The goal of the OHSU Transportation Census is to listen directly to daily commuters, OHSU’s employees, so OHSU can use their feedback to improve accessibility for all.

2,253 employees participated in the 2017 OHSU Transportation Census. Respondents at 15 work sites answered 21 questions.

This is the second annual census since the employee commute options survey was brought in-house in 2016 to improve reporting accuracy and analysis.

Since Marquam Hill represents 71% of all employee commuters, and is central to many of OHSU’s transportation challenges, most example results focus on this campus. However, similar results can be pulled for any of the surveyed work sites.

Changes since the 2016 Census:
  • Improved
    – Telecommute tracking
    – work site matching
  • New
    – buildings
    – years commuting
    – 3rd party resources
  • Revised
    – Reasons people drive or don’t drive

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</tr>
<tr>
<td><strong>Transit</strong></td>
</tr>
<tr>
<td>Recommendation: Improve transit travel times</td>
</tr>
<tr>
<td><strong>Walking</strong></td>
</tr>
<tr>
<td>Recommendation: Create a program for walking and running to OHSU.</td>
</tr>
</tbody>
</table>

### Conclusion

### Appendix
OVERVIEW

As needed, results are weighted with the random sample interval. For example, 1 in 21 Marquam Hill employees were randomly sampled while 1 in 2 CHH employees were sampled. To combine results between sites, a Marquam Hill respondent represents 21 people, while a CHH respondent represents 2. This calculation, where applied, is labeled “estimated all employees,” in the chart.

2,253 respondents
15 work sites

ENVIRONMENTAL CONDITIONS

<table>
<thead>
<tr>
<th>DATE</th>
<th>AVG TEMP (farenheit)</th>
<th>WEATHER</th>
<th>DAYLIGHT HOURS</th>
<th>GAS PRICE</th>
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<td>61</td>
<td>SUN</td>
<td>15.5</td>
<td>$3</td>
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<tr>
<td>Feb-16</td>
<td>50</td>
<td>RAIN</td>
<td>10</td>
<td>$1.90</td>
</tr>
<tr>
<td>Sep-16</td>
<td>74</td>
<td>SUN</td>
<td>12.5</td>
<td>$2.50</td>
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<td>May-17</td>
<td>63</td>
<td>SUN/RAIN</td>
<td>14</td>
<td>$2.50</td>
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</table>

TRANSPORTATION CENSUS SCOREBOARD

<table>
<thead>
<tr>
<th>Location</th>
<th>Population</th>
<th>Percent of total</th>
<th>Selected</th>
<th>Completed</th>
<th>Completion Rate</th>
<th>Sample weight</th>
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<tbody>
<tr>
<td>BANCROFT</td>
<td>103</td>
<td>0.8%</td>
<td>103</td>
<td>86</td>
<td>83.5%</td>
<td>1.2</td>
</tr>
<tr>
<td>CHH</td>
<td>782</td>
<td>5.7%</td>
<td>390</td>
<td>322</td>
<td>82.6%</td>
<td>2.4</td>
</tr>
<tr>
<td>FOUNDATION</td>
<td>107</td>
<td>0.8%</td>
<td>107</td>
<td>82</td>
<td>76.6%</td>
<td>1.3</td>
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<tr>
<td>GABRIEL PARK</td>
<td>49</td>
<td>0.4%</td>
<td>49</td>
<td>38</td>
<td>77.6%</td>
<td>1.3</td>
</tr>
<tr>
<td>IPP</td>
<td>17</td>
<td>0.1%</td>
<td>17</td>
<td>13</td>
<td>76.5%</td>
<td>1.3</td>
</tr>
<tr>
<td>KNIGHT CANCER</td>
<td>67</td>
<td>0.5%</td>
<td>63</td>
<td>52</td>
<td>82.5%</td>
<td>1.3</td>
</tr>
<tr>
<td>LOWER MARQUAM</td>
<td>234</td>
<td>1.7%</td>
<td>234</td>
<td>182</td>
<td>77.8%</td>
<td>1.3</td>
</tr>
<tr>
<td>MACADAM</td>
<td>53</td>
<td>0.4%</td>
<td>53</td>
<td>48</td>
<td>90.6%</td>
<td>1.1</td>
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<tr>
<td>MARKET SQUARE &amp; FIFTH AVE</td>
<td>765</td>
<td>5.6%</td>
<td>346</td>
<td>418</td>
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<td>1.8</td>
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<tr>
<td>MARQUAM HILL</td>
<td>8518</td>
<td>62.6%</td>
<td>493</td>
<td>401</td>
<td>81.3%</td>
<td>21.2</td>
</tr>
<tr>
<td>RICHERMOND</td>
<td>112</td>
<td>0.8%</td>
<td>112</td>
<td>93</td>
<td>83.0%</td>
<td>1.2</td>
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<tr>
<td>RUSSELL STREET</td>
<td>12</td>
<td>0.1%</td>
<td>12</td>
<td>12</td>
<td>100.0%</td>
<td>1.0</td>
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<tr>
<td>SCHNITZER CAMPUS</td>
<td>540</td>
<td>4.0%</td>
<td>270</td>
<td>257</td>
<td>95.2%</td>
<td>2.1</td>
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<td>UMG</td>
<td>119</td>
<td>0.9%</td>
<td>119</td>
<td>101</td>
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<td>1.2</td>
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<tr>
<td>WEST CAMPUS</td>
<td>474</td>
<td>3.5%</td>
<td>262</td>
<td>208</td>
<td>79.4%</td>
<td>2.3</td>
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<td>OTHER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15</td>
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</table>
OVERALL RESULTS
PORTLAND VS MARQUAM HILL

Portland v OHSU Marquam Hill
based on most recent data available
City: US Census 2015
OHSU: 2017

Drive alone: 57% (City), 38% (OHSU)
Carpool + drop offs: 8% (City), 8% (OHSU)
Transit: 13% (City), 30% (OHSU)
Walk: 6% (City), 6% (OHSU)
Bike: 7% (City), 18% (OHSU)
Telecommute: 8% (City), 0% (OHSU)
Mulitnomah County v OHSU all sites
based on most recent data available
City: US Census 2015
OHSU: 2017

- Drive alone: 60%
- Carpool + drop offs: 13%
- Transit: 29%
- Walk: 5% (Multnomah County), 6% (All OHSU Sites)
- Bike: 15%
- Telecommute: 7% (Multnomah County), 2% (All OHSU Sites)
### ALL LOCATIONS

by percent and estimated trips, all locations

<table>
<thead>
<tr>
<th>Mode</th>
<th>Primary</th>
<th>Secondary</th>
<th>Drive alone</th>
<th>Bus</th>
<th>Bike</th>
<th>Light rail (MAX)</th>
<th>Walk</th>
<th>Carpool</th>
<th>Dropped off</th>
<th>Telecommute</th>
<th>Streetcar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>41.0%</td>
<td>38.3%</td>
<td>4877</td>
<td>4566</td>
<td>2099</td>
<td>1205</td>
<td>760</td>
<td>389</td>
<td>1133</td>
<td>558</td>
<td>279</td>
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</table>

- BANCROFT
- CHH
- FOUNDATION
- GABRIEL PARK
- IPP
- KNIGHT CANCER
- LOWER MARQUAM
- MACADAM
- MARKET SQUARE & FIFTH AVE
- MARQUAM HILL
- RICHMOND
- RUSSELL STREET
- SCHNITZER CAMPUS
- UMG
- WEST CAMPUS
## Managed Locations

by percent and estimated trips, all locations

<table>
<thead>
<tr>
<th>Mode</th>
<th>Primary</th>
<th>Secondary</th>
<th>Percent</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive alone</td>
<td>38.2%</td>
<td>37.9%</td>
<td>4181</td>
<td></td>
</tr>
<tr>
<td>Bus</td>
<td>21.0%</td>
<td>18.5%</td>
<td>2294</td>
<td></td>
</tr>
<tr>
<td>Bike</td>
<td>16.3%</td>
<td></td>
<td>1777</td>
<td></td>
</tr>
<tr>
<td>Light rail (MAX)</td>
<td>7.4%</td>
<td>9.9%</td>
<td>813 813</td>
<td></td>
</tr>
<tr>
<td>Walk</td>
<td>5.9%</td>
<td>6.6%</td>
<td>643 720</td>
<td></td>
</tr>
<tr>
<td>Carpool</td>
<td>4.4%</td>
<td>3.1%</td>
<td>479 333</td>
<td></td>
</tr>
<tr>
<td>Dropped off</td>
<td>3.4%</td>
<td></td>
<td>375</td>
<td></td>
</tr>
<tr>
<td>Streetcar</td>
<td>1.8%</td>
<td>2.5%</td>
<td>194 272</td>
<td></td>
</tr>
<tr>
<td>Telecommute</td>
<td>1.6%</td>
<td>4.7%</td>
<td>176 510</td>
<td></td>
</tr>
</tbody>
</table>

- BANCROFT
- CHH
- LOWER MARQUAM
- MACADAM
- MARKET SQUARE & FIFTH AVE
- MARQUAM HILL
- SCHNITZER CAMPUS
by percent and estimated trips, all locations

<table>
<thead>
<tr>
<th>Mode</th>
<th>Primary</th>
<th>Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive alone</td>
<td>36.2%</td>
<td>42.2%</td>
</tr>
<tr>
<td>Bus</td>
<td>15.7%</td>
<td>20.1%</td>
</tr>
<tr>
<td>Bike</td>
<td>8.5%</td>
<td>13.2%</td>
</tr>
<tr>
<td>Light rail (MAX)</td>
<td>10.9%</td>
<td>10.2%</td>
</tr>
<tr>
<td>Carpool</td>
<td>5.7%</td>
<td>3.5%</td>
</tr>
<tr>
<td>Walk</td>
<td>4.9%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Streetcar</td>
<td>3.9%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Dropped off</td>
<td>1.9%</td>
<td>7.4%</td>
</tr>
<tr>
<td>Telecommute</td>
<td>1.7%</td>
<td>4.7%</td>
</tr>
</tbody>
</table>

BANCROFT  
CHH  
MACADAM  
SCHNITZER CAMPUS (CLSB, 3030 Moody)
by percent and estimated trips, all locations
**FINDINGS: All site planning**

Transportation appear to be aligning with whether a site is managed by Transportation and Parking. The triangle of managed locations are located downtown, at South Waterfront, and Marquam Hill—along current OHSU Shuttle routes.

The more dispersed, unmanaged locations have a weaker TDM performance. Employees commute from all over the region and work all over the region.

**RECOMMENDATION 1**

Create a TDM toolkit for all sites that includes OHSU’s best practices for TDM strategies including bike parking, nearby transit stops and adjacent cross walks, and outreach to support employees located anywhere.

**RELATED:** Preferences, Transit Analysis
MARQUAM HILL
OHSU v PORTLAND
How is OHSU’s largest and highest elevation campus performing vs the surrounding city?

Transportation Mode Split
Based on most recent data (Portland census, 2015 and OHSU census 2017).

- Drove alone: OHSU 57%, Portland 38%
- Carpool: OHSU 8%, Portland 8%
- Transit: OHSU 13%, Portland 30%
- Bike: OHSU 18%, Portland 7%
- Walk: OHSU 6%, Portland 6%
- Telecommute: OHSU 0%, Portland 8%
Marquam Hill Census by Year

- **Drove alone**: 38.3% (2016), 37.7% (2017)
- **Carpool + drop offs**: 10.3% (2016), 8.0% (2017)
- **Transit**: 30.1% (2016), 29.8% (2017)
- **Bike**: 15.7% (2016), 17.9% (2017)
- **Walk**: 4.9% (2016), 6.2% (2017)
- **Telecommute**: 0.8% (2016), 0.2% (2017)
Compared to Marquam Hill’s overall mode split, biking, walking, and transit are far above the norm.

Drop offs, carpools and telecommutes match the baseline.

Driving is way below the norm.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Primary mode</th>
<th>Secondary mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telecommute</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Dropped off</td>
<td>4% 6%</td>
<td></td>
</tr>
<tr>
<td>Carpool</td>
<td>4% 5%</td>
<td></td>
</tr>
<tr>
<td>Light rail (MAX)</td>
<td>9% 12%</td>
<td></td>
</tr>
<tr>
<td>Streetcar</td>
<td>2% 4%</td>
<td></td>
</tr>
<tr>
<td>Bus</td>
<td>19% 22%</td>
<td></td>
</tr>
<tr>
<td>Drive alone</td>
<td>24% 27%</td>
<td></td>
</tr>
<tr>
<td>Walk</td>
<td>9% 9%</td>
<td></td>
</tr>
<tr>
<td>Bike</td>
<td>29% 12%</td>
<td></td>
</tr>
</tbody>
</table>

Employees who say the Tram has assisted their commute
**FINDINGS: Marquam Hill**

- Driving alone continues to edge down, against a regional uptick
- Carpool declines due to better tracking and overall trend
- Drop offs are a popular back up
- Transit is down slightly, tracking with regional and national trends
- Biking continues a climb, 1 in 4 (24%) people bike to OHSU as a primary or secondary mode
- Walking is up, after several years of flat lining

OHSU’s TDM performance leads the city and the nation. However, carpools remain an issue. Newer lots don’t have carpool lists. Long term single driver permits are cheaper than carpooling by day. The regional carpool network has not been upgraded in several years.

**RECOMMENDATION 2**

Build secure Marquam Hill bike facilities for at least 500 people.

Bike facilities are not keeping pace with growth. Two facilities have closed in the last 5 years due to department moves.

**RELATED:** Biking analysis, biking profile, carpool recommendation, transit recommendation
MARQUAM HILL EMPLOYEES

I take my preferred modes

- Drive alone, 40%
- Carpool, 5%
- Light rail (MAX), 5%
- Walk, 8%
- Bus, 14%
- Bike, 25%
- Dropped off, 2%
- Telecommute
- Streetcar
- Vanpool

“Select any mode you would like to take to work but are unable to for any reason.”

Mode

- Drive alone: 34%
- Light rail (MAX): 22%
- Bike: 19%
- Bus: 16%
- Walk: 15%
- Carpool: 12%
- Dropped off: 12%
- Telecommute: 11%
- Streetcar: 7%
- Vanpool: 3%
MARQUAM HILL EMPLOYEES

- **PRIMARY**: 38%
- **BIKE**: 18%
- **WALK**: 6%
- **CARPOOL**: 4%
- **DROPEP OFF**: 4%
- **TRANSIT**: 30%

**Telecommute**: was less than 1% of the primary mode split for Marquam Hill employees but appeared as a secondary and preferred mode elsewhere.
When primary mode is matched with secondary mode, we see that people tend to take multiple modes. OHSU commuters can’t be easily broken into, “drivers,” and, “bicyclists,” for example so much as people who sometimes drive and people who sometimes bike.
When the modes people take are matched with the modes people want to take, the transportation profiles become even more complex. We see that people who walk, for example, appear more content with their current travel mode than people who take transit.

The number of drivers who ONLY drive is down 12% from 2016. 64% of drivers would like to take transit. 26% would like to bike.

Overall, only 18% of employees are exclusively drivers. Drivers’ secondary mode is fairly evenly dispersed among biking, transit, and drop offs.
FINDINGS: Preferences

Living near work or working from home ensure the least time spent commuting. The most effective way to address many commuters’ number one motive to drive (time), is to encourage living centrally and telecommuting.

RECOMMENDATION 3

Increase telecommuting

Work with OHSU departments and ITG to make telecommuting a priority wherever possible. Make a goal of having OHSU meet the City average for telecommuting in 5 years.

RELATED: Travel times, telecommuter profile
Estimated total telecommuters

Telecommuting by work site

- Primary
- Secondary

297 <- primary and secondary combined.

MARQUAM HILL: 276 telecommuters (21 primary, 255 secondary)
Bancroft: 22 telecommuters (19 primary, 3 secondary)
KNIGHT CANCER: 5 telecommuters (2 primary, 3 secondary)
SCHNITZER CAMPUS: 22 telecommuters (20 primary, 2 secondary)
CHH: 38 telecommuters (17 primary, 21 secondary)
FOUNDATION: 0 telecommuters (0 primary, 0 secondary)
Gabriel Park: 0 telecommuters (0 primary, 0 secondary)
IPP: 3 telecommuters (3 primary, 0 secondary)
MACADAM: 207 telecommuters (115 primary, 92 secondary)
MARKET SQUARE &...: 92 telecommuters (70 primary, 22 secondary)
Marquam Plaza or...: 36 telecommuters (30 primary, 6 secondary)
Richmond Clinic: 12 telecommuters (12 primary, 0 secondary)
Russell Street Clinic: 1 telecommuters (1 primary, 0 secondary)
WEST CAMPUS: 16 telecommuters (16 primary, 0 secondary)
UMG: 43 telecommuters (17 primary, 26 secondary)
• Overall telecommuting is 2%. For Portland, telecommuting is 8%
• Full time telecommuters are concentrated in Fifth Ave Building and UMG. Largely happy with their, “commute.”
• On Marquam Hill, it is largely a secondary option. If we weren’t tracking secondary options, telecommuters would be nearly invisible.
• Back up is driving (51%)
• 30% have long term parking permits
TRIP PLANNING

Transportation Census 2017
TRAVEL TIMES
HOW LONG IS YOUR AVERAGE DAILY COMMUTE, ROUNDTRIP?

- Telecommute: 29
- Walk: 23
- Dropped off: 55
- Drive alone: 50
- Carpool: 48
- Bike: 47
- Streetcar: 70
- Light rail: 92
- Bus: 81

2016
What 3rd party services have you used to ASSIST yourself or others to travel to OHSU?

<table>
<thead>
<tr>
<th>Service</th>
<th>Managed Locations</th>
<th>Total Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google Maps</td>
<td>6300</td>
<td></td>
</tr>
<tr>
<td>TriMet Park and Ride</td>
<td>3586</td>
<td></td>
</tr>
<tr>
<td>Uber</td>
<td>1826</td>
<td></td>
</tr>
<tr>
<td>Waze</td>
<td>1544</td>
<td></td>
</tr>
<tr>
<td>Non-OHSU paid parking lots</td>
<td>1486</td>
<td></td>
</tr>
<tr>
<td>City of Portland parking spaces</td>
<td>1311</td>
<td></td>
</tr>
<tr>
<td>Lyft</td>
<td>1220</td>
<td></td>
</tr>
<tr>
<td>Apple Maps</td>
<td>805</td>
<td></td>
</tr>
<tr>
<td>Local taxi services (Radiocab,...)</td>
<td>797</td>
<td></td>
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<tr>
<td>Car2Go</td>
<td>457</td>
<td></td>
</tr>
<tr>
<td>TriMet apps</td>
<td>199</td>
<td></td>
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<tr>
<td>Biketown</td>
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<td>Traditional rental car companies...</td>
<td>191</td>
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<td>Zipcar</td>
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<tr>
<td>ReachNow</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Columbia County Rider</td>
<td>33</td>
<td></td>
</tr>
</tbody>
</table>

Managed locations, 1327 respondents
Estimated total employees

= partnered service
= not partnered service
What resources have helped you PLAN a commute for yourself or others (patients, etc)?
1559 respondents, OHSU managed sites

- Third party resources (Google, Trimet, City of Portland, etc.)
  - Total employees: 4814
  - Drive alone rate: 27%

- OHSU website
  - Total employees: 3210
  - Drive alone rate: 42%

- I haven't needed to plan a commute
  - Total employees: 2713
  - Drive alone rate: 51%

- A friend or colleague
  - Total employees: 2047
  - Drive alone rate: 40%

- New Employee Orientation
  - Total employees: 898
  - Drive alone rate: 38%

- Calling Transportation and Parking
  - Total employees: 666
  - Drive alone rate: 58%

- Visiting Transportation and Parking
  - Total employees: 562
  - Drive alone rate: 50%

- OHSU Transportation Options Brochure
  - Total employees: 387
  - Drive alone rate: 40%

- Emailing Transportation and Parking
  - Total employees: 340
  - Drive alone rate: 50%
What information about transportation and parking did you receive upon being hired at OHSU?
(Filtering to employees hired in the last 5 years)

- New Employee Orientation: 78%
- Information from a colleague or friend: 45%
- OHSU website: 38%
- Printed information: 12%
- I didn't receive any information: 7%
- Information from a non-OHSU source: 3%

ORIENTATION
correlated to a 6% decrease in driving alone to campus

This subset of the 2017 Census looks just at the 762 employee respondents who say they began commuting to OHSU in the last 5 years.

601 reported attending orientation. 157 said they did not.
FINDINGS: Trip Planning

When people don’t plan, they drive more (51%).

New employees, who have not formed lasting habits and are most open to trying new transportation options.

RECOMMENDATION 4

Increase trip planning for new employees

Expand trip planning assistance through additional staff time and outreach to any staff who request the service and to all new staff and students.
SHIFT ANALYSIS
How often do you travel to work between 9PM and 6AM?

-Marquam Hill Employees-

<table>
<thead>
<tr>
<th></th>
<th>A few times a week or more</th>
<th>A few times a month or more</th>
<th>A few times a year</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent</td>
<td>18%</td>
<td>12%</td>
<td>21%</td>
<td>48%</td>
</tr>
<tr>
<td>Estimated employees</td>
<td>1,584</td>
<td>1,078</td>
<td>1,848</td>
<td>4,202</td>
</tr>
</tbody>
</table>
Have you experienced problems getting to your primary work site between the hours of 9pm and 6am?

People who commute to any OHSU location at night at least a few times a month.
Which issues affect your commuting choices between 9pm and 6am?

- Weather conditions: 45%
- Transit is infrequent or unreliable: 39%
- Parking is too expensive: 37%
- Transit takes too long: 31%
- Parking is difficult to obtain: 27%
- Tram is not running: 19%
- Concerns about personal safety on transit: 18%
- Concerns about personal safety walking or biking: 17%
- Transit doesn’t run all night: 16%
- Taxi/Lyft/Uber are too expensive: 10%
- Campus safety concerns: 6%
- Lack of information about night transportation: 5%
- Biking/walking facilities are inadequate: 5%
- Taxi/Lyft/Uber are too unreliable: 3%
- Available services aren’t wheelchair accessible: 1%

People who have experienced issues commuting to any OHSU location between 9pm to 6am.
FINDINGS: Night

An estimated 2,500 employees travel to Marquam Hill in the early morning, evening, or overnight.

1 in 3 employees who travel at night have experienced issues.

At least 1 in 3 employees who travel at night struggle with infrequent transit and the expense of parking.

RECOMMENDATION 5

Launch recommendations of the OHSU Night Access Plan

1. Add earlier transit service to accommodate earlier trips.
2. Create an early morning option for people with no alternatives.
3. Provide TNC alternatives.
• Likely to only walk (37%)
• Likely to drive as a back up (20%)
• Secondary mode depends on weather/season (44%)
• They walk because they live close by (63%)
• of Marquam Hill walkers
  – 74% use the Tram.
  – 16% have: long term parking; day parking; and/or transit pass.
  – 28% travel between 9pm to 6am a few times a week or more, of those:
    • 43% have experienced problems traveling at those hours.
• Live close by.
• Travel at night, and experience issues at those time.
• Mostly don’t use parking, transit, or bike program.
• Do use the Tram.
• More likely to drive depending on the weather.
An estimated 500 people walk to Marquam Hill daily.

Transportation programming for people who walk is currently minimal.

**RECOMMENDATION**

Improve transportation programming for people who walk, such as:

Incentives, improved pedestrian facilities, and safe rides home at later hours or when ill.
DRIVING
Describe why you drive alone to OHSU
estimated total employees, all locations

- **Save time**: 4,890 opportunities
- **Irregular work schedule**: 4,170 opportunities
- **I never drive alone to OHSU**: 2,520 opportunities
- **No one to carpool with**: 1,830 opportunities
- **Want car for emergencies**: 1,530 opportunities
- **Childcare/school transportation**: 1,530 opportunities
- **Errands**: 1,440 opportunities
- **No convenient off-site parking (park and ride, satellite parking, etc.)**: 1,380 opportunities
- **No transit during my commute hour**: 1,380 opportunities
- **No transit where I live**: 1,290 opportunities
- **Safety concerns**: 810 opportunities
- **OHSU requires I drive to work as part of my job function**: 210 opportunities

= opportunities for TDM programs
select any reasons that best describe why you drive alone to OHSU

Marquam Hill employees

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Save time</td>
<td>42%</td>
</tr>
<tr>
<td>Irregular work schedule</td>
<td>36%</td>
</tr>
<tr>
<td>I never drive alone to OHSU</td>
<td>22%</td>
</tr>
<tr>
<td>No one to carpool with</td>
<td>16%</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>15%</td>
</tr>
<tr>
<td>Want car for emergencies</td>
<td>13%</td>
</tr>
<tr>
<td>Childcare/school transportation</td>
<td>13%</td>
</tr>
<tr>
<td>Errands</td>
<td>12%</td>
</tr>
<tr>
<td>No convenient off-site parking (park and ride, satellite parking, etc.)</td>
<td>12%</td>
</tr>
<tr>
<td>No transit during my commute hour</td>
<td>12%</td>
</tr>
<tr>
<td>No transit where I live</td>
<td>11%</td>
</tr>
<tr>
<td>Safety concerns</td>
<td>7%</td>
</tr>
<tr>
<td>OHSU requires I drive to work as part of my job function</td>
<td>2%</td>
</tr>
</tbody>
</table>
Reasons that best describe why you drive alone to OHSU.

- I never drive alone to OHSU
- Errands
- Save time
- Irregular work schedule
- Want car for emergencies
- Safety concerns
- No one to carpool with
- OHSU requires I drive to work
- Childcare/school transportation
- No transit where I live
- No transit during my commute hour
- No convenient off-site parking
- Other (please specify)
Reasons that best describe why you drive alone to OHSU.

- I never drive alone to OHSU
- Errands
- Save time
- Irregular work schedule
- Want car for emergencies
- Safety concerns
- No one to carpool with
- OHSU requires I drive to work
- Childcare/school transportation
- No transit where I live
- No transit during my commute hour
- No convenient off-site parking
- Other (please specify)

Walk: least likely to ever drive

Drop offs: Most likely to drive when irregular schedule.

Drivers: Twice as concerned about emergencies

Carpool: Childcare means driving alone

Bike: Least likely to drive to save time

Walk: least likely to ever drive
Describe why you DON'T drive alone to OHSU

- Parking is costly: 5250
- Save money: 4440
- I only drive alone to OHSU: 2580
- OHSU transit discounts (TriMet, C-Tran, Streetcar): 2340
- Environmental concerns: 2310
- To reduce traffic congestion: 2250
- Personal health and wellness: 2220
- Portland Aerial Tram: 1320
- OHSU bike incentive: 1260
- I live close to work: 960
- My schedule is convenient for not driving: 690
- I do not have a car to use: 660
- Enjoy commuting with others: 450
- Safety concerns: 270

= current TDM strategies
Parking choices are a direct result of the cost to the employee. Cost of driving is affixed to a system of zones and seniority. Cost is not affixed to OHSU goals or employee needs.

Employees with a long term permit don’t have any motive to park less days a week. Refunding their parking for days they choose transit, biking, etc. will reduce the days they drive.

Driving alone with a long term permit is faster and cheaper than daily carpooling, creating a counter-incentive to sharing a ride.

**RECOMMENDATION 6**

Realign the cost of parking to OHSU’s goals. Reform carpool policy to discount it over driving alone and remove the wait.

Related: Overall results, Ride share analysis, carpool profile
Employees who drive alone but would use other modes if able

- 4100 people
- Most likely to live in Sellwood
- 20% would like to take light rail
- 17% would like to bike
- Most popular backups: Drop offs (14%); Biking (13%)
- Drives alone due to irregular schedule (20%)
- Chooses to not drive to save money
- 48% use long term parking
- 1/3 use day passes
- Only 16% have a transit pass

**DRIVES AND OPEN TO OTHER MODES**

**COMMUTER PROFILES**
Employees who drive alone but would use other modes if able

Sellwood commuters could use existing transit resources with tripping planning.

Commuters in other areas need improved transit service.
This is how BIKES impact traffic congestion at 5pm.
BIKING TO WORK
PORTLAND V MARQUAM HILL

US Census
OHSU Transportation Census

MARQUAM HILL
PORTLAND
EMPLOYEES BIKING TO ANY OHSU WORK SITE

*Downtown is 1 square mile contained by West Burnside St and I-405. It includes 97005, 97201, and 97209.
At this location, people who biked sometimes were as likely to hold parking permits as the baseline. But if they biked more often, they turned in their permits. Secondary riders also report not using bike parking facilities, an amenity that might entice them to bike more.
FINDINGS: Biking

Biking is the most preferred non-driving mode for people that are satisfied with their current mode. Once we get people on bikes, they like it.

RECOMMENDATION 7

Partner with Biketown

Make it easier for people to take up biking with cheap, always available bikes.

Related: Biking profile, Overall results
• Travels from southeast, particularly Sellwood.
• 1 in 5 work in OHSU Hospital.
• Most are happy with their mode (61%).
• The bus is the most popular secondary mode.
• 1 in 5 would drive if they could. 1 in 5 already do.
• The big motivators are saving/earning money, personal wellness, and environmental concerns.
DROP OFF RIDES
Marquam Hill Employees using Transportation Network Companies, by building

Estimated, Respondents 21x

<table>
<thead>
<tr>
<th>Building</th>
<th>Percent of total</th>
<th>Responses</th>
<th>Estimated actual (x21)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have used Uber, TNC, or Taxis to OHSU:</td>
<td>28%</td>
<td>114</td>
<td>2394</td>
</tr>
<tr>
<td>Have used TNC:</td>
<td>14%</td>
<td>55</td>
<td>1155</td>
</tr>
<tr>
<td>Have used Uber:</td>
<td>19%</td>
<td>78</td>
<td>1638</td>
</tr>
<tr>
<td>Have used Taxis:</td>
<td>8%</td>
<td>34</td>
<td>714</td>
</tr>
</tbody>
</table>
Marquam Hill Employees using Transportation Network Companies

**primary mode**

- **Drive alone**: 36.0%
- **Carpool**: 5.3%
- **Vanpool**:
- **Bus**: 18.4%
- **Light rail (MAX)**: 7.0%
- **Streetcar**: 2.6%
- **Bike**: 16.7%
- **Walk**: 9.6%
- **Telecommute**:
- **Dropped off**: 4.4%

**secondary mode**

- **I only use one travel mode**: 22.8%
- **Drive alone**: 17.5%
- **Carpool**: 4.4%
- **Vanpool**:
- **Bus**: 14.9%
- **Light rail (MAX)**: 8.8%
- **Streetcar**: 3.5%
- **Bike**: 7.0%
- **Walk**: 7.9%
- **Telecommute**: 1.8%
- **Dropped off**: 11.4%
Marquam Hill Employees that have used TNCs, by shift change

Estimated total

shift changes – Transportation Network Companies
People drive because they perceive it as the most flexible option. To make drivers feel comfortable leaving their car at home, non driving modes must be perceived as accommodating to emergencies, irregular schedules, child care and errands.

**RECOMMENDATION 8**

Provide TNC as a guaranteed back up for people who don’t drive

Provide TNC to people who leave their car at home as a back up in the event that they need to be driven somewhere on an irregular basis.

**RELATED:** Drop off profile, shift analysis
Employees who have used TNC, Uber or a Taxi to get to OHSU:

- 2,300 people
- More likely to drive or walk
- Less likely to take transit or bike
- Nearly a third would like to take transit
- 23% never drive alone, 42% drive alone to save time
- Doesn’t drive to save on parking
- 25% have used Uber, 17% Lyft, 11% local taxis
- 28% have used Park and Rides
- Use the OHSU website to trip plan

Employees who have used TNC, Uber or a Taxi to get to OHSU:
- Already traveling from close in
- Further out commuters already familiar with Park and Rides
Most people don’t choose one mode and have experience using multiple options.

We may not need to change behavior so much as support behaviors people are already doing to make them choose it more.

**RECOMMENDATION 9**

Upgrade carpool matching technology

Southwest Portland and outer Southeast Portland are two opportunity areas for transit and carpool. Work with TriMet and ride-matching services to move people into the modes they desire to take.

**RELATED:** Carpool profile, Marquam Hill results, Driving profile
Carpool by work site

<table>
<thead>
<tr>
<th>Location</th>
<th>Primary</th>
<th>Secondary</th>
<th>Want to carpool</th>
</tr>
</thead>
<tbody>
<tr>
<td>UMG</td>
<td>3%</td>
<td>6%</td>
<td>8%</td>
</tr>
<tr>
<td>Knight Beaverton</td>
<td>2%</td>
<td>4%</td>
<td>19%</td>
</tr>
<tr>
<td>West Campus</td>
<td>3%</td>
<td>8%</td>
<td>14%</td>
</tr>
<tr>
<td>Russell Street Clinic</td>
<td>0%</td>
<td>8%</td>
<td>27%</td>
</tr>
<tr>
<td>Richmond Clinic</td>
<td>2%</td>
<td>1%</td>
<td>9%</td>
</tr>
<tr>
<td>Marquam Plaza or Marquam II</td>
<td>1%</td>
<td>3%</td>
<td>12%</td>
</tr>
<tr>
<td>Market Square or Fifth Ave</td>
<td>6%</td>
<td>3%</td>
<td>7%</td>
</tr>
<tr>
<td>Macadam Warehouse</td>
<td>6%</td>
<td>2%</td>
<td>6%</td>
</tr>
<tr>
<td>IPP</td>
<td>0%</td>
<td>0%</td>
<td>31%</td>
</tr>
<tr>
<td>Gabriel Park</td>
<td>0%</td>
<td>0%</td>
<td>3%</td>
</tr>
<tr>
<td>Foundation</td>
<td>10%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Center for Health and Healing</td>
<td>5%</td>
<td>2%</td>
<td>8%</td>
</tr>
<tr>
<td>Schnitzer Campus</td>
<td>7%</td>
<td>4%</td>
<td>12%</td>
</tr>
<tr>
<td>Bancroft</td>
<td>3%</td>
<td>2%</td>
<td>12%</td>
</tr>
<tr>
<td>Marquam Hill Campus</td>
<td>4%</td>
<td>3%</td>
<td>12%</td>
</tr>
</tbody>
</table>

What secondary modes do current carpoolers use?

- Carpool only, 254
- Drive alone, 254
- Walk, 21
- Bike, 21
- Dropped off, 21
- Transit, 212

Currently carpooling commuter profiles
People who want to carpool, by work site

- Drive alone 42%
- Carpool 13%
- Bus 27%
- Streetcar 2%
- Bike 9%
- Dropped off 7%

Primary mode of people who want to carpool but feel unable

**DESIRESCARPOOL**

**COMMUTER PROFILES**
TRANSPORTATION CENSUS 2017

TRANSIT ANALYSIS
Where you can get from Marquam Hill in 45 minutes
Wait times added. Peak service times. Data via mapnificent.
Employees who would like to take transit but feel unable.
Transit doesn’t run all night
Tram is not running
Transit takes too long
Transit is infrequent or unreliable

Marquam Hill

30% of Marquam Hill employees say they have experienced an issue traveling at these hours.
LINE 8
TRAVEL TIME BY SEGMENT

Weekday trip arriving at OHSU Hospital by 8am.

Travel time from end of segment to the next. Transfer times in parentheses. Example: 4 minutes from Pioneer Square to PSU (+6 minute wait time)

At non-peak times, wait times double (15 min) and quadruple for 2 line trips (30 min).

This assumes bus running exactly on time with no delays or missed transfers.
Estimated employee transit ridership across all OHSU worksites

Line 8, rail and express service are essential. But OHSU riders take every line in the system.
SOUTH WATERFRONT TRANSIT RIDERS

- Orange MAX: 19%
- East side Streetcar: 99%
- Red MAX: 4%
- West side Streetcar: 9%
- Yellow MAX: 4%

Other bus lines: 13%

MARQUAM HILL

- 94: 1%
- 44: 1%
- 4: 2%
- 12: 2%
- 15: 2%
- 17: 7%
- 19: 1%

SOUTH WATERFRONT

- 35: 12%
- 36: 4%
- 43: 1%
- 4: 2%
- 9: 8%
- 61: 1%
- 8: 2%
FINDINGS: Transit

The Transit Pass is popular and effectively makes transit much cheaper than driving. A transit rider is likely to drive as a back up when wanting to save time and drivers are likely to rule out transit for time reasons.

RECOMMENDATION 10

Improve transit travel times
More detailed recommendations follow.

RELATED: Driving profile, Marquam Hill results
RECOMMENDATION 10

10a. Marquam Hill
Provide express service, with no stops, from a transit hub to OHSU Hospital for maximum transit connections (Pioneer Square to OHSU Hospital) and minimum travel time. This could potentially save riders 40 minutes to an hour roundtrip a day and compel hundreds of commuters to ride transit.

10b. South Waterfront
South Waterfront is the fastest growing district in Portland, with OHSU alone bringing over 2,000 more employees to the district--A fraction of the total increase in daily trips. TriMet should work with OHSU to bring new service for new commuters to the district, evaluating potential express, frequent service, and more.

10c. Off hour transit
Adding earlier service to OHSU-bound lines will open up transit to hundreds of early morning commuters. Our swing and late night employees say they will ride transit if they can rely on a faster connection in the evening.

10d. Park and Rides
OHSU should work closely with TriMet to identify potential Park and Rides and on trip planning technology to identify ways to bring more people into the system. In particular, an OHSU rider’s trip increasingly involves drive + park and ride + transit.

10e. Lair Hill
Evaluate potential stops between Barbur and the Gibbs Pedestrian Bridge, such as SW Naito at Whitaker and a stop for the 54 and 56. This will increase the number of lines that riders can have direct service, reduce trip times and reduce the need for downtown transfers.
Marquam Hill-bound employees riding transit, by weekday

Primary commute
- 74% bus
- 21% light rail
- 5% streetcar

Secondary commute
- 35% drive alone
- 13% light rail
- 10% drop off

90% TriMet pass
44% ride the Tram
52% have used Park & Rides
17% daily parking
1% long term parking

Preferred mode: 60% drive.
Drives to save time: 44%
Telecommuting has transformed transportation at two OHSU sites. As Portland’s housing crisis pushes people further from OHSU, telecommuting could pose the best opportunity to insulate OHSU TDM goals from this negative stressor. Even part time telecommuting, at rush hour, could reduce congestion.

Transit is popular for people wanting to save money but increasingly unpopular for people wanting to save time. With transit-only travel lanes downtown and on Tilikum Crossing, working with Trimet is essential for faster campus connections.

Driving is not an option most people choose or desire exclusively. “Drivers,” are decreasing and people who drive sometimes are increasing. OHSU should explore ways to price people’s choices more closely with their daily decisions and bring price equity between the flexible driver and the exclusive driver.

Biking is growing fast and highly preferred. While South Waterfront has some of the nation’s best facilities, on Marquam Hill, 2 facilities have closed in recent years while long recommended facilities have yet to begin construction. Riders report driving as a backup, and they could turn to driving if amenities don’t keep pace with growth.

Carpool has three counter-incentives: A long wait for permits, daily carpooling is more expensive than long term driving alone, and one way carpooling is risky when late night alternatives are unavailable. These counter-incentives are steadily degrading the number of carpools on campus.

OHSU is making strong progress. The highest elevation campus in the City is out performing regional trends and is far ahead of many similar sized organizations nationally. However, with congestion already a major issue and extensive growth on the horizon, more aggressive transportation demand management is needed.

CONCLUSION

RECOMMENDATIONS

1. Leverage unmanaged sites in regional transportation planning
2. Build secure Marquam Hill bike facilities for at least 500 people.
3. Partner with Biketown
4. Increase telecommuting
5. Increase trip planning for new employees
6. Realign the cost of parking to OHSU’s goals
7. Launch recommendations of the OHSU Night Access Plan
8. Upgrade carpool matching technology
9. Provide TNC as a guaranteed back up for people who don’t drive
10. Improve transit travel times
Transportation Census 2017

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