

Countryman, Ryan

From: Tom McCormick <tommccormick@mac.com>
Sent: Monday, July 18, 2016 2:52 PM
To: Kendra Dedinsky
Cc: Debbie Tarry; Countryman, Ryan; Gretchen Brunner; Richard Schipanski; Bill Willard; John John; Tom Mailhot; Jerry Patterson; Tom McCormick
Subject: Grossly incorrect trip distribution for Richmond Beach Road
Attachments: Talking points regarding traffic counts.docx; Map of routes if not traveling to 8th.pdf; 2014-04-16 TCS slides.pdf; 15th Ave NW @ NW Richmond Beach Rd -E- - AM - 05-30-13.pdf.pdf; 15th Ave NW @ NW Richmond Beach Rd -W- - AM - 05-30-13.pdf.pdf; 20th Ave NW @ NW 195th St - AM - 06-05-13.pdf.pdf; 24th Ave NW @ NW 196th St - AM - 06-04-13.pdf.pdf

To: Kendra Dedinsky, City of Shoreline Traffic Engineer

In response to my routine records request, I recently received a document authored by you, entitled "Talking Points regarding traffic counts." A copy is attached to this email.

I have numerous objections to the data and assumptions in the Talking Points. This email highlights just one of my objections.

I disagree with the following text in the Talking Points that I have underlined for emphasis:

"Not all of the trips leaving the [Point Wells] site will travel through the segment west of 8th. Modeling to date shows between 65 and 70 percent."

The modeling that you refer to is wrong. Available peak AM hard data shows that about 92% of the trips traveling east from lower Richmond Beach will travel through the segment west of 8th Ave NW. The 92% figure is based on the City's own hard data.

Why is it important that the correct percentage be used? We assume that Snohomish County will not approve a development with traffic volumes that exceed the spare capacity of our roads, with spare capacity being determined under the City's 0.90 v/c standard (traffic volume shall not exceed 90% of an arterial's capacity measured at any point along the arterial). If a 65% assumption (based on modeling) is wrongly used instead of the 92% figure (based on hard data), that would support a faulty conclusion that the spare capacity of a 3-lane Richmond Beach Road under the City's 0.90 v/c standard is about 2,000 ADTs higher than it really is. We wouldn't want Snohomish County to base any of its decisions on faulty spare capacity data from the City.

On the attached PDF entitled, "Map of routes if not traveling to 8th," you will see that there are four routes via which Point Wells traffic can head north or south before reaching 8th Ave NW at the top of the hill:

- (1) north on 24th Ave NW, eventually cutting through Woodway;
- (2) north on 20th Ave NW, eventually cutting through Woodway;
- (3) north on 15th Ave NW, eventually cutting through Edmonds; and
- (4) south on 15th Ave NW, cutting through Innis Arden.

Note: while perhaps NW 197th St, NW 198th St and NW 199th St could also be considered alternate routes, the City has wisely planned for diversions which preclude cut-through traffic to 24th Ave NW or 20th Ave NW. See the attached PDF entitled, "2014-04-16 TCS slides." Also, NW 190th St is not an alternate route, because

the City has planned for no cut-through left turns onto NW 190th St by traffic traveling east on Richmond Beach Road.

I mentioned above that about 92% of Point Wells traffic will travel through the segment west of 8th Ave NW, not 65-70% per the City's "modeling." The following four PDFs attached to this email provide trip distribution data that supports the 92% figure:

- (1) 24th Ave NW @ NW 196th St - AM - 06-04-13.pdf — shows that during the peak AM hour, only 1 of 36 trips (2.8%) head north on 24th Ave NW.
- (2) 20th Ave NW @ NW 195th St - AM - 06-05-13.pdf — shows that during the peak AM hour, only 5 of 132 trips (3.8%) head north on 20th Ave NW.
- (3) 15th Ave NW @ NW Richmond Beach Rd -W- - AM - 05-30-13.pdf — shows that during the peak AM hour, only 9 of 427 trips (2.1%) head north on 15th Ave NW.
- (4) 15th Ave NW @ NW Richmond Beach Rd -E- - AM - 05-30-13.pdf — shows that during the peak AM hour, only 27 of 478 trips (5.6%) head south on 15th Ave NW or turn into the Richmond Beach Coffee driveway (just 2 turn into the driveway, while 25 head south through Innis Arden).

In total, based on the above PDFs, only 42 trips from lower Richmond Beach detour north or south onto 24th, 20th and 15th (1+5+9+27 = 42), while 478 trips travel east through the segment west of 8th Ave NW— that's about 92% of all 520 trips (42 + 478 = 520).

Note: The 92% figure is based on a 4-lane Richmond Beach Road. I would expect that the percentage (92%) will stay the same even after Richmond Beach Road gets converted to three lanes, or at worst it would increase or decrease by not more than one or two percentage points. Also note: I do not believe that a second access road through Woodway will alter the foregoing analysis. If anything, the foregoing analysis sheds light on the relatively low percentage of folks who will use the second access road to head north. At a later date, I plan to send you an email about the likely trip distribution for the second access road.

So here's what we've got: the City's "modeling" showing that only 65-70% to trips from Point Wells would travel through the segment west of 8th Ave NW vs. the City's hard data showing that a far higher percentage of trips (92%) will travel through the segment west of 8th Ave NW. If 92% of trips from lower Richmond Beach do in fact travel through the segment west of 8th Ave NW, then 92% of trips exiting Point Wells via Richmond Beach Drive will travel through the segment west of 8th Ave NW.

As we all know, hard data trumps modeling.

The above analysis and conclusions regarding this one example should help you understand why we grave doubts about the accuracy of all modeling and assumptions employed both by the City and BSRE. A discrepancy of up to 27% is unacceptable (92% - 65% = 27%).

Would you be available to meet to discuss the Talking Points, so that I can gain a thorough understanding how you arrived at all figures in the Talking Points?

Thank you.

Tom McCormick

Talking points regarding traffic counts

Assumed Directional Capacity of Richmond Beach Drive: 700 veh/hour/lane with mitigated 2 lane roadway.

With .65 V/C ratio → 455 veh/hour/lane.

With a 60/40 split → 300 vehicles in the southbound direction

This would mean a total peak hour volume of 755 vehicles (6300 – 9400 ADT)

4000 is not a set cap on the roadway. It is the subarea cap for an unmitigated roadway. LOS is the only way to specify a clear maximum. For this reason, we consider a .65 V/C an appropriate LOS target for this road. Not all of the trips leaving the site will travel through the segment west of 8th. Modeling to date shows between 65 and 70 percent.

Summary of all non-axle adjusted tube count data:

	Jan-14	Mar-14	Aug-12	May-12	Jun-09	Jul-09
EB	303	322	332	NA	333	311
WB	477	NA	481	493	402	382

Throwing out the lowest WB outlier, average WB volume of 463 veh/hour, grown at a quarter percent per year gives 485 vehicles per hour. With a .9 V/C, this yields a spare capacity for a 3 lane cross section of **379** vehicles per hour in the westbound direction.

Turning Movements

June 2013 Turning Movement Data: 537 vehicles per hour

February 2011 Turning Movement Data: 439 vehicles per hour

Average of 488 veh/hour, grown at a quarter percent per year gives 511 veh/hour. With a .9 V/C, this yields a spare capacity for a 3 lane cross section of **353** vehicles per hour in the westbound direction.

Using the highest number in all of these data sets (537) yields a spare capacity of **302** vehicles per hour in the westbound direction.

The 241 spare capacity referenced earlier (by my spreadsheet) was based on DEA's 2014 Synchro model runs. This assumed no second access.

Point Wells Transportation Corridor Study

Wrap-Up Meeting

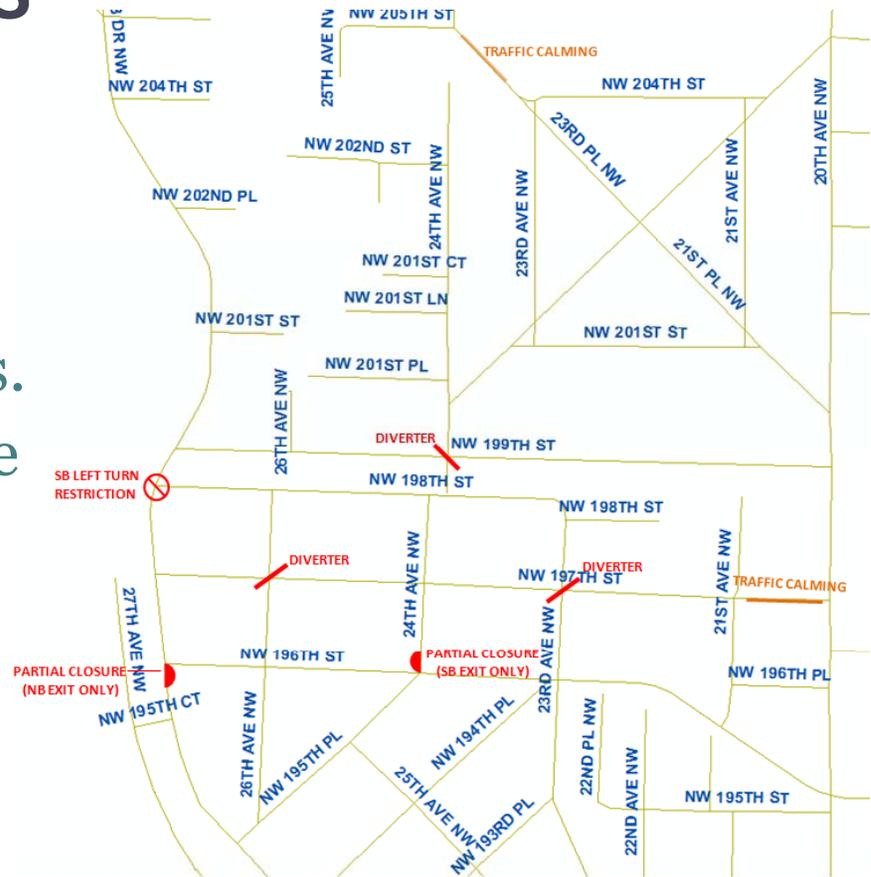
*Review Proposed Designs for Richmond Beach Drive and
Richmond Beach Road*

4/16/2014

Point Wells Transportation Corridor Study – Wrap Up Meeting

Cut through routes

- On-corridor mitigation at 198th, 196th, 24th, and 190th will be implemented with corridor improvements.
- Off-corridor mitigation to be implemented in phases as needed.
- Most restrictive measures (shown to right) will impact residents' access too.



Proposed Design - Segment A (RBD)



4/16/2014

Point Wells Transportation Corridor Study – Wrap Up Meeting

Proposed Design - Segment B (RBR)

- 24th Ave NW

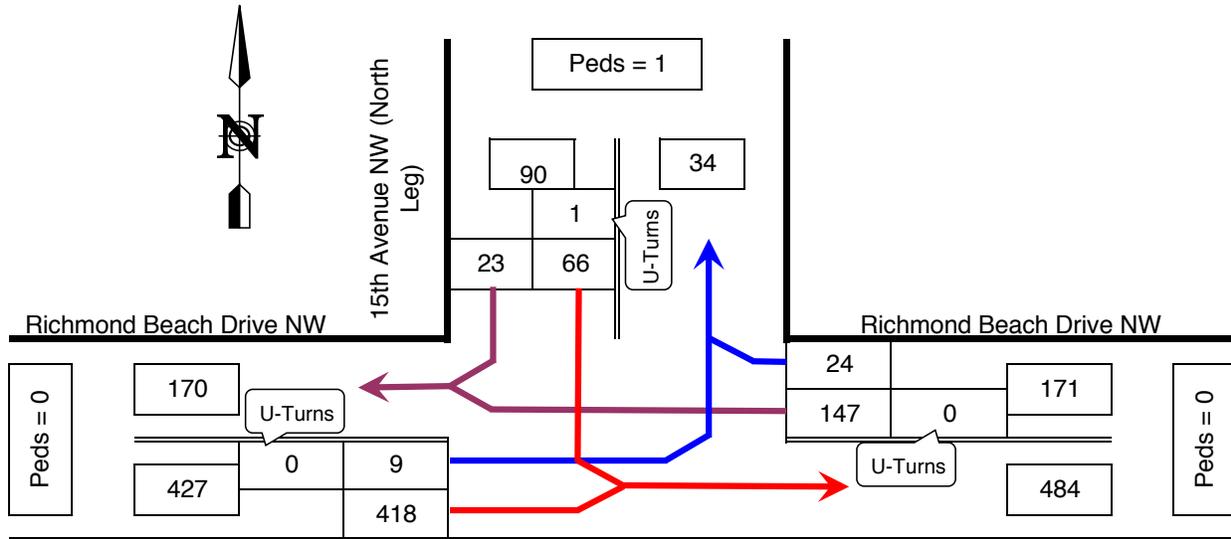


4/16/2014

Point Wells Transportation Corridor Study – Wrap Up Meeting

TURNING MOVEMENTS DIAGRAM

7:00 AM - 9:00 AM PEAK HOUR: 7:30 AM TO 8:30 AM



INTERSECTION PEAK HOUR VOLUME	
IN	688
OUT	688

	Buses	HV	PHF
SB	1.1%	0.0%	0.73
WB	5.8%	2.3%	0.72
EB	2.3%	0.2%	0.84
INTRS.	3.1%	0.7%	0.91

HV = Heavy Vehicles
PHF = Peak Hour Factor

15th Avenue NW (North Leg) @ Richmond Beach Drive NW

Shoreline, WA

COUNTED BY: CN

DATE OF COUNT: Thu. 5/30/13

REDUCED BY: CN

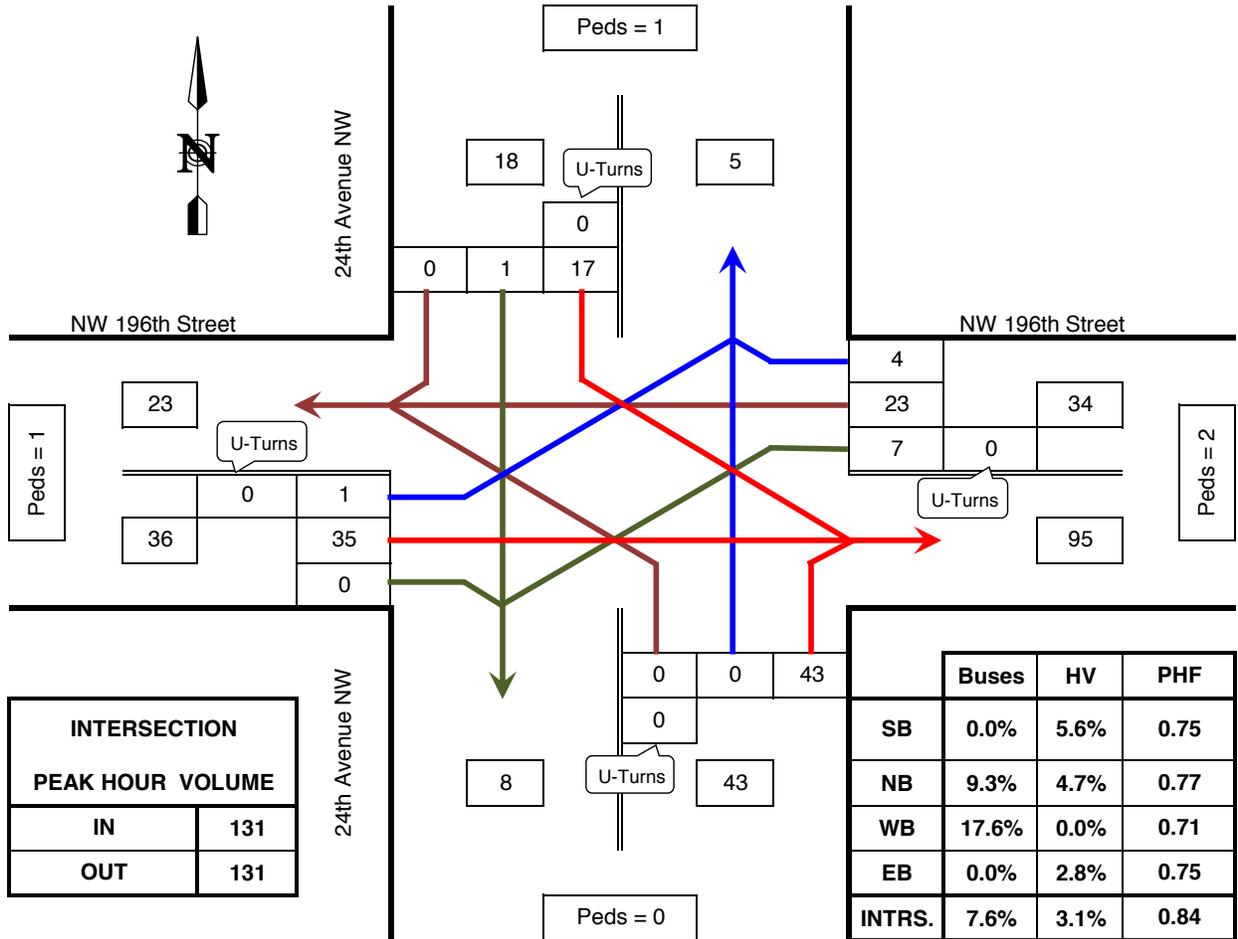
TIME OF COUNT: 7:00 AM - 9:00 AM

REDUCTION DATE: Fri. 5/31/13

WEATHER: Overcast

TURNING MOVEMENTS DIAGRAM

7:00 AM - 9:00 AM PEAK HOUR: 7:00 AM TO 8:00 AM



PHF = Peak Hour Factor
HV = Heavy Vehicles

24th Avenue NW @ NW 196th Street

Shoreline, WA

COUNTED BY: JH
 REDUCED BY: CN
 REDUCTION DATE: Tue. 6/4/13

DATE OF COUNT: Tue. 6/4/13
 TIME OF COUNT: 7:00 AM - 9:00 AM
 WEATHER: Sunny

DTG TRAFFIC DATA GATHERING
INTERSECTION TURNING MOVEMENTS REDUCTION SHEET

LOCATION: 24th Avenue NW @ NW 196th Street
Shoreline, WA

DATE OF COUNT: Tue. 6/4/13
 TIME OF COUNT: 7:00 AM - 9:00 AM

COUNTED BY: JH
 WEATHER: Sunny

TIME INTERVAL ENDING AT	FROM NORTH ON 24th Avenue NW							FROM SOUTH ON 24th Avenue NW							FROM EAST ON NW 196th Street							FROM WEST ON NW 196th Street							INTERVAL TOTALS
	Peds	Buses	HV	UTurn	Left	Thru	Right	Peds	Buses	HV	UTurn	Left	Thru	Right	Peds	Buses	HV	UTurn	Left	Thru	Right	Peds	Buses	HV	UTurn	Left	Thru	Right	
05:15 AM	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	
05:30 AM	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
05:45 AM	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
06:00 AM	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
06:15 AM	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
06:30 AM	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
06:45 AM	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
07:00 AM	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
07:15 AM	0	0	0	0	1	0	0	0	1	0	0	0	0	5	1	1	0	0	0	10	2	0	0	0	0	4	0	22	
07:30 AM	1	0	0	0	6	0	0	0	1	1	0	0	14	0	2	0	0	0	6	1	1	0	0	0	12	0	39		
07:45 AM	0	0	1	0	4	1	0	0	2	1	0	0	12	1	2	0	0	5	5	0	0	0	1	0	11	0	38		
08:00 AM	0	0	0	0	6	0	0	0	0	0	0	0	12	0	1	0	0	2	2	1	0	0	0	1	8	0	32		
08:15 AM	0	1	0	0	3	0	0	0	1	0	0	1	4	0	2	1	0	1	4	1	0	0	0	0	8	0	22		
08:30 AM	0	0	0	0	10	0	0	0	0	0	0	0	3	0	0	0	0	2	2	0	0	0	0	0	4	0	21		
08:45 AM	0	1	0	0	3	0	0	0	1	1	0	0	10	2	2	2	0	1	10	1	0	0	0	0	9	0	34		
09:00 AM	2	0	1	0	10	0	0	0	1	1	0	0	11	0	1	0	0	2	8	1	0	2	1	0	1	5	0	38	
PEAK HOUR TOTALS	1	0	1	0	17	1	0	0	4	2	0	0	43	2	6	0	0	7	23	4	1	0	1	0	35	0	INTERSECTION		
ALL MOVEMENTS	18							43							34							36							131
% HV	5.6%							4.7%							0.0%							2.8%							3.1%
% Buses	0.0%							9.3%							17.6%							0.0%							7.6%
PEAK HOUR FACTOR	0.75							0.77							0.71							0.75							0.84

PHF = Peak Hour Factor

7:00 AM - 9:00 AM PEAK HOUR: 7:00 AM TO 8:00 AM

REDUCED BY: CN

DATE OF REDUCTION: 6/4/2013

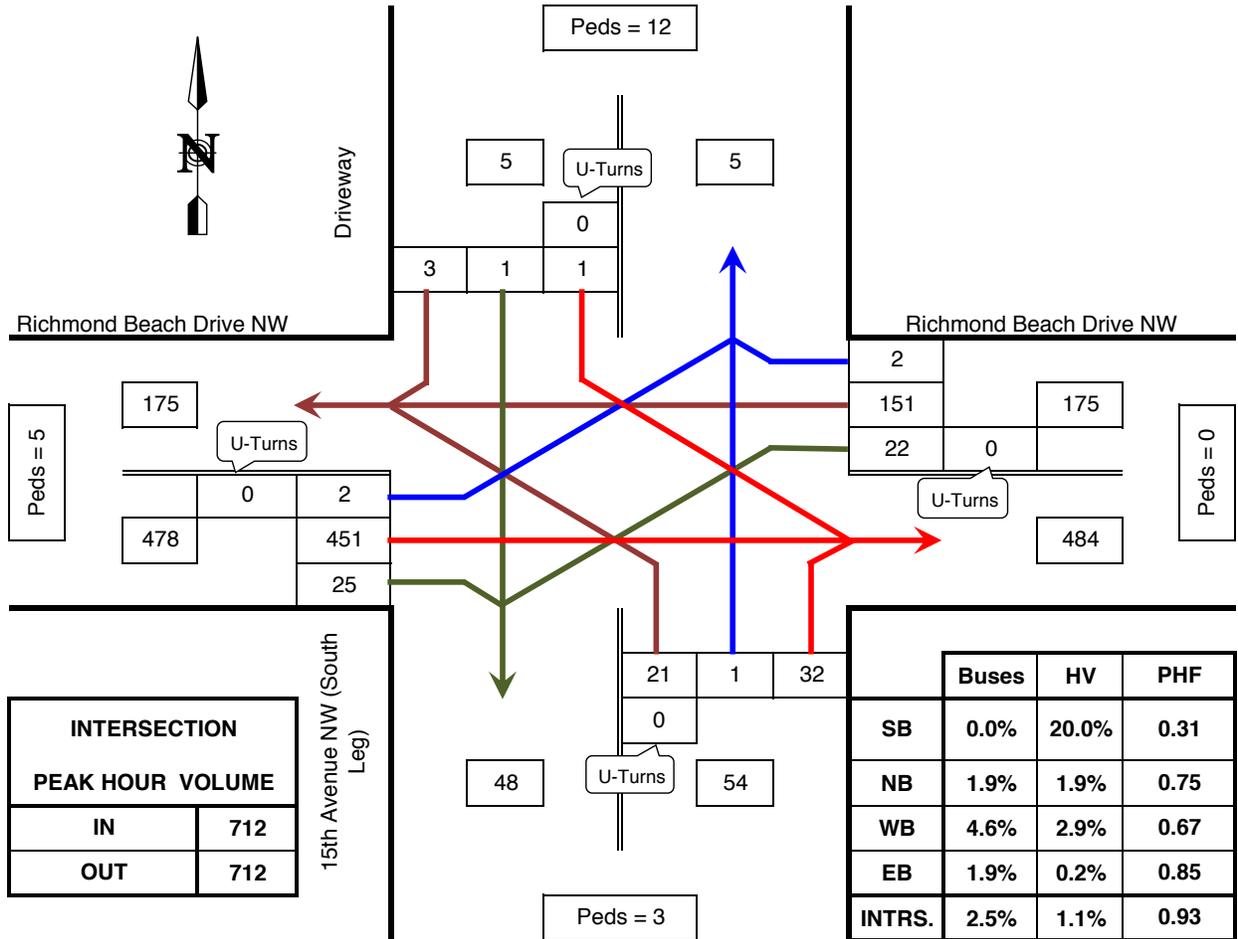


Show

Puget

TURNING MOVEMENTS DIAGRAM

7:00 AM - 9:00 AM PEAK HOUR: 7:30 AM TO 8:30 AM



INTERSECTION	
PEAK HOUR VOLUME	
IN	712
OUT	712

PHF = Peak Hour Factor
HV = Heavy Vehicles

15th Avenue NW (South Leg) @ Richmond Beach Drive NW

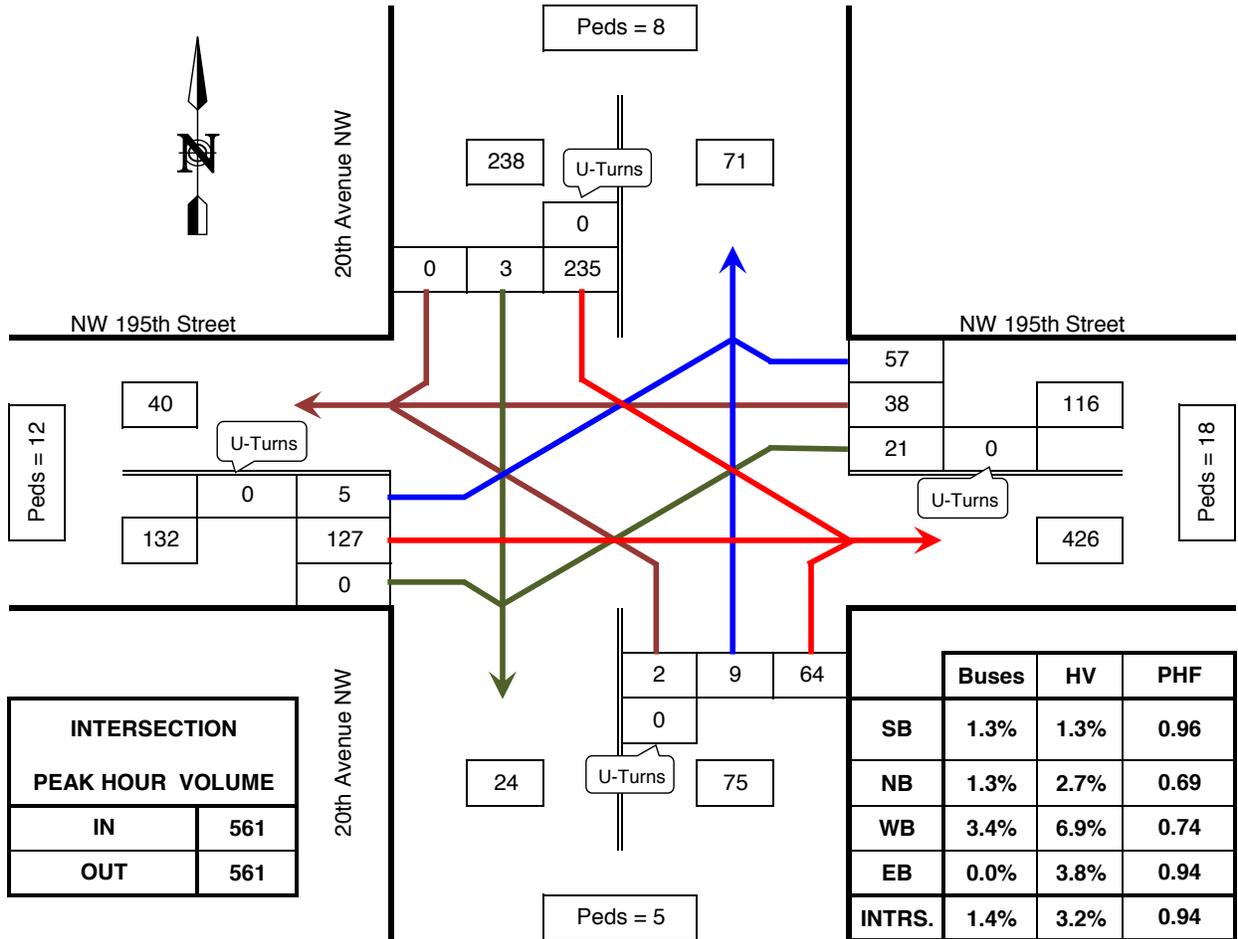
Shoreline, WA

COUNTED BY: VC
 REDUCED BY: CN
 REDUCTION DATE: Fri. 5/31/13

DATE OF COUNT: Thu. 5/30/13
 TIME OF COUNT: 7:00 AM - 9:00 AM
 WEATHER: Overcast

TURNING MOVEMENTS DIAGRAM

7:00 AM - 9:00 AM PEAK HOUR: 7:15 AM TO 8:15 AM



PHF = Peak Hour Factor
HV = Heavy Vehicles

20th Avenue NW @ NW 195th Street

Shoreline, WA

COUNTED BY: WW

DATE OF COUNT: Wed. 6/5/13

REDUCED BY: CN

TIME OF COUNT: 7:00 AM - 9:00 AM

REDUCTION DATE: Wed. 6/5/13

WEATHER: Sunny

DTG TRAFFIC DATA GATHERING
INTERSECTION TURNING MOVEMENTS REDUCTION SHEET

LOCATION: 20th Avenue NW @ NW 195th Street
Shoreline, WA

DATE OF COUNT: Wed. 6/5/13
 TIME OF COUNT: 7:00 AM - 9:00 AM

COUNTED BY: WW
 WEATHER: Sunny

TIME INTERVAL ENDING AT	FROM NORTH ON 20th Avenue NW							FROM SOUTH ON 20th Avenue NW							FROM EAST ON NW 195th Street							FROM WEST ON NW 195th Street							INTERVAL TOTALS
	Peds	Buses	HV	UTurn	Left	Thru	Right	Peds	Buses	HV	UTurn	Left	Thru	Right	Peds	Buses	HV	UTurn	Left	Thru	Right	Peds	Buses	HV	UTurn	Left	Thru	Right	
05:15 AM	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		
05:30 AM	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	
05:45 AM	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	
06:00 AM	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	
06:15 AM	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	
06:30 AM	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	
06:45 AM	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	
07:00 AM	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	
07:15 AM	0	0	1	0	39	0	2	3	0	0	0	1	0	21	5	0	2	0	8	10	4	1	0	1	0	1	26	0	
07:30 AM	2	0	1	0	62	0	0	0	0	0	0	1	2	13	3	2	2	0	5	5	15	3	0	1	0	1	34	0	
07:45 AM	3	1	2	0	61	1	0	1	0	1	0	0	0	14	2	1	3	0	8	17	14	1	0	2	0	2	33	0	
08:00 AM	2	2	0	0	61	0	0	1	1	0	0	1	3	14	3	1	1	0	3	6	17	3	0	1	0	1	27	0	
08:15 AM	1	0	0	0	51	2	0	3	0	1	0	0	4	23	10	0	2	0	5	10	11	5	0	1	0	1	33	0	
08:30 AM	0	0	1	0	39	2	0	0	0	0	0	0	0	21	1	1	0	0	10	10	27	1	1	1	0	0	25	0	
08:45 AM	2	0	0	0	38	0	0	0	0	0	0	0	1	21	2	0	3	0	13	14	18	0	0	2	0	0	33	1	
09:00 AM	2	1	0	0	37	1	1	0	0	2	0	1	4	19	5	2	2	0	10	18	24	3	0	1	0	0	23	0	
PEAK HOUR TOTALS	8	3	3	0	235	3	0	5	1	2	0	2	9	64	18	4	8	0	21	38	57	12	0	5	0	5	127	0	
ALL MOVEMENTS	238							75							116							132							561
% HV	1.3%							2.7%							6.9%							3.8%							3.2%
% Buses	1.3%							1.3%							3.4%							0.0%							1.4%
PEAK HOUR FACTOR	0.96							0.69							0.74							0.94							0.94

PHF = Peak Hour Factor

7:00 AM - 9:00 AM PEAK HOUR: 7:15 AM TO 8:15 AM

REDUCED BY: CN

DATE OF REDUCTION: 6/5/2013