

Cate, Sylvia

From: GRASSMAN Jason M [Jason M GRASSMAN@odot.state.or.us]
Sent: Wednesday, March 21, 2007 4:22 PM
To: Cate, Sylvia
Cc: KIEFFER Loretta L; JENSVOLD Martin R; KEVLIN Ross P; Jeffrey, Jamie; Del Huntington
Subject: ODOT's Completeness Review for LU 06-154964 CU ZC

<<231835841353.pdf>> <<Intersection Sight Distance Standards for On Site Review.pdf>>

I have attached ODOT's review of the Traffic Impact Analysis (TIA) for the NE 82nd Avenue Shopping and the "Completeness Review Response" memorandum.

Sincerely,

Jason Grassman, P.E.
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Development Review Team Leader
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PUBLIC REVIEW
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Theodore R. Kulongoski, Governor

Oregon Department of Transportation

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March 21, 2007

City of Portland
Bureau of Development Services
1900 SE Fourth Avenue, Suite 5000
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Re: ODOT's Completeness Review for LU 06-154964 CU ZC

Dear Sylvia Cate:

I have reviewed the Traffic Impact Analysis (TIA) for the NE 82nd Avenue Shopping prepared in August 2006 and also the "Completeness Review Response" memorandum (memo) prepared February 13, 2007. The both documents were prepared by Del Huntington, et al, of Kittelson and Associates.

ODOT has determined that the two documents, the TIA and the Feb. 13 memo are incomplete. Additional information is necessary to make a determination as to the effect the proposed shopping center will have on our facilities.

VICINITY

Both documents were prepared in support of the proposed 240,000 square foot shopping center located at 2800 NE 82nd Avenue. NE Siskiyou to the north is the nearest cross-street. NE 82nd (OR213) Avenue is classified as a district highway. The posted speed is 35 mph. According to the *Oregon Highway Plan* the maximum volume to capacity (v/c) is 0.99. According to OAR 734-051 the minimum access spacing in the vicinity of the development is 400 feet.

TRIP GENERATION

According to Table 7 of the TIA the net new trip generated by the site will generate 7,915 weekday trips and 735 pm peak hour trips. The assumed land use is Shopping Center which is consistent with other TIA's for similar developments. The applicant needs to add the AM and Weekend peak hour trips to this table.

Trip distribution and assignment need to be shown on a vicinity map, as percentages and trips at significant intersections given in Table 7 for the weekend and AM peak hours.

PROGRESSION ANALYSIS

The proposed signal at the NE 82nd/Madison High School intersection falls within the City of Portland's coordinated series of signals that span from NE Multnomah St. north to NE Freemont St. The 20-year progression analysis shall include all signals along OR213 from NE Multnomah St. to NE Freemont St.

The applicant needs to provide a progression analysis 20 years in the future as required in OAR 734-020-0480(2) for the AM, PM, and weekend timing plans.

The applicant needs to provide the weekend, AM, and PM peak hour turning movement counts for the NE 82nd Intersections used in the progression analysis. They also need to provide the v/c ratio and 95th percentile queues for all OR213 signalized intersections from NE Multnomah St. north to NE Freemont St.

NE 82nd /CELL TOWER ACCESS

Please provide a topographical map of the site. ODOT is concerned about intersection sight distance at this location. Adequate intersection sight distance shall be verified for this approach as required by the paper *Intersection Sight Distance Measurement Standards for On-Site Review of Approaches* (see attached). The applicant also needs to provide documentation that explains why the site plan can't be modified to provide access to the cell tower internally.

NE 82nd /MAIN ACCESS/MADISON HIGH SCHOOL

The proposed main access is located across from the Madison High School access where there is an existing signalized pedestrian crossing. The developer has proposed to construct a fourth leg to this intersection and replace the pedestrian signal with a traffic signal.

The applicant needs to provide scalable (1"=20' is desirable) diagrams of a WB-67 truck turning both right and left into and out of this access.

The applicant needs to provide the 2008 and 2028, AM, PM, and weekend peak hour v/c ratio and the 95th percentile queue analyses of this intersection without the furniture access. All signal analysis shall use adequate pedestrian signal crossing times with 7 seconds of walk and the standard 4 ft/s equation for the approved cross-section.

ODOT is concerned about intersection sight distance. Intersection sight distance for this approach shall be verified by the applicant as required by the paper *Intersection Sight Distance Measurement Standards for On-Site Review of Approaches*.

NE 82nd /CARPET STORE ACCESS

The applicant has proposed constructing a right-in/right-out only access on the south side of the carpet store north of the proposed signalized access. According to Table 10 of the TIA, the southbound left at the proposed modified signal at Madison High School has 95th percentile queue is 365 feet. The carpet store access is only approximately 240 feet north of the Madison High School intersection. The applicant proposes to install a traffic separator in the median to enforce the restriction. Currently, the highway median is approximately 12' wide. According to the *Highway Design Manual* the

minimum median width with traffic separator is 16 feet, so with the substandard median ODOT does not believe installing a traffic separator is a viable option.

ODOT is concerned about intersection sight distance at this location. Intersection sight distance for this approach shall be verified by the applicant as required by the paper *Intersection Sight Distance Measurement Standards for On-Site Review of Approaches*. (As stated earlier, the applicant's evaluation of the anticipated impacts of this development must include a scenario that doesn't include this access.)

The applicant shall provide 95th-percentile queue analysis for the 2008 traffic conditions to demonstrate whether site circulation in the vicinity of the access is adequate.

The applicant has not shown a need for this access. With only 16 peak hour trips, ODOT believes that the carpet store traffic should be allowed to traverse the shopping center parking lot to its signalized access. The carpet store apparently has an easement through the commercial development on the north side of the building as well. Both these easements could be modified to provide the carpet store access to the signalized intersection.

NE 84th Avenue

NE 84th Avenue abuts the subject property on the south side. The applicant needs to provide documentation regarding whether 84th Avenue is or could be made a viable access option for the proposed development.

NE 82nd /SANDY ST

New existing manual traffic counts need to be taken for this intersection. Counts should not be taken within a week of state or federal holidays. Counts on the weekday shall be conducted either on a Tuesday, Wednesday, or Thursday. Also ODOT has observed that this intersection is operating at or near capacity. The unserved demand shall be added to the traffic counts. The unserved demand is determined by subtracting the number of vehicles in the individual queues for each lane at the beginning of the peak hour from the number of vehicles in the respective individual queues for each lane at the end of the peak hour.

CONCLUSION

ODOT cannot make a determination as to whether the proposed shopping center will have an adverse affect on our facilities until the items listed above are provided.

If you have any questions, please contact me at (503) 731-8221.

Sincerely,



Jason Grassman, PE – Development Review Team Leader
ODOT Region 1 Traffic

Cc: Loretta Kieffer – ODOT District 2B Access Coordinator
Marty Jensvold, PE – ODOT Region 1 Access Management Engineer
Ross Kevlin – ODOT Region 1 Associate Planner
Jamie Jeffrey, PE – City of Portland Office of Transportation
Del Huntington – Kittelson & Associates



Intersection Sight Distance Measurement Standards for On-Site Review of Approaches

Intersection Sight Distance Standards

The following standards shall be utilized in the performance of the on-site review as required by 734-051-0100 (6) (a) (A) in reviewing proposed approaches:

- Driver's Eye Height:** 3.5 feet
Object Height: 3.5 feet
Position of Driver's Eye on the Approach: 15 feet (measured from edge of traveled way)
Measurement Standards: AASHTO's 2001 Policy on Geometric Design of Highways and Streets 7.5 second gap standard shall be utilized, which results in the following values for intersection sight distance:

<i>Posted Speed (mph)</i>	<i>Approximate Design Speed (mph)</i>	<i>Intersection Sight Distance (feet)¹</i>
20	25	280
25	30	335
30	35	390
35	40	445
40	45	500
45	55	610
50	65	720
55	70	775
60	70	775
65	70	775

NOTES: The following would be variables that would be examined on a case by case basis and may be varied by the RAMEs or an engineer registered in the state of Oregon:

- 1) Distance to the front of a stopped vehicle. There will be situations where it will be appropriate to vary this distance.
- 2) The speed measure utilized to determine the required sight distance may be varied based upon an engineering study. The object height may be varied in those situations as determined appropriate.

¹ Revised Sight Distances implemented in CHAMPS Release 9/12/03