



Oregon

Kate Brown, Governor

Department of Transportation

Region 1 Headquarters

123 NW Flanders St

Portland, OR, 97209

April 13, 2018

TO: Jillian Detweiler, Street Trust Executive Director

CC: Leah Treat, PBOT Director

Matt Grumm, Senior Policy Director, Commissioner Saltzman

RE: SE 26th Avenue (north & south of SE Powell Blvd.) Conditions of Approval for the new signal at SE 28th Avenue

Thank you for providing your analysis and recommendations regarding SE 26th Ave in follow-up to our meeting on March 8. My engineering staff have reviewed your requests and I would like to take this opportunity to provide background on the Conditions of Approval for the SE 28th Ave signal and respond to each request.

First, let me say that ODOT takes the safety of all modes seriously and is in the process of providing significant safety improvements for all modes as part of our Inner Powell Safety Project, which recently began construction. This project was informed by a multi-disciplinary, multi-agency Road Safety Audit which included extensive field work, analysis of safety data and concerns, and community input. The project will construct:

- Enhanced pedestrian crossings with Rectangular Rapid Flashing Beacons (RRFBs), high visibility crosswalks, and median refuge islands at SE 24th, 31st, and 34th Avenues;
- New traffic signals with enhanced safety features, including audible, accessible pedestrian signals at SE 21st, 26th, and 33rd Avenues;
- Improved street lighting; and
- Accessible curb ramps and sidewalk repair throughout the project area.

At the Powell/26th intersection there have been seven reported crashes where people biking were injured and three reported crashes where people walking were injured over the most recent 10 years for which we have available data (January 1, 2007 to December 31, 2016). Four of these crashes involved vehicles making left turns failing to yield to people walking and biking, four involved travelers failing to obey the traffic signal or yield right-of-way, and two were "right-hook" bicycle crashes.

ODOT's Inner Powell Safety Project will address the left turn crashes by permanently implementing protected left turn phasing on all approaches to the intersection so that vehicles cannot legally make left turns while pedestrians have a WALK signal or while people biking through the intersection have a green signal. The project will also help to reduce red light running by providing bigger, more visible signal heads; improved street lighting; and enforcement lights that help law enforcement officers more efficiently and safely issue citations for drivers who disregard the signal.

Per the Conditions of Approval for the new SE 28th Avenue signal agreed to by PBOT, the bike lanes and bike boxes on SE 26th Avenue will be removed prior to the Inner Powell Safety Project replacing the signal at the Powell/26th intersection. In response to the Street Trust's request at our recent meeting, ODOT will retain the "No Right Turn On Red" restrictions on SE 26th Ave to reduce potential right turn conflicts on SE 26th Avenue. In addition, Leading Pedestrian Intervals were recently added to the Federal Highway Administration's list of Proven Safety Countermeasures and ODOT will be implementing a LPIs on the crossings of Powell Blvd at SE 26th Ave. The LPI will bring up the pedestrian WALK signal several seconds before vehicles on SE 26th Ave get a green signal. This will allow pedestrians to get into the crosswalk where they are more centered in a drivers' field of vision before the driver can begin making a right turn. The LPI will be implemented in conjunction with replacement of the traffic signal at SE 26th Ave because it will require changes to the traffic signal controller and adaptive signal system.

Also in response to your letter, ODOT fully supports the recommendation in the Street Trust's letter for PBOT to add wayfinding signage to make people biking on SE 26th more aware of the low-stress greenway on SE 28th Ave. Bike traffic on SE 26th Avenue should be encouraged to use the new enhanced signalized crossing at SE 28th Avenue which was specifically designed to eliminate conflicts between bicycle traffic crossing Powell and all motor vehicle movements.

As you can see from the attached memo from the State Traffic Engineer, he concurs that the data you provided may justify a different warrant for the signal at 28th, and he supports the provision of safe bike specific facilities. He has agreed that striping a three foot shoulder that bikes could use would be acceptable, which would provide striping and separation similar to the treatment there today, but that it cannot be designated as a "bike lane" unless it meets minimum safety standards for bike safety. The memo goes on to describe how bike lanes may be permitted if they meet minimum safety standards for bike safety. As you and PBOT are aware, the deadline for removal of the bike lanes was December 17, 2017, which is well over due. PBOT will need to determine if they will stripe the 3 foot shoulder or pursue one of the other options laid out in the memo by May 1st, 2018.

My hope is that these safety improvements, including the provision of a dedicated signalized crossing for people walking and biking at 28th, the addition of protected lefts to improve safety for all users, and the new provisions for "no right turn on red" and LPI to protect people walking and biking from right turn crashes help to address the concerns you've raised.

I appreciate you reaching out to the Department and working with us to find constructive ways to improve safety for all modes as part of this important safety project.

Sincerely,



Rian Windsheimer
ODOT Region 1 Manager

4/13/18

TO: Rian Windsheimer, ODOT Region 1 Manager

CC: Kate Freitag, ODOT Region 1 Traffic Engineer

FR: Mike Kimlinger, Interim ODOT State Traffic-Roadway Engineer

RE: SE 26th Avenue (north & south of SE Powell Blvd.) Conditions of Approval for the new signal at SE 28th Avenue

The new signal at SE 28th Avenue across SE Powell Blvd. was designed and installed by PBOT as part of a larger local agency project: the 20s Bikeway. The new signal at SE 28th Avenue across SE Powell Blvd. became operational on June 30, 2017.

When PBOT originally approached ODOT about a new signal across SE Powell Blvd. at SE 28th Avenue, ODOT agreed with PBOT that adding this new signal would create a separated safer crossing for people walking and biking. It is a good alternative crossing location to SE Powell Blvd. at 26th Avenue which is constrained and has been identified as a high crash location. Since the new signal has become operational, ODOT staff from Region 1 and Salem Headquarters has observed how the new signal at SE 28th Avenue is functioning - and it is working well. Increasing numbers of people on foot and on bikes are using the signal at SE 28th Avenue to cross Powell Blvd.

When PBOT conducted the initial analysis to justify the new signal at SE 28th Avenue, the analysis assumed that a number of pedestrian and bicycle trips that currently use SE 26th Avenue to cross Powell Blvd. would shift to use the new crossing at SE 28th Avenue. PBOT proposed removal of the northbound bike lanes along SE 26th Avenue in their analysis to encourage this shift and justify the new signal at SE 28th Avenue. ODOT concurred and determined that for safety, the bike lanes along 26th Avenue in both directions should be removed. This became a condition of approval between ODOT and PBOT for the design and installation of the new signal at SE 28th Avenue under the Manual of Uniform Traffic Control Devices (MUTCD) Warrant 8: Roadway Network. This warrant justifies installing a signal "to encourage concentration and organization of traffic flow" onto designated major routes

In response to the Street Trust's letter, ODOT re-evaluated the latest traffic counts for SE 28th Ave at Powell Blvd. Based on these counts, it does appear that the 28th Ave signal could potentially meet the MUTCD Warrant 4: Pedestrian Volume based on the 70% factor (Figure 4C-8) for facilities with 85th percentile speeds greater than 35 miles per hour, if bicycles are counted as pedestrians (as allowed for under Section 4C.01.15). Until such engineering analysis is done, and a formal request is submitted by PBOT and approved, ODOT must uphold the current Condition of Approval requiring PBOT to remove the bike lanes on SE 26th Ave. However, even if the new warrant is met, ODOT still has strong

safety concerns about the existing riding environment on SE 26th approach to Powell Blvd. Any bicycle facilities on the intersection approaches must meet current industry standards to provide a functional and safe environment for all users. ODOT minimum width for a bike lane is 5-foot if it is next to a curb, or 4-foot from the stripe to the edge of the gutter. While there is some evidence that a 3-foot bike lane (measured from the stripe to edge of gutter) can provide a minimal benefit for people biking, this evidence has been limited to street segments between intersections where the adjacent motor vehicle lane is wide enough (11-foot minimum) to let people driving and biking pass each other safely. The existing motor vehicle and bicycle lanes at the SE 26th Ave intersection approaches are not wide enough to meet these criteria and provide little to no margin for error for people driving and biking.

If the new warrant is met, I could support the following strategies for bringing the bike facilities on SE 26th Ave up to an acceptable industry standard for safety:

- Widen 26th Ave to accommodate both protected lefts and provide standard (minimum 5-foot) bike lanes at the intersection approaches; or
- Remove the bike lane at the intersection approach in one direction and restripe SE 26th Ave with a standard bike lane in one direction and a shared lane marking in the other direction; or
- Replace the bike lane striping at the intersection approaches with 4" shoulder striping and/or shared lane markings which would preserve a stripe and 3 foot area for bikes should they choose to use it, just without the designation as a bike lane. (This option can also be implemented without addressing the signal warrant since it is consistent with the current condition of approval)

Any proposed changes to the configuration of the SE 26th Ave approaches to Powell must maintain the existing left turn lane and protected left-turn phasing, as permissive left-turn phasing represents a large portion the serious injury crashes involving vulnerable users and overall crashes at this intersection.