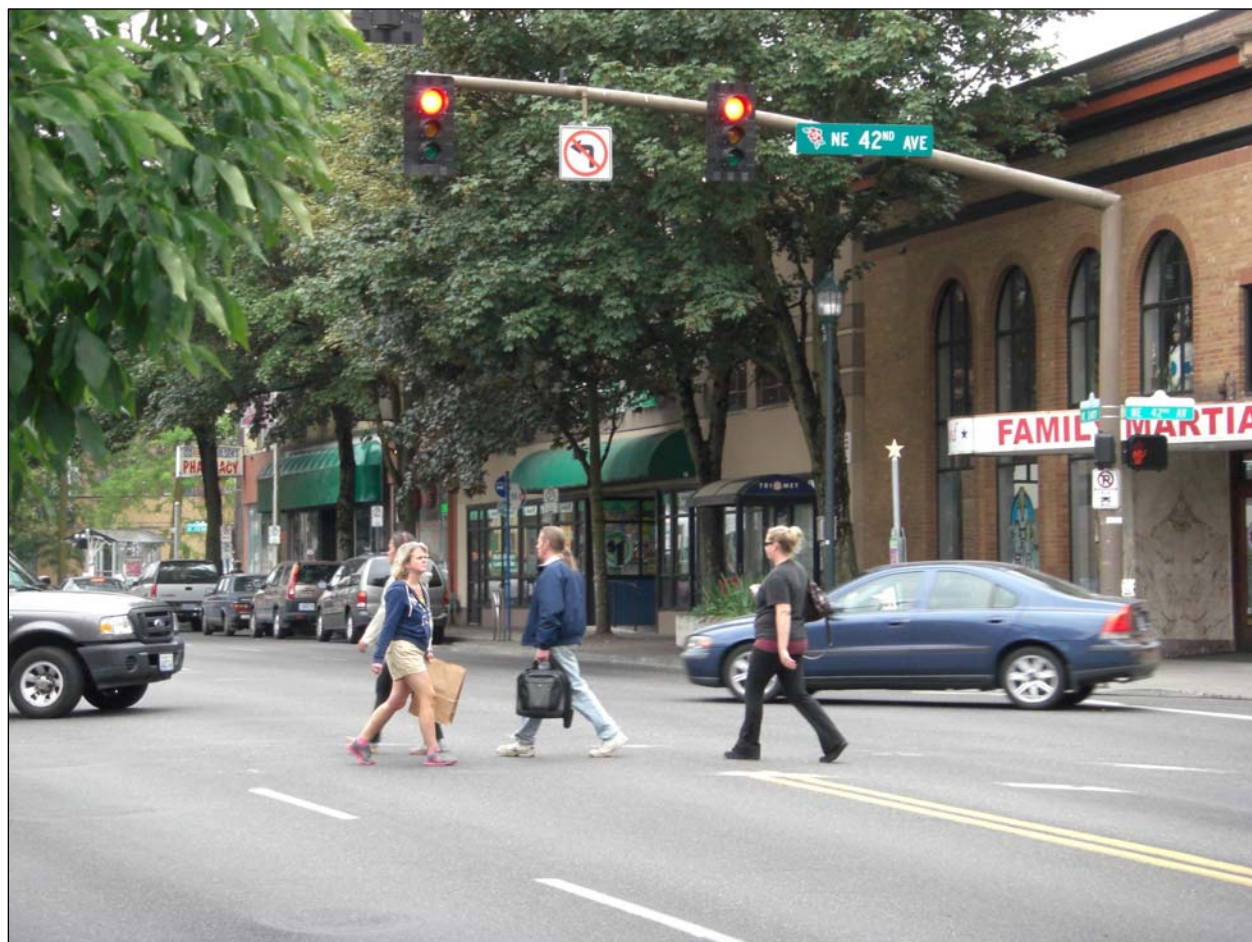


NE SANDY BOULEVARD HIGH CRASH CORRIDOR SAFETY PLAN



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CITY OF PORTLAND
BUREAU OF TRANSPORTATION

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HIGH CRASH CORRIDOR PROGRAM INTRODUCTION

High crash corridors are streets in Portland with a high concentration of crashes. The High Crash Corridor program uses relatively inexpensive education, enforcement and engineering solutions to address crash problems in a short period of time. There are ten corridors and PBOT focuses on three each year; NE Sandy Blvd was a focus in 2013.

KEY FINDINGS: NE SANDY BOULEVARD (Data 2002-2011)

Pedestrian Crashes / Crossings

2x higher pedestrian crash rate than citywide

58 crashes involving pedestrians (10-year period)

2-3 blocks is the average distance between pedestrian crossing improvements (signals or pedestrian islands) *west* of 82nd Ave

¼ mile is the average distance between pedestrian crossing improvements *east* of 82nd Ave

Crash Factors

30% higher intersection crash rate than citywide

40% higher crash rate involving red light running or signal disregard than citywide

SUMMARY OF SANDY CORRIDOR DATA

Corridor Data Overview	
Average daily traffic volume	Ranges from 15,000 cars per day on the east end to 29,000 in the vicinity of Hollywood.
Roadway configuration curb-to-curb	4 travel lanes with turn lanes at major intersections and parking on one or both sides of the street.
Total roadway width	60 feet
Total length of corridor	5.06 miles (26,720 feet), NE 12 th Ave to NE Killingsworth St
Posted speed	<ul style="list-style-type: none">• West of NE 47th Ave = 30 mph• East of NE 47th Ave = 35 mph

Crash Summary Data, 2002-2011	
Injuries and Fatalities	Crashes by Top 3 Location Types
1850 Total Reported Crashes from 2002-2011	1202 Straight roadway crashes (65%)
5 Fatalities	549 Intersection crashes (30%)
28 Injuries of type A severity (incapacitating)	90 Driveway related crashes (access management) (5%)
223 Injuries of type B severity (non-incapacitating)	
497 Injuries of type C severity (pain)	Crashes by Top Collision Types
1093 Property damage only crashes	744 Rear-end (40%)
	579 Turning (31%)
58 Crash involving pedestrians	235 Angle (13%)
33 Crashes involving bicyclists	143 Sideswipe – passing (7.7%)
	58 Pedestrian (3.1%)

Top 60 Citywide Crash Locations

NE Sandy & 82nd ranks 43rd on the City's Top 60 High Crash Intersection Locations list (2008-2011); it is the only Sandy intersection on the list. 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

Pedestrian-Involved Crashes and Crossings: The percentage of crashes involving pedestrians on Sandy Boulevard is twice as high as the citywide percentage.

- The average distance between pedestrian crossing improvements is about 1/4 mile east of 82nd Avenue. Two fatal pedestrian crashes occurred near 91st Avenue.
- 8 pedestrian crashes (14%) involved alcohol. This is quite high compared to the Sandy corridor-wide percentage of 1.8% of all crashes involving alcohol.
- 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 needs to continue to partner with other agencies to distribute strobe lights and reflective wear to pedestrians and raise awareness that pedestrians should to have reflective clothing and/or lights when walking in the dark.

Intersection crashes and red-light running: The incidence of intersection crashes on Sandy is about 30% higher than the citywide average. A contributing factor could be the high incidence of red-light running reported on Sandy Blvd (about 40% higher than the Citywide average.) PBOT and PPB have installed two red-light enforcement cameras at the intersection of NE Sandy/Chavez. Since these cameras were installed, the number of crashes involving driver's disregard of the signal in the enforced directions dropped by 60% and the total number of crashes dropped by 66%.

The intersection of Sandy/82nd is on PBOT's high crash intersection listing. ODOT has identified a safety project at this intersection aimed at upgrading the signal and reducing crashes. PBOT is also working with ODOT to add reflective backboards to existing traffic signals. This treatment provides better visibility of traffic signals and is expected to reduce all crashes at signalized intersections by about 29%.

Bike Crashes: There were 33 bike crashes on Sandy Boulevard from 2002 to 2011. This represents 1.8% of all crashes along the corridor, which is similar to the percentage of bike crashes occurring citywide.

40% Crash Reduction Achieved with 2007 Streetscape Plan

In 2007, the Sandy Streetscape Plan was constructed from NE 14th–NE 47th. The project included:

- Roadway reconstruction & paving
- Pedestrian ramps
- New & wider pedestrian islands
- Extended curbs & curb lines
- Marked crosswalks
- Traffic signal upgrades
- Street lighting
- Street trees
- Bike access & parking
- Transit shelter upgrades

Since 2007, crashes have dropped 40% in the project area and no fatalities have been reported. Additionally, crashes along the entire NE Sandy Blvd corridor have also dropped 40% since project implementation.

SPEED DATA

In response to a community request to reduce the posted 35 MPH speed on the east end of NE Sandy Blvd, traffic speed counts were taken east of 85th Avenue in early 2014 as part of the High Crash Corridor evaluation. 85th percentile speeds were 40.3 MPH. The Oregon Department of Transportation (ODOT) reviews and makes decisions on posted speed reduction requests. ODOT will not consider speed reductions that are 10 MPH or more below the 85th percentile speed. Therefore, ODOT would not approve a speed reduction on outer NE Sandy Blvd near 85th Ave.

PBOT is currently studying past speed reductions to see how driver behavior is affected by only reducing the posted speed without implementing other countermeasures such as engineering improvements to the roadway. The data PBOT gathers will help in determining if and when it is appropriate to reduce the posted speed and whether it can be a stand alone treatment or needs to be coupled with other improvements.

At this time, PBOT will continue to focus on better pedestrian crossings on NE Sandy Blvd as specified in the Engineering matrix below and the Sandy High Crash Corridor Map and will continue to work with the Portland Police Bureau on enforcement of the current posted speeds.

PUBLIC INVOLVEMENT PROCESS

The public involvement process included a public open house and presentations to neighborhood associations and the Central Northeast Neighbors district coalition.

March 6, 2013 – Public Open House for NE Sandy Blvd High Crash Corridor

Initial public open house to share crash trends on NE Sandy Blvd and collect public feedback.

August 6, 2013 – Hollywood Neighborhood National Night Out Transportation Safety Fair

HCC staff assisted in the development and funding of the event and attended the Hollywood Neighborhood Association's National Night Out Transportation Safety Fair to share information with the 250 attendees on the NE Sandy Blvd High Crash Corridor program and collect community feedback.

October 24, 2013 – Hollywood Neighborhood Association presentation

Presentation and discussion of NE Sandy Blvd High Crash Corridor project map and recommended engineering projects.

November 19, 2013 – Sumner Neighborhood Association presentation

Presentation and discussion of NE Sandy Blvd High Crash Corridor project map and recommended engineering projects.

December 2, 2013 – Central Northeast Neighbors District Coalition's Land Use, Transportation, Open Space Committee presentation

Presentation and discussion of NE Sandy Blvd High Crash Corridor project map and recommended engineering projects.

Public open house (3/6/13) materials and comments are available here:

<http://www.portlandoregon.gov/transportation/article/439826>.

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

OTHER PLANNING DOCUMENTS

Other planning documents adopted by the City of Portland that identify improvements recommended for NE Sandy Blvd are the following:

- Sandy Streetscape Plan – select projects were not constructed (2007)
- East Portland in Motion recommendations
- East Portland Action Plan recommendations
- Report on Pedestrian and Bike Conditions: NE Sandy Blvd from NE 20th to NE 97th (PSU Transportation Safety Analysis student report, June 13, 2012)

RECOMMENDATIONS & SAFETY ACTION PLAN MATRIX

The following safety action plan matrix details the “Three E” approach to be implemented in the 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			
				Driver Safety	Transit Access	Ped Safety & Access	Bicycle Safety
<i>See improvements detailed on attached safety map.</i>							
Corridor Improvements:							
Streetscape Improvements: 14 th – 47 th <ul style="list-style-type: none"> • Roadway reconstruction & paving • Pedestrian ramps • New & wider pedestrian islands • Extended curbs & curb lines • Marked crosswalks • Traffic signal upgrades • Street lighting • Street trees • Bike access & parking • Transit shelter upgrades 		Complete 2007 (PBOT & ODOT), Sandy Streetscape Plan	\$8,200,000	X	X	X	X
Road Reconstruction: 47 th – 82 nd <ul style="list-style-type: none"> • Roadway reconstruction & paving • Pedestrian ramps • New & wider pedestrian islands • Swales /stormwater management • Access management 		Complete 2012 (PBOT & ODOT)	\$5,516,000	X	X	X	
Sidewalk Infill: 86 th – 92 nd		Complete 2013-14 (PBOT), East Portland in Motion	\$250,000		X	X	
Countdown pedestrian signal heads installed at every signal (27 intersections)		Complete (PBOT)	\$67,500		X	X	
Retroreflective signal backboards		Unfunded, ODOT Highway Safety Improvement Project (HSIP)		X			
Intersection Improvements:							
17 th & Sandy (NE corner): Landscaped stormwater area & extended sidewalk		Unfunded, Sandy Streetscape Plan	\$300,000	X	X	X	
31 st & Sandy: Add rapid flash beacon		Unfunded, High Crash Corridors	\$50,000		X	X	

47 th & Halsey: Access management and left turn lanes on 47 th	Funded 2014 (PBOT), High Crash Corridors and paving project		X		X	
50 th & Sandy: Change slow burn ped signs at ped Xing to LEDs	Unfunded, High Crash Corridors & Signals & Street Lighting	\$26,500			X	
57 th & Sandy <ul style="list-style-type: none"> • Left turn lane • Bike phase & bike boxes • Pedestrian ramps • Access management 	Complete 2010 (PBOT)	\$250,000	X	X	X	X
Hollywood District <ul style="list-style-type: none"> • Guide signage through Hollywood Dist – add a new section for this part of the project 	Complete 2010 (PBOT)	(included in \$250,000 above)				
60 th & Sandy (westbound): Speed reader board	Funded 2014 (PBOT), High Crash Corridors	\$1000	X			
70 th & Sandy: Change slow burn ped signs at ped Xing to LEDs	Unfunded, High Crash Corridors & Signals & Street Lighting	\$25,000			X	
79 th & Sandy: Add rapid flash beacon	Unfunded, High Crash Corridors	\$50,000		X	X	
82 nd & Sandy: Intersection improvement <ul style="list-style-type: none"> • Signal remodel • Pedestrian ramps • Pedestrian count-downs & audible signals 	Funded 2015 (ODOT), ODOT Highway Safety Improvement Project (HSIP)	\$925,000	X	X	X	
85 th & Sandy: Add pedestrian island and rapid flash beacon	Unfunded, High Crash Corridors	\$80,000		X	X	
87 th & Sandy: Fire signal converted to full signal with pedestrian buttons at crosswalks	Complete 2012 (PBOT), East Portland In Motion	\$70,000		X	X	
92 nd & Sandy: Add westbound speed sign	Funded 2014 (PBOT), High Crash Corridors	\$250	X			

Education Actions	Funding Status	Safety Issue Addressed		
		Driver Safety	Pedestrian Safety & Access	Bicycle Safety
Installed banner with rotating safety messages near NE 74 th Avenue	Complete (PBOT)	X		
Distributed “Buzzed driving is drunk driving” posters to area businesses, community meeting spaces, and public library on NE Sandy Blvd., January 2013	Complete (PBOT)	X		
Provided multi-modal safety materials to participants at the Oregon Park movies-in-the-park event on 7-11-2013	Funded (PBOT)	X	X	X
Coordinated with community members to distribute pedestrian safety	Funded (PBOT)		X	

flashing strobes and reflective stickers on 11-6-2013 for a "Be Seen. Be Safe." safety event				
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	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	Pedestrian Safety & Access	Bicycle Safety
Utilize photo radar	Funded (PPB)	X		
Red light cameras (2) installed at NE Sandy/Chavez	Funded (PPB)	X		
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 a crosswalk enforcement action on NE Sandy Blvd at NE 85th Ave on 1-23-2013 that resulted in 13 violations and 2 warnings	Funded (PPB)	X	X	