

SE POWELL BOULEVARD HIGH CRASH CORRIDOR SAFETY PLAN



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CITY OF PORTLAND
BUREAU OF TRANSPORTATION

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VISION ZERO

The City of Portland is committed to Vision Zero, achieving zero deaths and serious injuries on our roadways by 2025. The High Crash Corridor program, focusing on ten of Portland's roadways with high concentrations of crashes, is instrumental in the Vision Zero strategy. The HCC program uses relatively inexpensive education, enforcement and engineering solutions to address crash problems in a short period of time. PBOT focuses on three high crash corridors a year; SE Powell Boulevard, from SE 7th Ave to SE 92nd Ave, was a focus in 2013 and 2014.

KEY FINDINGS: SE POWELL BOULEVARD, SE 7th-92nd Ave (Data 2002-2011)

Pedestrian Crashes / Crossings

50% higher pedestrian crash rate than citywide

6 fatal pedestrian crashes in ten years

3-4 blocks is the average distance between pedestrian crossing improvements (signals or pedestrian islands)

Crash Factors

50% higher rear-end crash rate than citywide; a high percentage of these (10-20%) were related to stopping for pedestrians

Inattentive driving, including fatigue, is overrepresented as a crash factor at about 4% of all crashes compared to 2.7% citywide

SUMMARY OF POWELL (7TH – 92ND) CORRIDOR DATA

Corridor Data Overview	
Average daily traffic volume	Ranges from 40,000 from the Ross Island Bridge to 35,000 near I-205
Roadway configuration curb-to-curb	Typically 2 travel lanes in each direction with center turn lane or raised median islands
Total roadway width	Typically 60 feet
Total length of corridor	4.5 miles; SE 7 th Avenue to SE 92 nd Avenue
Posted speed	35 MPH

Crash Summary Data, 2002-2011	
Injuries and Fatalities	Crashes by Top 3 Location Types
3196 Total Reported Crashes from 2002-2011	1565 Intersection crashes (49%)
7 Fatalities	1103 Straight roadway crashes (35%)
60 Injuries of type A severity (incapacitating)	315 Driveway related crashes (access management) (10%)
336 Injuries of type B severity (non-incapacitating)	
1276 Injuries of type C severity (pain)	Crashes by Top Collision Types
1960 Property damage only crashes	1731 Rear-end (54%)
	813 Turning (25%)
79 Crash involving pedestrians	257 Side-swipe Overtaking (8%)
34 Crashes involving bicyclists	175 Angle (5.5%)
	79 Pedestrian (2.5%)

Top 20 Citywide Crash Locations

SE Powell & 82nd ranks 3rd on the City's High Crash Intersection Locations list (2008-2011.) Other intersections in the top 20 include SE Powell & 7th (5th), SE Powell & Cesar E Chavez (14th), and SE Powell & 92nd (18th). Development of this list takes into account the number of crashes, fatality and injury crashes, and the number of vehicles traveling through the intersection.

CRASH DATA (2002-2011)

Pedestrian-Involved Crashes and Crossings: The percentage of crashes involving pedestrians on SE Powell Blvd is 50% higher than the citywide percentage.

- 3 fatal pedestrian crashes occurred between 28th and 36th avenues.
- An additional 95 crashes involved cars stopping for pedestrians and getting rear-ended.
- 79 pedestrian crashes occurred on the Powell High Crash Corridor (SE 7th– SE 92nd) during the ten-year period. 10% of those, 8 crashes, involved alcohol. 2 were DUII and 6 were pedestrians with BAC > 0.00. In comparison, the entire extent of SE Powell within the City of Portland limits (SE 7th– SE 174th) has 2% of all crashes involving alcohol.
- More than half of the pedestrian crashes are occurring in dark conditions. This is similar to the citywide trend of pedestrian crashes occurring twice as often in dark conditions as auto and bike crashes. The City is in the process of upgrading existing street lighting to LED lights on SE Powell. LED lights emit a white light that appears brighter and should help drivers better detect the presence of pedestrians. Additionally, the City needs to continue to partner with other agencies to distribute strobe lights and reflective wear to pedestrians and raise awareness that pedestrians should wear reflective clothing and/or lights when walking in the dark.

Rear-end crashes: The incidence of rear-end crashes on Powell is about 50% higher than the citywide average. A contributing factor appears to be cars getting rear-ended when stopping for pedestrians crossing Powell. There are 5 marked crosswalks, 4 with median refuge islands, between 24th and 36th Avenues. In this same vicinity there are 95 rear-end crashes reported that involved stopping for a pedestrian. All five of these crosswalks meet criteria for active or enhanced upgrades. PBOT and ODOT are partnering to upgrade these crossings; 28th Avenue will be upgraded to a full traffic signal as part of the 20's Bikeway project and the other four will be upgraded with RRFB's. Construction is expected in 2016.

Bike Crashes: There were 34 bike crashes on SE Powell Boulevard (7th to 92nd) from 2002 to 2011. This represents 1.1% of all crashes along the corridor, which is lower than the percentage of bike crashes occurring citywide.

UPCOMING ROADWAY IMPROVEMENTS

These improvements are also detailed in the Safety Action Plan Matrix below.

Road Safety Audits: In response to a high number of crashes reported on SE Powell from SE 21st to SE 43rd, ODOT conducted two separate road safety audits (RSAs).

The first RSA was conducted in August 2013 and focused on the areas from 24th to 33rd and Chavez to 43rd. The road safety audit recommendations included to fix substandard signal heads at Chavez, remove obsolete No Parking signs for more sidewalk space and less visual clutter (21ST – 45TH), upgrade signal heads to 12" heads, add audible warnings for crosswalks, upgrade signage for eastbound lane drop, add appropriate No Parking signs east of Chavez, and selective tree trimming and removal to increase sight distance at side streets and at crosswalks. (See additional details in Engineering Matrix below.)

A second RSA reassessed some of the previously audited roadway, 21st to 34th, to specifically address the high number of pedestrian crashes occurring on this segment of Powell. General recommendations from this RSA include upgrading all the existing marked crosswalks with active/enhanced features such as RRFBs. As a result of this process, ODOT has identified \$3.4M from the Statewide Transportation Improvement Program (STIP) for safety improvements on this segment that include three RRFB's at 24th, 31st and 34th, upgraded ADA curb ramps, upgraded signing and striping, upgraded illumination, and selective tree trimming and removal to increase sight distance at side streets and at crosswalks.

Powell-Division Transit and Development Project: This project will create better experience and faster transit service for people traveling between downtown Portland, East Portland and Gresham. The project includes many important enhanced pedestrian crossings on Powell, as well as bus stop improvements. This is an ODOT Statewide Transportation Improvement Program (STIP) grant awarded to TriMet for 2016-18.

20s Bikeway: The 20s Bikeway will cross Powell at SE 28th Avenue and a signal will be installed in 2016 to facilitate the crossing.

LED Street Lighting: PBOT is in the process of converting all of Portland's street lights to high efficiency LEDs (light emitting diodes). High-definition LED lighting is less scattered and will help motorists see the road in greater detail and better see other road users. One portion of Powell has already been converted to LED and the other portion will be converted in 2016.

PUBLIC INVOLVEMENT PROCESS

The public involvement process included a public open house and presentations to neighborhood associations and/or district coalitions.

June 26, 2013 – Public Open House for SE Powell Blvd High Crash Corridor
Initial public open house to share crash trends on SE Powell Blvd and collect public feedback.

February 12, 2014 – Joint Neighborhood Association Meeting called by NA's
Shared safety information materials and Powell High Crash Corridor Existing Conditions Report.

Public open house (6/26/13) materials and comments are available here
<http://www.portlandoregon.gov/transportation/article/462959>.

Additional outreach and education events are detailed in the attached matrix.

OTHER PLANNING DOCUMENTS

Other planning documents that the City has developed or partnered in developing and that identify improvements recommended for SE Powell Blvd are the following:

- Inner Powell Boulevard Streetscape Plan – select projects were constructed (2007)
- 50's Bikeway Project – Constructed 2014
- 20's Bikeway Project – Design 2014, Construction 2016
- ODOT Road Safety Audit – December 2013
- ODOT Road Safety Audit – June 2014
- Inner Powell/Outer Division STIP Grant – Funding for transit and pedestrian improvements in 2017/18

SAFETY ACTION PLAN MATRIX

The following safety action plan matrix details the “Three E” approach to be implemented to reduce traffic crashes and crash-related injuries and fatalities for all modes of transportation. The “Three E's” include engineering, education and enforcement solutions. In addition, the matrix includes funding status, cost estimates, and safety concerns addressed by each tool.

Engineering Actions	Funding Status	Cost Estimates	Safety Issue Addressed			
<i>See improvements detailed on attached safety map.</i>			Driver Safety	Transit Access	Ped Safety & Access	Bicycle Safety
Streetscape Improvements: 7 th – 92 nd <ul style="list-style-type: none"> • Implement ITS measures in corridor • Add 6 new enhanced crosswalks east of 57th. • Improve existing crosswalks. • Improve pedestrian and bike crossings at signals • Use different sidewalk treatments to improve pedestrian environment • Incorporate storm water management • Add trees to medians and sidewalk where feasible • Routine landscape maintenance 	Unfunded (ODOT, PBOT)	\$2,000,000	X	X	X	X
ODOT Paving Preservation Project: 50 th – 92 nd <ul style="list-style-type: none"> • Roadway reconstruction & paving • Reconstructed 127 pedestrian curb ramps • Constructed 48 new pedestrian curb ramps • Constructed new marked crosswalks at 57th/58th and 75th • Built 8 new stormwater planters • Extended left turn lane at 86th 	Completed 2010/11 (ODOT)	\$4,000,000	X	X	X	
ODOT Road Safety Audit: Cesar Chavez – 43 rd <ul style="list-style-type: none"> • @ Chavez, replace broken signal backplates with reflectorized backplates • Remove obsolete No Parking signs for more sidewalk space and less visual clutter (21ST – 45TH) • Upgrade to 12" signal heads • Add audible warnings for crosswalks • Upgrade signage for eastbound lane drop + add appropriate No Parking signs –OR – eastbound lane conversion to right turn lane • Selective tree trimming and removal to increase sight distance at side streets and at crosswalks 	Completed bullets #1 and #2, 2015 (PBOT) Unfunded bullets #3-5 (ODOT) Construction 2016 bullet #6 (PBOT)	\$621,000	X	X	X	
ODOT Safety Project: 21 st – 34 th <ul style="list-style-type: none"> • Install advanced NEXT SIGNAL signs • Install RRFB's at 24th, 31st, 34th • Upgrade ADA curb ramps • Upgrade signing and striping • Upgrade illumination • Selective tree trimming and removal to increase sight distance at side streets and at crosswalks 	Completed bullet # 1, 2014 Funded other bullets (ODOT) Construction 2016 (ODOT, PBOT)	\$3,407,655	X	X	X	X
Powell-Division Transit and Development Project: 24 th – 82 nd <ul style="list-style-type: none"> • RRFB's or enhanced crossings at 47th/48th, 57th, 61st, 79th (24th, 31st, 34th RRFBs planned with installation of ODOT Safety Project) 	Construction 2018-20 (ODOT, TriMet, PBOT)	\$1,323,000	X	X	X	X

<ul style="list-style-type: none"> Larger bus shelters, wider sidewalk and sign upgrades at Chavez Extend island with queue jump at 50th Relocate shelters, add leading ped interval to signal at 82nd 						
PBOT 20's Bikeway Crossing <ul style="list-style-type: none"> Signalized crossing at SE 28th Avenue 	Construction 2016 (PBOT)	\$500,000	X	X	X	X
PBOT Upgrade to LED street lighting: 7 th to 52 nd	Expected 2016	\$77,400	X		X	X
PBOT Upgrade to LED street lighting: 52 nd to 82 nd	Completed 2012	\$51,600	X		X	X
PBOT Countdown pedestrian signal heads installed at 8 intersections	Complete (PBOT)	\$20,000		X	X	

Education Actions	Funding Status	Safety Issue Addressed		
		Driver Safety	Ped Safety & Access	Bicycle Safety
Posted transportation safety PSA's in Cleveland HS newspaper including "Buzzed driving is drunk driving", "I Brake for People" and "Hang Up and Drive" messages.	Complete (PBOT)	X		
Provided multi-modal safety materials to participants at the Brooklyn Park movies-in-the-park event on 8-1-2013	Funded (PBOT)	X	X	X
Encouraged residents of Sacred Heart Villa to participate in Senior Walking Challenge (7/23/13)	Funded (PBOT)		X	
Encouraged traffic law violators to attend "Share The Road" safety classes	Funded (Legacy Emanuel Hospital, MultCo Courts, PPB)	X		X
"Portland Walks Be Safe" training and "Every Corner is a Crosswalk" training with translation as necessary (5/21/13 & 6/26/13)	Funded (PBOT)	X	X	
Young Driver Improvement / Graduated Drivers Licensing classes for young drivers and their parents	Funded (Legacy Emanuel Hospital)	X	X	X
Provided transportation safety materials for distribution at the 3-6-13 public open house and other community meetings	Funded (PBOT)	X	X	X
PedPro units and yard signs available to borrow for community and private events	Funded (PBOT)		X	

Enforcement Actions	Funding Status	Safety Issue Addressed		
		Driver Safety	Ped Safety & Access	Bicycle Safety
Conducted focused enforcement mission on Sandy Boulevard from NE 14th Ave. to NE 162nd Ave. on 12-17-2012 that resulted in 26 citations, 9 warnings, and 1 Domestic Violence call assist	Funded (PPB)	X		
Conducted crosswalk enforcement actions: <ul style="list-style-type: none"> • SE Powell Blvd at 28th Pl on 3/19/13; 14 violations, 8 warnings • SE Powell Blvd at 31st Ave on 1/23/14; 21 violations, 8 warnings • SE Powell Blvd at 31st Ave on 6/27/14; 55 violations, 20 warnings • SE Powell Blvd at 31st Ave on 6/29/11; 32 violations, 8 warnings • SE Powell Blvd at 54th Ave on 2/9/12; 40 violations, 5 warnings 	Funded (PPB)	X	X	