

# WAYFINDING, 9-1-1 DISPATCHING & EMERGENCY RESPONSE IMPROVEMENTS:

## Eliminating Leading Zero Addressing and Standardizing Street Naming



*5/31/18: Council Agenda Items #574 and #575*



**PBOT**  
PORTLAND BUREAU OF TRANSPORTATION

Andrew Aebi, M.B.A., Project Manager; Portland Bureau of Transportation  
Don Russ, Deputy Fire Chief for Special Operations; Portland Fire & Rescue  
Captain Michael Crebs, Portland Police Bureau

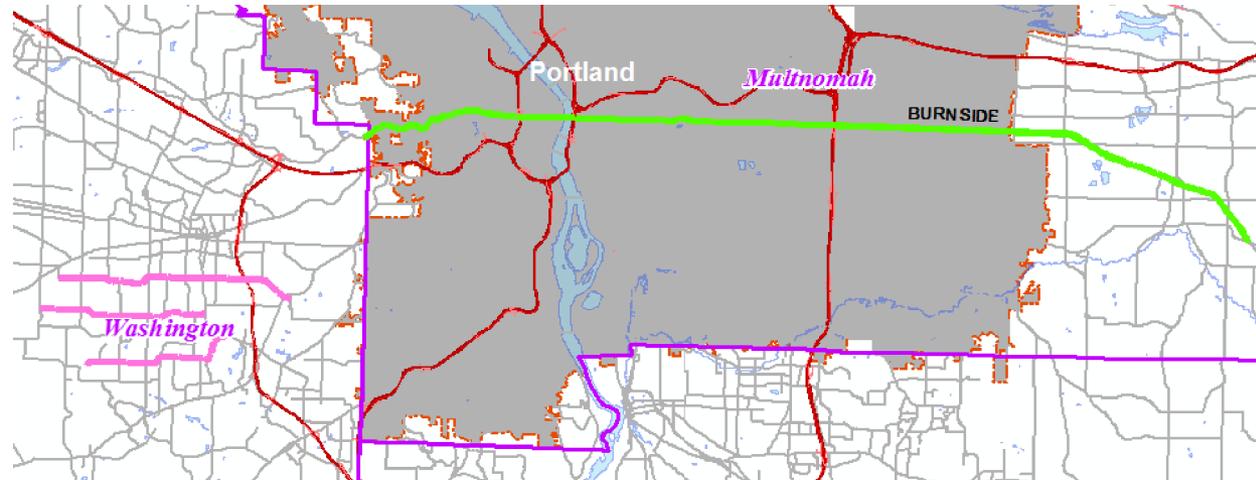


# City Ordinance #61325 Adopted 9/02/1931

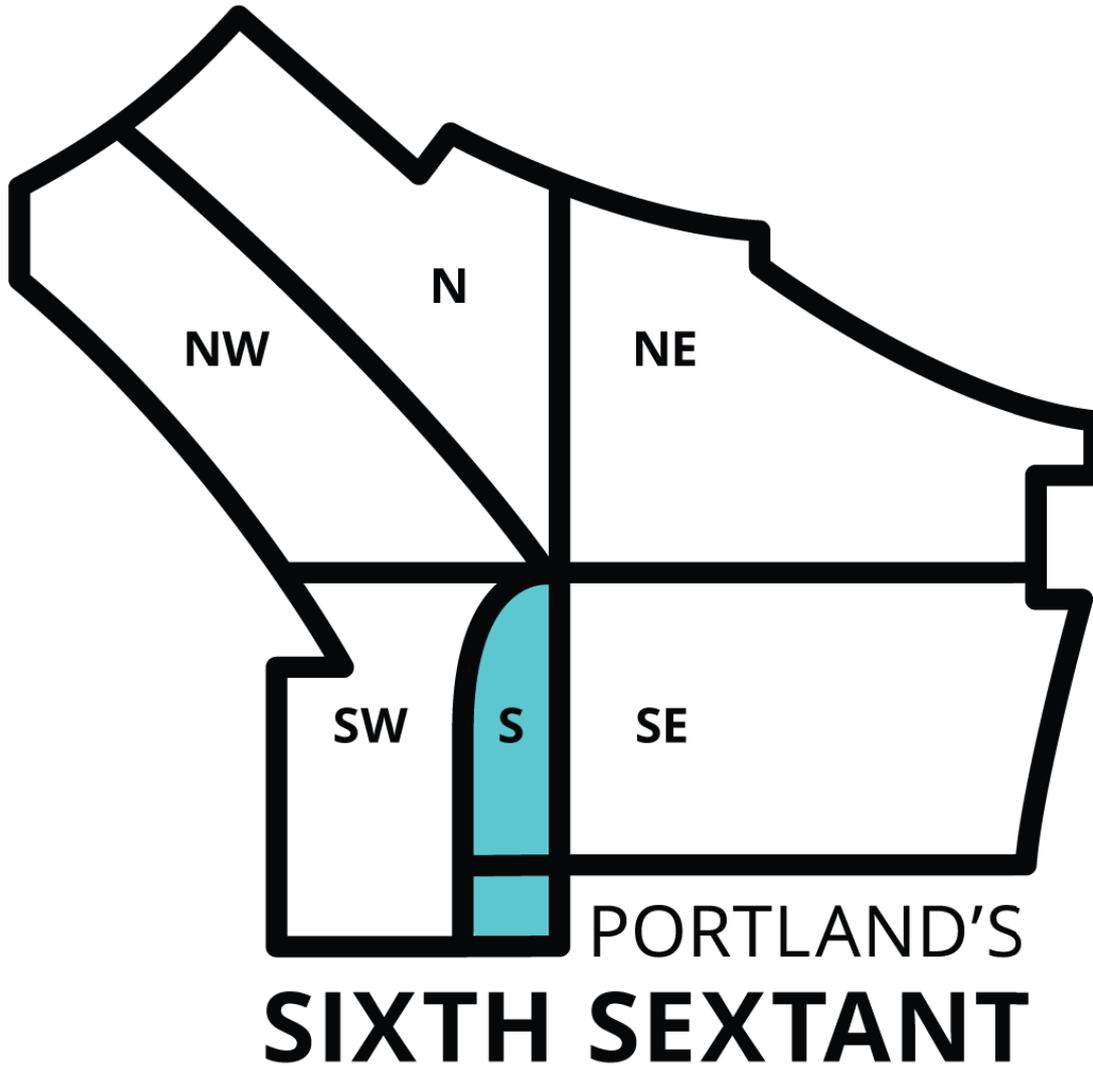
## Established five (5) quintets, standardized street names

An Ordinance providing for a plan of systematic renumbering of buildings and renaming of streets, providing a penalty for violation thereof, and repealing all ordinances or parts of ordinances in conflict herewith and declaring an emergency.

added to the street name." All streets in that section of the city south of the center line of Burnside Street and west of the Willamette river shall be designated as "Southwest", and the prefix "SW" shall be added to the street name.



# Portland's New Sixth Sextant Arrives in May 2020<sup>188995</sup>



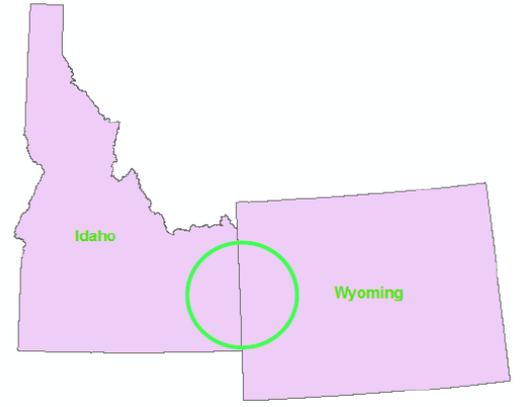
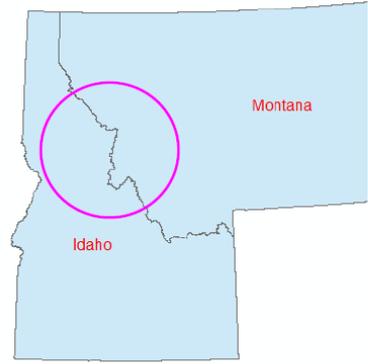


# Confusing LZA Boundary in Collins View



**Leading Zero Addressing Boundary:  
East Cemetery Fence & Backyards**

**New South / SW Boundary:  
SW View Point Terrace  
South on east side; SW on west side**

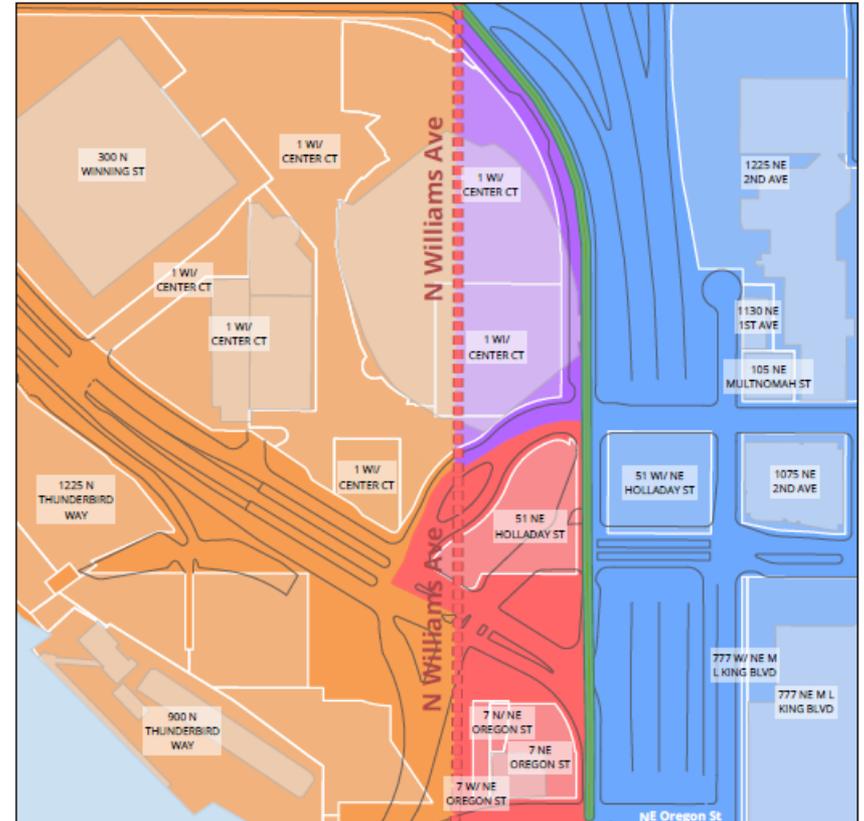


# North / Northeast Portland Boundary at Fremont St. and at Rose Quarter



**Current Boundary:**  
Zig Zags at Multnomah Street  
Does Not Align with  
Code Chapter 24.75.010

**New Boundary:**  
Consistent North Williams Avenue  
North of Oregon Street



Date Plotted 5/22/2018

# Project Objectives

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## Improve Customer Service and Improve Wayfinding:

- **Eliminate 9-1-1 dispatcher validation step required even with technology “workaround”, reducing stress for 9-1-1 callers**
- **Eliminate addresses incorrectly reported by customers**
- **Eliminate potential for human error on nonintuitive addressing**
- **Realign addressing boundary with Code Chapter 24.75.010; use consistent street names on contiguous street segments**

## Redirect ongoing leading zero overhead costs for permanent solution

- **Avoid future sole-source information technology procurement**
- **Property owner testimony:**

The South Portland Addressing Project is a needed change in a digital world.

The project is long overdue. A leading zero in an address simply does not work today. A zero is not used in front of a whole number in any other scientific, business, or common use. The era when a city or business could afford and develop customized software is past. The city has chosen to avoid future costly customized software changes by investing in the hardware, in this case, new street signs.



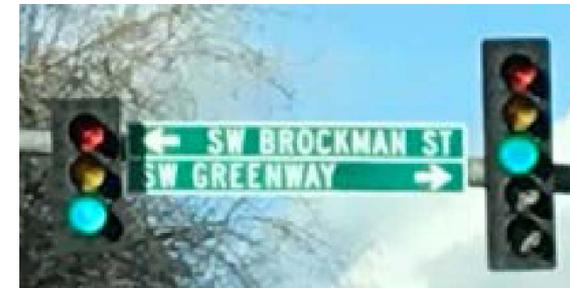
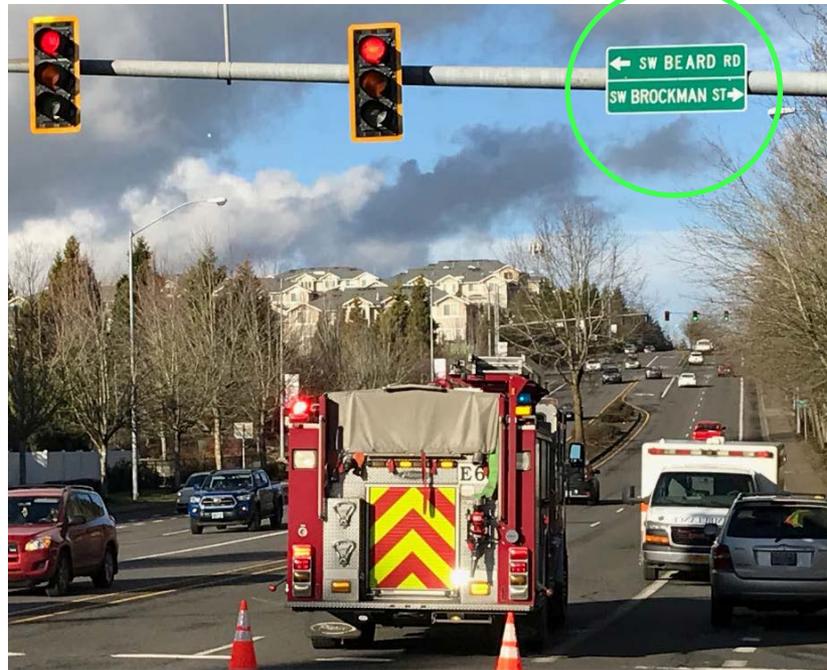
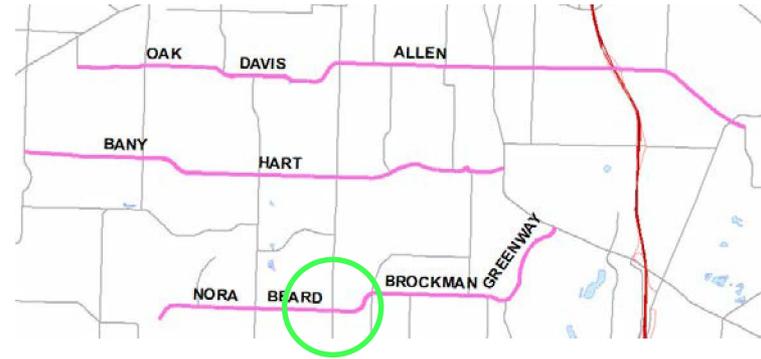
# Guidelines Used in Assigning New Addresses

## Address Numbers:

- No leading zero before number; eliminate same address # but for zero
- Even numbers on right side of street in direction of increasing #
- Odd numbers on left side of street in direction of increasing #
- No switching of odd and even on same side of street  
(as is the currently the case with SW Military Road)
- Properties are addressed from adjacent street  
(not from several blocks away as is currently case in Riverdale)
- Establish a street reference point for addressing;  
no midblock leading zero and few midblock directional changes
- Reference points are SW Naito Parkway & SW View Point Terrace;  
SW Front Avenue becomes SW View Point Terrace *(at Taylors Fy.)*

# Same Contiguous Street Name Reduces Confusion

- ~~SW Murray & Nora~~
- SW Murray & Beard
- SW Murray & Brockman
- ~~SW Murray & Greenway~~



# Leading Zero Mapping & Sixth Sextant Feedback

188995



coffee 97239



Five Points Coffee Roasters  
4.5 ★★★★★ (33) · Coffee Shop  
614 SW Dakota St  
Fast service · Cozy · Casual



**Wweftage** @Wweftage · Feb 28

Replying to @andrewtheen @PBOTinfo

Excellent. As a N Portland resident, I've always felt a bit lopsided. It will be nice to have a counterbalancing segment.



**FingerWagger**

52 minutes ago

I was a UPS driver in Southwest Portland for 30 years. I can attest to the wisdom of this change. Having addresses with leading zeros is confusing and wreaks havoc on some computer systems.

This change would make South Portland addresses consistent with the system in place for North Portland. Since the east-west dividing line (the Willamette River) doesn't actually run true North-South, accommodations need to be made for addresses. In North Portland, anything west of Williams Ave is designated "North." Everything east of that street is designated "Northeast." Easy peasy.

I've often thought the same, simple designations should be used for South/Southwest Portland.

This is a good plan.

[https://www.reddit.com/r/Portland/comments/813lfz/sixth\\_sextant\\_city\\_considering\\_changing\\_thousands/](https://www.reddit.com/r/Portland/comments/813lfz/sixth_sextant_city_considering_changing_thousands/)

Fo serious: While I love the quirkiness of the "leading zero" addresses, it is confusing as hell if you're unfamiliar with it. It took a long time for GPS companies to recognize it properly, usually they'd just drop the leading 0, and lead you to the wrong place.

And the rationale here makes perfect sense - if someone unfamiliar with the numbering scheme calls 911, they might give an address that is a mile away or more from the actual location.



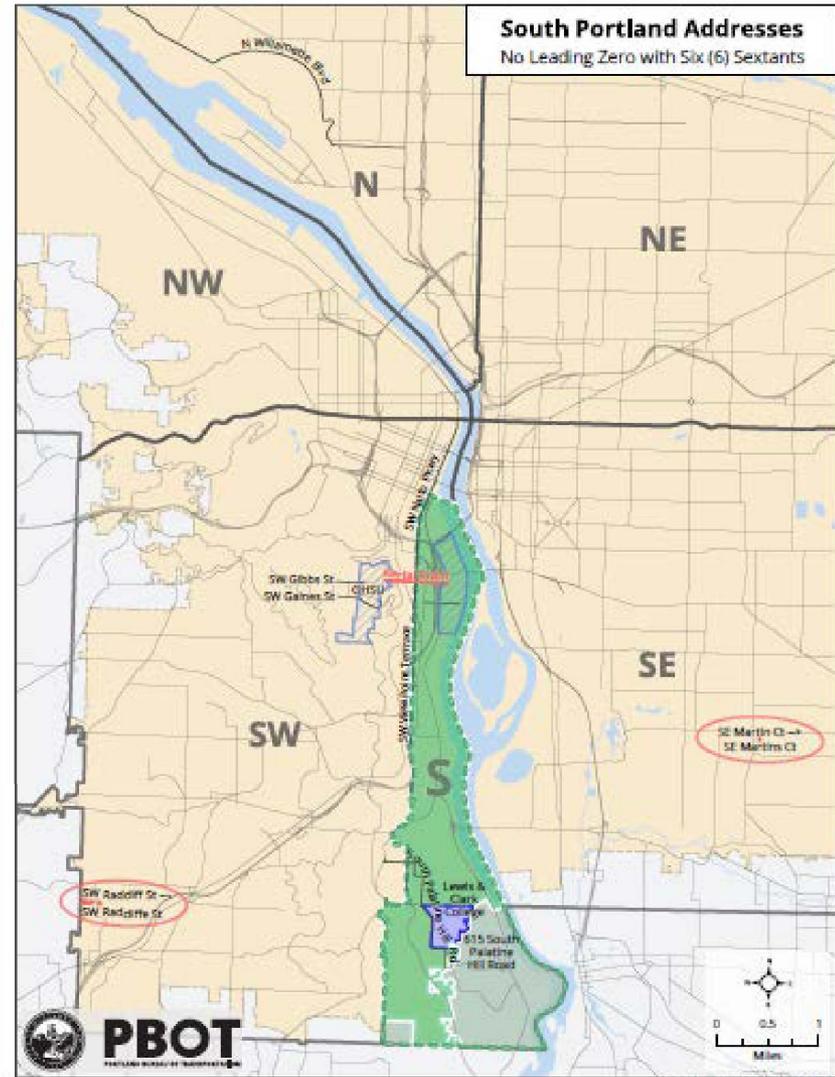
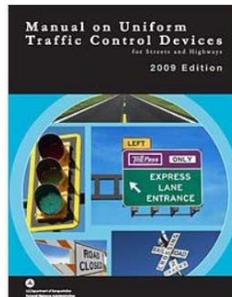
# Leading Zero Addresses

East of SW Naito Parkway,  
 SW View Point Terrace and  
 Tryon Creek State Natural Area  
 Southwest (SW) changing to South (“S”)

Largest current leading zero address:  
 02484 SW Military Road (24 blocks east)

City Hall address unchanged:  
 1221 SW 4th Ave., not 1221 SW 28th Ave.  
 Hillsboro / Beaverton boundary unchanged:  
 SW 185th Ave., not SW 209th Ave.

Opportunity to install neighborhood  
 sign caps and make street signs  
 compliant with the Manual of  
 Uniform Traffic Control Devices.



Date Plotted: 5/22/2018 4:11 PM



# Examples of Stakeholder Issues

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## 16 / 016:

- Another package was delivered to the wrong address. GPS (car navigation, Mapquest) route to the wrong address.
- I had to give the police directions when reporting a fight.
- I had to cancel my credit card because they couldn't handle the leading zero.

## 32 / 032:

- Gives out leading zero; people think it is a typo and take it out.

## 104 / 0104

- Gets asked, "What do you mean, zero?"

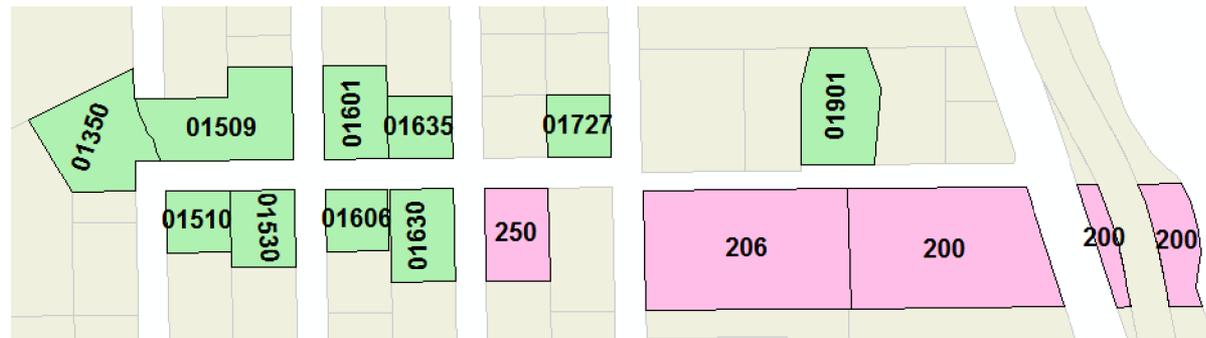
## 121 / 0121 / 4247

- Uses fake north-south address and tells people to look around the corner to find the correct address.

# More Examples of Stakeholder Issues

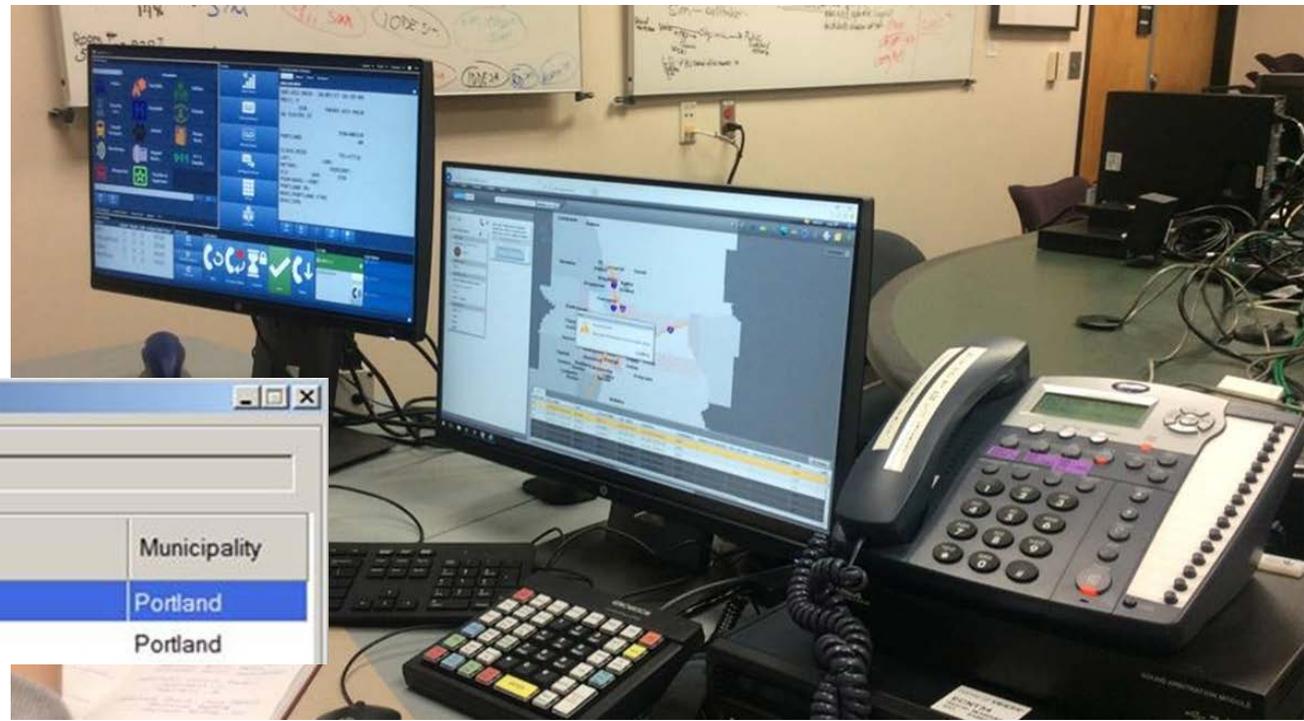
- 150 / 0150:** The leading zero was dropped and a gas line was cut at my nearby neighbor's backyard instead of at my house.
- 202 / 0202:** 202 has sign in front saying "Not 0202" to avoid packages being delivered to wrong address.
- 231 / 0231:** Uses fake letter "O" at beginning of address instead of zero to trick Internet applications to accept address.
- 242 / 0242:** United Parcel Service (UPS) website won't take address. Distance of four blocks as crow flies is a mile driving. Google will geocode, but displays without leading zero.

- 1300 / 01300:**  
**1500 / 01500:**  
**1600 / 01600:**  
**1700 / 01700:**  
**1700 / 200:**  
**1900 / 01900:**



# New 9-1-1 Phone System Upgrade

Leading Zero Workaround Now Installed ...  
... But Address Validation Still Required  
... And subject to human error.



Address Validation ( 016 SW WHITAKER ST )

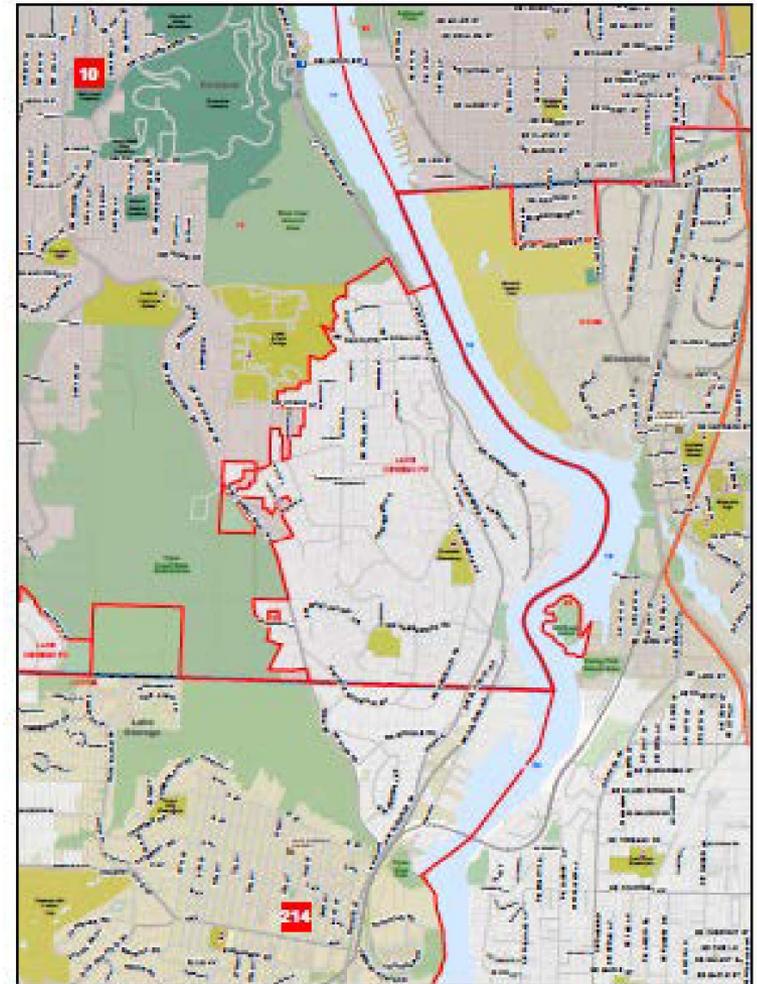
Matching Place Names

Searching for 016 SW WHITAKER ST

Address	Municipality
16 SW WHITAKER ST	Portland
016 SW WHITAKER ST	Portland

# Primary Benefiting Fire Stations & Mutual Aid Areas:

- **City of Portland Station 4**  
521 SW College St.  
(station not shown on map)
- **City of Portland Station 10**  
451 SW Taylors Ferry Rd.  
(station address not changing)
- **Lake Oswego Fire Department Station 214**  
300 'B' Avenue



# Examples of Southwest to South Change & Standardization of Martins, Radcliffe

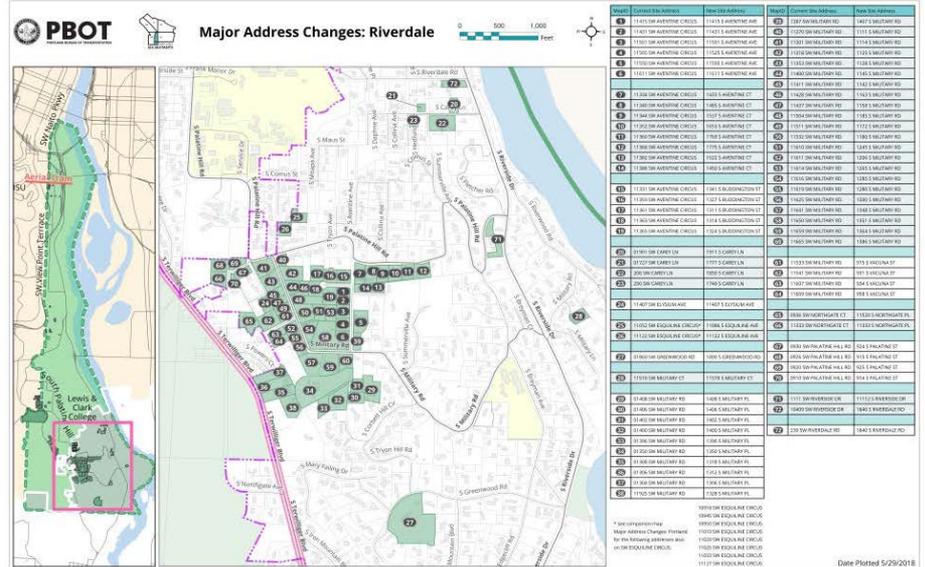
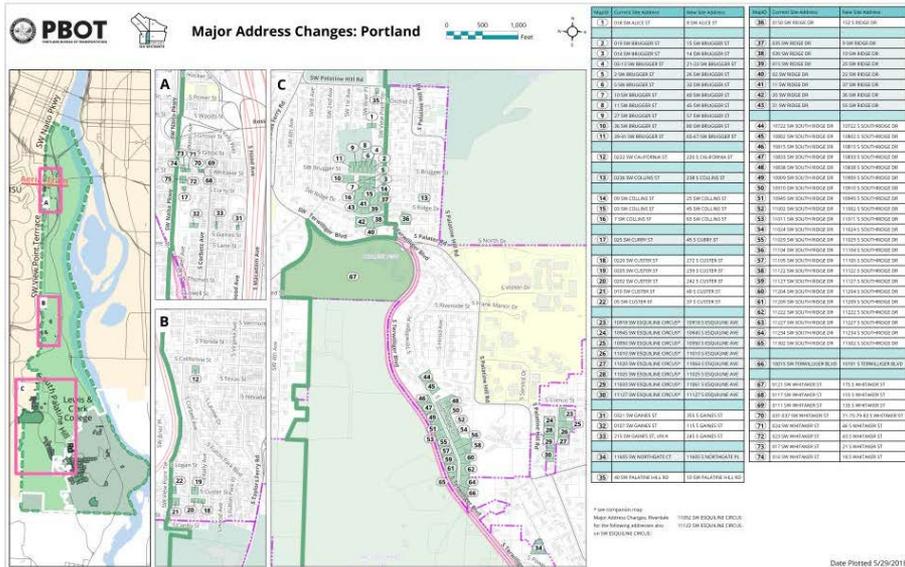
188995

- Collins View:** 0550 SW Riverside St. to 550 S. Riverside St.
- Crestwood:** 6331 SW Radcliff St. to 6331 SW Radcliffe St.
- Dunthorpe:** 01688 SW Radcliffe Rd. to 1688 S. Radcliffe Rd.
- Homestead:** 015 SW Bancroft St. to 15 S. Bancroft St.
- Downtown:** 0145 SW Montgomery St. to 145 S. Montgomery St.
- S. Burlingame:** 0222 SW Canby St. to 222 S. Canby St.
- S. Portland:** 0715 SW Bancroft St. to 715 S. Bancroft St.  
3303 SW Bond Ave. to 3303 S. Bond Ave.
- Woodstock:** 5308 SE Martin Court to 5308 SE Martins Court

# Major Address Changes and Street Renamings

## Riverdale (left map) and Portland (right map)

- Riverdale property owner will no longer have to stand at nearest intersection and flag visitors to his house.

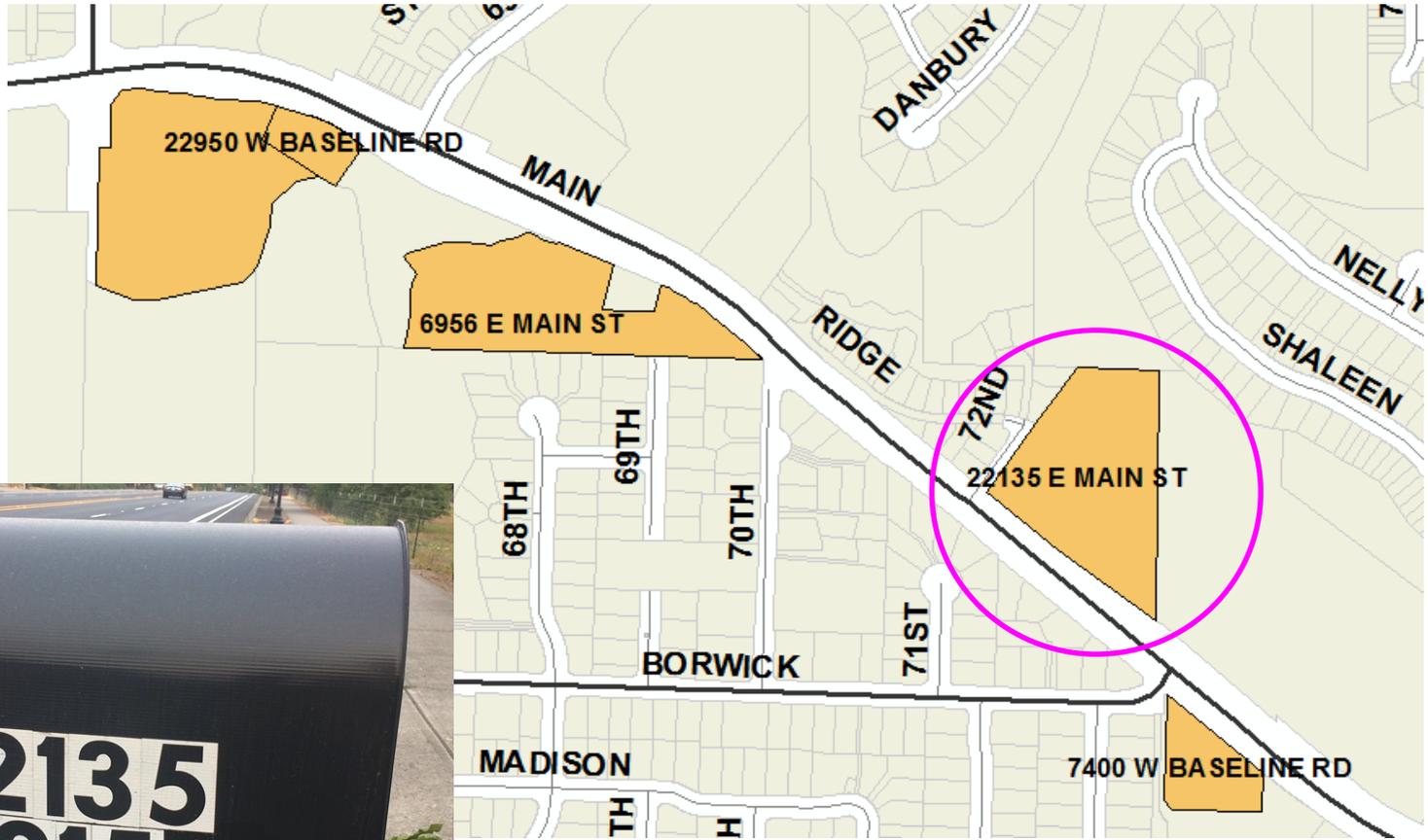


# Timing of Southwest to South Change & Standardization of Martins, Radcliffe

- Dec. 14, 2016:** Council approves South Portal project; feedback on leading zero addressing concerns
- Feb. 15, 2018:** Property owner notifications (4,476 mailings)
- Dec. 2017– Apr. 2018:** Four (4) public open houses and SWNI Transportation Committee briefing
- May 8, 2018:** Major address change notifications (154 mailings)
- June 6, 2018:** Council creates future sixth addressing sextant
- 2018-2020:** Prepare City I.T. systems to phase out leading zero
- May 2020:** “South” street name signs installed
- May 2025:** Dual signage “SW” street name signs removed



# City of Hillsboro: West Baseline to East Main



# Intersections Changing & Not Changing

Southeast Portland	No Change	6,669	99.99%
	SE Martin Court Changes to Southeast Martins Court	1	0.01%
	Total	6,670	100.00%
Northeast Portland	No Change	5,340	100.00%
Southwest Portland	No Change	3,037	92.17%
	Southwest Changes to South	255	7.74%
	SW Radcliff Street Changes to SW Radcliffe Street	3	0.09%
	Total	3,295	100.00%
North Portland	No Change	2,872	99.86%
	Rose Quarter Street Segments Change to N. Williams Ave.	4	0.14%
	Total	2,876	100.00%
Northwest Portland	No Change	1,321	100.00%
City of Portland Subtotal	No Change	19,239	98.67%
	Change	263	1.35%
		19,498	100.02%
Riverdale Subtotal	Change	59	100.00%
Total	No Change	19,239	98.35%
	Change	322	1.65%
	Total	19,561	100.00%



# Intersections Changing & Benefiting Property Owners

Neighborhood	Intersections		Taxlots		Unique Owners	
South Portland	191	72.6%	4,507	73.9%	2,663	77.8%
Downtown	24	9.1%	1,189	19.5%	417	12.2%
Collins View	25	9.5%	292	4.8%	258	7.5%
Unclaimed	12	4.6%	54	0.9%	34	1.0%
Rose Quarter	4	1.5%	0	0.0%	0	0.0%
Crestwood	3	1.1%	21	0.3%	20	0.6%
South Burlingame	0	0.0%	17	0.3%	11	0.3%
Homestead	3	1.1%	16	0.3%	16	0.5%
Woodstock	1	0.4%	5	0.1%	5	0.1%
<b>City of Portland Subtotal</b>	<b>263</b>	<b>100.0%</b>	<b>6,101</b>	<b>100.0%</b>	<b>3,424</b>	<b>100.0%</b>
Riverdale	59		739		623	
<b>Total</b>	<b>322</b>		<b>6,840</b>		<b>4,047</b>	
<b>Estimated City of Portland Population as of July 1, 2016:</b>					<b>639,863</b>	

# Make Incorrect & Faded Street Signs MUTCD Compliant

SW Boundary & Macadam (left); SW Bond & Bancroft right)  
SW Macadam & Mitchell (below)



**City of Portland**  
**Leading Zero Neighborhoods:**  
South Portland, Collins View and  
Portland Downtown;  
very small portions of  
Homestead and South Burlingame



**Unincorporated  
Multnomah  
County**  
**Leading Zero  
Neighborhood:**  
Riverdale