traffic Consultants*	Jurisdiction	*City of Woodinville*
Date Performed	*5/10/2004*	Analysis Year	*2006*
Analysis Time Period	*PM Peak-Hour*		

Project Description *2006 Baseline Conditions (04-073)*

East/West Street: *NE 195th Street*	North/South Street: *SR-522 Westbound On-Ramp*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*296*	*61*	*970*	*455*	*0*
Peak-hour factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate (veh/h)	*0*	*321*	*66*	*1054*	*494*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	--	--	*2*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*1*	*1*	*2*	*0*
Configuration		*T*	*R*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*0*	*0*	*0*
Peak-hour factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate (veh/h)	*0*	*0*	*0*	*0*	*0*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	*0*	*0*	*0*	*0*	*0*
Percent grade (%)		*0*			*0*	
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration						

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*						
Volume, v (vph)		*1054*						
Capacity, c_m (vph)		*1168*						
v/c ratio		*0.90*						
Queue length (95%)		*13.99*						
Control Delay (s/veh)		*27.8*						
LOS		*D*						
Approach delay (s/veh)	--	--						
Approach LOS	--	--						

EXHIBIT 20
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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	Brad Lincoln	Intersection	195th St @ SR-522 WB On
Agency/Co.	Gibson Traffic Consultants	Jurisdiction	City of Woodinville
Date Performed	5/10/2004	Analysis Year	2006
Analysis Time Period	PM Peak-Hour		

Project Description: 2006 Future Conditions with Development (04-073)

East/West Street: NE 195th Street | North/South Street: SR-522 Westbound On-Ramp

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	298	68	970	470	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate (veh/h)	0	323	73	1054	510	0
Proportion of heavy vehicles, P_{HV}	0	--	--	2	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	0	1	1	1	2	0
Configuration		T	R	L	T	
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	0	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate (veh/h)	0	0	0	0	0	0
Proportion of heavy vehicles, P_{HV}	0	0	0	0	0	0
Percent grade (%)		0			0	
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	0	0	0	0	0	0
Configuration						

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L						
Volume, v (vph)		1054						
Capacity, c_m (vph)		1159						
v/c ratio		0.91						
Queue length (95%)		14.37						
Control Delay (s/veh)		28.8						
LOS		D						
Approach delay (s/veh)	--	--						
Approach LOS	--	--						

EXHIBIT 22
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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Brad Lincoln*	Intersection	*195th St @ SR-522 EB Off*
Agency/Co.	*Gibson Traffic Consultants*	Jurisdiction	*City of Woodinville*
Date Performed	*5/10/2004*	Analysis Year	*2004*
Analysis Time Period	*PM Peak-Hour*		

Project Description *2004 Existing Conditions (04-073)*

East/West Street: *Ne 195th Street* | North/South Street: *SR-522 Eastbound Off-Ramp*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*0*	*289*	*0*	*0*	*1346*	*0*
Peak-hour factor, PHF	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*	*0.92*
Hourly Flow Rate (veh/h)	*0*	*314*	*0*	*0*	*1463*	*0*
Proportion of heavy vehicles, P_{HV}	*0*	--	--	*0*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration		*T*			*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*54*	*0*	*712*	*0*	*0*	*0*
Peak-hour factor, PHF	*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*
Percent grade (%)		*0*			*0*	
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*1*	*0*	*1*	*0*	*0*	*0*
Configuration	*L*		*R*			

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration			*L*		*R*			
Volume, v (vph)			*58*		*773*			
Capacity, c_m (vph)			*224*		*861*			
v/c ratio			*0.26*		*0.90*			
Queue length (95%)			*1.00*		*12.39*			
Control Delay (s/veh)			*26.6*		*33.3*			
LOS			*D*		*D*			
Approach delay (s/veh)	--	--	*32.8*					
Approach LOS	--	--	*D*					

EXHIBIT 2
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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	Brad Lincoln	Intersection	195th St @ SR-522 EB Off
Agency/Co.	Gibson Traffic Consultants	Jurisdiction	City of Woodinville
Date Performed	5/10/2004	Analysis Year	2006
Analysis Time Period	PM Peak-Hour		

Project Description: 2006 Baseline Conditions (04-073)

East/West Street: Ne 195th Street | North/South Street: SR-522 Eastbound Off-Ramp

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	304	0	0	1414	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate (veh/h)	0	330	0	0	1536	0
Proportion of heavy vehicles, P_{HV}	0	--	--	0	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	0	2	0	0	2	0
Configuration		T			T	
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	57	0	748	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate (veh/h)	61	0	813	0	0	0
Proportion of heavy vehicles, P_{HV}	2	0	2	0	0	0
Percent grade (%)	0			0		
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	1	0	1	0	0	0
Configuration	L		R			

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration			L		R			
Volume, v (vph)			61		813			
Capacity, c_m (vph)			207		850			
v/c ratio			0.29		0.96			
Queue length (95%)			1.18		15.30			
Control Delay (s/veh)			29.5		43.2			
LOS			D		E			
Approach delay (s/veh)	--	--	42.3					
Approach LOS	--	--	E					

EXHIBIT 22
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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Brad Lincoln*	Intersection	*195th St @ SR-522 EB Off*
Agency/Co.	*Gibson Traffic Consultants*	Jurisdiction	*City of Woodinville*
Date Performed	*5/10/2004*	Analysis Year	*2006*
Analysis Time Period	*PM Peak-Hour*		

Project Description *2006 Future Conditions with Development (04-073)*

East/West Street: *Ne 195th Street* | North/South Street: *SR-522 Eastbound Off-Ramp*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	306	0	0	1418	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate (veh/h)	0	332	0	0	1541	0
Proportion of heavy vehicles, P_{HV}	0	--	--	0	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	0	2	0	0	2	0
Configuration		T			T	
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	68	0	748	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate (veh/h)	73	0	813	0	0	0
Proportion of heavy vehicles, P_{HV}	2	0	2	0	0	0
Percent grade (%)		0			0	
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	1	0	1	0	0	0
Configuration	L		R			

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration			L		R			
Volume, v (vph)			73		813			
Capacity, c_m (vph)			206		849			
v/c ratio			0.35		0.96			
Queue length (95%)			1.51		15.36			
Control Delay (s/veh)			31.8		43.5			
LOS			D		E			
Approach delay (s/veh)	--	--	42.5					
Approach LOS	--	--	E					

EXHIBIT 22
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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	Brad Lincoln
Agency/Co.	Gibson Traffic Consultants
Date Performed	4/19/2004
Analysis Time Period	PM Peak-Hour

Site Information

Intersection	130th Ave @ 195th St
Jurisdiction	City of Woodinville
Analysis Year	2004

Project ID 2004 Existing Conditions

East/West Street: NE 195th Street

North/South Street: 130th Avenue NE

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	11	38	24	80	4	121
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	10	239	108	65	69	0
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.92		0.92		0.92		0.92	
Flow Rate	78		221		386		144	
% Heavy Vehicles								
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
Prop. Left-Turns	0.1		0.4		0.0		0.5	
Prop. Right-Turns	0.3		0.6		0.3		0.0	
Prop. Heavy Vehicle								
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	5.50		5.50		5.50		5.50	

Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
hd, initial value	3.20		3.20		3.20		3.20	
x, initial	0.07		0.20		0.34		0.13	
hd, final value	5.50		5.50		5.50		5.50	
x, final value	0.12		0.32		0.51		0.22	
Move-up time, m	2.0		2.0		2.0		2.0	
Service Time	3.5		3.5		3.5		3.5	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	328		471		636		394	
Delay	9.24		10.50		12.78		9.87	
LOS	A		B		B		A	
Approach: Delay	9.24		10.50		12.78		9.87	
LOS	A		B		B		A	
Intersection Delay	11.33							
Intersection LOS	B							

EXHIBIT 20
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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	Brad Lincoln
Agency/Co.	Gibson Traffic Consultants
Date Performed	4/19/2004
Analysis Time Period	PM Peak-Hour

Site Information

Intersection	130th Ave @ 195th St
Jurisdiction	City of Woodinville
Analysis Year	2006

Project ID 2006 Baseline Conditions

East/West Street: NE 195th Street

North/South Street: 130th Avenue NE

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	12	40	25	84	4	127
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	11	251	113	68	72	0
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.92		0.92		0.92		0.92	
Flow Rate	83		233		405		151	
% Heavy Vehicles								
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
Prop. Left-Turns	0.2		0.4		0.0		0.5	
Prop. Right-Turns	0.3		0.6		0.3		0.0	
Prop. Heavy Vehicle								
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	5.64		5.64		5.64		5.64	

Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
hd, initial value	3.20		3.20		3.20		3.20	
x, initial	0.07		0.21		0.36		0.13	
hd, final value	5.64		5.64		5.64		5.64	
x, final value	0.13		0.34		0.55		0.23	
Move-up time, m	2.0		2.0		2.0		2.0	
Service Time	3.6		3.6		3.6		3.6	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	333		483		655		401	
Delay	9.48		10.93		13.69		10.15	
LOS	A		B		B		B	
Approach: Delay	9.48		10.93		13.69		10.15	
LOS	A		B		B		B	
Intersection Delay	11.94							
Intersection LOS	B							

EXHIBIT 20
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ALL-WAY STOP CONTROL ANALYSIS

General Information

Analyst	Brad Lincoln
Agency/Co.	Gibson Traffic Consultants
Date Performed	4/19/2004
Analysis Time Period	PM Peak-Hour

Site Information

Intersection	130th Ave @ 195th St
Jurisdiction	City of Woodinville
Analysis Year	2006

Project ID 2006 Future Conditions with Development (04-073)

East/West Street: NE 195th Street | North/South Street: 130th Avenue NE

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	17	40	25	84	4	127
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	11	252	113	68	73	3
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LTR		LTR	
PHF	0.92		0.92		0.92		0.92	
Flow Rate	88		233		406		155	
% Heavy Vehicles								
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
Prop. Left-Turns	0.2		0.4		0.0		0.5	
Prop. Right-Turns	0.3		0.6		0.3		0.0	
Prop. Heavy Vehicle								
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	5.68		5.68		5.68		5.68	

Departure Headway and Service Time

hd, initial value	3.20		3.20		3.20		3.20	
x, initial	0.08		0.21		0.36		0.14	
hd, final value	5.68		5.68		5.68		5.68	
x, final value	0.14		0.34		0.55		0.24	
Move-up time, m	2.0		2.0		2.0		2.0	
Service Time	3.7		3.7		3.7		3.7	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	338		483		656		405	
Delay	9.60		11.00		13.86		10.24	
LOS	A		B		B		B	
Approach: Delay	9.60		11.00		13.86		10.24	
LOS	A		B		B		B	
Intersection Delay	12.04							
Intersection LOS	B							

EXHIBIT 2
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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	Brad Lincoln	Intersection	205th St @ Site Access
Agency/Co.	Gibson Traffic Consultants	Jurisdiction	City of Woodinville
Date Performed	5/10/2004	Analysis Year	2006
Analysis Time Period	PM Peak-Hour		

Project Description: 2006 Future Conditions with Development (04-073)

East/West Street: NE 205th Street | North/South Street: Site Access

Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	0	64	8	20	153	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Hourly Flow Rate (veh/h)	0	69	8	21	166	0
Proportion of heavy vehicles, P_{HV}	0	--	--	2	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration			TR	LT		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	5	0	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
Proportion of heavy vehicles, P_{HV}	2	0	2	0	0	0
Percent grade (%)	0			0		
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
Volume, v (vph)		21		18				
Capacity, c_m (vph)		1522		887				
v/c ratio		0.01		0.02				
Queue length (95%)		0.04		0.06				
Control Delay (s/veh)		7.4		9.1				
LOS		A		A				
Approach delay (s/veh)	--	--	9.1					
Approach LOS	--	--	A					

EXHIBIT 2
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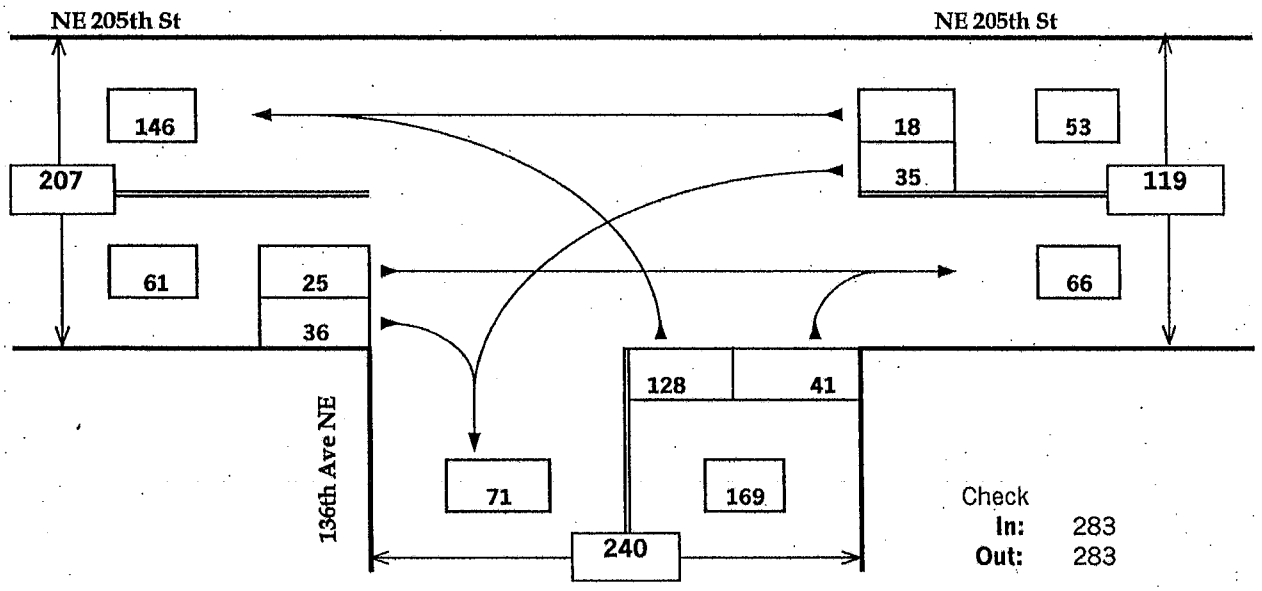
TC² *Traffic Count Consultants, Inc.*

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
Intersection	0.4%	0.94

K04u034-002p

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TC² *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: FH

Time Interval Ending at	From North on (SB) n/a				From South on (NB) 136th Ave NE				From East on (WB) NE 205th St				From West on (EB) NE 205th St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	0	0	0	0	0	19	0	7	0	10	3	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 P	0	0	0	0	0	34	0	12	0	5	6	0	0	0	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	10	7	0	0	0	3	6	64
5:30 P	0	0	0	0	0	35	0	10	0	12	4	0	0	0	6	7	74
5:45 P	0	0	0	0	1	25	0	13	0	6	5	0	0	0	12	14	76
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	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
Total Survey	0	0	0	0	2	227	0	79	0	70	35	0	0	0	41	65	517
4:45 P to 5:45 P Peak Hour Summary																	
Total	0	0	0	0	1	128	0	41	0	35	18	0	0	0	25	36	283
Approach	0				169				53				61				283
%HV	n/a				1%				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

K04u034-002p

EXHIBIT 20
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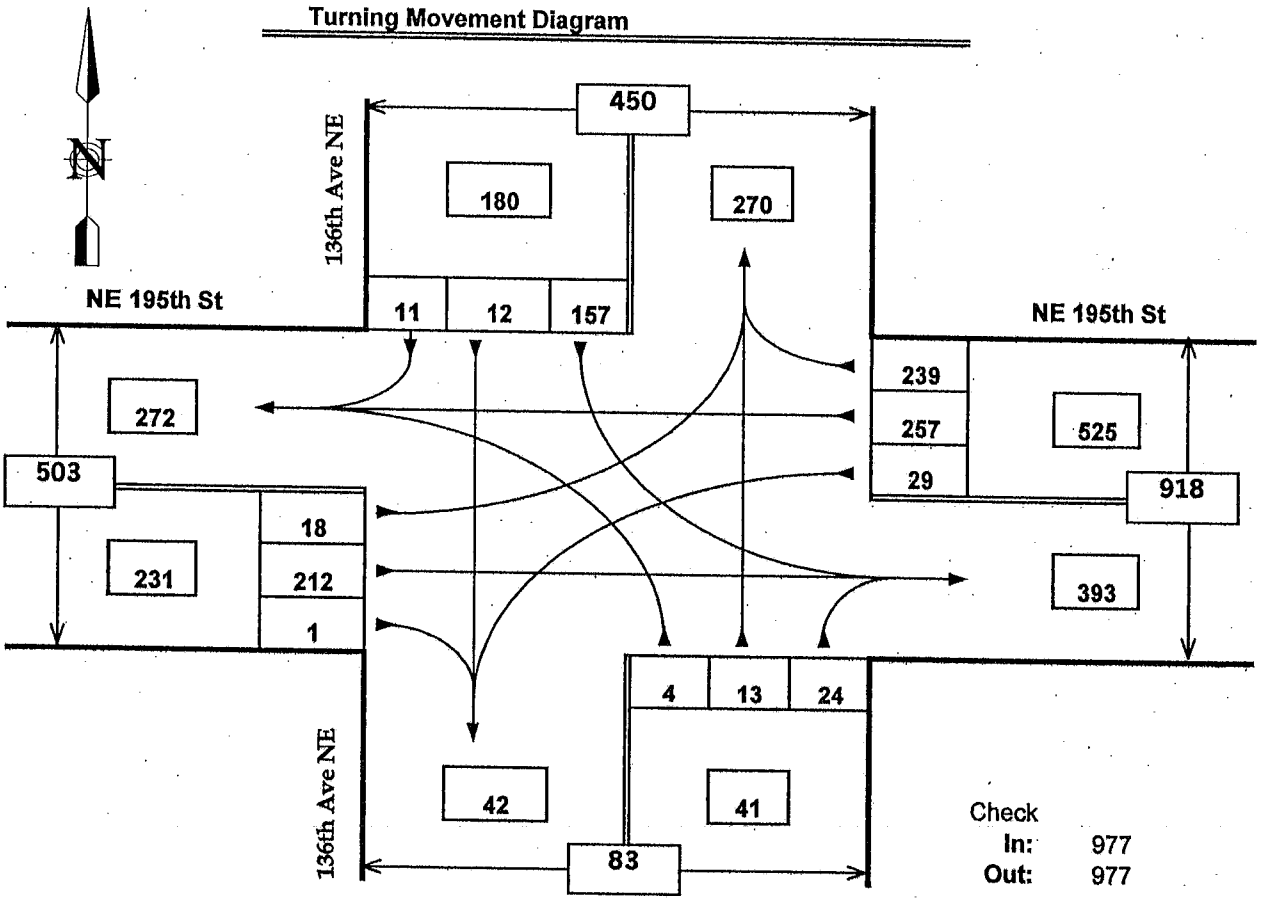
TC² *Traffic Count Consultants, Inc.*

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

Turning Movement Diagram



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

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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
Location: Bothell
Date of Count: Wed 4.28.04
Checked By: FH

Time Interval Ending at	From North on (SB) 136th Ave NE				From South on (NB) 136th Ave NE				From East on (WB) NE 195th St				From West on (EB) NE 195th St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	0	32	2	3	0	1	2	4	0	6	53	48	1	4	39	1	194
4:30 P	0	47	7	9	0	2	2	5	1	10	62	56	0	5	54	0	259
4:45 P	0	37	3	0	0	1	7	8	1	8	59	56	0	1	55	0	234
5:00 P	0	30	2	0	0	0	3	3	1	5	66	61	0	4	54	0	228
5:15 P	1	43	0	2	0	1	1	8	0	6	70	67	0	8	49	1	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	27	2	5	0	1	1	3	4	2	59	46	0	4	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	0	0	0	0	0	0	0	0	0	0	0	0	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	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
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 Summary																	
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

K04u034-001p

TRAFFIC DATA GATHERING

EXHIBIT 20
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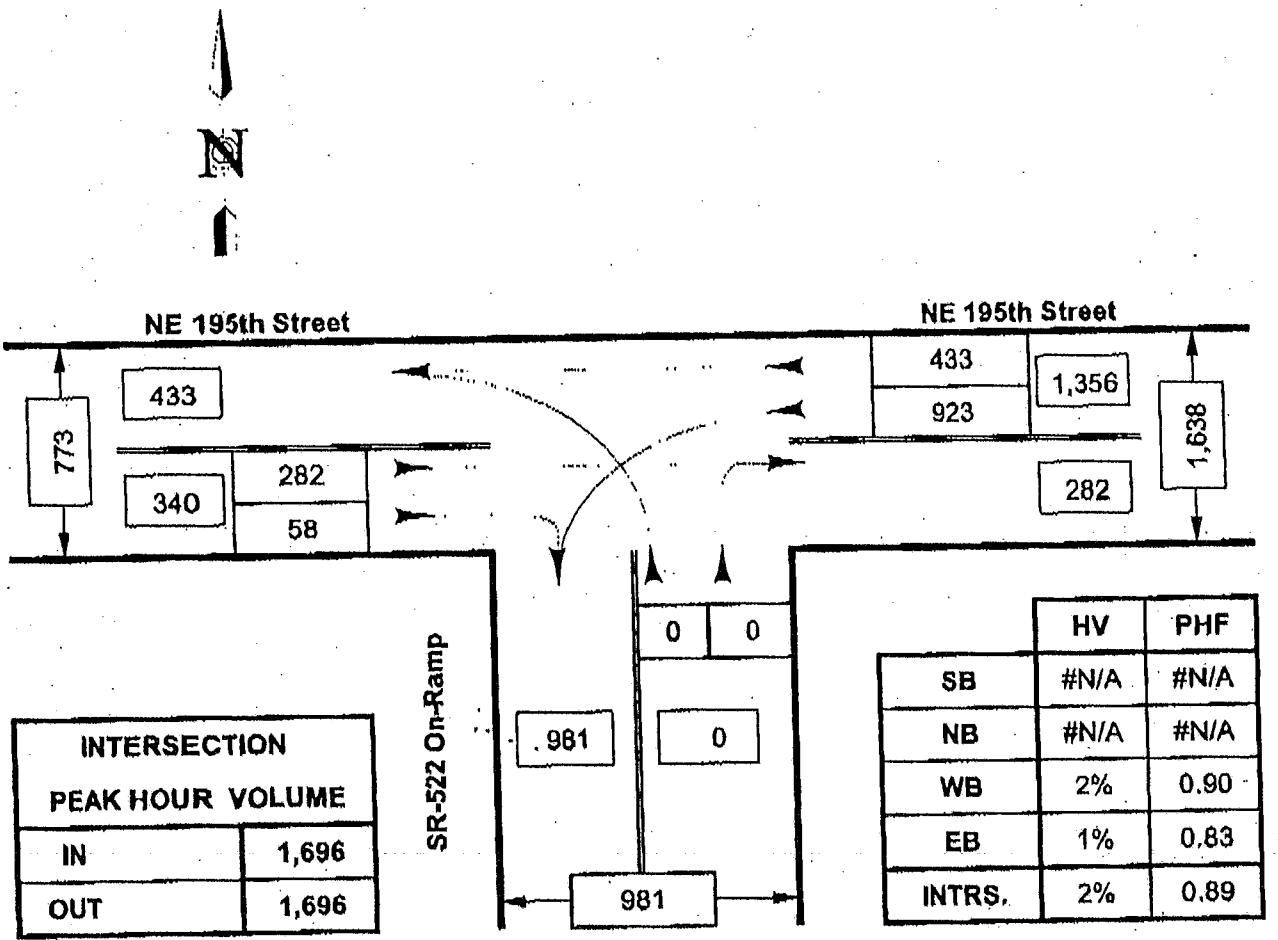
TURNING MOVEMENTS DIAGRAM

4:00 - 6:00 PM PEAK HOUR: 4:30 PM TO 5:30 PM



INTERSECTION PEAK HOUR VOLUME	
IN	1,696
OUT	1,696

	HV	PHF
SB	#N/A	#N/A
NB	#N/A	#N/A
WB	2%	0.90
EB	1%	0.83
INTRS.	2%	0.89

HV = HEAVY VEHICLES

PHF = PEAK HOUR FACTOR

NE 195th Street @ SR-522 On-Ramp

Woodinville, WA

COUNTED BY: ZH

REDUCED BY: CN

DATE OF REDUCTION: Thu. 4/22/04

DATE OF COUNT: Wed. 4/21/04

TIME OF COUNT: 4:00 - 6:00 PM

WEATHER: Sunny

TRAFFIC DATA GATHERING

EXHIBIT 20
PAGE 1 OF 2

INTERSECTION TURNING MOVEMENTS REDUCTION SHEET

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

DATE OF COUNT: Wed, 4/21/04 COUNTED BY: ZH
TIME OF COUNT: 4:00 - 6:00 PM WEATHER: Sunny

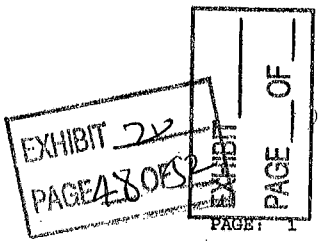
TIME INTERVAL ENDING AT	FROM NORTH ON 0				FROM SOUTH ON SR-522 On-Ramp				FROM EAST ON NE 195th Street				FROM WEST ON NE 195th Street				INTERVAL TOTALS
	HV	Left	Thru	Right	HV	Left	Thru	Right	HV	Left	Thru	Right	HV	Left	Thru	Right	
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	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	0	81	22	479
05:00 PM	0	0	0	0	0	0	0	0	7	218	78	0	1	0	67	14	377
05:15 PM	0	0	0	0	0	0	0	0	9	239	127	0	0	0	66	12	444
05:30 PM	0	0	0	0	0	0	0	0	1	212	106	0	1	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	0	0	10	141	106	0	3	0	82	4	336
PEAK HOUR TOTALS	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 Vehicles
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

PAGE: 1
FILE: 01292PM

Movements by: Primary

DATE: 4/07/04

Time Begin	From North RT	THRU	LT	From East RT	THRU	LT	From South RT	THRU	LT	From West RT	THRU	LT	Vehicle 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
HR TOTAL	0	0	0	0	587	0	354	0	17	0	136	0	1094
4:00 PM	0	0	0	0	296	0	193	0	13	0	64	0	566
4:15	0	0	0	0	313	0	164	0	12	0	73	0	562
4:30	0	0	0	0	397	0	156	0	11	0	70	0	634
4:45	0	0	0	0	267	0	174	0	16	0	74	0	531
HR TOTAL	0	0	0	0	1273	0	687	0	52	0	281	0	2293
5:00 PM	0	0	0	0	352	0	168	0	15	0	71	0	606
5:15	0	0	0	0	330	0	214	0	12	0	74	0	630
5:30	0	0	0	0	265	0	179	0	9	0	63	0	516
5:45	0	0	0	0	247	0	183	0	24	0	78	0	532
HR TOTAL	0	0	0	0	1194	0	744	0	60	0	286	0	2284
DAY TOTAL	0	0	0	0	3054	0	1785	0	129	0	703	0	5671

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

DIRECTION FROM	START PEAK HOUR	PEAK HR FACTOR	VOLUMES Right	Thru	Left	Total	PERCENTS 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

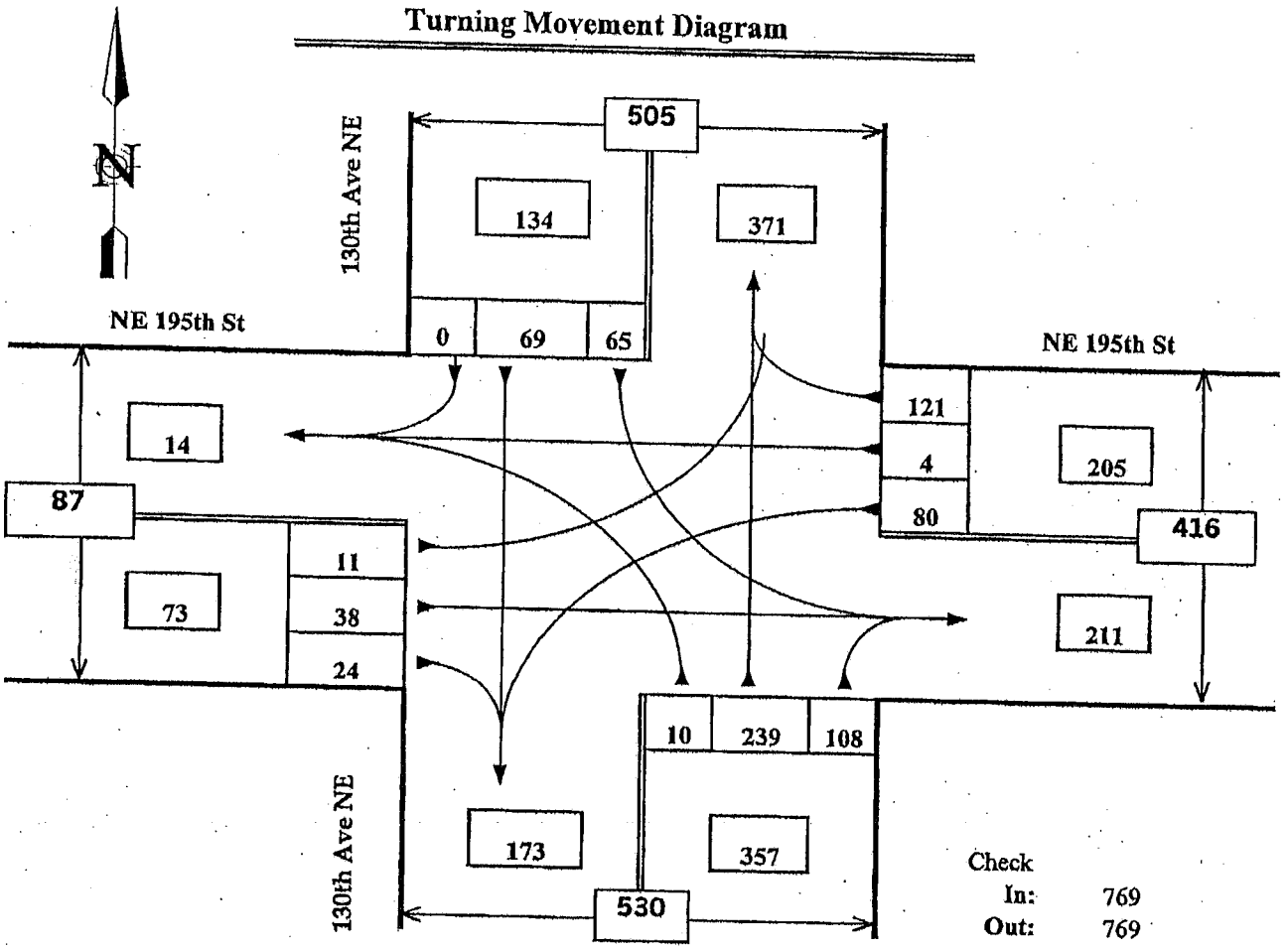
Entire Intersection

North	4:30 PM	0.00	0	0	0	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	%100	0

EXHIBIT ____
PAGE ___ OF ___

TC^2 *Traffic Count Consultants, Inc.* 13623 184th Ave NE, Woodinville, WA 98072
Phone: (425) 861-8866 FAX: (425) 861-8877

Turning Movement Diagram



Check
In: 769
Out: 769

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

EXHIBIT 20
PAGE 46 OF 52

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 Ending at	From North on (SB) 130th Ave NE				From South on (NB) 130th Ave NE				From East on (WB) NE 195th St				From West on (EB) NE 195th St				Interval Total
	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	1	7	15	0	0	2	44	25	0	8	1	17	0	0	12	3	134
4:30 P	0	9	17	0	1	2	43	14	1	10	0	26	0	1	7	9	138
4:45 P	0	9	16	0	1	0	62	27	1	13	0	22	0	1	7	1	158
5:00 P	1	16	27	0	1	0	56	16	0	13	1	25	0	2	6	3	165
5:15 P	1	15	12	0	0	2	55	28	0	20	2	31	0	4	13	6	188
5:30 P	0	18	21	0	1	3	78	25	2	19	0	27	0	2	6	5	204
5:45 P	0	18	15	0	2	3	55	29	0	23	1	30	0	4	10	11	199
6:00 P	0	14	21	0	0	2	51	26	0	18	1	33	0	1	9	2	178
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	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
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 Hour Summary

Total	1	65	69	0	3	10	239	108	2	80	4	121	0	11	38	24	769
Approach	134				357				205				73				769
%HV	1%				1%				1%				0%				1%
PHF	0.86				0.84				0.95				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 2V
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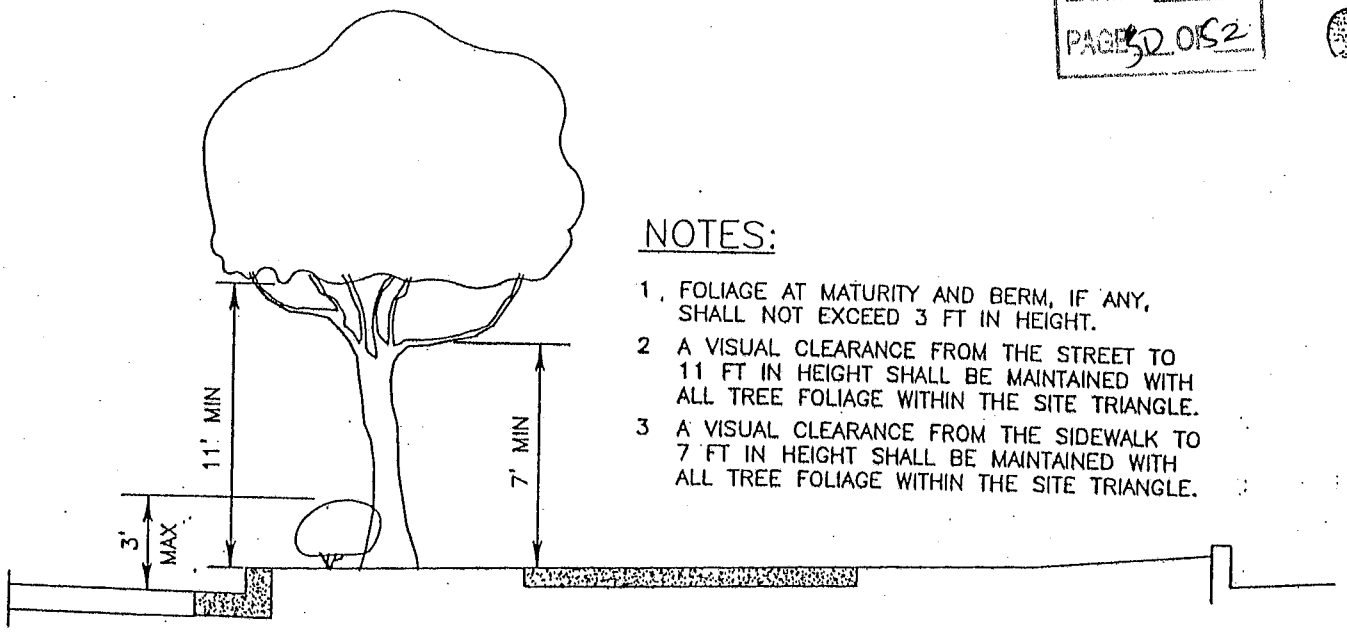


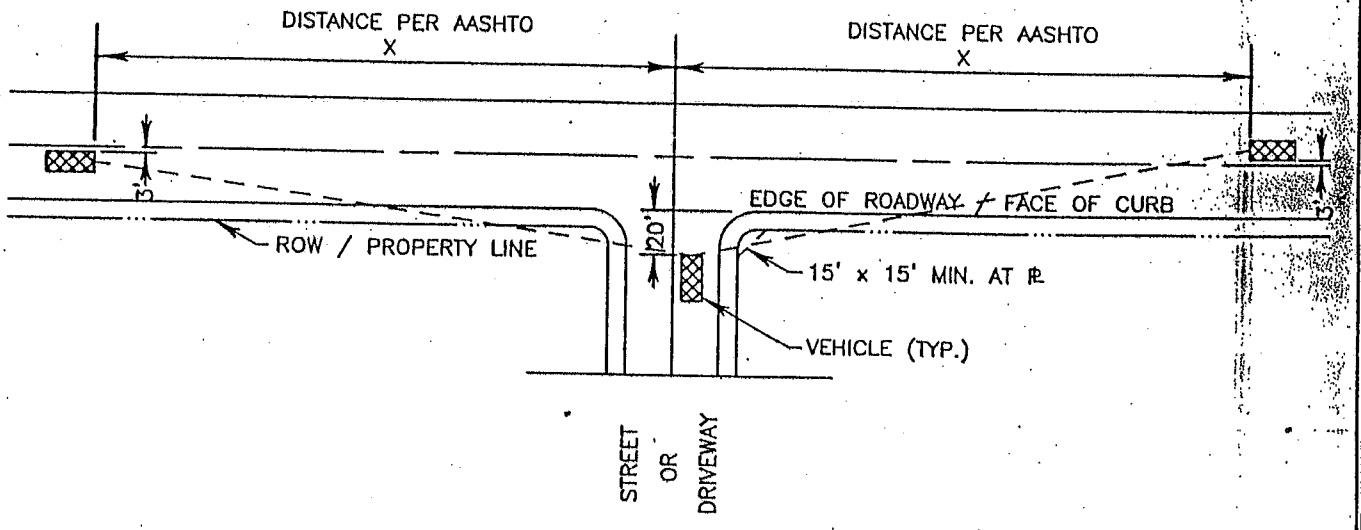
NOTES:

1. FOLIAGE AT MATURITY AND BERM, IF ANY, SHALL NOT EXCEED 3 FT IN HEIGHT.
2. A VISUAL CLEARANCE FROM THE STREET TO 11 FT IN HEIGHT SHALL BE MAINTAINED WITH ALL TREE FOLIAGE WITHIN THE SITE TRIANGLE.
3. 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	200'
30	35	250'
35	40	325'
40	45	400'
45	50	475'
50	55	550'
55	60	650'

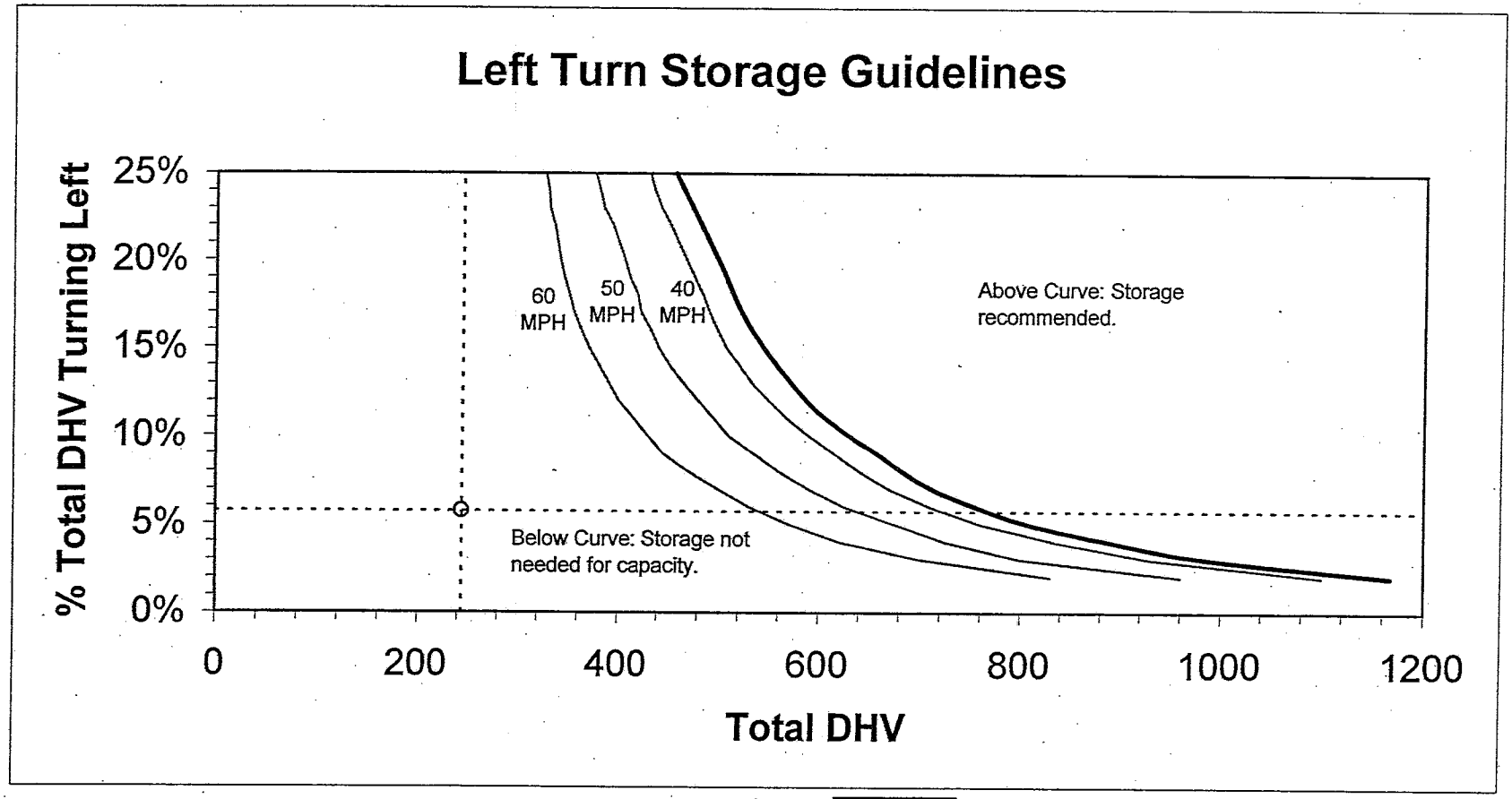
PUBLIC STREET



N.T.S.

City of Woodinville DEPARTMENT OF PUBLIC WORKS	DRIVEWAY & INTERSECTION SITE TRIANGLES	316 revision date NOV, 98

NE 205th Street @ Site Access



Total DHV:	244
Left Turns:	14
% Left:	5.7%

Posted Speed Limit [35] MPH

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

EXHIBIT 20
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