Countryman, Ryan

From: Tom McCormick <tommccormick@mac.com>
Sent: Friday, August 12, 2016 3:33 PM
To: Kendra Dedinsky
Cc: Debbie Tarry; Countryman, Ryan; Gretchen Brunner; Richard Schipanski; Bill Willard; John John; Tom Mailhot; Jerry Patterson; Kurt Gahnberg; Mike Swenson, PE, PTOE
Subject: Re: Grossly incorrect trip distribution for Richmond Beach Road
Attachments: 20th Ave NW @ NW 195th St - AM - 06-05-13.pdf.pdf

Kendra,

Thank you for your reply.

City Councilmembers have all expressed concern about Point Wells' severe traffic impact, and a desire to do what they can to control and limit the impact. Two basic things that can be done now are: (1) accurately count, in a verifiable manner, the current traffic volume up the Richmond Beach Drive/195th St/Richmond Beach Road/185th St corridor, and (2) accurately determine, in a verifiable manner, the current trip distribution of traffic originating form the lower Richmond Beach area. Then, and only then, should the City use the counts and trip distribution data as a baseline for determining spare capacity of our roads, for determining where LOS violations might occur, and for making assumptions for modeling.

We are concerned, for instance, that the City is using inaccurate counts and faulty trip distribution assumptions to determine the spare capacity of Richmond Beach Road, causing at least a 2,000 ADT overestimate of the spare capacity of a 3-lane Richmond Beach Road. An overestimate of such magnitude would produce extremely severe congestion on Richmond Beach Road, were Snohomish County to rely on the City's spare capacity calculations in approving a development at Point Wells.

You, City staff, City Councilmembers, Snohomish County, our coalition, and residents throughout the City, all have a common goal: We want to be 100% certain that any traffic data used by the City, the County, and the Point Wells DEIS consultants, is accurate, truthful, and can withstand challenge. In a few years, there will be a hearing on the Point Wells FEIS and BSRE's applications to develop Point Wells. Traffic is and will be the number one issue. The City will almost certainly be called to testify on traffic data and modeling, and be subject to probing cross examination. Let's do all we can now to ensure the accuracy and defensibility of the data and assumptions that the City furnishes to Snohomish County and others.

Here are two of many items that need attention now: (1) the City's count of traffic volume on Richmond Beach Road immediately west of the NW 190th St/Richmond Beach Road intersection; and (2) the City's assumed percentage of trips originating in lower Richmond Beach that travel up the hill to the NW 190th St/Richmond Beach Road intersection. These items are both critical variables in the equation that determines how much spare capacity a 3-lane Richmond Beach Road will have under the City's 0.90 V/C standard.

1. Traffic volume on Richmond Beach Road immediately west of the NW 190th St/Richmond Beach Road intersection

Counting vehicles and their turning movements is elementary, but the stakes are high.

The City's most recent tube count of traffic volume on Richmond Beach Road immediately west of the NW 190th St/Richmond Beach Road intersection (9,764 ADTs) is an outlier. It needs to be redone, now, before the count is used for any Point Wells-related purpose. The City performed six prior tube counts from 2005-2014, with an average count of 12,014 ADTs. We trust those six counts, and not the outlier 9,764 ADT count. We are so concerned about the

outlier 9,764 ADT count, that our coalition commissioned its own tube count about two months ago. The result, 11,859 ADTs, was in line with the City's six previous counts.

To put to rest the contested accuracy of the City's most recent traffic count, we urge the City to employ a firm like iDax Data Solutions or Traffic Count Consultants, Inc., to do video-based traffic data collection (not tubes or on-site turning movement counts) to achieve 100% accuracy. We expect that the video recording would be retained for verification purposes. Video-based traffic data collection with retention of the video recording will be easy to defend, and should be able to withstand challenge, as long as the data is collected over a representative time period. We hereby request that the City perform a Tuesday-Wednesday-Thursday video-based traffic count during a non-holiday week in the fall or spring when school is in session and the weather is normal.

Everyone's goal is accuracy, truthfulness, and defensibility. Video-based traffic data collection for a representative three-day period may cost a little more than tube counts. If money for such counts is "not in the budget," we expect that Staff would request the Council to approve a budget adjustment.

2. Percentage of trips originating in lower Richmond Beach that travel up the hill at least as far as the NW 190th St/Richmond Beach Road intersection

You state that, "The only way to truly gauge current travel patterns to/from the Richmond Beach area would be through an origin/destination study." Given that the stakes are so high, such a study is exactly what we expect the City will perform. We need to know exactly how many current trips originating in lower Richmond Beach travel up the hill at least as far as the NW 190th St/Richmond Beach Road intersection. Do roughly 92% of the trips travel up the hill, as estimated in my July 18 email, with the other 8% either turning north on 24th, 20th, 15th or turning south on 15th? Or do just 65-70% of the trips travel up the hill, as the City seems to assume? Or maybe the percentage is 81%, or 87%, or ...? We need a thorough origin/destination study to answer this question, spanning a representative time period. If funds are "not in the budget," we expect that Staff would request the Council to approve a budget adjustment.

As to our July 18 rough estimate that 92% of the trips from lower Richmond Beach travel up the hill, you say that, "Counts taken at various points (hard data referenced) don't indicate that a specific trip is traveling through the network." I don't disagree, but so far, the City has come up with nothing better. A thorough origin/destination study is needed, spanning a representative time period. Meanwhile, let me give another example, using the 2013 turning movement counts for the NW 195th St/20th Ave NW intersection (PDF attached): The folks who live between the Little Store and Saltwater Park (that is, south of NW 195th St) all enter the road network via the NW 195th St/20th Ave NW intersection. It's their only entry point (just like Richmond Beach Drive is the only entry point for Point Wells). The 2013 turning movement counts reveal that 75 peak AM trips approach the NW 195th St/20th Ave NW intersection from the south on 20th Ave NW. Of the 75 trips, 9 go north (12%), 2 go west (3%), and 64 go east (85%). So, extrapolating from the limited 2013 data set, if there are 100 peak AM trips by those who live between the Little Store and Saltwater Park, about 85 head east. The only remaining leakage point for this group is 15th Ave NW. Based on other 2013 data, we know that about 5% of all peak AM trips from all entry points that approach the NW 195th St/15th Ave NW intersection from the west will turn either south or north on 15th Ave NW. So we can fairly assume that 5% of the 85 (about 4 trips) will leak south or north, but the rest of the trips will make it to the top of the hill—so, subtracting those four trips, we are left with 81% of the trips in this example traveling to the top of the hill. And consider this: If we add in the trips approaching the NW 195th St/20th Ave NW intersection from the west on NW 195th St (132 trips; 127 of them continue east), and apply the same analysis as above, then the combined percentage of trips that travel to the top of the hill would be about 87%.

My examples, based on limited data, produce a range of 81%-87%-92% of trips that travel to the top of the hill vs. the City's assumed 65%-70% (note: a document the City provided me, entitled "Talking points regarding traffic counts," states that, "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."). Where does the 65%-70% range come from? Could you please provide me with data and and calculations that show how the 65%-70% range was arrived at?

Finally, I would like to respond to your suggestion that it might be a good idea to seek help to get a "clearer picture of the differences between turning movement/tube counts and origin/destination studies." We are well aware of the differences. We have done our homework. And we have twice engaged a traffic counting firm to perform tube counts and turning movement counts for us. It is precisely because we have done our homework that we are so concerned about the City's lack of precision in its traffic counts and modeling assumptions, resulting among other things, in a flawed picture of how much spare capacity Richmond Beach Road has.

Thank you.

Tom McCormick

On Jul 26, 2016, at 5:18 PM, Kendra Dedinsky <kdedinsky@shorelinewa.gov> wrote:

Hi Tom, I apologize for my delay in getting back to you. I've had some daycare struggles this month so have been in and out of the office.

In general, the City of Shoreline does have concerns about the modeling and trip distribution/assignment as we previously stated in our comments to Snohomish County. That said, there is some degree of professional judgment that comes into play in assigning trips to a street network in a traffic model. The only way to truly gauge current travel patterns to/from the Richmond Beach area would be through an origin/destination study. Counts taken at various points (hard data referenced) don't indicate that a specific trip is traveling through the network. For example, a trip from Richmond Beach Drive might turn north to 20th Ave NW but a trip may enter the corridor from another neighborhood in the vicinity, accounting for a trip counted at 8th NW. It isn't possible to get the origin/destination patterns simply from traffic counts – you have to track specific cars all the way through the network to get this information. For future land uses, specific origin/destination information isn't available so modeling assumptions and professional judgment are necessarily employed to forecast and predict trip patterns. If you still have Transportation Engineering Northwest under contract, they may be able to give you a clearer picture of the differences between turning movement/tube counts and origin/destination studies.

As we move forward, the City will definitely be scrutinizing the trip distribution and modeling efforts very carefully however further evaluation of old modeling efforts wouldn't be a useful exercise since another iteration is forthcoming.

Thanks,

Kendra Dedinsky, PE, PTOE
City of Shoreline Public Works
City Traffic Engineer
(206) 801-2431
"Working together, protecting our resources, making a difference"
- City of Shoreline Public Works Mission -

From: Tom McCormick [mailto:tommccormick@mac.com]
Sent: Monday, July 18, 2016 2:52 PM

To: Kendra Dedinsky
Cc: Debbie Tarry; Ryan Countryman; Gretchen Brunner; Richard Schipanski; Bill Willard; John John; Tom Mailhot; Jerry Patterson; Tom McCormick
Subject: Grossly incorrect trip distribution for Richmond Beach Road

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 <u>all</u> 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