



# Oregon

Theodore R. Kulongoski, Governor

Oregon Department of Transportation

ODOT Region 1  
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September 5, 2006

City of Portland  
Bureau of Development Services  
1900 SE Fourth Avenue, Suite 5000  
Portland, OR 97201

**Re: ODOT's Completeness Review for LU 06-154964 CU ZC**

Dear Sylvia Cate:

ODOT Region 1 Traffic has reviewed the *NE 82<sup>nd</sup> Avenue Shopping Center Traffic Impact Study* (TIS) prepared by Kittelson & Associates in August of 2006. In the TIS, the applicant proposes to build approximately 225,000 square feet of retail on the east side of NE 82<sup>nd</sup> Avenue (OR213) between NE Siskiyou Street and NE Russell Street. The applicant also proposes four approaches on OR213 and a traffic signal modification to the existing James Madison High School pedestrian signal. After an internal discussion about the four approaches and the traffic signal modification, our office has determined we need additional information and analysis in order to make findings for the four approach permit applications, the traffic signal modification application, and the conditional use permit application.

#### Proposed Right-In / Right-Out Approach North of the Carpet Store

The applicant has applied for an approach permit to create a joint right-in / right-out only approach with the existing carpet store north of the carpet store building. Our office has concerns that the vehicle queues generated by the OR213 / NE Siskiyou Street and OR213 / James Madison High School traffic signals with the current highway lane widths could make it difficult to provide for the north- and southbound left-turn movements while effectively restricting the access with a curbed median. An option our office would like the applicant to consider would be installing a large curve radius curb on the east side of the highway restricting the approach to a right-out only. The applicant shall provide a drawing showing that a truck with a wheel-base of 67 feet can safely make a right-turn onto the highway with this restricted approach. A site plan shall be submitted showing how the applicant's property and the carpet store's property ties into this joint approach.

Our office would also like the applicant to analyze an option without this access where the existing carpet store would access through the applicant's property via the proposed James Madison High School traffic signal modification. A site plan shall be provided

showing how the existing carpet store traffic will maneuver through the applicant's site proposal.

If the applicant still wants to pursue a joint right-in / right-out only approach, our office would like the applicant to provide us with a drawing showing that a truck with a wheel-base of 67 feet can safely make a right-turn onto the highway with the restricted right-in / right-out approach. We would also like a drawing of the proposed curb median design on the highway and a site plan showing how the two properties tie into this joint approach.

#### Existing Carpet Store Ingress Approach

As stated in my February 2, 2006 letter to Kittelson & Associates, the applicant will need to apply for an approach permit for the existing carpet store's ingress approach located south of the carpet store building. This approach currently rests on the applicant's property's and then curves onto the carpet store's property. Since the vehicle trips generated by the proposed 225,000 square feet of retail triggers a 'change of use' under Oregon Administrative Rule (OAR) 734-051-0045, the applicant will need to apply for an approach permit for this approach.

Our office has concerns about the safety of the ingress approach since the applicant's intends to stripe a southbound left-turn lane for the proposed modification to the James Madison High School traffic signal. An option our office would like the applicant to consider would be installing a large curve radius curb on the east side of the highway restricting the approach to a right-in only. The applicant shall provide a drawing showing that the largest truck size serving the existing carpet store can safely exit from the highway onto this approach. A site plan should be submitted showing how this approach will effectively serve the carpet store's property.

Our office would also like the applicant to analyze an option without this access where the existing carpet store would access through the applicant's property via the proposed James Madison High School traffic signal modification. A site plan shall be provided showing how the existing carpet store traffic will maneuver through the applicant's site proposal.

If the applicant does not want to restrict or close this approach, our office would like the applicant to provide us with a drawing showing the largest truck size serving the existing carpet store can safely make a right-turn off the highway with the applicant's preferred design of the approach. We would also like existing left-in / right-in PM peak hour counts for this approach and a site plan showing how this approach will effectively serve the carpet store's property.

#### James Madison High School Traffic Signal Modification

The applicant has applied for an approach permit to align with the existing James Madison High School approach and stated the intent to replace the existing pedestrian signal with a standard traffic signal. The proposed traffic signal must meet the

standards listed in OAR 734-020 and the applicant must obtain approval for its installation from the State Traffic Engineer.

In the TIS, the applicant's traffic consultant recommends the applicant should allocate \$10,000 to City of Portland to revise the traffic signal timing. ODOT does not support this recommendation. Any proposed traffic signal timing revisions should be submitted within the application process for ODOT and the City of Portland review to determine if the retiming reasonably mitigates any impacts caused by this traffic signal modification.

This past May, the City of Portland retimed the traffic signals along OR213. As part of this retiming, the City created a coordinated system from NE Killingsworth Street to NE Siskiyou Street and a separate coordinated system from NE Tillamook Street to NE Multnomah Street. The James Madison High School pedestrian signal is approximately 650 feet from NE Siskiyou Street traffic signal and approximately 1900 feet from the NE Tillamook Street traffic signal. This pedestrian signal should be coordinated into the NE Killingsworth Street to NE Siskiyou Street coordinated system since it is closer to NE Siskiyou Street than NE Tillamook Street.

OAR 734-020-0480 (1)(e) requires the traffic signal modification to maintain a progression bandwidth as large as that required, or presently exists, for through traffic on the state highway. Our office requests the applicant to tie the traffic signal installation proposal into the NE Killingsworth Street to NE Siskiyou Street coordinated system. OR213 currently has five timing plans. Region 1 Traffic staff requests the following progression analyses to be submitted in the revised traffic impact study:

1. Weekend – If the existing bandwidth is impacted by the proposed signal modification, the applicant must retime the NE Killingsworth Street to NE Siskiyou Street section of the corridor so the new bandwidth is reasonable compared to the existing bandwidth.
2. Weekday AM – A full progression analysis, no matter if the existing bandwidth is impacted, from NE Killingsworth Street to NE Siskiyou Street under year of opening background, year of opening with project, and 2026 conditions using optimized bandwidths showing no degradation to the bandwidth.
3. Weekday PM – A full progression analysis, no matter if the existing bandwidth is impacted, from NE Killingsworth Street to NE Siskiyou Street under year of opening background, year of opening with project, and 2026 conditions using optimized bandwidths showing no degradation to the bandwidth.
4. Weekday Night – If the existing bandwidth is impacted by the proposed signal modification, the applicant must retime the NE Killingsworth Street to NE Siskiyou Street section of the corridor so the new bandwidth is reasonable compared to the existing bandwidth.
5. Weekday Midday – A full progression analysis, no matter if the existing bandwidth is impacted, from NE Killingsworth Street to NE Siskiyou Street under year of opening background, year of opening with project, and 2026 conditions using optimized bandwidths showing no degradation to the bandwidth.

There should be a table in the TIS of the existing and proposed bandwidths with time-space diagrams (displaying maximum optimized bandwidths) in the appendix supporting this table. Retiming of the traffic signals should not cause intersections on OR213 to go above ODOT's mobility standard, create unsafe queues, or significantly reduce the band speed along the corridor. For any progression and retiming analysis, the

applicant's traffic consultant should use Synchro and SimTraffic computer software with proper default settings as listed in my February 2, 2006 letter to Kittelson & Associates.

In order to do the retiming analysis, the applicant will need to do turning movement counts at different times in the week and at additional intersections. The turning movement traffic counts shall not be more than a year old from the date the revised study. Counts should not be taken within a week of state or federal holidays and shall be conducted either on a Tuesday, Wednesday, or Thursday. The counts shall be collected when James Madison High School is in session.

The TIS recommends the applicant collect pedestrian counts prior to installation of the traffic signal to develop the appropriate timing and phasing for the signal. Pedestrian counts should be submitted within the application process for ODOT and the City of Portland review to determine if the proposed retiming is reasonable for pedestrians. The applicant should collect pedestrian counts at the James Madison High School pedestrian signal and the OR213 / NE Siskiyou Street intersection during the AM peak hour, PM peak hour, and during James Madison High School's lunch time. The applicant's traffic consultant should incorporate the OR213 / NE Siskiyou Street intersection pedestrian counts going across OR213 at the James Madison High School signal into the retiming.

The TIS also recommends installing a northbound right-turn lane for the OR213 / James Madison High School traffic signal. The bandwidth and retiming analysis should consider the longer crossing length and time required for pedestrians to cross OR213 due to this additional right-turn lane.

The applicant shall provide a drawing showing that a truck with a wheel-base of 67 feet can safely make a right-turn off the highway onto the applicant's property.

As listed in OAR 734-020-0460(1), a traffic signal shall not be installed unless one or more of the eight warrants identified in the Manual of Uniform Traffic Control Devices (MUTCD) are met under the existing condition without the proposed development. Typically, ODOT requires the Eight-Hour Volume Warrant to be satisfied, as opposed to the Peak Hour or Four Hour Volume Warrant, in order to approve a traffic signal installation on the highway. An analysis needs to be conducted to see if the anticipated total traffic volume at the intersection with the shopping center traffic satisfies the Eight-Hour Volume Warrant. Traffic counts need to be collected at the approaches of a site similar to shopping center store for 12 continuous hours to determine the eighth highest hourly volume as a percentage of the peak hour volume. The applicant can use the 12 continuous hours counts collected from a Target store in the *82nd Ave/Glencoe Rd: Traffic Signal Approval Request* prepared by DKS Associates. The traffic signal warrant analysis should use the appropriate right-turn reduction factor as derived in the capacity analysis (as seen in the *TPAU Procedure Manual for Preliminary Signal Warrants*). A second traffic signal warrant analysis should be conducted to consider how warrants would change if an exclusive right-turn lane is added to the applicant's approach.

To understand the parking lot operations for James Madison High School and Glenhaven Park, our office would like the applicant to contact the high school to find out if the high school chains or gates its property to restrict vehicle movements at certain

times of the day. The applicant shall provide us this information listing the locations of the restrictions and a description of when they are in effect.

The applicant should work with James Madison High School in determining ways to improve the high school's approach width, striping, and throat distance. These recommended improvements should be supplied by the applicant in the approach permit and traffic signal installation application.

Prior to installation of the signal, an easement would need to be obtained from the school district to install traffic detector loops and other related equipment on their property.

The lane widths along OR213 currently do not meet ODOT design standards. ODOT might place a condition on the access permit or the signal installation permit requiring the applicant to either dedicate right-of-way and/or to rebuild the intersection to comply with ODOT standards. Our office may request the City of Portland to request right-of-way dedication along OR213 as condition of the land use approval. The applicant should supply information in the approach permit and traffic signal installation application on whether he/she will be seeking design exceptions for the traffic signal regarding lane widths and/or other design features and a listing of those design exceptions.

#### Existing Gated Cellphone Tower Approach

As stated in my February 2, 2006 letter to Kittelson & Associates, the applicant will need to apply for an approach permit for the existing gated cellphone tower approach located southwest corner of the applicant's property. Since the vehicle trips generated by the proposed 225,000 square feet of retail triggers a 'change of use' under OAR 734-051-0045, the applicant will need to apply for an approach permit for this approach. The applicant will need to provide evidence, including a topographical map, showing that service vehicles cannot reach the cellphone tower through the proposed site plan due to the topography and the topography or layout of the site cannot be modified to make an internal access possible.

The applicant will also need to provide an intersection sight distance measurement looking north and south from this approach. This approach must meet an intersection sight distance greater than or equal to 445 feet.

#### Other Comments

ODOT has concerns that trucks with a wheelbase of 67 feet would not be able circulate easily through the proposed site plan. Our office would like to see a site plan that shows truck turning templates for every curve on the site's truck route.

The TIS shows the OR213 / NE Fremont Street intersection having an eastbound left-turn lane and a shared through / right-turn lane. According to ArcView GIS and Portland Maps, this eastbound approach has a shared left-turn / through lane and a right-turn


lane. This intersection should be reanalyzed since the TIS Traffix files shows the NE Fremont Street approaches having a longer green phase per cycle than the OR213 approaches. NE Fremont Street has a lower traffic demand than OR213.

Figures 4, 5, 9, 11, & 12 in the TIS for the OR213 / Sandy Boulevard intersection are incorrect for all the traffic volumes at this intersection. The manual turning movement counts in the TIS appendix are also incorrect for this intersection. The v/c and queue analysis for this intersection needs to be redone using new counts.

The TIS appears to be missing 2008 and 2028 background 95<sup>th</sup>-percentile queue analysis for the OR213 / NE Fremont Street and the OR213 / NE Jonesmore Street intersections.

If you have any questions, feel free to contact me at (503) 731-8225.

Sincerely,



Joseph Auth, PE  
ODOT Region 1 Traffic

Cc: Loretta Kieffer – ODOT District 2B Access Coordinator  
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