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To: City of Spokane  
Planning Department

From: Zak Sargent, PE  
Spokane, WA

Reference: Deep Pine Overlook - PUD  
Unit Threshold for Right Hand Turn

Date: October 16, 2017

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Our traffic analysis letter for this project dated June 10, 2011 identified that a right turn lane into this development will eventually be required. The right turn lane guidelines are given in the WSDOT Design Manual and are based on the right turn and through traffic volumes projected at the site access point. This letter was followed by a threshold memo dated July 1, 2011 that addressed the number of units that can be constructed before the right turn lane is necessary. This memo indicated that actual traffic data from the new ramp should be used to determine the actual unit threshold before the turn lane is necessary.

The City of Spokane, while reviewing the revised application, has requested that the data provided in the July 20, 2017 trip generation memo be used to update the unit threshold memo. As before, since this threshold is based on the number of trips into the site, which is based on units constructed, and the number of trips passing by the site, which is based on the passage of time, it is not possible to pin down an exact number without knowing exactly when each house will be built. Construction is based on unpredictable market forces, so the same assumptions were made.

Attached is a copy of Exhibit 1310-11 from the 2015 WSDOT Design Manual. On this figure we have sketched out three development scenarios to determine how many units could be built before a right turn lane is necessary. These are based on a linear build out as well as a growth percentage of background traffic. The results are tabulated below:

| <b>Right Turn Lane Threshold</b>                 |  |
|--|--|
| Scenario   | Unit Threshold Before Turn Lane is Necessary |
| All units constructed by 2018                    | 60   |
| Units constructed linearly between 2018 and 2030 | 43   |
| All units constructed in 2030 or later           | 30   |

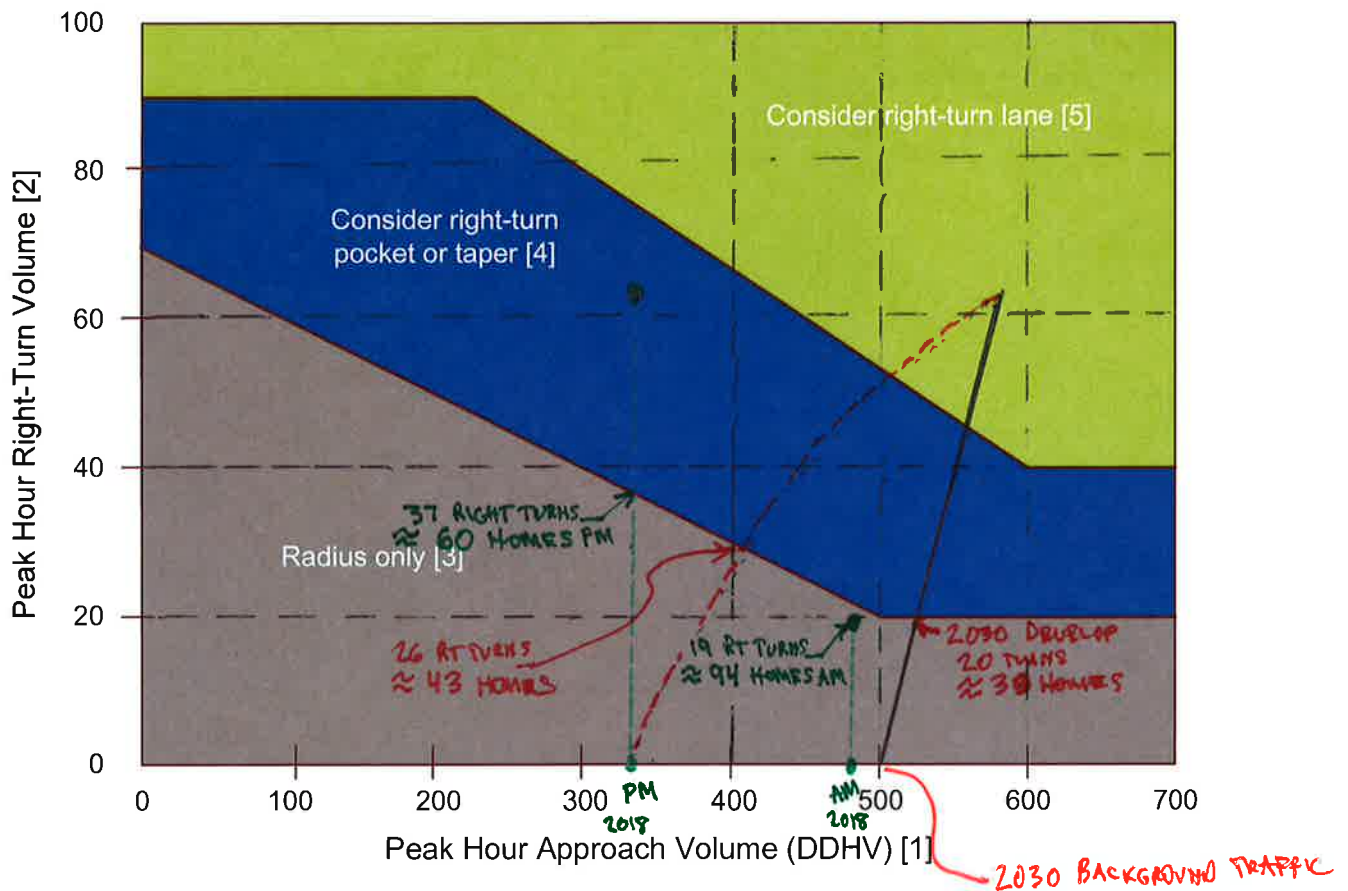
Even under the worst case, 33 units could be constructed before a turn lane needs to be constructed under WSDOT's standards based on the provided traffic model.

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Exhibit 1310-11 Right-Turn Lane Guidelines

**Notes:**

- [1] For two-lane highways, use the peak hour DDHV (through + right-turn).  
For multilane, high-speed highways (posted speed 45 mph or above), use the right-lane peak hour approach volume (through + right-turn).
- [2] When all three of the following conditions are met, reduce the right-turn DDHV by 20:
  - The posted speed is 45 mph or below
  - The right-turn volume is greater than 40 VPH
  - The peak hour approach volume (DDHV) is less than 300 VPH
- [3] For right-turn corner design, see Exhibit 1310-6.
- [4] For right-turn pocket or taper design, see Exhibit 1310-12.
- [5] For right-turn lane design, see Exhibit 1310-13.