

A black and white photograph of a city street at night, heavily blurred to create light trails from cars and streetlights. The image is framed by a thick white border.

NIGHT ACCESS PLAN

OREGON HEALTH & SCIENCE UNIVERSITY



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PLANNING**



Portland State
UNIVERSITY

NIGHT ACCESS PLAN

OREGON HEALTH & SCIENCE UNIVERSITY

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INTRO AND CONTEXT

INTRODUCTION

Oregon Health & Science University (OHSU) is a microcosm of a 24-hour city; both a medical provider and educational institution, OHSU has departments operating at all hours of the day, every day of the year. As the largest employer and medical provider in the state of Oregon, it is important that OHSU employees, patients and visitors have adequate access to the campuses, regardless of the time of day.

Night transportation is a complex issue often associated with entertainment and tourism with the goal of getting late-night bar crowds home safely. This is reflected in global trends to extend public transportation hours on weekends in order to reduce driving under the influence. As our society continues to transition into a more 24/7 culture, and the range of activities expands beyond enjoying entertainment to completing work and errands, it is important that our public transportation systems adapt to trends and meet traveler needs.

At OHSU, employees who commute late at night and early in the morning have significantly fewer transportation options than daytime workers do. This is particularly true for those traveling between 1AM and 5AM. Since these employees are frequently newer ones with the least favorable shifts, or employees with lower incomes, they are even more disadvantaged than those traveling during daytime hours.

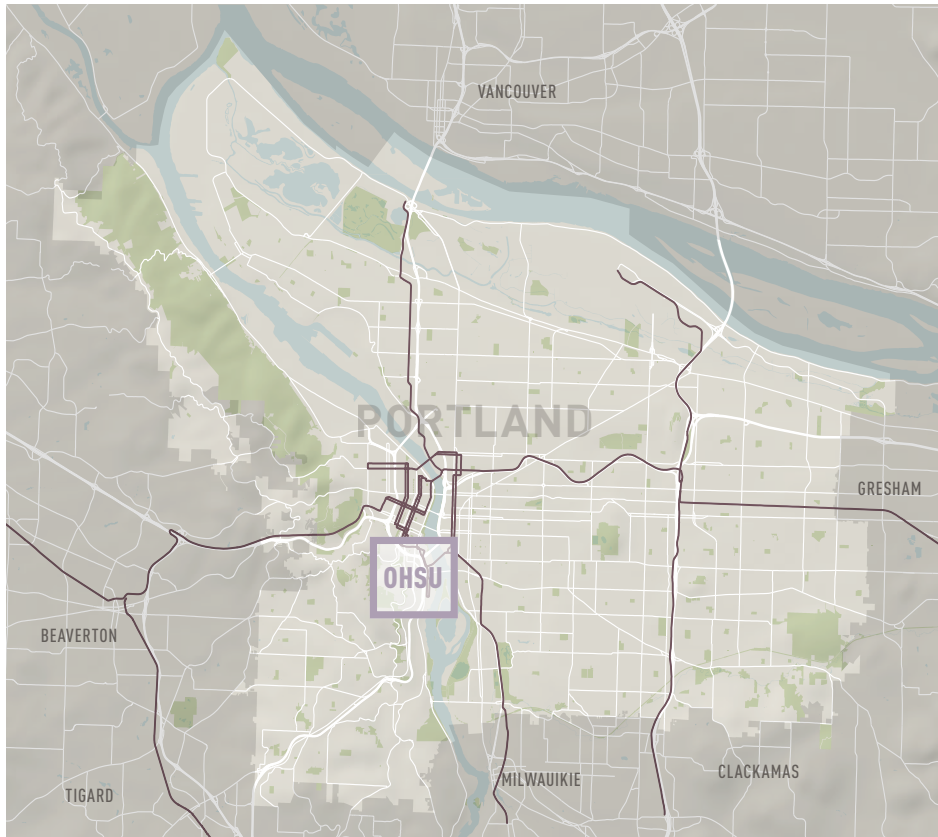
Furthermore, they are likely to rely more on public transportation options and have less flexibility in their travel modes. The Night Access Plan (NAP) aims to improve night transportation access for OHSU, thereby directly influencing the lives of those who work late at night or early in the morning.

DEFINING "NIGHT"



What do we mean by “night”? Night is a relatively subjective term and how we define and use it strongly influences what transportation options are considered “available” at “night.” In Salt Lake City, Utah, for example, public transit drops off significantly after 7PM while in Portland this doesn’t happen until around 9PM. For the purposes of this plan and all related documents, the term “night” refers to the period between 9PM and 6AM. We also use “late at night” and “early in the morning” to differentiate between 9PM and 2AM and 2AM and 6AM. These times were chosen based on OHSU employee shift start and end times, and a general understanding of American and Portland culture and how we define night and early morning time definitions.

OHSU AND ITS NEIGHBORHOODS



^OHSU AND PORTLAND

OHSU is a nationally renowned academic, research and health institution. OHSU sees over 250,000 patients a year, teaches 5,000 students, employs about 16,000 people, and utilizes over 2,000 contract workers. OHSU has two main campuses in downtown Portland, one perched atop Marquam Hill and the other situated at its eastern base in the South Waterfront. As both of OHSU's central campuses continue to expand, the number of people who need to be able to access the facilities will continue to grow. Transportation & Parking currently orients 180 new employees per month as OHSU expects to hire more than 2,000 employees over the next year. OHSU plans to open three new buildings in the South Waterfront area in the next two years, and two new buildings on the Marquam Hill campus within five years with no additional parking on the hill.

The **Homestead** Neighborhood on Marquam Hill is home to around 2,000 people. Roughly two-thirds of these residents are renters, and many are employees or students at OHSU. There is some tension between the neighborhood and OHSU, though many on Marquam Hill have interests directly tied to OHSU. Some of the Neighborhood Association's and residents' transportation concerns include a general lack of sidewalks, sidewalks that jump from one side of the street to the other, limited




^OHSU CENTRAL CAMPUSES AND THEIR NEIGHBORHOODS

on-street parking, and heavy traffic volumes that make it difficult to get on and off the hill. OHSU's goal of reducing the number of cars traveling to and from the central campuses aligns well with the preferences of the Homestead Neighborhood.

The **South Waterfront** neighborhood is located just east of Marquam Hill and makes up the northeastern tip of the South Portland Inc. Neighborhood Coalition. In the early 2000s, developers poured money into the South Waterfront (a former brownfield) to create a new district, only to be stalled shortly thereafter by the recession in 2008. While development is again underway, this neighborhood is still a relatively quiet place attracting high-income, retired residents. Zidell Marine Corporation, a longtime Portland barge maker in the South Waterfront, hopes to change this. The company owns a 33-acre parcel in the heart of the South Waterfront which it plans to develop into a mixed-use area with housing, businesses, parks, and restaurants. OHSU is also constructing new buildings to add capacity for outpatient services. In short, the South Waterfront is still very much a neighborhood in flux.

*The Night Access Plan lays out a strategy
to make getting to and from OHSU
at night and early in the morning
safer, more convenient,
and affordable*



A black and white photograph of a car driving on a winding road, with the text "DEFINING THE PROBLEM" overlaid in large white letters. The car is in motion, creating a blurred effect, and the road curves through a wooded area. The text is centered and reads:

DEFINING THE PROBLEM

DEFINING THE PROBLEM

This section describes the choices and challenges employees face when traveling at night by answering seven guiding questions outlined below. The answers to the seven guiding questions have given us a clear understanding of current temporal and geographic travel patterns, the demographics of travelers, campus operations, physical conditions, and the major challenges OHSU employees face in trying to get to and from OHSU at night. This foundation built a sturdy framework for recommending actions to address access challenges at night.

1. Why are employees traveling to OHSU and where are they going at night?
2. Who is traveling to OHSU at night?
3. Where are employees coming from at night?
4. When are employees traveling at night?
5. How are employees traveling at night?
6. How can employees travel at night?
7. What are the major obstacles to travel to OHSU at night?

To answer these questions, we relied heavily on the OHSU community to share its experiences traveling at night through online surveys, in-person tabling events, interviews, and anecdotes. To ground the stories we heard, we collected our own data on physical conditions around OHSU and information about the availability of transportation options. Our process is shown in the chart below.

NAP PROCESS



NAP COMMUNITY ENGAGEMENT BY THE NUMBERS



INFRASTRUCTURE ASSESSMENT BY THE NUMBERS





1

THE NIGHT WORKFORCE PART 1

Why are employees traveling to OHSU at night and where are they going?

WHY ARE WE ASKING THIS? Understanding what drives demand for night travel to/from OHSU will help illuminate the unique travel needs generated by those activities and provide clues to how these needs could evolve in the future.

HOW DID WE ANSWER THIS? We collected information on what functions are running at night and what those functions require of employees via interviews, surveys and research.



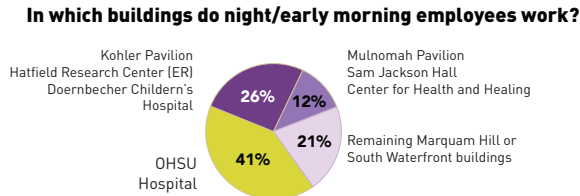
Employees are concentrated in just a few buildings, creating opportunities for focused investment.

Every weekday, around 20,000 people commute to and from OHSU. These researchers, healthcare professionals, students, and visitors are spread out across more than 30 buildings around the two central campuses. Every month, nearly 4,000 different employees travel to or from OHSU's central campuses between the hours of 9PM and 6AM, with anywhere from 400 to 1,300 shifts being worked during the night, depending on the day of the week. At night, only a few buildings are heavily utilized, while others see just a handful of traffic. The concentrated nature of nighttime campus use provides opportunities for focusing resources when considering improvements.

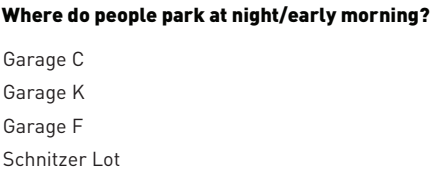
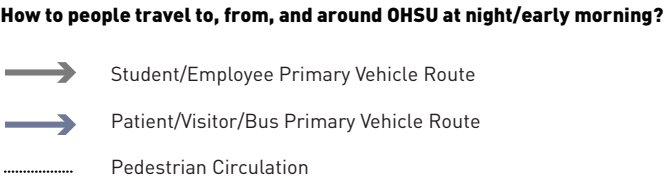
A detailed breakdown of which buildings employees are active in at night (visualized in the Night Circulation Map graphic on the facing page) highlights that the majority of survey respondents (67%) in the Night Access Plan Employee Survey reported working at buildings on the Marquam Hill Campus. The most-used buildings are the OHSU Hospital (OHS, 41%), Kohler Pavilion (KPV, 10%), Hatfield Research Center (HRC, 7%) and Doernbecher Children's Hospital (DCH, 9%). No other building has more than four percent of survey respondents working there. Night and early morning employees are concentrated in a relatively small number of buildings.


Overall, OHSU is a leaner operation at night, concentrated to a few key buildings with roles that mostly focus on providing healthcare to patients; students and professors do not make up large percentages of overnight activity. The NAP Employee Survey revealed 51% of survey respondents are in healthcare roles and 20% are in administrative roles. Facilities and maintenance workers made up about 13% of survey respondents. Researchers made up roughly 5% of respondents. Healthcare researchers frequently have variable hours, and some indicated needing to stay overnight at times to monitor ongoing experiments.

NIGHT CIRCULATION MAP



Percentages based on the OHSU Night Access Plan employee survey





At night, OHSU functions as a scaled-down version of its daytime self, with healthcare provision, administration, facilities and maintenance, research, and education functions all operating



2

THE NIGHT WORKFORCE PART 2

Who is traveling to OHSU at night?

- WHY ARE WE ASKING THIS?** Understanding the demographics of people traveling to/from OHSU at night will point to unique challenges that may be faced by different groups of travelers.
- HOW DID WE ANSWER THIS?** Looking at OHSU employee demographic data, an OHSU-specific night transportation survey, and a recent pilot transportation census provided a detailed picture of the regular night travelers to OHSU.

WHO IS TRAVELING TO OHSU AT NIGHT?

Roles

The OHSU night workforce is similar in composition to the overall workforce, with over half (51%) of employees surveyed indicating they are healthcare providers. Administrative functions and Facilities are well-represented in the survey results and in the night workforce. Students, researchers, professors, and Transportation & Parking staff make up a small, yet significant presence at night.

Gender

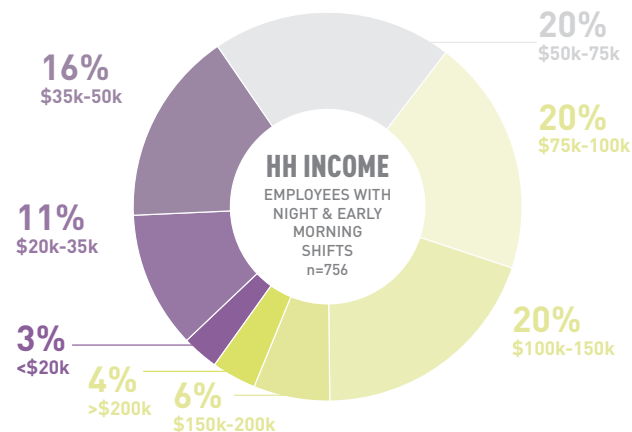
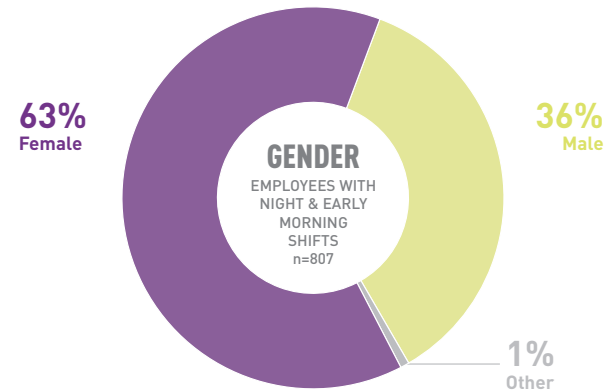
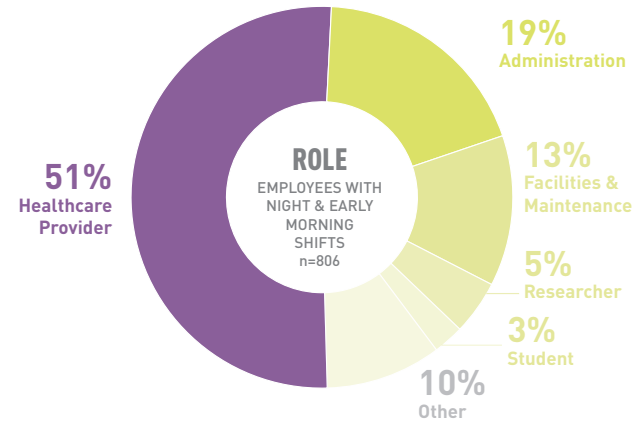
Examining gender specifically, the nighttime workforce is very similar proportionally to the overall OHSU population (women: day = 67%; night = 63%). This high proportion of women compared to the gender-balanced population of the city or region may help identify barriers that may be more significant for the OHSU nighttime employee population than for the city-wide population. For example, national research has shown that 54% of women are concerned about being hit by vehicles when riding, 48% of women would ride more with protected bike lanes, and 51% of women have no working adult bicycle in their household. Our own NAP Employee Survey analysis reveals that among respondents, 20% of men bike, while only 7% of women do. Although this research was not night-specific, knowledge of these barriers is useful in understanding how women perceive biking and in indicating ways transportation infrastructure improvements or bike subsidy/leasing programs may encourage more women to bike to OHSU.

These findings among others indicate late night and early morning commuting patterns are influenced by gender, highlighting the importance of considering gender-specific preferences and barriers in transportation planning.

Income

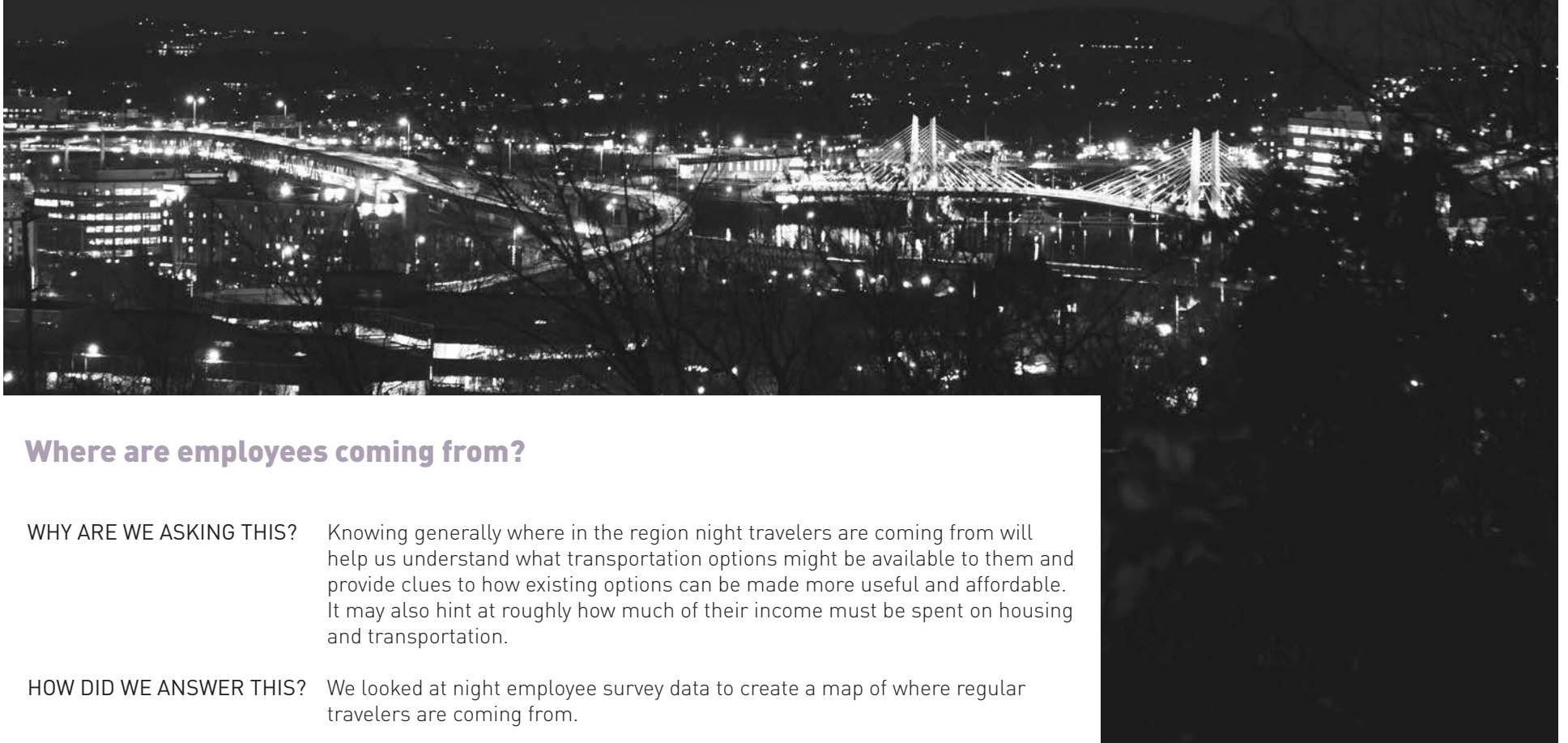
Looking at income, surveyed OHSU night employees are better off than others in the region; the regional median household income is \$58,000, while only a bit more than 30% of surveyed night employees (the shaded purple areas in the chart at right) fall below that value. This may be indicative of an ability to spend more on transportation and/or housing options than the average Portland-area dweller might be able to.

Of those who reported a household income of over \$100,000, 66% drive alone while 8% take transit; of those whose household income is less than \$35,000, 42% drive alone and 28% take transit. Employees who make less than \$35,000 pay a higher percentage of their income for Daily Parking Passes and Annual Parking Permits than employees making \$100,000 or more, meaning those making more money have the benefit of more convenient door-to-door transportation while those in the lower income brackets may end up only having access to transportation options that are temporally costly.



3

TRAVEL TRENDS: SPACE AND TIME PART 1



Where are employees coming from?

WHY ARE WE ASKING THIS? Knowing generally where in the region night travelers are coming from will help us understand what transportation options might be available to them and provide clues to how existing options can be made more useful and affordable. It may also hint at roughly how much of their income must be spent on housing and transportation.

HOW DID WE ANSWER THIS? We looked at night employee survey data to create a map of where regular travelers are coming from.

WHERE ARE EMPLOYEES COMING FROM?

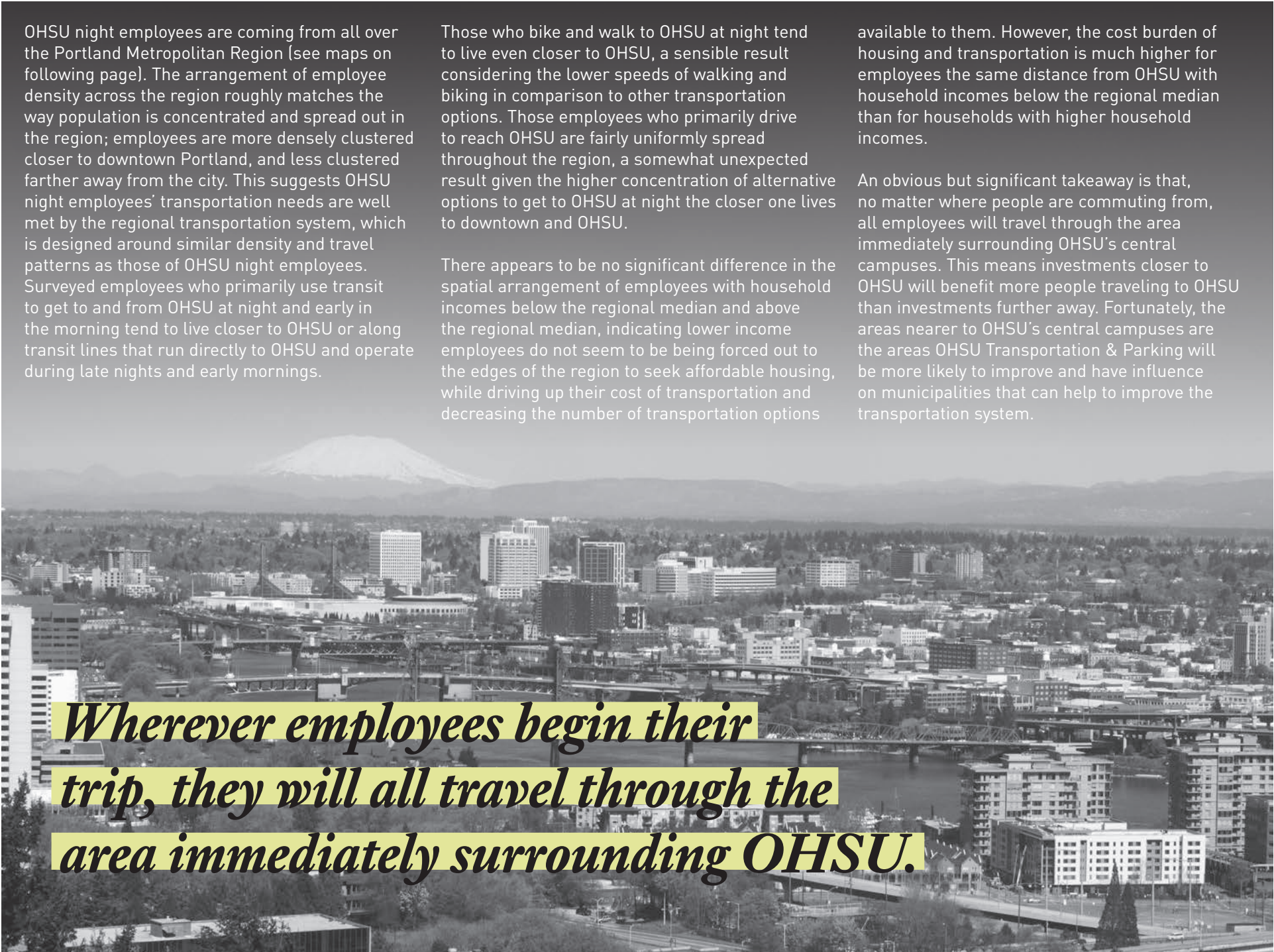
OHSU night employees are coming from all over the Portland Metropolitan Region (see maps on following page). The arrangement of employee density across the region roughly matches the way population is concentrated and spread out in the region; employees are more densely clustered closer to downtown Portland, and less clustered farther away from the city. This suggests OHSU night employees' transportation needs are well met by the regional transportation system, which is designed around similar density and travel patterns as those of OHSU night employees. Surveyed employees who primarily use transit to get to and from OHSU at night and early in the morning tend to live closer to OHSU or along transit lines that run directly to OHSU and operate during late nights and early mornings.

Those who bike and walk to OHSU at night tend to live even closer to OHSU, a sensible result considering the lower speeds of walking and biking in comparison to other transportation options. Those employees who primarily drive to reach OHSU are fairly uniformly spread throughout the region, a somewhat unexpected result given the higher concentration of alternative options to get to OHSU at night the closer one lives to downtown and OHSU.

There appears to be no significant difference in the spatial arrangement of employees with household incomes below the regional median and above the regional median, indicating lower income employees do not seem to be being forced out to the edges of the region to seek affordable housing, while driving up their cost of transportation and decreasing the number of transportation options

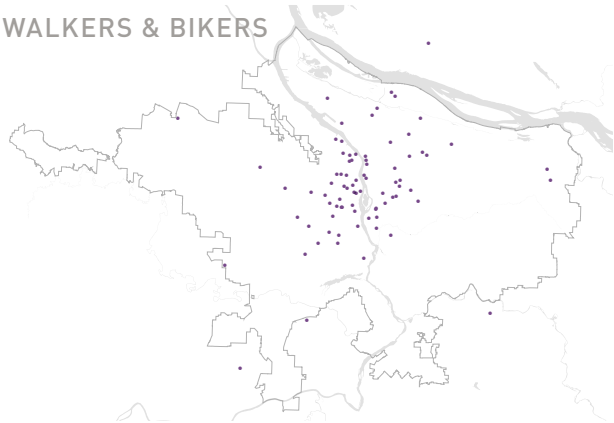
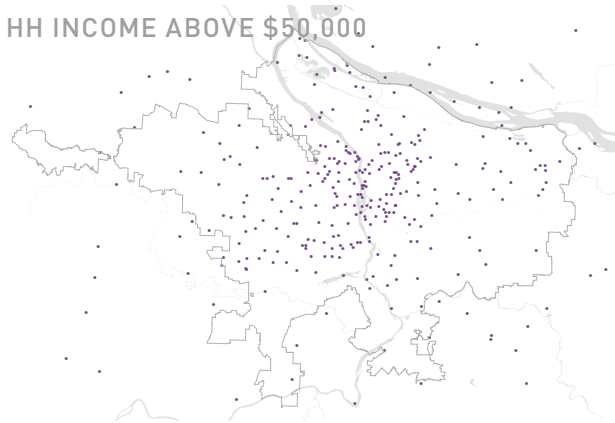
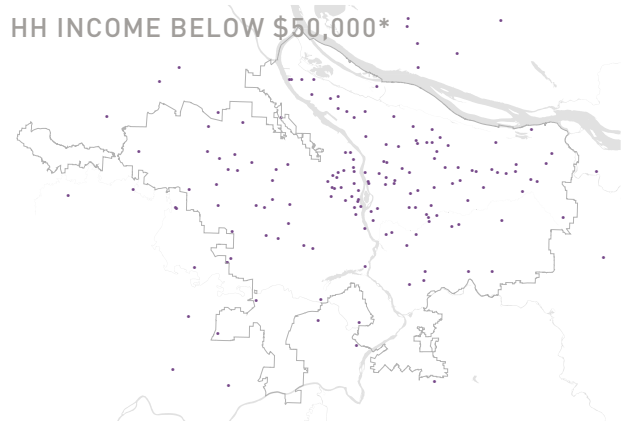
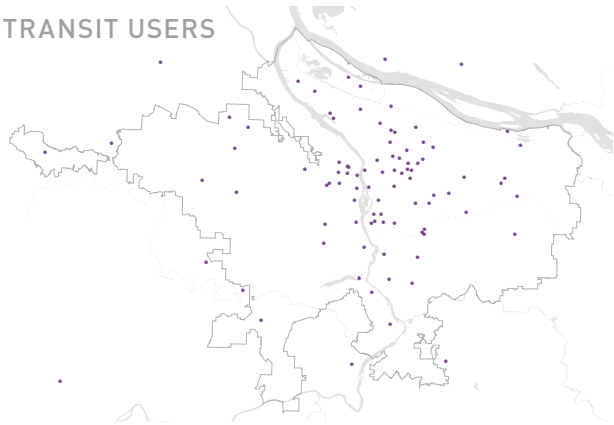
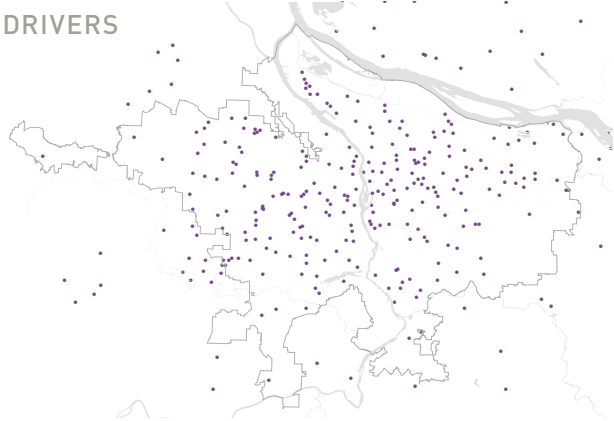
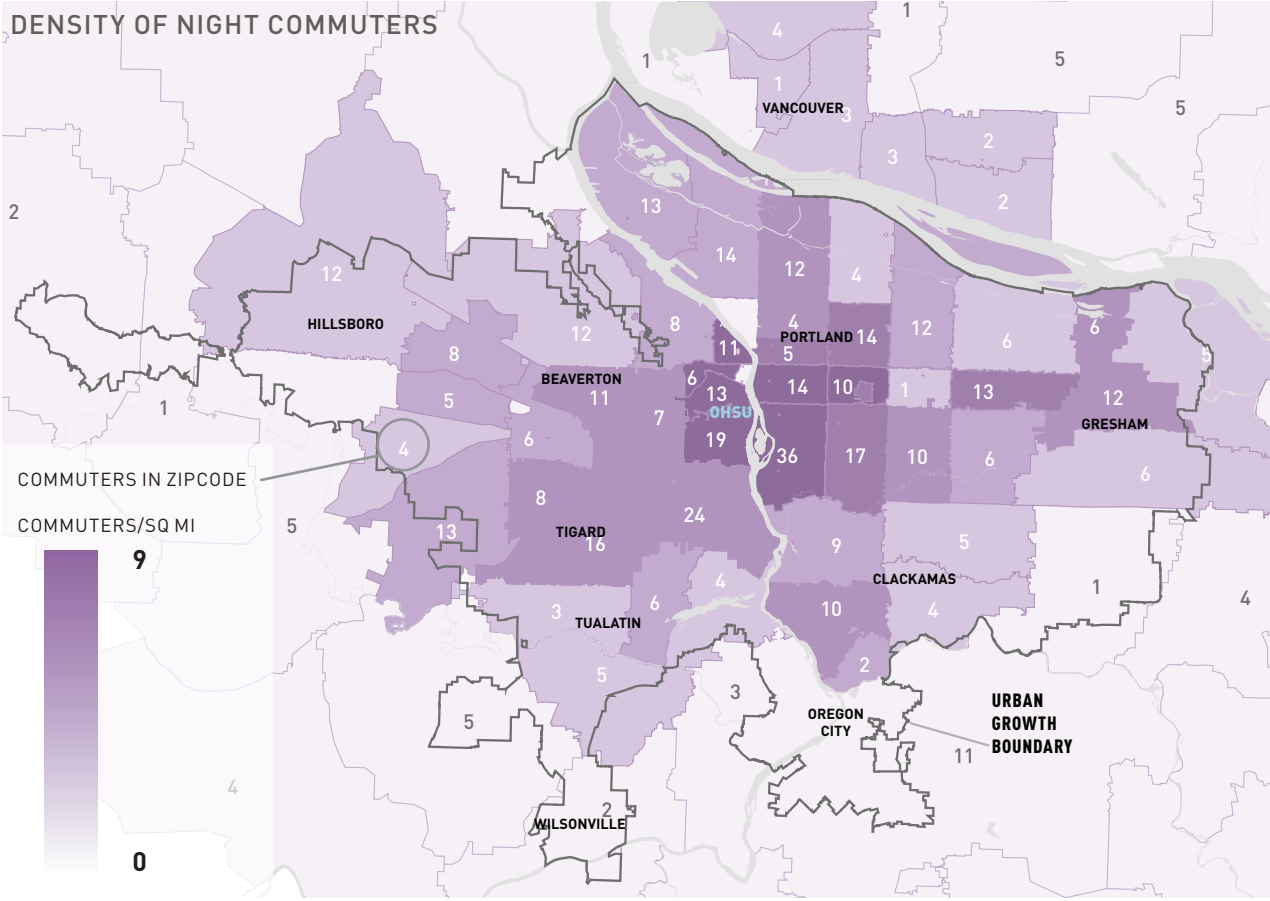
available to them. However, the cost burden of housing and transportation is much higher for employees the same distance from OHSU with household incomes below the regional median than for households with higher household incomes.

An obvious but significant takeaway is that, no matter where people are commuting from, all employees will travel through the area immediately surrounding OHSU's central campuses. This means investments closer to OHSU will benefit more people traveling to OHSU than investments further away. Fortunately, the areas nearer to OHSU's central campuses are the areas OHSU Transportation & Parking will be more likely to improve and have influence on municipalities that can help to improve the transportation system.



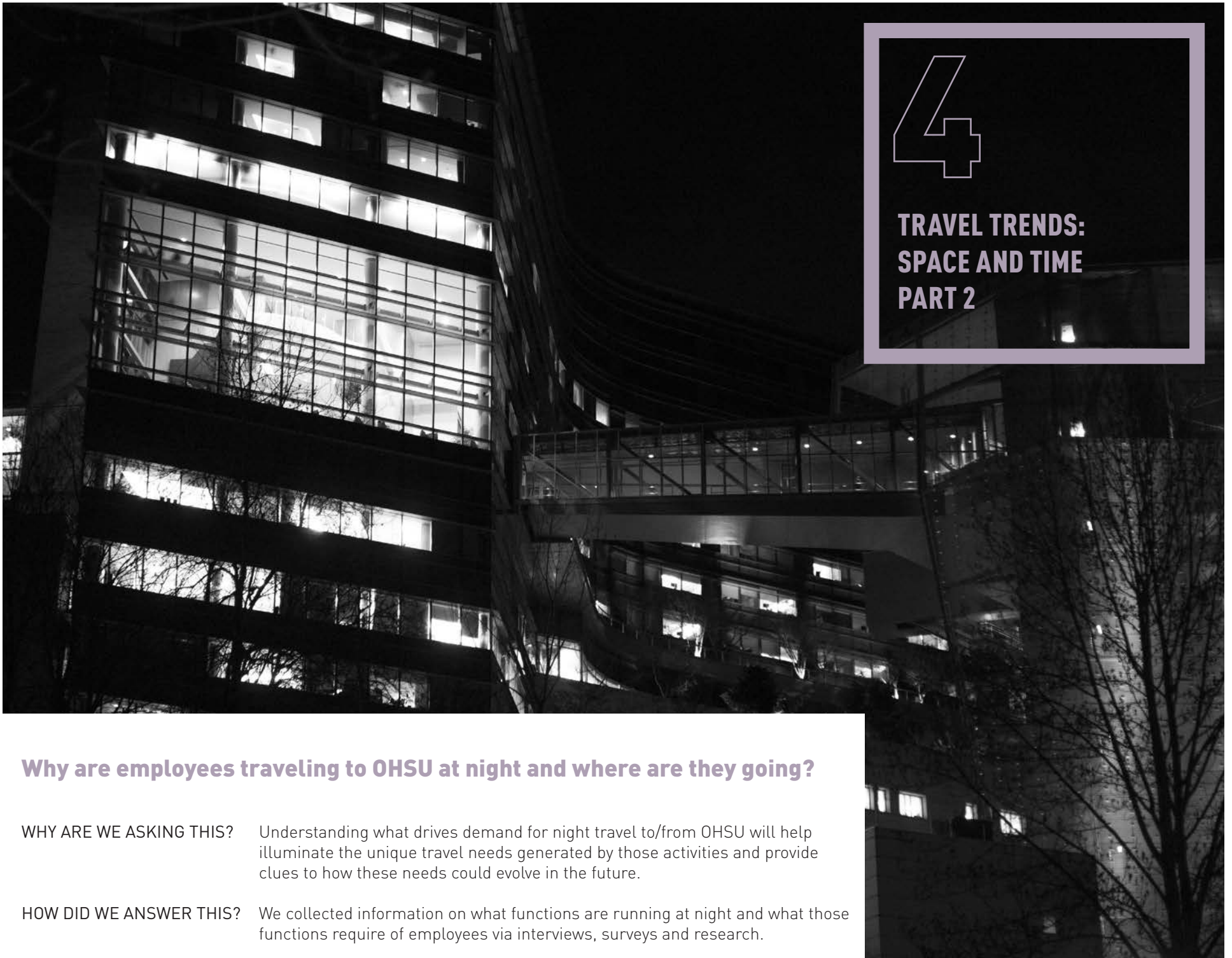
Wherever employees begin their trip, they will all travel through the area immediately surrounding OHSU.

WHERE NIGHT EMPLOYEES LIVE



*The regional median household (HH) income is ~\$58,000.

Over the years, steady growth in the size of OHSU and the number of patients it needs to serve has pushed the traditional 8AM to 5PM shift earlier and earlier for many positions —to the point that transportation options designed to serve traditional shift times are no longer viable for many.



4

TRAVEL TRENDS: SPACE AND TIME PART 2

Why are employees traveling to OHSU at night and where are they going?

WHY ARE WE ASKING THIS? Understanding what drives demand for night travel to/from OHSU will help illuminate the unique travel needs generated by those activities and provide clues to how these needs could evolve in the future.

HOW DID WE ANSWER THIS? We collected information on what functions are running at night and what those functions require of employees via interviews, surveys and research.

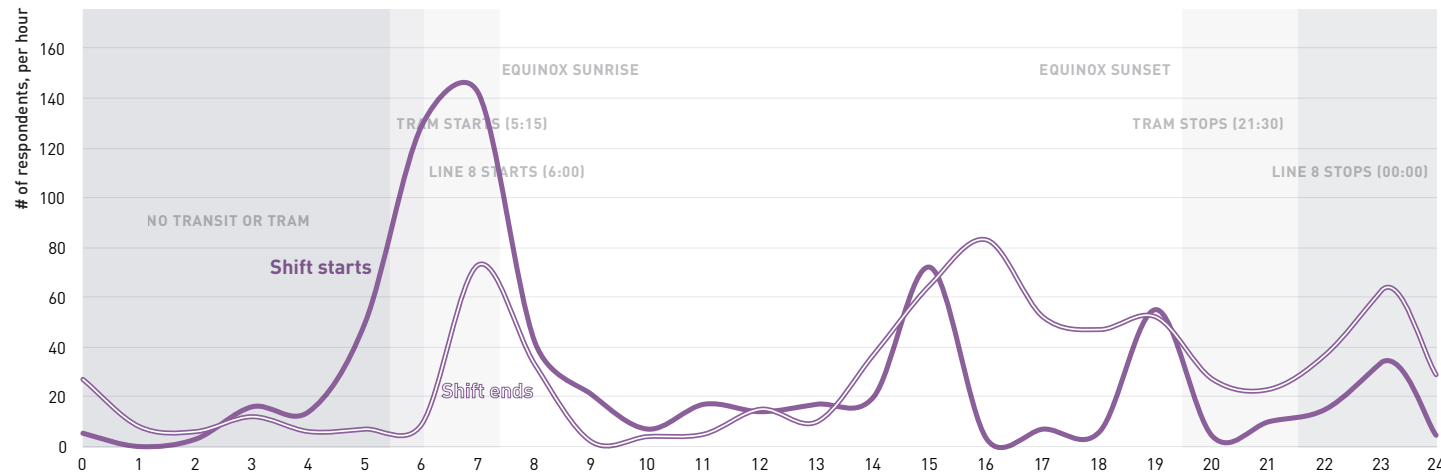
WHEN ARE EMPLOYEES TRAVELING TO AND FROM OHSU?

OHSU has departments that operate 24 hours a day, seven days a week. Due to the size of the institution, the number of departments, and the variability in shift start and end times, it has been particularly challenging to research when those who work overnight are traveling to and from OHSU. On the NAP Employee Survey, respondents were asked to indicate their shift start and end times. The results appear in the figure below. The largest peak of shift starts is early in the morning, around 6AM; there are also many shifts beginning in the 5AM hour. While these shifts are closer to the generic 8AM-5PM shift that is the bread and butter of the regional workforce and the bane of transportation planners and engineers, these shifts begin early enough that most transportation options available for the traditional 8AM-5PM shifts are not yet available.

The intense peaking of employees working shifts between 9PM and 6AM is a hopeful result; it indicates there are commonalities between the shift start and end times of different departments and that these times are not as random or staggered as some believe or anticipated. Concentrated starting and ending times could mean there is already sufficient demand for additional shuttling services and carpool programs. Additional work with department managers on scheduling shifts to increase the density of nighttime travel demand could be instrumental in improving employees' commuting experience. We suggest continuing this research in collaboration with OHSU's Human Resources Department.

EMPLOYEE SHIFT START AND END TIMES

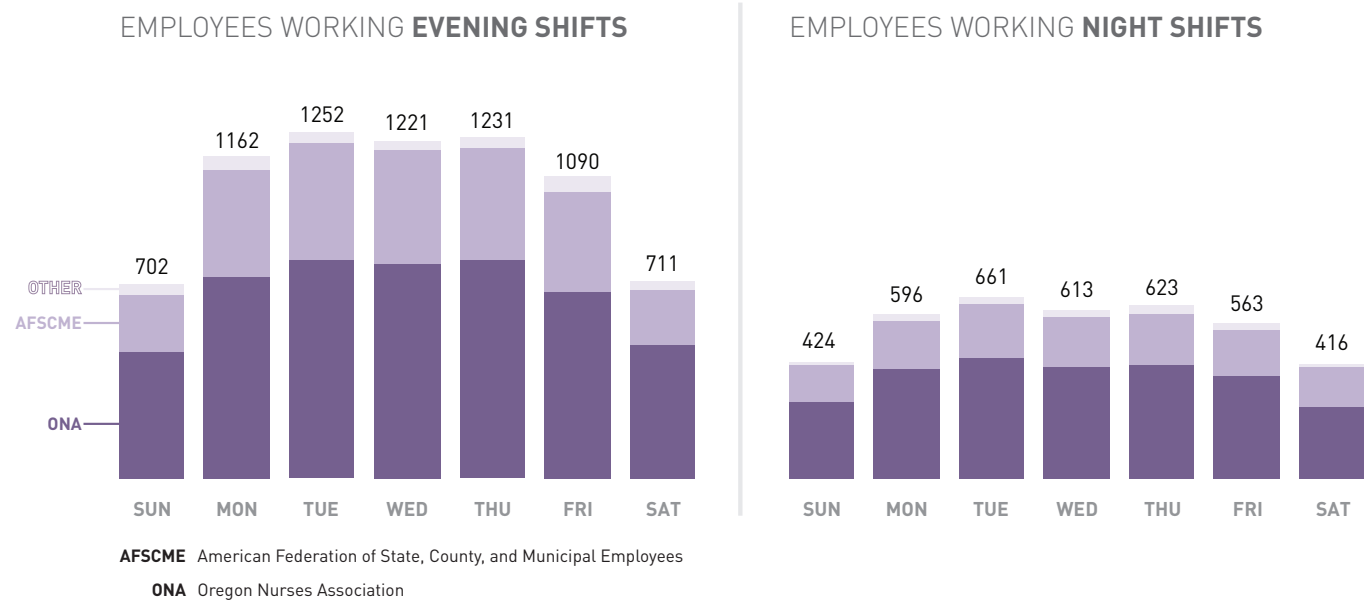
Employees who travel to OHSU at night daily, at least a few times a week, or on-call
n=703; 47% of respondents from the Night Access Plan Employee Survey

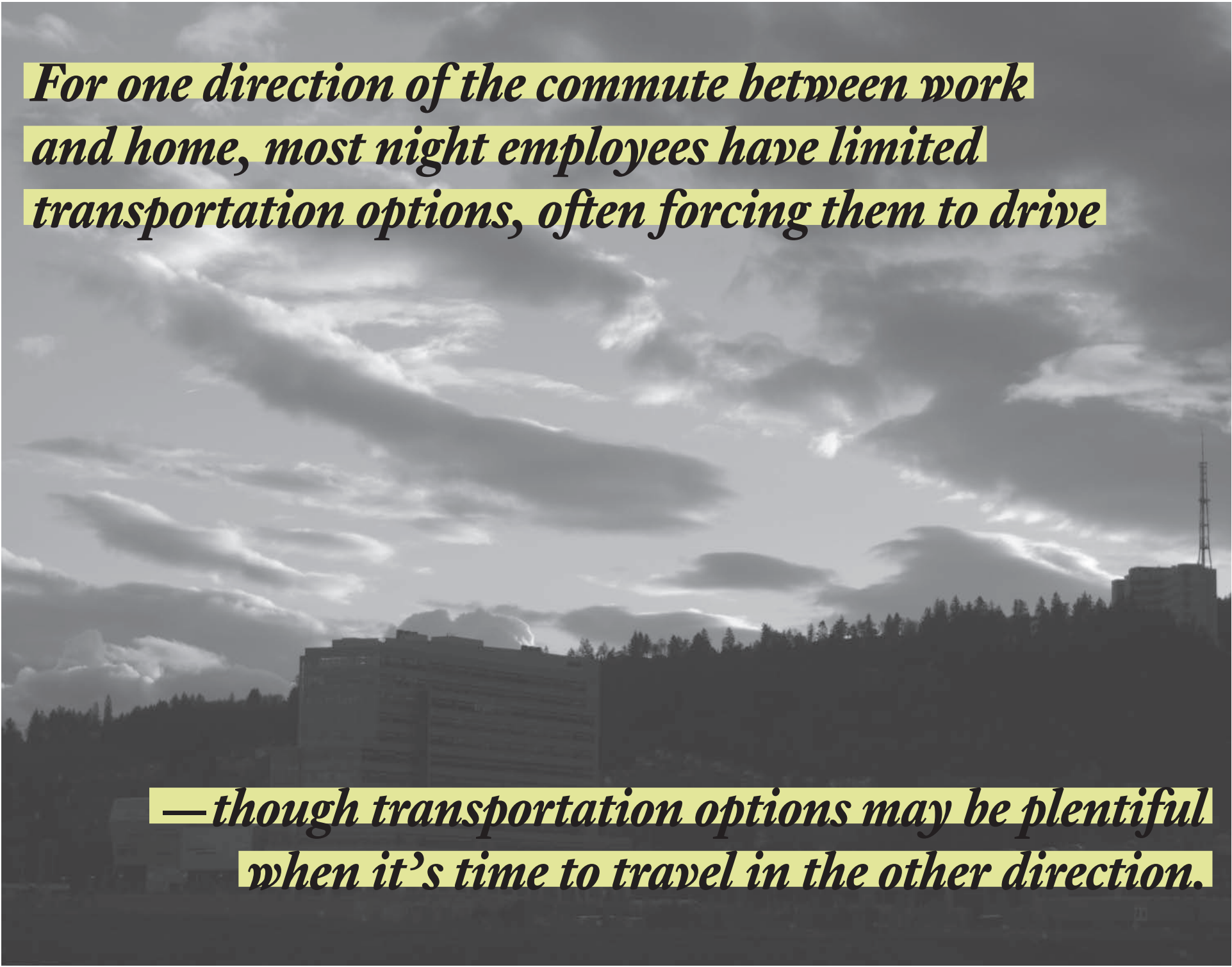


The number of employees who travel to OHSU at night or early in the morning varies depending on the day of the week. From Monday to Friday, the number of employees who have evening and night shifts is fairly steady. However, on the weekend, this number drops significantly. Unfortunately, available transportation options are reduced on weekends because of the lower density of demand for centralized travel (i.e. travel to and from the region's Central Business District), a travel pattern the transit network is best at serving. That fewer employees need to reach OHSU on weekend nights lessens the aggregate impact of limited transportation options, but this fact provides little comfort to those who need to get to OHSU at night and have limited options because it is Saturday or Sunday.

CHANGES IN NIGHT SHIFTS WORKED THROUGHOUT THE WEEK

Data from 2nd week of January 2016 (1/10–1/16). Hourly employees only, does not include salaried employees





For one direction of the commute between work and home, most night employees have limited transportation options, often forcing them to drive

—though transportation options may be plentiful when it's time to travel in the other direction.



5

THE TRANSPORTATION SYSTEM PART 1

How are employees traveling to and from OHSU?

- WHY ARE WE ASKING THIS?** If we know the transportation options available and the transportation choices people are actually making, we can “solve” for the difference, further illuminating why travelers are making the choices they are while providing clues about why travelers aren’t using options that appear available.
- HOW DID WE ANSWER THIS?** From data collected in our night transportation survey as well as the recent pilot transportation census we created a picture of how employees are getting to and from OHSU at night.



HOW ARE EMPLOYEES TRAVELING TO AND FROM OHSU?

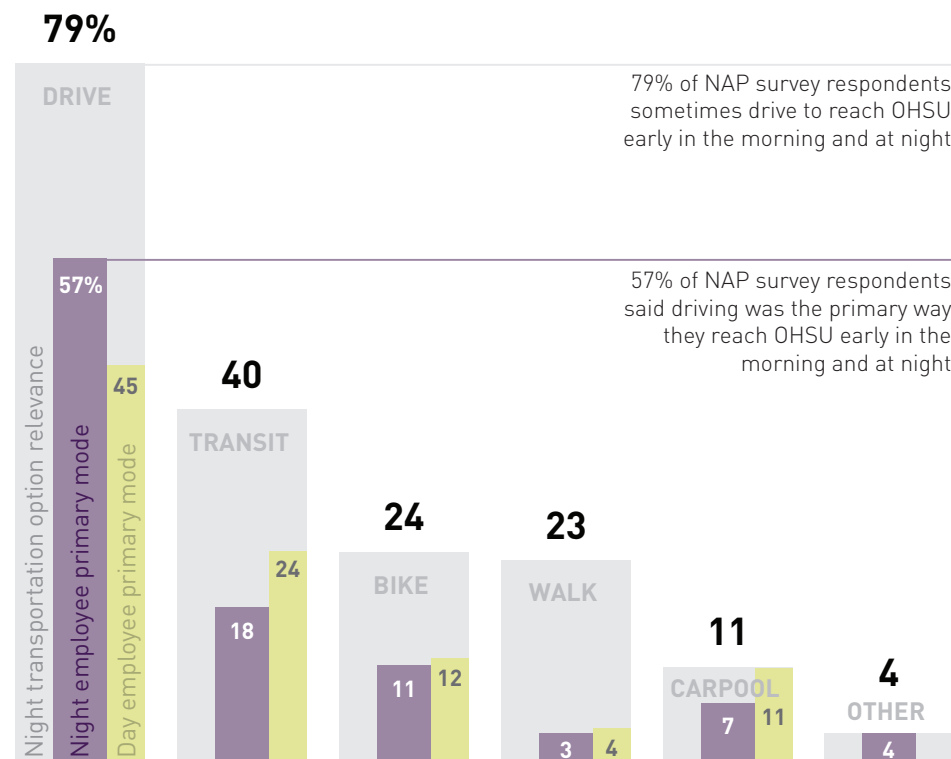
Unsurprisingly, the most common primary way night and early morning employees got to work was by driving alone; in the absence of other options—in addition to driving often being the most convenient option when other options aren't plentiful—and with the low density of people traveling to OHSU at night, this choice makes sense. 57% of survey respondents claimed driving was their primary way to get to OHSU at night while 79% of survey respondents said they at least sometimes drive to OHSU at night. The proportion of surveyed employees who primarily drive to work is not substantially greater than the proportion of the total OHSU population that drives (57% vs 45%).

Transit was the second most common way surveyed employees got to OHSU at night, with 19% usually getting to work via transit, and 40% sometimes using transit. The proportion of night employees primarily using transit is similar to the proportion of all OHSU employees using transit (19% vs 24%). That 40% of night employees sometimes use transit is a hopeful result; it indicates there is a market that is already familiar with and willing to use transit and would more readily consider getting to work by transit if the options were more widely available.

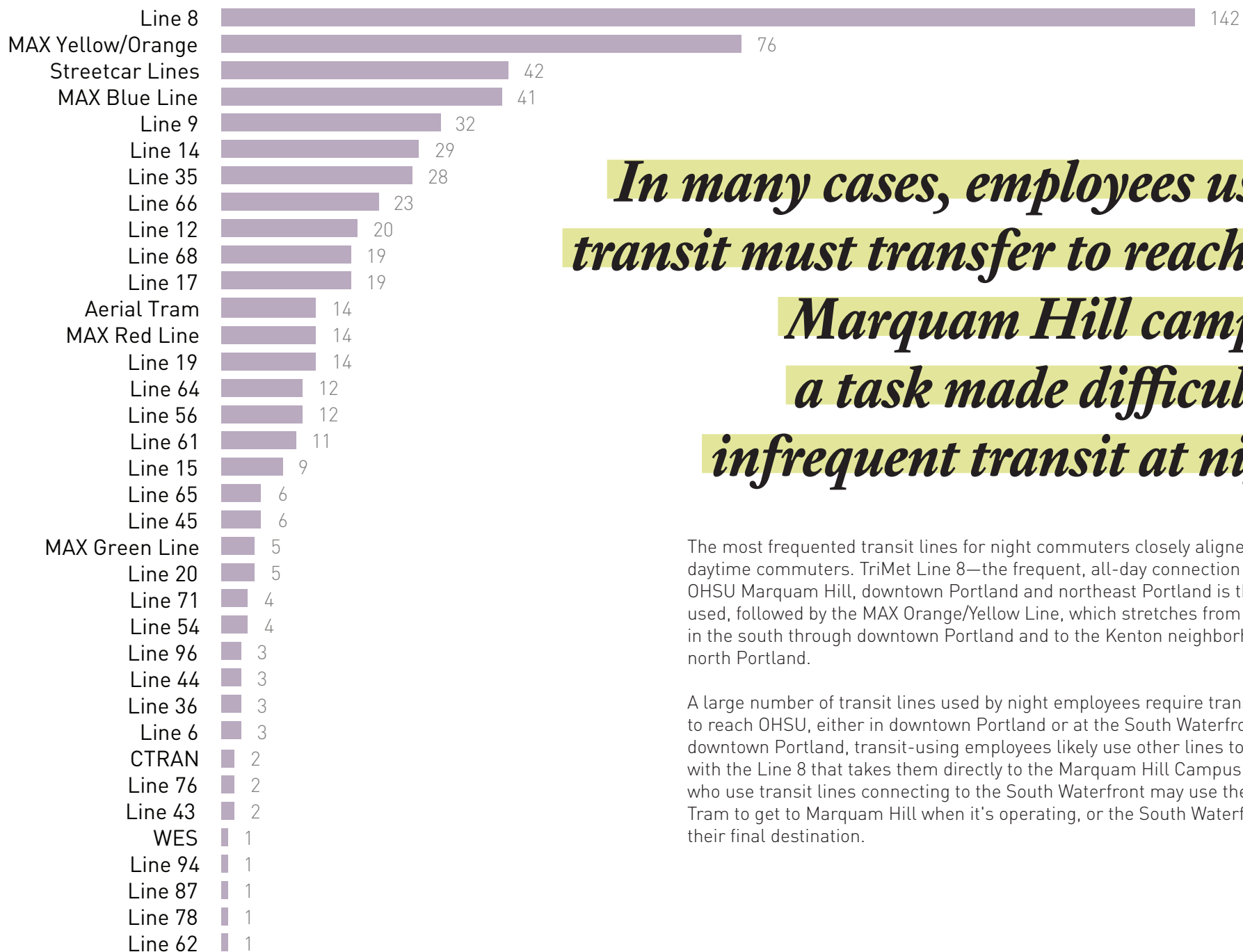
The percentages of people biking and walking to get to OHSU at night are very similar to the percentages of employees from the entire OHSU population biking and walking. This suggests there might be a fixed proportion of employees in the population who either live close enough to walk or bike, or are comfortable and committed to doing so no matter the conditions.

EMPLOYEES USE MULTIPLE MODES

OHSU employees don't always get to and from work the same way each day. Below are the percentages of surveyed employees who sometimes find driving, taking transit, biking, and walking useful for getting to and from OHSU at night.



WHAT TRANSIT NAP EMPLOYEE SURVEY RESPONDENTS ARE USING AT NIGHT



In many cases, employees using transit must transfer to reach the Marquam Hill campus, a task made difficult by infrequent transit at night.

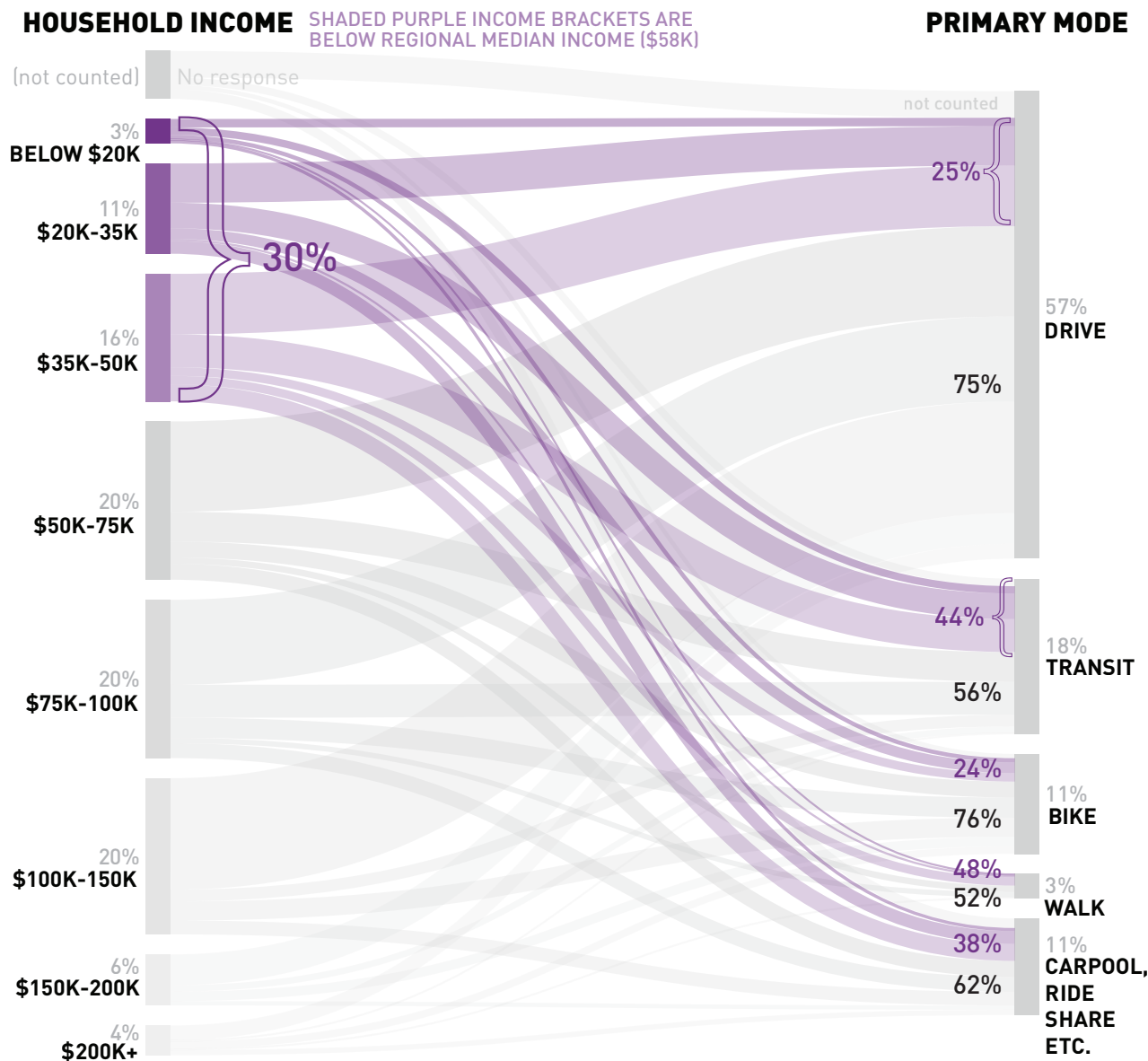
The most frequented transit lines for night commuters closely aligned with daytime commuters. TriMet Line 8—the frequent, all-day connection between OHSU Marquam Hill, downtown Portland and northeast Portland is the most used, followed by the MAX Orange/Yellow Line, which stretches from Milwaukie in the south through downtown Portland and to the Kenton neighborhood in north Portland.

A large number of transit lines used by night employees require transferring to reach OHSU, either in downtown Portland or at the South Waterfront. In downtown Portland, transit-using employees likely use other lines to connect with the Line 8 that takes them directly to the Marquam Hill Campus, while those who use transit lines connecting to the South Waterfront may use the Aerial Tram to get to Marquam Hill when it's operating, or the South Waterfront may be their final destination.

HOW ARE EMPLOYEES TRAVELING TO AND FROM OHSU?

As explored earlier, income is a significant determinant in how employees get to and from OHSU at night. 30% of employees have household incomes below \$50,000. Of those who drive, only 25% have household incomes below \$50,000, while 44% of transit users make less than \$50,000 a year; employees from lower income households are underrepresented among employees who drive to OHSU at night and overrepresented among employees who use transit. This result makes sense, given that owning and operating a car is more expensive than using transit. However, at night when transit does not run, or does not run often, transit is significantly less convenient than driving, and lower income employees end up paying with their time instead of their money.

HOW EMPLOYEES OF DIFFERENT INCOMES TRAVEL TO OHSU AT NIGHT





How can employees travel to and from OHSU at night?

WHY ARE WE ASKING THIS? Synthesizing the current (and planned) transportation options to/from OHSU at night will help us understand ways employees could travel, while helping those same employees understand alternate ways to travel. Paired with a comprehension of how employees are actually choosing to travel, we will have better insight into some reasons travelers make the choices they do.

HOW DID WE ANSWER THIS? By combining what we know about where travelers are coming from and the temporal and physical elements of the regional transportation network, we gained an idea of what options may be available to current employees.



HOW CAN EMPLOYEES TRAVEL TO AND FROM OHSU AT NIGHT?

Commuters have options available for most hours of the day. However, there is a gap in transit service that occurs between 1AM and 5AM; during these times, no transit options are available. The figure below shows details of transit options connecting to or passing close to OHSU's central campuses, along with how often the transit lines come and available hours.

Though transit options extend late into the night, the buses and trains do not come very often, meaning there is very little flexibility for employees running late, or if transit is late when employees need to make a connection to another transit line. One experience missing the bus can be enough for

employees to consider transit unreliable and search for options they have more control over, such as driving.

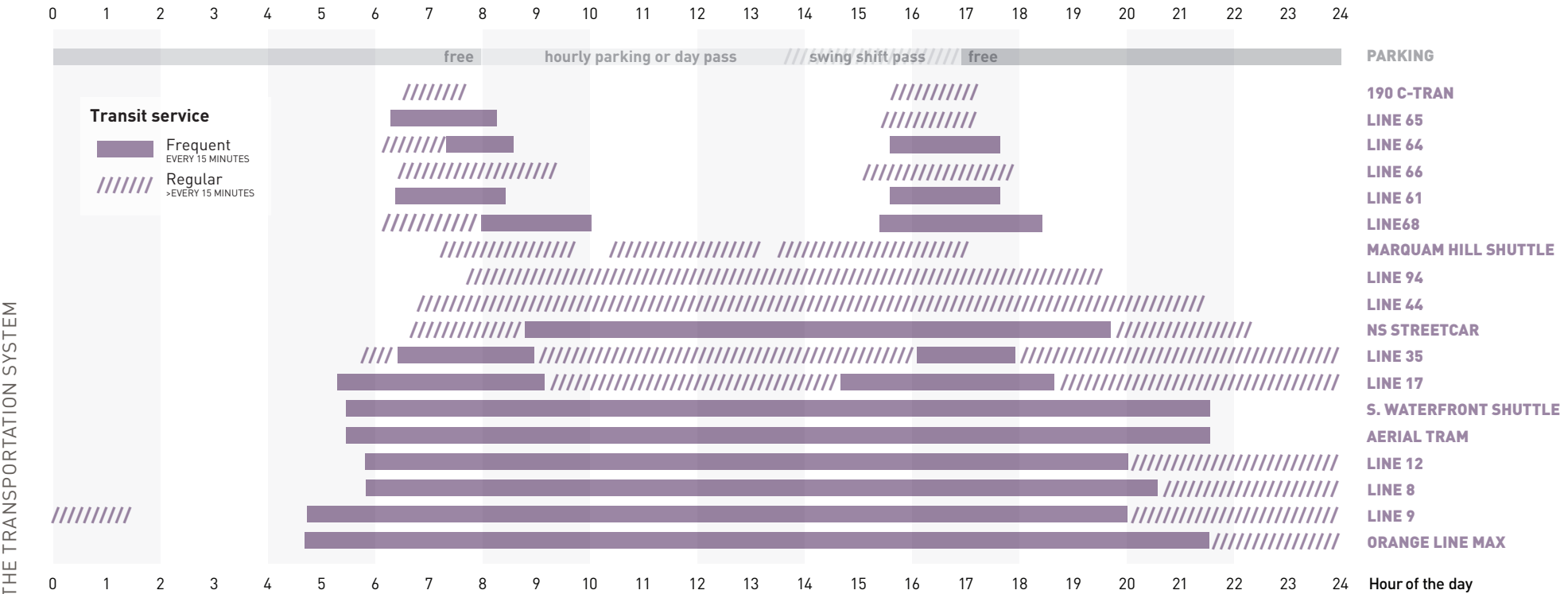
Viewing the map on the following page, late night direct transit connections to OHSU appear to do a respectable job of getting some service to a lot of night employees. Notable gaps include direct service to the west part of the region, which is partially ameliorated by being served by a rail transit line that connects to the all-day frequent bus Line 8 that can take employees to Marquam Hill.

In the evening, at night, and early in the morning, open parking is plentiful and there is no charge

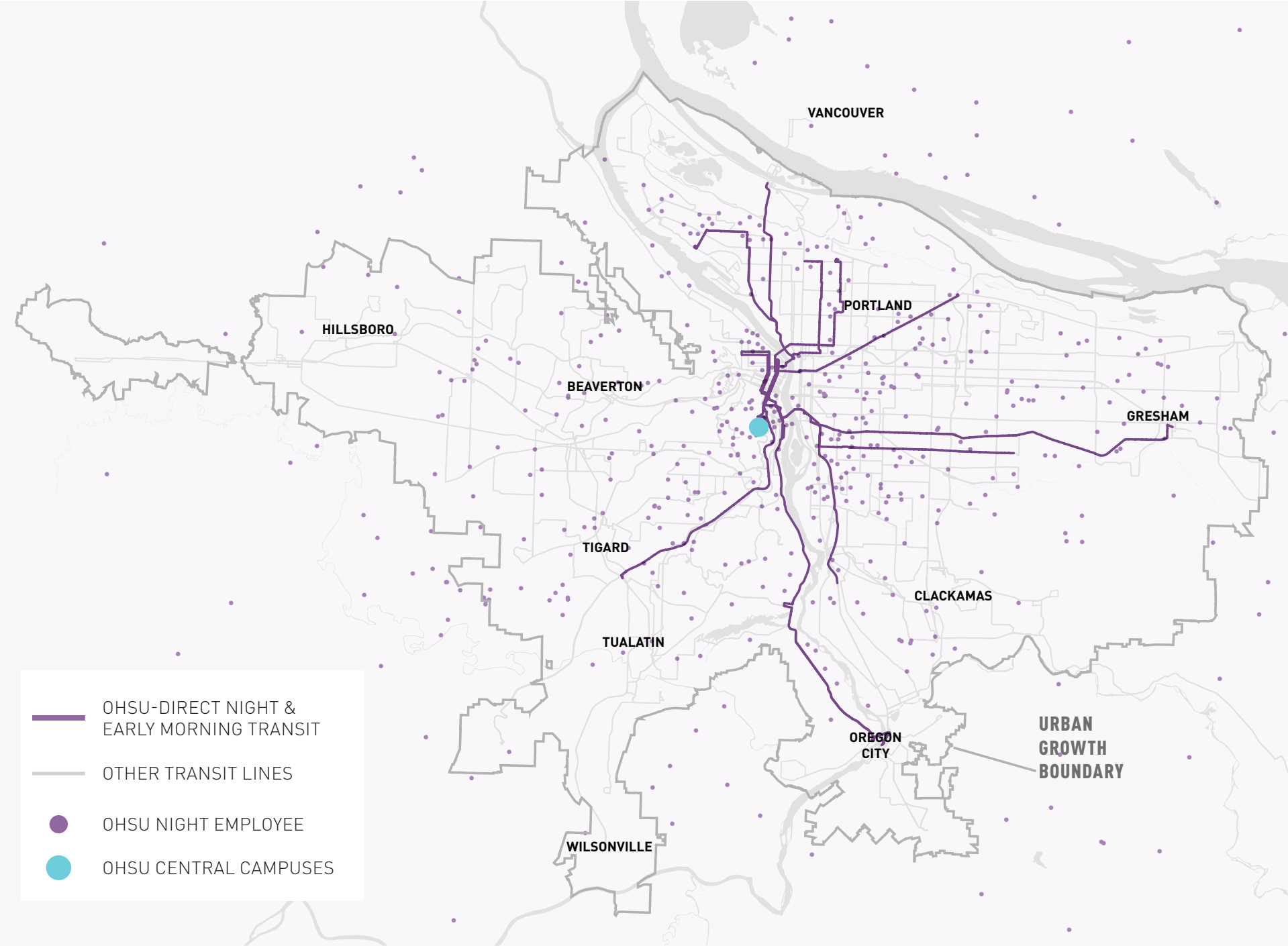
for employees to use it between 5PM and 8AM. For those who can afford to drive and who work a shift entirely between 5PM and 8AM, this is and will always likely be the superior option. For employees arriving between 1:30PM and 5PM, a Swing Shift Permit allows employees to park for a reduced amount (in comparison to a day parking pass). However, for employees whose shifts start between 5PM and 8AM and end after 8AM, there is no special permit for reduced cost; for these employees—for whom driving may be the only option—are stuck purchasing a day parking pass or claiming a spot in the 9- to 10-year wait list to purchase an Annual Parking Permit, meanwhile they pay \$13 for a Day Parking Pass.

AVAILABILITY OF TRANSIT OPTIONS BY TIME OF DAY

WEEKDAYS



LATE NIGHT (9:30PM - 1AM) AND EARLY MORNING (4:30-6AM) TRANSIT LINES WITH DIRECT OHSU CONNECTION



HOW CAN EMPLOYEES TRAVEL TO AND FROM OHSU AT NIGHT?

12% of surveyed night employees primarily travel to OHSU at night and early in the morning by bike. There are just a few ways to reach OHSU by bike. The best route is via the protected bikeway along SW Moody that leads from downtown Portland and from crossings to the residential southeast Portland to the OHSU South Waterfront campus. This is a superb option when the Aerial Tram operates and can take people between Marquam Hill and South Waterfront. However at night, the only way to reach the Marquam Hill Campus (the only campus currently active 24 hours a day) is to ride on SW Terwilliger. In addition to the large elevation gain traveling from downtown to Marquam Hill, SW Terwilliger is poorly lit, has a narrow gravel- and pothole-filled bike lane, and a significant proportion of motor vehicles traveling well above the speed limit.





7

BARRIERS TO ACCESSING OHSU AT NIGHT

What obstacles do employees face in trying to get to and from OHSU at night?

WHY ARE WE ASKING THIS?

Having clarity about the obstacles in getting to/from OHSU at night and their severity is the final step prior to developing recommended actions to address these barriers. This section is a synthesis of the obstacles identified or hinted at in the previous sections, making clear where and when improvements need to be made; this will directly inform recommended actions for how improvements should be made, the final output of the NAP effort.

HOW DID WE ANSWER THIS?

We identified obstacles to traveling at night by synthesizing comments from the NAP Employee Survey; conducting interviews with employees, neighborhood groups, and transportation stakeholders; rating the quality of nearby transportation infrastructure; identifying the temporal gaps in the transportation system; and from the answers to the previous six existing conditions questions.



WHAT OBSTACLES DO EMPLOYEES FACE IN TRYING TO GET TO OHSU AT NIGHT?

TRANSPORTATION CHALLENGES EMPLOYEES SAY THEY FACE

Those who sometimes:	Experience issues with:
DRIVE ALONE (79%)	<ul style="list-style-type: none">› Paying for parking for arriving before transit is running and leaving after 8am (16% of drivers)› Parking lot security/safety (12%)
WALK (23%)	<ul style="list-style-type: none">› Safety (personal or traffic) (58% of walkers)› Poorly lit sidewalks (38%)› Tram not running all night (39%)
BIKE (24%)	<ul style="list-style-type: none">› Safety (personal or traffic) (58%)› Appearing clean after biking (30%)› Poor bike lane lighting (28%)
TAKE TRANSIT (40%)	<ul style="list-style-type: none">› Long transit trip times (51%)› Infrequent or unreliable service (46%)› Transit service doesn't run all night (31%)
CARPOOL (11%)	<ul style="list-style-type: none">› Carpool works only one way (22%)› Carpool not always reliable (21%)

Traveling at night presents many barriers to the various modes of transportation, including driving alone, walking, biking, taking public transportation and carpooling with others. We asked NAP Employee Survey respondents to identify the top three issues they experience in using a particular mode of travel when accessing the campuses during the night. The results are presented in the table above.

BARRIERS TO DRIVING

Of the individuals that drive to OHSU central campuses late at night or early in the morning, 16% of them experience issues with paying for parking and 12% experience issues with parking lot safety or security. In an interview with Suzy Isham, the Administrative Lieutenant-Police for OHSU, she identified car break-ins as one of the biggest night safety and security issues at OHSU, particularly in the patient and visitor parking garages.

BARRIERS TO WALKING

For those who walk to OHSU at night and early in the morning, personal or traffic safety (58%), poorly lit sidewalks (38%), and tram hours (29%) were the top three areas of concern. One survey respondent noted that she “ha[s] to walk up a 1/4 mile up a dark scary trail. [She] does not feel safe doing this.”

BARRIERS TO BIKING

Poor bike lane lighting (28%), appearing clean after biking (30%), and personal or traffic safety (58%) were identified by NAP Survey respondents as being three of the key issues with biking to, from and around OHSU between the hours of 9PM and 6AM. One survey respondent enthusiastically shared her frustrations with the lack of continuous, hazard-free bike lanes, or continuous connections.

BARRIERS TO USING TRANSIT

Through the NAP Employee Survey it became clear that many of the individuals that travel to, from and around OHSU late at night and early in the morning use and rely on public transportation. Furthermore, these people are traveling from around the region and taking different transit lines. 51% of those who use transit identified long transit times as something they experience issues with, 46% indicated experiencing issues with infrequent or unreliable service, and 31% as having issues with the tram not running all night. All three of these issue areas relate to the value of time and the importance of connectivity. Something else to keep in mind when thinking about current transit conditions for those traveling to, from and around OHSU, is that using public transit oftentimes also entails using active modes of travel (e.g. biking and walking). Public transit rarely offers door-to-door service.

BARRIERS TO CARPOOLING

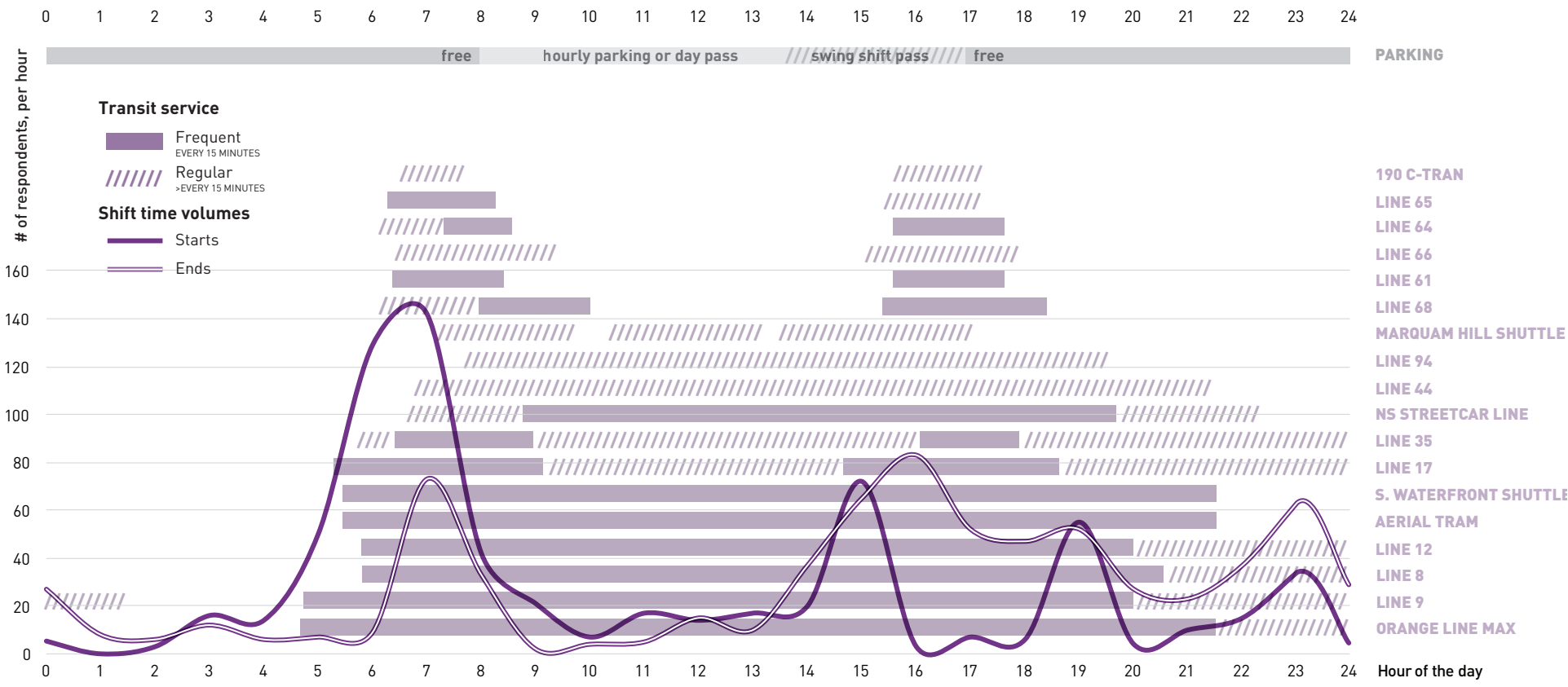
The two main issue areas identified in the NAP Employee Survey regarding carpooling are that carpooling only works one way (22%) and that carpooling is not always reliable (21%). In an open ended question on the survey, a respondent wrote that the OHSU Transportation & Parking Office “will not allow advertising of carpools/vanpools or provide parking preference.” This is not actually true, but it is important to note that misinformation can be a transportation barrier unto itself.

Many things have to coincide for carpooling to work effectively, mainly that a group of people have to be traveling from a place (origin - home or OHSU), to a place (destination - home or OHSU) at roughly the same time. The NAP Employee Survey indicates that there is a desire for improved carpooling options for OHSU employees.

SHIFT START AND END TIMES + WEEKDAY TRANSIT AVAILABILITY

Employees who travel to OHSU at night daily, at least a few times a week, or on-call
n=703; 47% of respondents from the Night Access Plan Employee Survey

Availability of options
Transportation options to OHSU



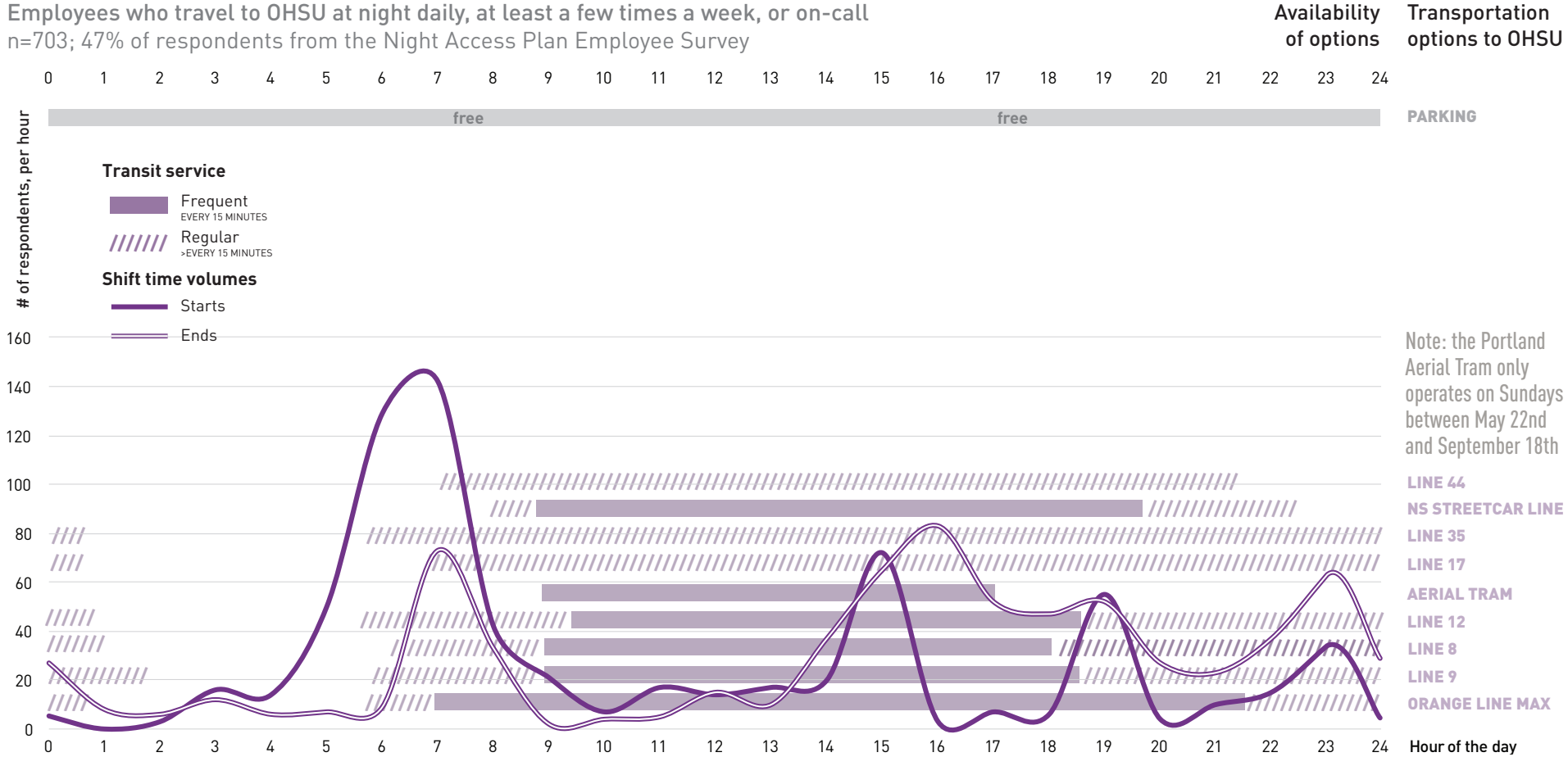
By superimposing the temporal availability of transit options and employee shifts start and end times, we gain a clearer understanding of where there are employees who need to get to work, but no alternatives to driving available. At the first big peak of shift starts (5AM-7AM), there are few transit options that have been operating for very long. Employees often have to arrive at work before these shifts begin, both to prep for their days and because OHSU is a large place that takes time to get around. Mentally shifting the start and end times curves earlier by 15 to 30 minutes gives a better approximation of the options available to different employees. When considering this, transit availability is even more sparse.

At other times of day, transit works moderately well for employees traveling to and from OHSU at night, with the exception of the gap in service between 1AM and 5AM; fortunately, not many shift changes occur during this time. Even though there are transit options later in the night (9PM-1AM), most of them are infrequent and require a transfer downtown when the Aerial Tram is not running, or a lengthy walk up the hill in the dark.

WHAT OBSTACLES DO EMPLOYEES FACE IN TRYING TO GET TO OHSU AT NIGHT?

SHIFT START AND END TIMES + WEEKEND TRANSIT AVAILABILITY

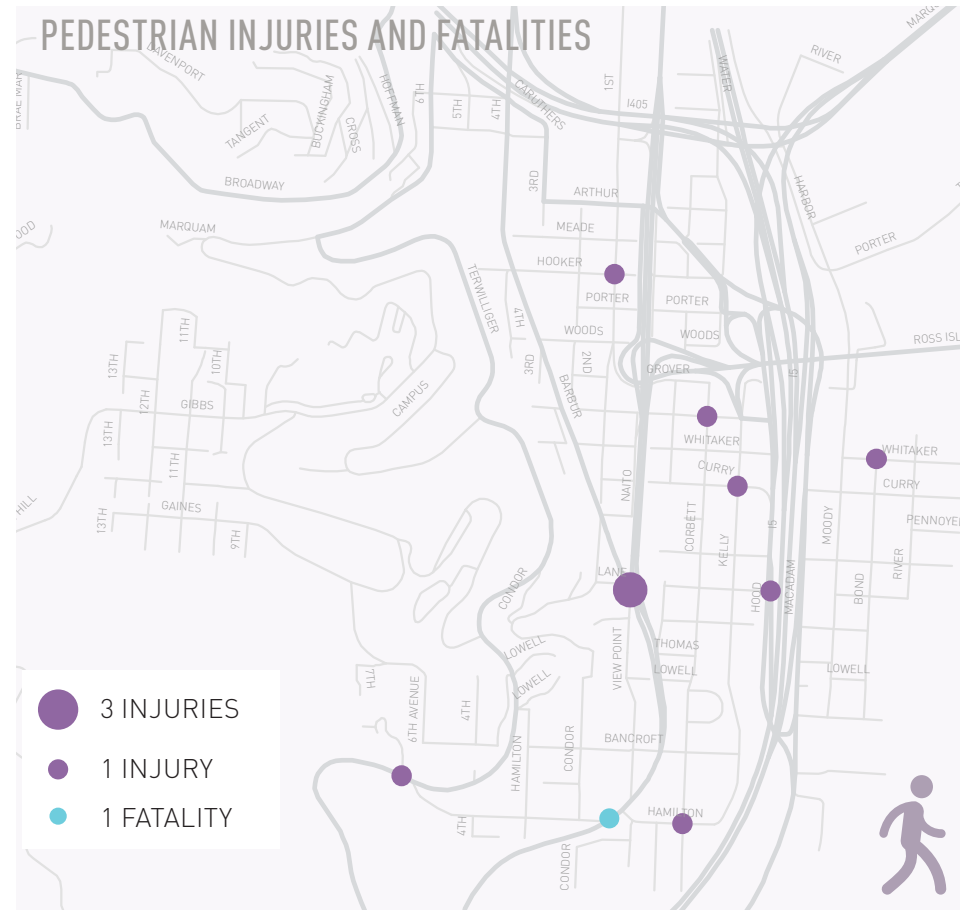
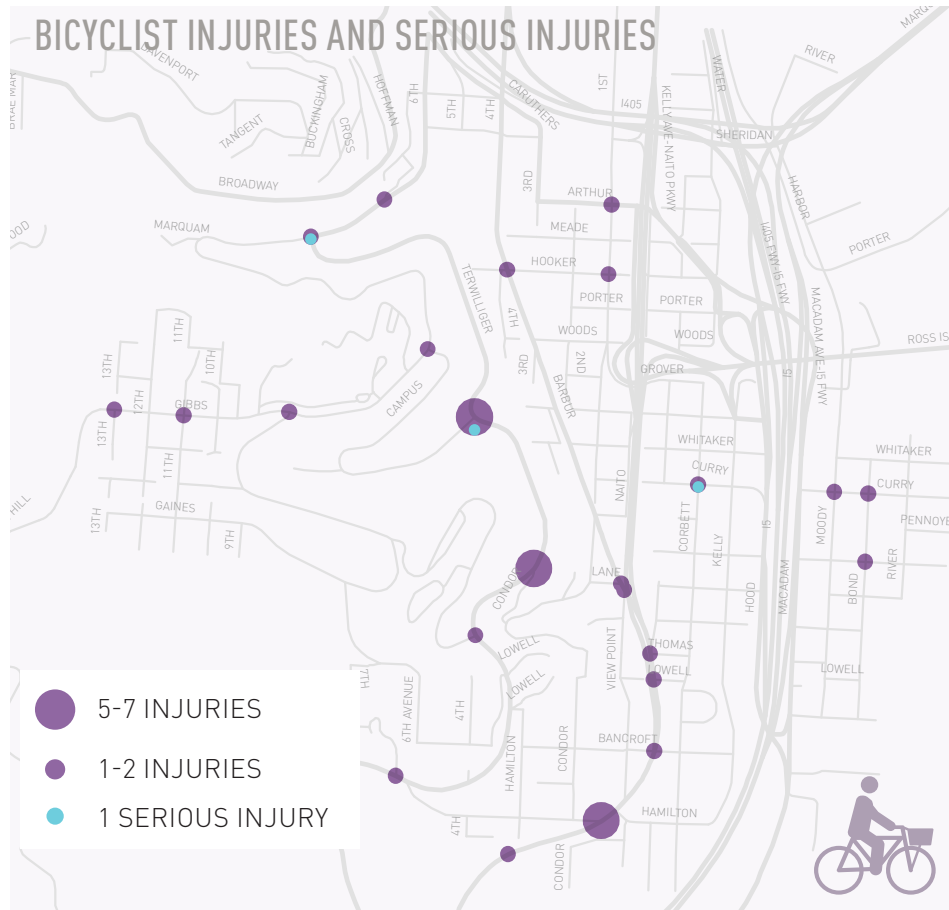
Employees who travel to OHSU at night daily, at least a few times a week, or on-call
n=703; 47% of respondents from the Night Access Plan Employee Survey



The gap in night transit options is actually less pronounced during the weekends, with more transit options lasting later into the evening and early morning. However, though transit starts at roughly the same time in the mornings on the weekends as on the weekdays, the service does not run frequently, making it a less-resilient option than it is on the weekdays. Additionally, expanding transit options later into the night or earlier in the morning is less likely than doing so on the weekend because the lower density of demand for travel that is more dispersed on the weekends than the weekdays (because weekend travel is not dominated by trips to and from job centers).

Part of the impact of reduced transit options is offset by free parking on campus for employees throughout the weekend. This makes parking for weekend employees a more affordable option, though driving is still one of the most expensive transportation options.

HAZARDS TO VULNERABLE TRANSPORTATION SYSTEM USERS



The two maps above show areas of concern as determined by the City of Portland's Vision Zero (to eliminate serious injuries and death by traffic incidents by 2025) Crash Map (2004-2013). The intersections (1) SW Sam Jackson and SW Campus Drive, (2) SW Terwilliger and SW Campus Drive and (3) SW Condor Lane, and SW Condor Avenue have been identified as priority intersections for some type of intervention. These intersections have multiple reported injuries and were repeatedly raised as barriers to travel in the NAP Employee Survey. The larger intersection area of SW 6th Avenue, SW 4th Avenue and SW Broadway, just off of Interstate 405, has also been identified as a priority area.

BARRIERS TO ACCESSING OHSU AT NIGHT

38

This score is a composite of: 1) sidewalk condition, 2) sidewalk length, 3) lighting quality, 4) wayfinding, 5) street trees or buffer. These individual attributes received a score between 0 and 1. The composite is the sum of these five scores.

PEDESTRIAN ACCESS QUALITY ATTRIBUTE SCORE BREAKDOWN

ATTRIBUTE QUALITY

- POOR
- MODERATE
- GOOD
- NO DATA COLLECTED



WHAT OBSTACLES DO EMPLOYEES FACE IN TRYING TO GET TO OHSU AT NIGHT?

Bus stops were given a point for each of the following: lighting, shelter, eyes on the street, sidewalk connectivity, and seating. Bus stops received a ranking between 0 and 5 and the stops with the lowest ratings were deemed as those most in need of infrastructure improvements. There is a wide range of bus stop quality near the two OHSU central campuses. For prioritizing which stops to improve, it may be useful to consult the Night Circulation Map on page seven and identify stops with low Bus Quality ratings that are next to buildings with high usage at night.

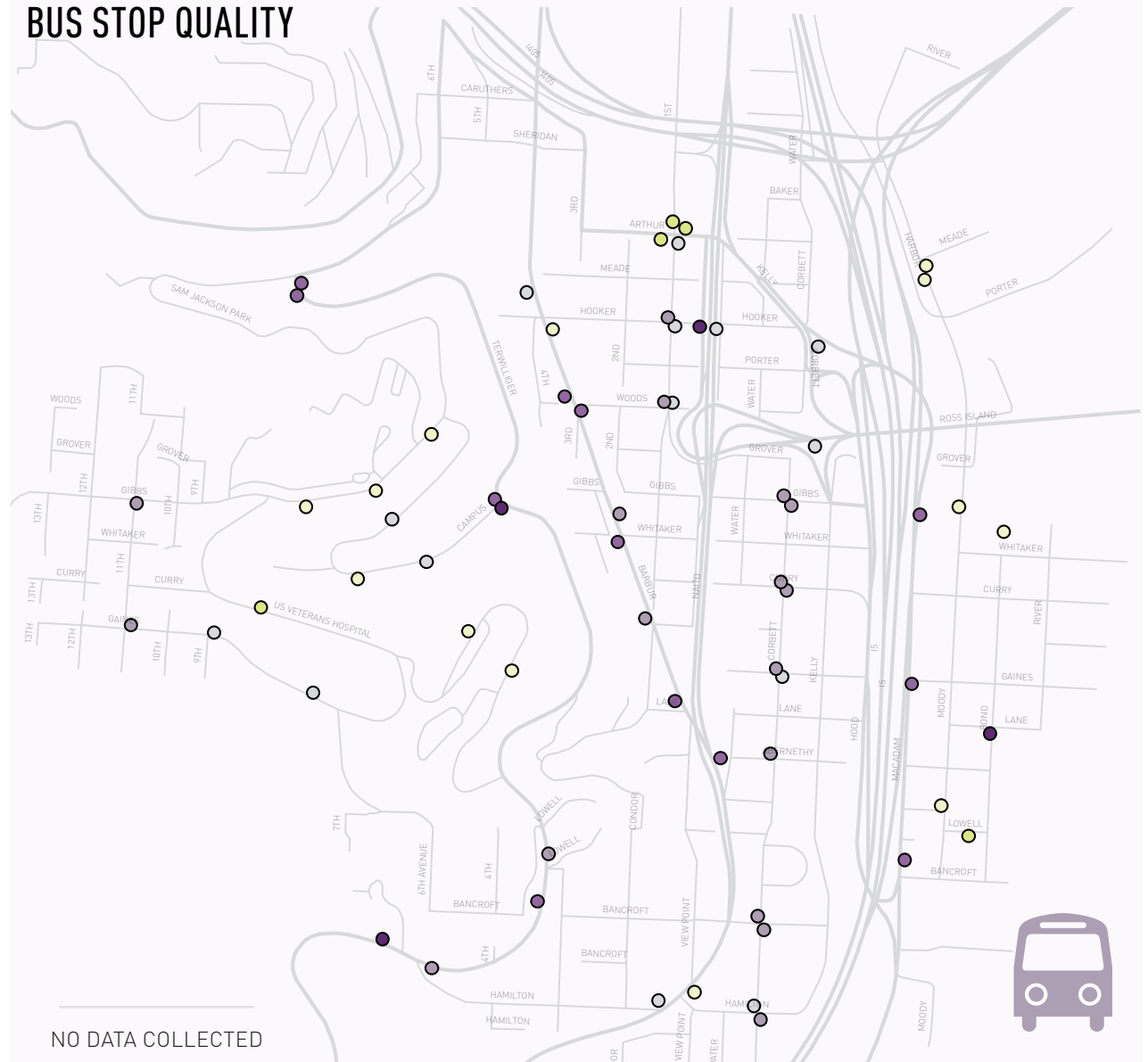
Feeling unsafe at bus stops was something that came up repeatedly in the NAP Employee Survey. Lighting and having eyes on the street (two of the scoring points for overall bus stop quality) are important for both actual and perceived safety. Therefore, installing lighting at bus stops that do not currently have lighting (see the 1) Lighting Availability map on the next page) should be a priority for improving safety on or near OHSU central campuses. Improving eyes on the street should be a longer term goal that can be advanced by incorporating it into future development and planning projects in the areas around OHSU.



When you have to be at work before 6AM, public transportation is hard to use. It is infrequent and often late/early so that I end up missing my connections, making me have to be outside alone in the dark waiting—and that is not safe as a young adult female.



BUS STOP QUALITY

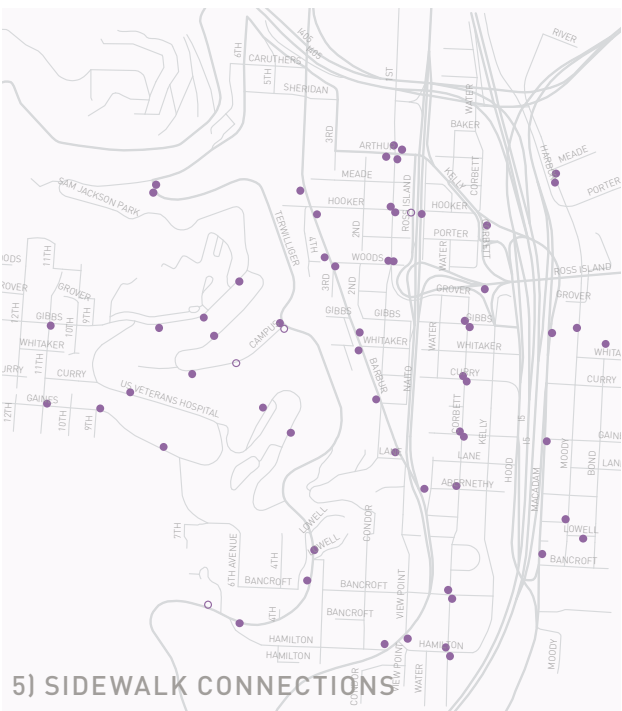
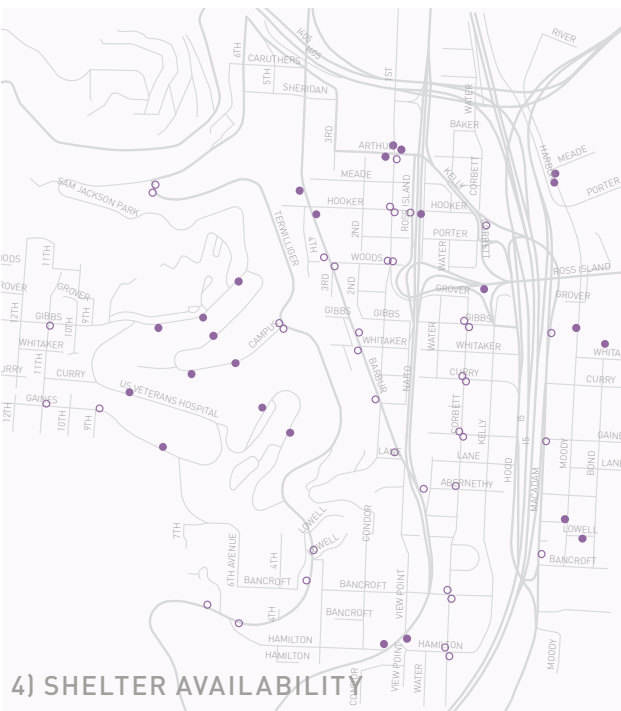
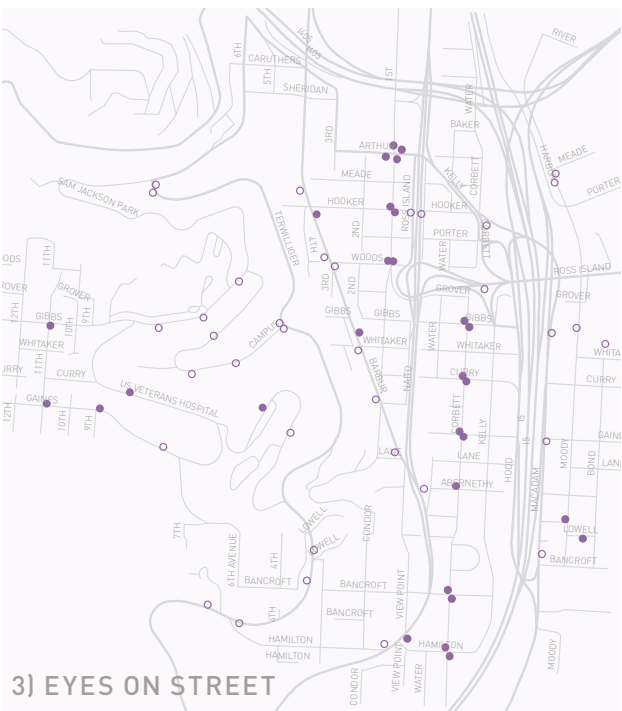
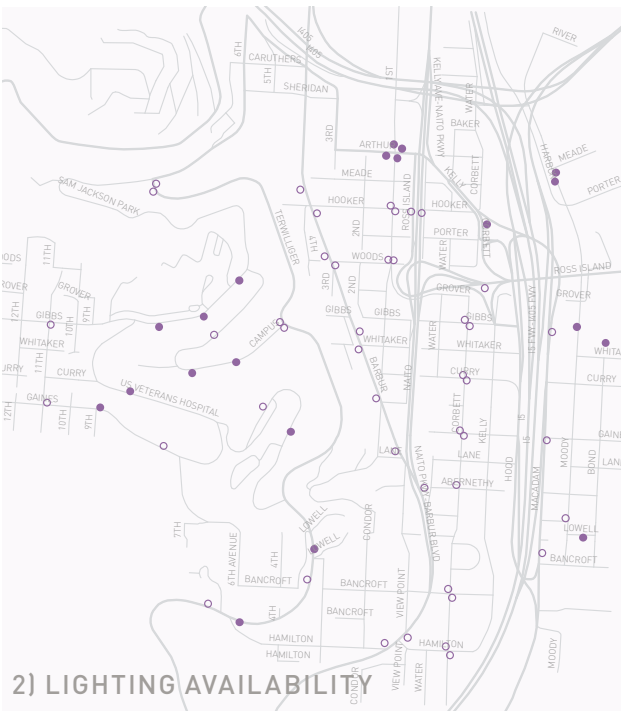
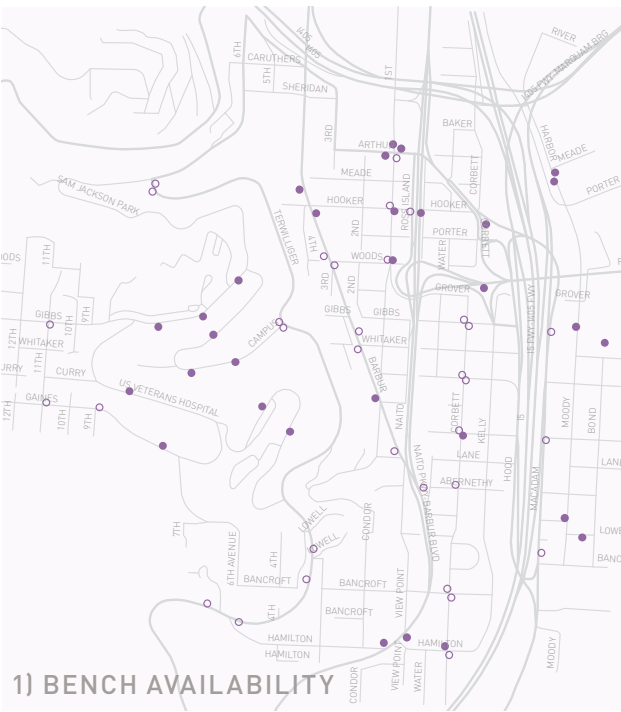


This score is a composite of: 1) bench availability, 2) lighting availability, 3) eyes on street, 4) shelter availability, 5) ped connections trees or buffer. The individual attributes received a score of 0 or 1. The composite is the sum of these five scores.

BUS STOP QUALITY ATTRIBUTE SCORE BREAKDOWN

IS ATTRIBUTE PRESENT?

- NO
- YES



WHAT OBSTACLES DO EMPLOYEES FACE IN TRYING TO GET TO OHSU AT NIGHT?

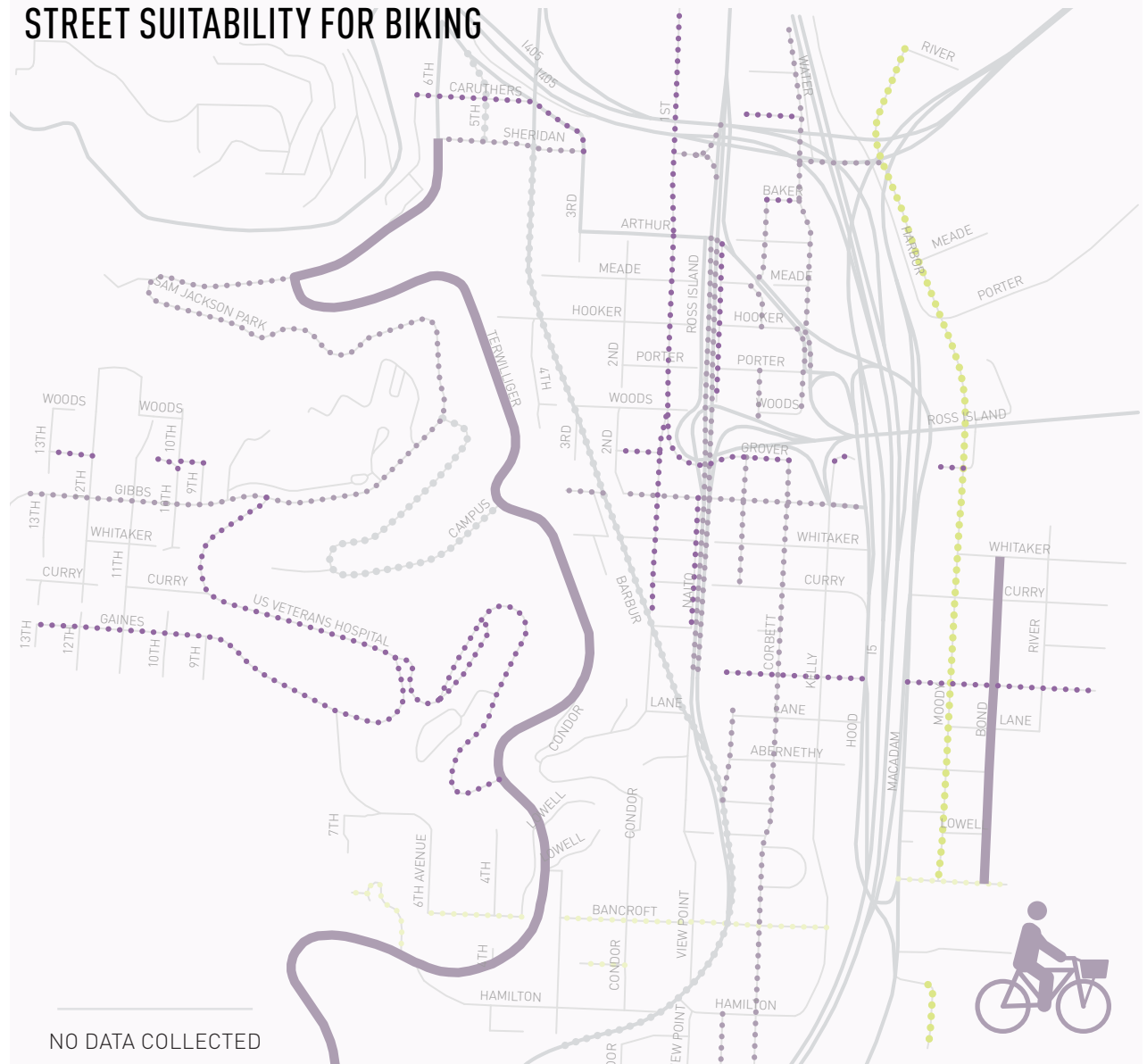
Many factors influence people's decision to bike commute - some of them are more personal (e.g. person does/does not know how to bike in urban areas) and some of them generalizable to the environment—whether or not conditions are favorable for bicyclists. This map ranks streets based on their bikeability; each street section received either zero or one point (zero = absent, one = present) for having (1) a physical separation between bikers and automobile traffic, (2) a bike lane with a painted width of greater than five feet, (3) less than two traffic lanes, (4) safe pavement (defined as having no potholes), and (5) a speed limit less than 25 mph. SW Terwilliger—the primary way to reach the Marquam Hill Campus by bike—rates poorly in all attributes except for presence of a bike lane. This composite score doesn't take into consideration challenging topography, which is perhaps the biggest deterrent to biking up to the Marquam Hill Campus.



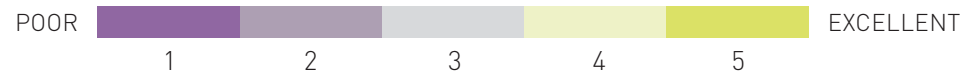
There is a bike lane [southbound] along Broadway that narrows, has weeds, blackberry [bushes] and rocks in it, and then [it] simply disappears along a blind curve as a cyclist approach[es] the intersection to take a left onto Terwilliger. This is so dangerous!!!! Please fix it. Also, there is no (that I know of) bike connection from Tilikum Bridge to OHSU Marquam Hill Campus after the tram hours are over. How on earth does one get from the Tilikum Bridge to the Hill after hours Saturday or all day Sunday?



STREET SUITABILITY FOR BIKING



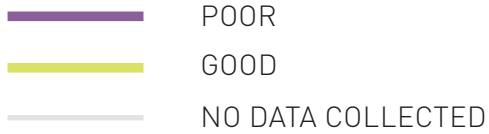
Street suitability for biking Composite Score



This score is a composite of: 1) bike lane presence, 2) bike lane width, 3) pavement condition, 4) number of general traffic lanes, 5) vehicle speeds. These individual attributes received a score between 0 and 1. The composite is the sum of these five scores.

STREET SUITABILITY FOR BIKING ATTRIBUTE SCORE BREAKDOWN

ATTRIBUTE QUALITY

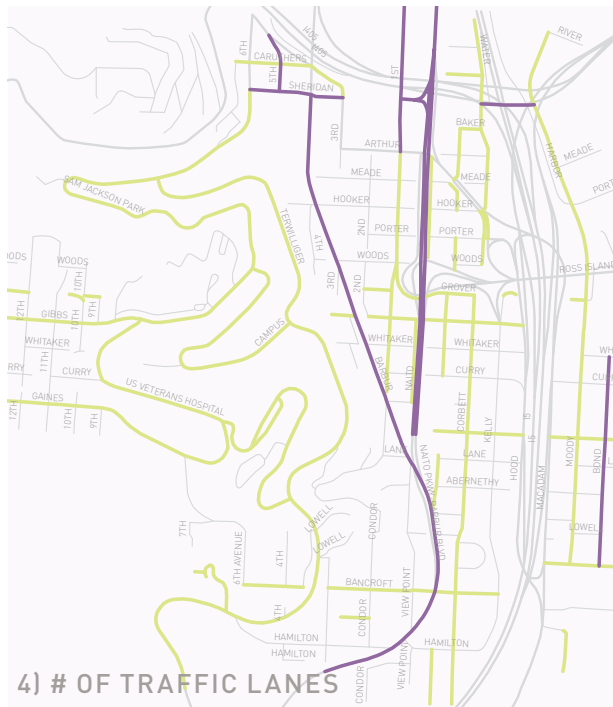
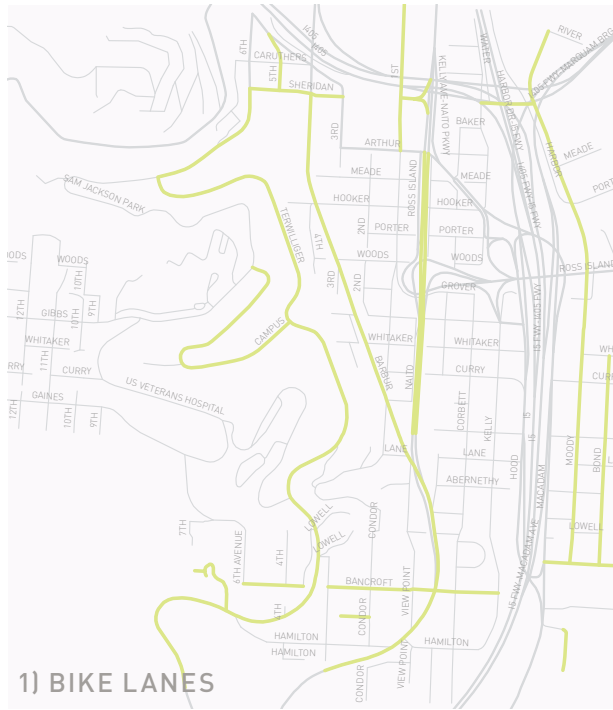


Map notes:

2) Purple streets have bike lanes less than five feet in width

4) Streets with more than one lane of traffic per direction are purple

5) Purple streets have 85th percentile speeds above 25 mph



WHAT OBSTACLES DO EMPLOYEES FACE IN TRYING TO GET TO OHSU AT NIGHT?

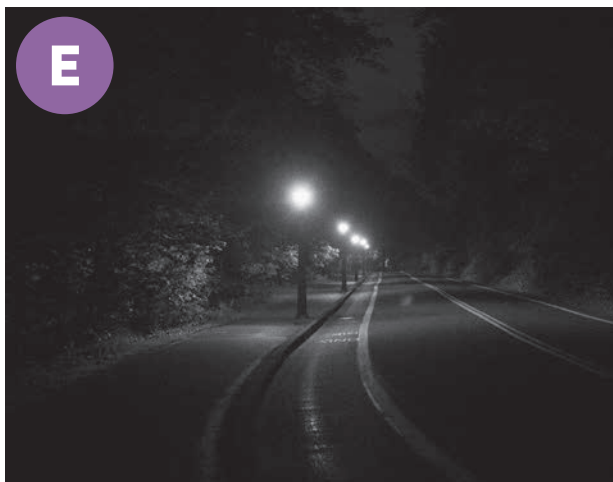


- A** Congested intersection dangerous for bikes/peds
- B** Narrow, badly lit bike lane, gravel, blind corner
- C** Very difficult for cyclists to turn left here
- D** Narrow uphill bike lane often filled with gravel. Potholed pavement makes downhill travel hazardous
- E** Poor sidewalk lighting along SW Terwilliger
- F** 2 cyclist injuries (2004-2013)
- G** 1 cyclist injury/ 1 pedestrian injury (2004-2013)
- H** Difficult for cyclists to turn left here. Poor sight distance
- I** 75-90% of motorists travel above 25 mph speed limit; 85th percentile speed: 37 mph
- J** ~40% of motorists travel above 25 mph limit
- K** Reports of bike vandalism and theft
- L** Elevator on most direct path between base of campus and hospital closed while Tram not running
- M** 8 cyclist injuries. Poor sight distance and lighting. Difficult intersection for pedestrians to cross
- N** "Dark scary trail." Unmarked, no lighting and muddy when wet
- O** Uphill bike lane is narrow and often filled with gravel
- P** Dark and cramped pedestrian undercrossing tunnel along shortest legal walking path between central campuses
- Q** Natural place to cross Naito Pkwy, but no marked crossing here
- R** 3 cyclist and 3 pedestrian injuries

PHYSICAL OBSTACLES

The Physical Obstacles to Night Travel Map on the previous page shows areas that would benefit the most from transportation infrastructure improvements. The barriers identified on the map are spots where our own data collection about deficiencies intersected with stories and feedback we gathered from the OHSU community.

The following pages include images that further describe the obstacles identified on the Physical Obstacles to Night Travel map.







SYNTHESIS OF OBSTACLES

- 1 There are cost inequities in transportation options
- 2 There is a major gap in connectivity between the South Waterfront and Marquam Hill after the Tram shuts down for the night
- 3 The OHSU campus doesn't feel safe or comfortable at night
- 4 No matter what mode of travel is used, there are opportunities for improvement

INFORMING THE RECOMMENDED ACTIONS

Exploring these seven questions was a major part of our process; it helped us define the problem and understand the specific barriers related to night transportation and access for the OHSU community. Knowing who is traveling to OHSU's central campuses late at night or early in the morning, when they are traveling there, and what their primary transportation mode choice is imperative for reducing barriers and making impactful changes. The findings discussed in this section serve as the foundation for our recommended actions. These findings can also be used as a baseline to measure future progress.

A black and white photograph of a narrow, rocky trail at night. A bright beam of light from a flashlight illuminates the path ahead, revealing the rough texture of the ground and the silhouettes of trees and bushes in the background. The scene is dark and atmospheric, emphasizing the isolation and potential danger of the trail.

"I have to walk a quarter mile up a dark scary trail."

"I do not feel safe doing this."



IMPROVING SAFETY, CONVENIENCE, & AFFORDABILITY

NAVIGATING THE RECOMMENDED ACTIONS

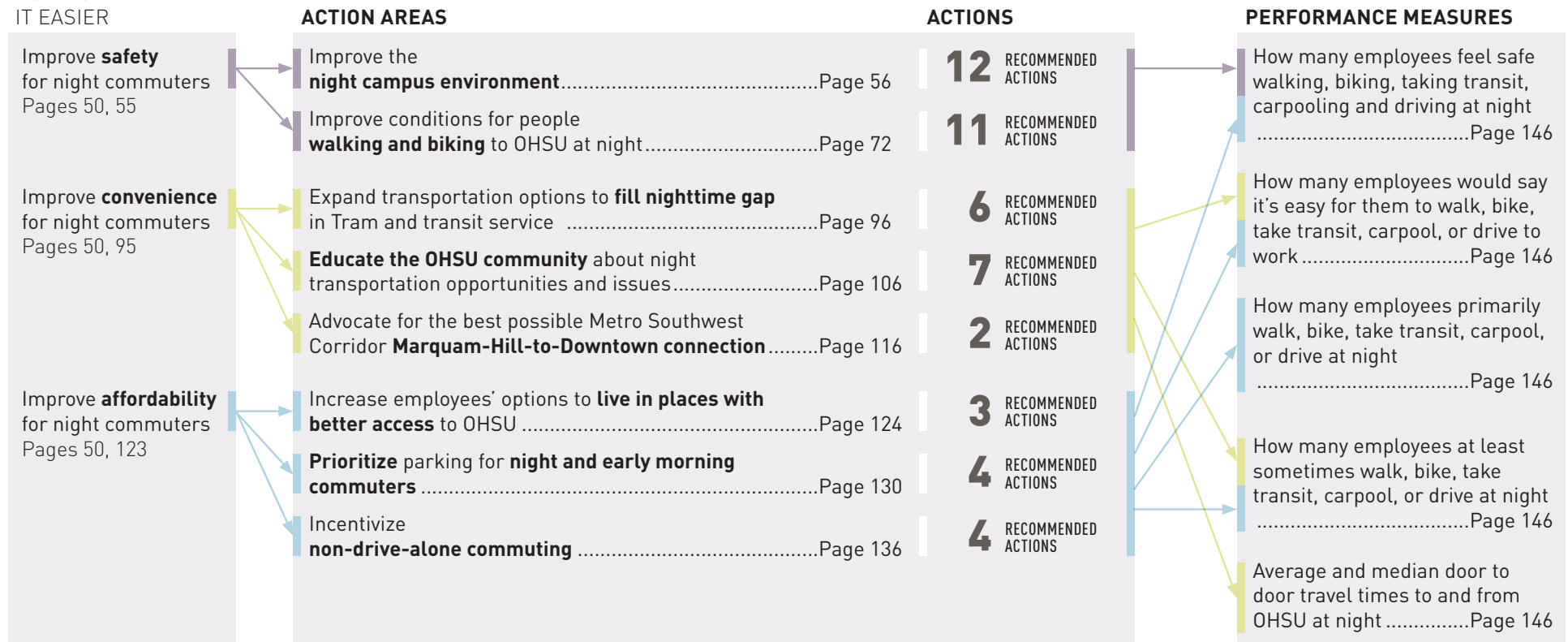
The graphic below describes the framework of the Night Access Plan. The goals show the core beliefs of the NAP and why it is essential to focus on improving night access to OHSU. Consequently, the three strategies identified—improving safety, convenience, and affordability—show how these core beliefs can be attained. Within each strategy, action areas are identified to

highlight specific target areas where night transportation can be improved, each of which include a variety of recommended actions. Finally, these action areas are linked to various performance measures that assess the recommended actions outlined within to monitor progress towards improving safety, convenience, and affordability, and in turn towards overarching NAP goals.

GOALS: WHY MAKE IT EASIER TO GET TO AND FROM OHSU AT NIGHT?

Enhance institutional competitiveness	Promote environmental sustainability	Cultivate economic development , regionally and locally	Improve community health	Collaborate with regional partners to meet larger goals	Page 51
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STRATEGIES: HOW TO MAKE IT EASIER



GOALS: WHY MAKE IT EASIER?

There are many reasons why improving night transportation access is important for OHSU. Most notable are that better night access and transportation options can (1) enhance institutional competitiveness, (2) promote environmental sustainability, (3) cultivate economic development regionally and locally, (4) improve community health, and (5) collaborate with regional partners to meet larger goals.

Enhance institutional competitiveness

An important factor in employee retention and patient experience is the ability to easily get to and from the OHSU campuses. Focusing on late night and early morning access makes working at OHSU more attractive and allows OHSU to maintain a standard of excellence in healthcare, education, and research.

Cultivate economic development regionally and locally

Strengthening an around-the-clock transportation system that connects people, services, and resources into the night will encourage further business development around OHSU, bringing new life to the South Waterfront, Marquam Hill, and southwest downtown neighborhoods. Investment in improved mobility will help to support OHSU as it expands operational hours, better use underutilized physical space, and create opportunity for the people it serves to reach their full potential.

Improve community health

As the largest healthcare provider in the region, the transportation options to, from, and around OHSU should reflect the institution's mission to improve the health of the people it serves. A healthy transportation system creates a healthy population by increasing physical activity, decreasing stress, connecting communities and improving air quality, regardless of what time of day it is.

Collaborate with regional partners to meet larger goals

As the largest employer within the city, aligning OHSU planning and transportation developments with the goals of the greater region acknowledges the need for an inter-agency approach to creating a livable, 24-7 city. Improving night access for the OHSU campuses is a necessary step for further development towards regionally identified goals, including those within Vision Zero, Metro's Regional Transportation Plan, the City of Portland Comprehensive Plan, and Oregon's Statewide Planning goals. (See **ALIGNMENT WITH LOCAL, REGIONAL, & STATE GOALS** at right for more detail)

ALIGNMENT WITH LOCAL, REGIONAL, & STATE GOALS

Statewide Planning Goals 9 (Economic Development), 12 (Transportation), and 14 (Urbanization)

The OHSU Night Access Plan will explicitly help fulfill three of Oregon's Statewide Planning Goals. By improving region-wide access at all hours to an academic, research and medical hub of state-wide import, the Night Access Plan: will broaden the range of economic opportunities available to Oregon's most populous region; will increase provision of a convenient and safe transportation system; and will do so in a manner consistent with the State's system of Urban Growth Boundaries by examining primarily non-single occupant vehicle solutions to OHSU's nighttime access concerns.

Proposed Comprehensive Plan (Guiding Principles)

The OHSU Night Access Plan aims to support the City of Portland's Comprehensive Plan commitments to Economic prosperity, Human health, Environmental health, Equity, and Resilience by looking for safe, equitable, and economically/environmentally sustainable ways to bring employees, researchers, students and patients to the OHSU campus at all hours.

Metro Equity Framework

(Transportation, Health and Economic indicators)

The OHSU Night Access Plan will help identify steps OHSU can take to help achieve Metro's vision of a region where prosperity is widely spread and supported by an equitable, convenient and safe transportation system.

Regional Transportation Plan

The solutions the Night Access Plan will propose will also address the 10 goals that inform Metro's Regional Transportation Plan. Improved safe and sustainable night access to a regional employment center and hospital implicitly expands transportation options (goal 3) while growing the region's economic competitiveness, protecting the environment, promoting equity, and helping to create the vibrant region that Portland is well-known for.

Vision Zero

For myriad reasons, travel by evening and night—in Portland and around the nation—is actually and perceptually more dangerous than travel during other times of day. Safety is an element the Night Access Plan will take on both to aid the City of Portland's recent commitment to Vision Zero and OHSU's own commitments to innovative solutions to health promotion and prevention.

STRATEGIES: HOW TO MAKE IT EASIER

In order to achieve the goals of the NAP, we identified three primary strategies: **improving safety, convenience, and affordability** for those traveling to and from OHSU late at night or early in the morning. Furthermore, because night transportation issues tend to disproportionately affect chronically disadvantaged populations (e.g. lower income or status employees), we choose to approach the night access plan with a focus on equity.

A Focus on Equity: Everyone starts from a different place. This doesn't just mean a physical location, but extends to background and unique lived experience. An essential first step in achieving the goals of the NAP is to acknowledge that burdens related to transportation access don't fall on everyone equally or in the same way. Identifying and eliminating these disparities will enable everyone to choose the travel mode that will best fit their needs. Applying an equity lens to night transportation system strategies will work towards accomplishing NAP goals:

RECOMMENDED ACTIONS BY THE NUMBERS

8 ACTION AREAS

49 RECOMMENDED ACTIONS

IMPROVE SAFETY

- › **Improve conditions for people walking and biking to OHSU at night**
By making it more comfortable and convenient to walk and bike to OHSU for those who live near enough to be able to, OHSU can reduce some of the pressures of its limited parking.
- › **Improve campus night environment**
Once on campus, OHSU can feel intimidating and uncomfortable walking from building to building or to and from parking garages. Improving lighting and eyes on the street are ways to improve comfort, convenience, and safety.

IMPROVE CONVENIENCE

- › **Expand transportation options to fill gap in Tram and transit service**
Increasing the hours of the Portland Aerial Tram and area transit comes with such a cost burden that they would become prohibitive to run. But there are other ways to fill these gaps.
- › **Educate OHSU community about night transportation opportunities and issues**
Many OHSU employees feel that they are left in the dark as to what their options are at night. Offering things like custom night transportation routes and other resources helps employees find their way.
- › **Advocate for best possible Marquam Hill-to-Downtown connection that will be a part of Metro's Southwest Corridor project**
This longer-term action area focuses on how the forthcoming Southwest Corridor project may enhance transportation for those who live outside of the immediate area, while also providing better connections between the South Waterfront and Marquam Hill.

IMPROVE AFFORDABILITY

- › **Increase employees' options to live in places with better access to OHSU**
OHSU has employees spread across the region, from Salem to Scappoose and beyond. Living closer to OHSU can help lessen the burden of getting to and from work.
- › **Prioritize parking for night and early-morning commuters**
Offering discounted parking for night and early-morning commuters when no transit options are available acknowledges that sometimes the only option is to drive.
- › **Incentivize non-drive-alone commuting**
Cars can be a great tool to get to and from OHSU, but the problem is storing them once they are on the hill. Reducing the number of those who drive alone by looking into things like subsidizing carpooling and ridesharing can help alleviate this issue.

RECOMMENDED ACTION SCORE MEANINGS

Time

LESS THAN 2 YEARS	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
2-10 YEARS	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
MORE THAN 10 YEARS	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

Cost

LESS THAN \$10K	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
\$10K – \$100K	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
MORE THAN \$100K	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

Impact

LOW	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
MEDIUM	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
HIGH	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

Equity impact

LOW	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
MEDIUM	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
HIGH	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

PRIORITIZING RECOMMENDED ACTIONS

Each recommended action in this section is evaluated according to the following overview metrics to help OHSU make the most cost-effective and impactful choices:

- › **Time** is an estimate of how long a recommended action might take to implement should OHSU begin working on it immediately. This is broken down into short (less than two years), medium (two to 10 years), or long (more than 10 years).
- › **Cost** is the estimated cost burden to OHSU. This also includes three buckets: less than \$10,000, \$10,000-100,000, and more than \$100,000.
- › **Impact** estimates the proportion of night employees who might be affected by a particular action (high, medium, low). For example, a recommended action seeking to improve bike facilities would have a high impact on those who bike, but the mode share of cyclists at night is fairly low overall. Therefore, a recommended action around night biking would receive a “low” impact score.
- › **Equity impact** estimates the proportion of employees impacted who are lower income (high, medium, low). These estimates are derived by looking at whether a particular recommended action would have the same impact on all night employees, or if it might specifically benefit lower income employees more, for example.

In addition to overview metrics, recommended actions include potential partners (such as PBOT, Zidell, or other groups who may have a stake in what is being proposed), associated recommended actions (since many interact with each other), and measures of success (if OHSU were to track progress, this describes what data could be collected). Several recommended actions also include best practices or case studies, as we learned a great deal from others who have had success with implementing similar recommended actions.

IMPROVE SAFETY

We identified two main ways safety and comfort can be improved on and around the OHSU campus. First, improving walking and biking conditions is important because these modes of travel feel the most vulnerable, especially at night. The recommended actions contained within the walking and biking action area focus on improving routes in areas near campus, such as dangerous intersections and dark sidewalks and trails. Second, once an employee has reached campus, the environment needs to feel safe and comfortable in order to be inviting. Recommended actions included in this section look at various aspects of the OHSU night environment including lighting, building facades, and the presence of on-campus security.



ACTIONS THAT IMPROVE SAFETY

(NE) Improve campus night environment

- › NE.1 Install a transit arrival screen in the main hospital lobby
- › NE.2 Enhance low quality, highly utilized, and centrally located bus stops
- › NE.3 Create nighttime mobility hubs on campus
- › NE.4 Increase visibility of Public Safety staff
- › NE.5 Add Public Safety staff for safety escorts
- › NE.6 Create safety app that allows campus security to digitally “walk” employees
- › NE.7 Improve interior pedestrian routes with wayfinding
- › NE.8 Designate and enhance specific corridors for night travel
- › NE.9 Contribute to development of diverse land uses
- › NE.10 Gradually relocate OHSU nighttime operations to rooms towards the exterior of the building
- › NE.11 Create a policy requiring safety considerations in the design phase for new and remodeled buildings
- › NE.12 Design facades of buildings facing access routes

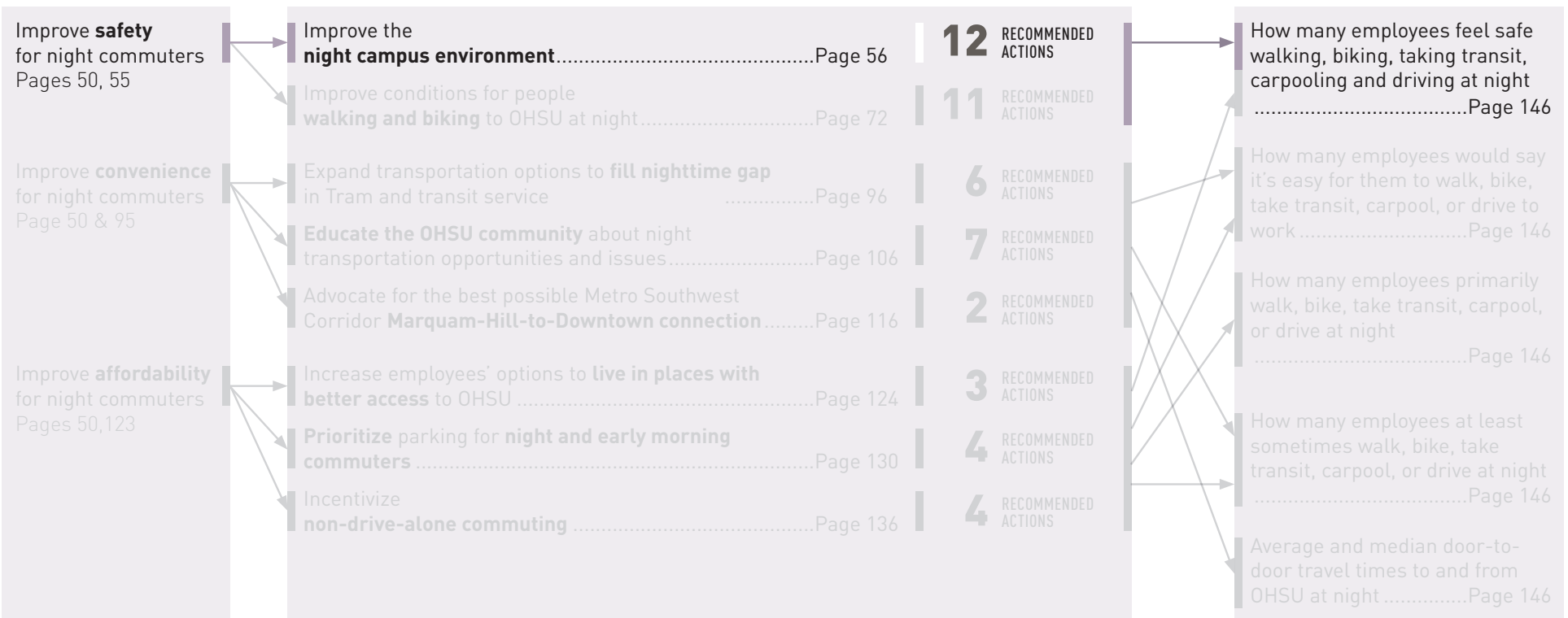
(WB) Improve conditions for people walking and biking to OHSU at night

- › WB.1 Install a protected bike facility on SW Terwilliger
- › WB.2 Improve lighting on SW Terwilliger
- › WB.3 Improve safety of nearby intersections
- › WB.4 Improve SW Trail #1
- › WB.5 Continue to improve pathway from SW Terwilliger Bus 8 stop to Garage E
- › WB.6 Improve wayfinding for Garage E
- › WB.7 Improve bike facilities on Marquam Hill
- › WB.8 Extend athletic shower hours
- › WB.9 Extend hours of Tram tower elevator
- › WB.10 Organize bike trains for night commuters
- › WB.11 Organize night commuter walking groups

NE

IMPROVE THE NIGHT CAMPUS ENVIRONMENT

STRATEGIES: HOW TO MAKE IT EASIER



IMPROVE THE NIGHT CAMPUS ENVIRONMENT

NE

	Recommended action	Page	Time	Cost	Impact	Equity impact	Partners
NE.1	Install a transit arrival screen in the main hospital lobby	58	Short	\$	Low	Low	None
NE.2	Enhance low quality, highly utilized, and centrally located transit stops	59	Medium	\$\$	Medium	High	TriMet
NE.3	Create nighttime mobility hubs on campus	60	Medium	\$\$	Medium	Medium	TriMet, PBOT
NE.4	Increase visibility of Public Safety staff	62	Short	\$	Low	Low	None
NE.5	Add Public Safety staff for safety escorts	63	Short	\$\$\$	Low	Medium	None
NE.6	Create safety app that allows campus security to digitally "walk" employees	64	Short	\$\$	Low	Low	Companion/SafeTrek
NE.7	Improve wayfinding of interior pedestrian routes	65	Short	\$	High	Low	None
NE.8	Designate and enhance specific corridors for night travel	66	Medium	\$\$	High	Medium	PBOT, Parks & Rec.
NE.9	Contribute to the development of diverse land uses	68	Long	\$\$\$	High	Medium	BPS
NE.10	Create a policy to gradually relocate OHSU nighttime activities to rooms towards the exterior of the building	69	Long	\$\$\$	Low	Low	None
NE.11	Create a policy requiring 24/7 safety considerations in the design phase for new and remodeled buildings	70	Long	\$	Low	Low	None
NE.12	Design facades of buildings facing access routes	71	Long	\$\$\$	Medium	Low	None

NE.1

NE: Improve the night campus environment

Install a transit arrival screen in the main hospital lobby

STRATEGY

PARTNERS

TIME

COST

IMPACT

EQUITY

SAFETY

NONE



OHSU employees, students, patients and visitors use transit to access the central campuses. According to the NAP Employee Survey, 40% of respondents sometimes take transit and 18% use transit as their primary mode. At the South Waterfront Campus in the Collaborative Life Sciences Building there is a transit screen in the main lobby area. This makes it easy for people to know when and what types of transit will be arriving at nearby stops. While there used to be transit screen on Marquam Hill in the main hospital, it was removed, limiting access to transit arrival times. 17% of NAP Recommended Action Survey respondents stated that installing a transit screen in the main hospital lobby would be one of their top three choices.

Next steps
Contact Transit Screen for estimated cost.

Associated recommended actions
None

- Measures of success**
- › Increase in employees who feel safe taking transit to OHSU at night
 - › Increase in employees who feel taking transit to OHSU at night is easy

NE.2

NE: Improve the night campus environment

Enhance low-quality, highly utilized, and centrally located transit stops

STRATEGY	SAFETY
PARTNERS	TRIMET
TIME	● ● ○
COST	● ● ○
IMPACT	● ● ○
EQUITY	● ● ●



Nearly half of nighttime OHSU commuters that completed the NAP Employee Survey take transit at least some of the time to get to campus. (See figure on page 26 for different transit line usage.) This means that many people are utilizing bus stops at all hours of the day and night. The bus stops that service Bus Line 8 in particular are heavily utilized throughout the night, as this is the most frequent transit line to the Marquam Hill Campus, as well as the line that runs the latest. (See page 27 for a figure with the most used transit line schedules for OHSU NAP Employee Survey respondents) Because of the amount of usage, and also because of the number of times employees described feeling unsafe at bus stops, improving the environment of bus stops that are highly utilized and centrally located should be a priority for transit improvements. The following bus stops were identified as being of low-quality (see pages 40 and 41 for methodology) and are most

likely highly trafficked by night employees.

- › SW 6th and Gaines #1947
- › SW Terwilliger and Campus Drive #870
- › SW Naito Pkwy and Hooker #1930
- › SW Veterans Hospital Dr and Sam Jackson Park Rd #5032 (note: this stop did not rank particularly low, but, because it is the most utilized and there are opportunities for improvement, we recommend investigating improving this bus stop as well.)

Improvement of these bus stops may include better lighting, improved canopy or shelters, additional amenities (e.g. seating, a garbage can, and/or a Transit Screen/time table), and better pedestrian connections to existing sidewalks. TriMet MAX and Portland Streetcar transit stops can serve as examples of what potential improvements could look like. Enhancing transit stops can result in increased

transit ridership for those who travel to and from OHSU and overall improved experience for those already riding transit to and from OHSU.

Next steps

Meet with TriMet to discuss the costs associated with the above listed improvements for the stops. Emphasize that these are heavily utilized stops that scored very poorly on the OHSU NAP bus quality analysis.

Associated recommended actions

None

Measurement of success

- › Increased usage of bus stops after implementation
- › Increase in employees who feel taking transit to OHSU at night is safer

NE.3

NE: Improve the night campus environment

Create nighttime mobility hubs on campus

STRATEGY

SAFETY

PARTNERS

TRIMET,
PBOT

TIME



COST



IMPACT



EQUITY



*"I think there should be a place that would allow employees to lock up bikes, shower, wait for a Lyft/Uber/Carpool, be able to see when the next buses will be arriving. A central **Transit** center that is safe and well lit."*

*"A nice idea is to make a **Transit Hub** that would have space for 100 bikes, a place to shower, and maybe wait for a Lyft/Uber/Car Pool."*

– NAP Employee Survey responses

As OHSU strives to make alternative modes more appealing for commuters, particularly night commuters, it is important to consider the value of having central transportation locations, or mobility hubs, where multiple modes of transportation come together. Mobility hubs are areas where buses and shuttles pick up and drop off, bike parking is located and those carpooling can meet. This centralization of transportation services can make transferring between modes easier; as well as make it feel more safe to use alternative modes of transportation when the campus is less populated.

Locations near OHSU where the density of people, transit demand, and environment is right for a mobility hub include: 1) the entrance to Kohler

Pavilion and 2) the bottom Tram platform area. Future locations may be determined as OHSU continues to expand and the Southwest Corridor plan developments move forward.

Next steps

Collaborate with PBOT and TriMet to determine what is needed for implementation. This may include bringing in other partners, determining ideal locations and creating a plan for implementation.

Associated recommended actions

- › NE.12 Design facades of buildings facing access routes
- › SW.1 Construct Downtown to Marquam Hill Aerial Tram

- › SW.2 Construct escalators between Marquam Hill and Barbur Blvd

Measurement of Success

- › Number of trips taken to or from mobility hub, counted by TriMet loading and unloading, bikeshare bikes rented, Lyft/Uber rides taken, and shuttle loading and unloading
- › Employee perceived safety on campus
- › Increase in employees who bike, walk, take transit, or carpool to OHSU at night
- › Increase in employees who feel traveling to OHSU at night by foot, bike, transit, and carpool is safe and easy

MOBILITY HUB EXAMPLE

NE.3
continued

Additional Mobility Hub elements not shown below

- › Rideshare/taxi waiting areas
- › Carshare rental locations

**Multimodal opportunities:
aerial tram**

**Bike parking, bike
repair station, and
bike share station**

**Well-designed
transit stop with
real-time transit
info**

**Multimodal opportunities:
biking**



**Multimodal opportunities:
streetcar**

**Prioritized
pedestrian
movement**

NE.4

NE: Improve the night campus environment

Increase visibility of Public Safety staff

STRATEGY

SAFETY

PARTNERS

NONE

TIME



COST



IMPACT



EQUITY



"I wonder if an increased presence of law enforcement would help with drivers who are not paying attention or care. I use crosswalks every day but still struggle with drivers of cars, cutting me off or not letting me cross. I almost got hit today."
 – NAP Employee Survey response

Increasing the visibility of public safety staff will help improve the safety and comfort of everyone on the central campuses, especially at night. Concerns about public safety came up frequently in the NAP Employee Survey: 58% of NAP Employee Survey respondents who walk and bike stated that they have experienced issues with personal or traffic safety. An additional 12% of NAP Employee Survey respondents who drive stated that they have experienced issues with parking lot security and safety.

According to several employees, most Public Safety staff that are on campus at night stay close to the ER or are driving around in unmarked vehicles. Research has shown that merely increasing the visibility of already existing Public Safety staff, by having them circulate to other areas of campus that are active at night, or more clearly marking patrol vehicles as security vehicles (painted logo on cars is not clearly visible at night) will discourage criminal behavior. In addition, it is important for public safety staff to be approachable and promote community interaction. This can be done by not only having public safety staff in vehicles, but also on foot and bike.

While there aren't any 24/7 buildings on the South Waterfront Campus currently, several individuals reported feeling unsafe on the newer campus after hours. They noted that the stretch on SW Moody between the School of Dentistry and the lower Tram platform can feel particularly unsafe. As OHSU continues to expand on the South Waterfront, both in terms of physical buildings and hours of operation, it will be important for them to increase the capacity and visibility of security staff there as well.

Next steps

Meet with Public Safety to discuss increasing the visibility of their staff and possibility of having more of their staff on foot or bike.

Associated recommended actions

- › NE.5 Add public safety staff for safety escorts
- › EC.7 Organize an education campaign for safe driving at night and cost savings of choosing other modes

Measurement of success

- › Increased number of Public Safety surveillance rounds in campus areas active at night
- › Increased perceived safety reported by employees on campus
- › Reduced driving speeds, assessed via PBOT speed study

NE.5

NE: Improve the night campus environment

Add Public Safety staff for safety escorts

STRATEGY	SAFETY	23% of NAP Employee Survey respondents who walk have concerns about safety. Additionally, 58% of NAP Employee Survey respondents who walk stated that they've experienced issues with personal or traffic safety. Currently, the capacity to perform safety escorts depends on the staffing levels, as well as patrol location of Public Safety officers. Increasing the availability of Public Safety staff to escort employees, students, and researchers will improve safety and comfort for people traveling around the central campuses, especially at night.
PARTNERS	NONE	
TIME	● ○ ○	
COST	● ● ●	
IMPACT	● ○ ○	
EQUITY	● ● ○	

Next steps

Work with Public Safety to determine the optimal number of Public Safety staff that improves people's sense of safety. The optimal number could be derived from case studies from other campuses and must include enough additional officers that Public Safety actually has the capacity to escort people when needed. (Currently Campus Security has this program, but does not realistically have enough staff to support it.)

Associated recommended actions

- › NE.4 Increase visibility of public safety staff
- › NE.6 Create safety app that allows campus security to digitally "walk" employees
- › EC.4 Promote existing Public Safety programs

Measurement of Success

- › Increase in number of public safety staff per shift
- › Decrease in safety escort requests (long term - may see immediate increase after implementation)
- › Increase in number of employees who feel safe walking around OHSU at night

"Currently, I park in the A garage on Tuesdays, but I don't feel super safe walking from KPV all the way through North hospital to get to the A garage at midnight. I tried to park in the F garage, but I frequently wouldn't be able to find parking in a decent amount of time (A half hour) and would be late to work."

– NAP Survey Respondent

NE.6

NE: Improve the night campus environment

Create safety app that allows campus security to digitally “walk” employees

STRATEGY

SAFETY

PARTNERS

COMPANION/
SAFETREK

TIME



COST



IMPACT



EQUITY



A common complaint about night transportation at OHSU is that it feels unsafe walking around campus. With modern technology, there are smartphone apps that allow campus security to digitally “walk” users between destinations (e.g. the OHSU hospital and their car in the Dotter Lot). Essentially, the app user (in this case an OHSU staff member or student) holds their finger on a button on their phone until they reach their final destination. If their finger releases the button before he/she reaches their end point, Public Safety is automatically notified to send help. One example of such an app is LiveSafe Enterprise. Should OHSU decide to contract with LiveSafe on a LiveSafe Enterprise account, employees could create a login under the OHSU enterprise, which would then make their location information more visible to Public Safety staff while the app was on, enabling the employee to communicate directly with Public Safety (via text or call).

Next steps

Contact LiveSafe to discuss an OHSU enterprise account

Associated recommended actions

- › NE.4 Increase visibility of public safety staff
- › NE.5 Add public safety staff for safety escorts
- › EC.4 Promote existing campus safety programs.

Measurement of success

- › Number of app downloads
- › Number of app users successfully completing digital “walks”
- › Increase in employees who feel safe walking to or around OHSU at night

LIVE SAFE AT UNIVERSITY OF SOUTHERN CALIFORNIA

The University of Southern California has partnered with LiveSafe. As stated on their website:

“The Mobile Safety App powered by LiveSafe, managed by the USC Department of Public Safety and the USC Department of Emergency Planning, is a free downloadable app that mobile users can use to initiate contact with emergency responders around the University Park and Health Science campuses. Features include: immediate “push button” calls to DPS, easy reporting for suspicious activity or crimes in progress, and location services to notify friends of your route through campus.”

<http://www.livesafemobile.com/enterprise/>

NE.7

NE: Improve the night campus environment

Improve interior pedestrian routes with wayfinding

STRATEGY

SAFETY

The topography and layout of buildings on the Marquam Hill Campus oftentimes make interior hallways the fastest way to get from one place to another. For those less familiar with the buildings on this particular campus, however, many of the hallways and transition spaces are tricky to navigate. It would be beneficial to have more signs indicating where certain hallways and entrances lead, and what a person's current location is. This could be done with maps (i.e. a map of hallways used for interior travel with "you are here" labels), or with more simple signs. Adding more wayfinding signage would be particularly beneficial for night commuters because (1) traveling via interior hallways may be safer at night and provides employees with a choice beside navigating external sidewalks and alleys, and (2) many of the doors and elevators that are open and operating during the day shut down at night, creating barriers for those without badge access.

PARTNERS

NONE

TIME



COST



IMPACT



EQUITY



The Wayfinding Committee is actively looking for ways to improve on-campus pedestrian movement. Thus far they have added many maps around the Marquam Hill Campus and labels in elevators and parking garages. Focusing on interior pedestrian routes specifically, as well as connecting internal and external wayfinding

measures (such as entrances and transition spaces), would be a good next project for the Wayfinding Committee and investment for Transportation & Parking.

For additional information see the 2011 OHSU Wayfinding Analysis and Recommended actions report or the 2013 OHSU Exterior Sign Location Plans.

Next steps

Work with Campus Planning and the Wayfinding Committee to create a nighttime wayfinding plan for prioritized campus pedestrian corridors as indicated in the Existing Site Conditions report of the OHSU 20-Year Facilities Master Plan: 2011-2030.

Associated recommended actions

None

Measures of success

- › Number of wayfinding signage installed
- › Increase in number of employees who feel safe walking around OHSU at night

CHILDREN'S HOSPITAL COLORADO WAYFINDING

<http://arthousedenver.com/portfolio/childrens-hospital-colorado/>

Arthouse Design created a wayfinding system for Children's Hospital Colorado with more than 4,000 interior and exterior wayfinding elements and environmental graphics.

Arthouse created an iconic system of graphics that incorporates a playful color palette, exciting points of discovery and inspiring interactive features.



NE.8

NE: Improve the night campus environment

Designate and enhance specific corridors for night travel

STRATEGY	SAFETY
PARTNERS	COMPANION/ SAFETREK
TIME	● ● ○
COST	● ● ○
IMPACT	● ● ●
EQUITY	● ● ○



This recommended action, to designate and enhance specific corridors for night travel to and from OHSU, suggests selecting specific routes that are heavily utilized by those traveling to OHSU, and then improving and promoting those routes.

SW Trail #1, for pedestrians, and SW Terwilliger, for all modes of travel, are primary corridors for accessing the Marquam Hill Campus. Since improvements to these two corridors are also included in this plan, (recommended actions WB.1 and WB.4), these two corridors should be considered as pilot projects for this recommended action. Additional improvements to consider

that may not be included in WB.1 or WB.4 are improved lighting, wayfinding and landscaping, and traffic calming devices. Nighttime wayfinding could be enhanced along these corridors by incorporating night-specific landmarks, such as illuminated light sculptures and artwork.

Something that is important to note with this recommended action is that designating certain routes as night corridors and improving the quality of the infrastructure along that route will positively influence all commuters, including those who drive alone..

Next steps

After implementation of WB.1 (Install a protected bike facility on SW Terwilliger) and WB.4 (Improve SW Trail #1), these corridors should be signed and advertised as ones specifically for night travel. The routes should also be added to the OHSU Night Travel Map (EC.1)

Associated recommended actions

- › WB.1 Install a protected bike facility on SW Terwilliger
- › WB.4 Improve SW Trail #1
- › EC.1 Create a Night Transportation Travel Options map and online resource

Measures of success

- › Increase in employees biking and walking to OHSU at night
- › Increase in employees who feel biking and walking to work is safe and convenient



NE.9

NE: Improve the night campus environment

Contribute to development of diverse land uses

STRATEGY

SAFETY

PARTNERS

BUREAU OF
PLANNING &
SUSTAINABILITY

TIME



COST



IMPACT



EQUITY



ZIDELL YARDS

Zidell Marine Corporation is located on the South Waterfront. They currently operate a barge construction business and are the primary owner of the undeveloped property at the South Waterfront. The 33-acre riverfront property is the largest undeveloped site in the city and holds great potential for future development at the South Waterfront. As an important stakeholder, the Zidell family has stated that they want to see a 24-hour neighborhood that is not auto-dependent and that stays open past 7pm.

The opportunity is right to create 24-hour, thriving neighborhoods at the South Waterfront and Marquam Hill, supported by both the demand for OHSU, the expanding multi-family development, and the support of the Zidell family as a crucial stakeholder.

Mixed-use development incorporates different types of land uses into a single area (i.e. residential, commercial, cultural, institutional and industrial). This type of development is becoming more common as it promotes around the clock activity and the blending of different sectors, thereby encouraging economic development, sustainable investment, active modes of transportation, and better pedestrian environments.

Both of OHSU's central campuses are already located in neighborhoods that are diversifying their land-uses. There are apartment buildings and residential homes near both of the campuses, as well as retail shops and expanding food options. As the areas immediately surrounding the campuses continue to develop, especially the South Waterfront, encouraging other uses will help improve night

transportation for those in the area. Fostering more activity after traditional business hours may accelerate TriMet's and Portland Streetcar's timeline in offering service later in the evening and earlier in the morning. It can also encourage OHSU employees and students to live closer to the campuses, assuming there are more housing options. Finally, it will create a safer environment for those traveling to and from the central campuses late at night or early in the morning by increasing the amount of activity on the street.

Next steps

Incorporate nighttime conditions into OHSU's land use inventory to identify opportunities for future development or occupancy within existing buildings. These locations should coincide with where nighttime operations are located, specifically SW

Sam Jackson and the South Waterfront.

Associated recommended actions

- › NE.11 Create a policy requiring safety considerations in the design phase for new and remodeled buildings
- › OL.3 Collaborate with Zidell to develop dense and/or affordable housing on their South Waterfront parcels

Measurement of success

- › Number of businesses and operations that contribute to nightlife and activity occurring between 9PM and 6AM
- › Increase in employees biking and walking to OHSU at night
- › Increase in employees who feel biking and walking to work is safe and convenient

NE.10

NE: Improve the night campus environment

Create a policy to gradually relocate OHSU nighttime operations to rooms towards the exterior of the building

STRATEGY

SAFETY

PARTNERS

NONE

TIME



COST



IMPACT



EQUITY



One complaint we heard repeatedly is that the OHSU central campuses don't feel safe at night; they seem desolate and as if nobody is around. An approach to solving this issue would be to gradually relocate OHSU night operations towards the exterior of buildings. Currently there is a lot of activity happening at OHSU at night, it is just hard to detect from the outside because it happens inside the main hospital or is relatively dispersed across a few central buildings. Gravitating internal activity toward the outer, window-side rooms would increase the number of windows illuminated at night and thereby increase visibility as well as perceived occupancy, or eyes on the street. According to Dr. Jeff Schnable, a professor in the Portland State University Department of Architecture, this increases comfort and safety for those walking around campus at night. It also discourages criminal activity for the same reasons - perceived surveillance.

This is a long-term policy solution, however, it is something that can and should be implemented now. This is especially true because OHSU is currently undergoing many department moves and changes. If the new organization of departments were to reflect their hours of operation, i.e. those who operate at night are placed near the exterior of buildings, it would help improve comfort and safety on the OHSU central campuses.

Next steps

The next step is to work with Campus Planning to craft and adopt such a policy, as well as discuss how current department moves may best fit into this new policy.

Associated recommended actions

- › NE.11 Create a policy requiring safety considerations in the design phase for new and remodeled buildings
- › NE.12 Design facades of buildings facing access routes

Measurement of Success

- › Increase in percentage of operations that occur near the exterior of buildings between 9PM and 6AM
- › Increase in employees biking, taking transit and walking to OHSU at night
- › Increase in employees who feel biking, taking transit and walking to work is safe and convenient

NE.11

NE: Improve the night campus environment

Create a policy requiring facades of new and remodeled buildings to consider 24/7 safety

STRATEGY

SAFETY

PARTNERS

NONE

TIME



COST



IMPACT



EQUITY



How buildings interact with the street and surrounding environment directly impacts people's attitudes, perceptions, and utilization of space. The Marquam Hill Campus was constructed at a time when development was very autocentric, and it was assumed people would use cars to get everywhere. Because of this, many buildings on Marquam Hill are not inviting to people walking around campus. As Portland transitions out of this autocentric era, it is important to consider how the design of facades of buildings influences people's willingness to take alternative modes, and how the facades of buildings contribute to feelings of comfort and safety, especially for those traveling at night.

As a long-term change, we recommend that OHSU craft a policy that requires 24/7 safety to be considered whenever buildings are remodeled or new buildings are constructed. The policy may require that the exterior of buildings be more transparent - tying the interior function of the building to the immediate surrounding

space. For example, it may also require street-level windows and human-scale lighting near inviting entryways. The specifics of the policy should be crafted by OHSU Public Safety, Campus Planning, and Transportation & Parking departments.

Next steps

Conduct best practices research on similar policies and meet with Campus Planning and Public Safety to discuss moving forward.

Associated recommended actions

- › NE.10 Gradually relocate OHSU nighttime operations to rooms towards the exterior of the building
- › NE.12 Design facades of buildings facing access routes

Measurement of Success

- › Increase in employees who walk to OHSU at night
- › Increase in employees who feel safe walking to OHSU at night

NE.12

NE: Improve the night campus environment

Redesign facades of buildings facing Sam Jackson/Campus Drive/US Veterans Rd

STRATEGY SAFETY

PARTNERS NONE

TIME ● ● ○

COST ● ● ●

IMPACT ● ● ○

EQUITY ● ○ ○



Sam Jackson, Campus Drive and US Veterans Road are the main roads people use to get around the Marquam Hill Campus. As mentioned in NE.11, the Marquam Hill Campus was constructed at a time when cars were the center of development. Now that this is no longer the case, improvements need to happen to make these roads and corridors more appealing for those on foot. (Currently they are lined with loading docks, trash and recycling bins, back doors and storage areas.)

While NE.11 recommends implementing a policy that requires 24/7 safety be incorporated into design, this recommended action focuses on this specific corridor and on making facade improvements now, regardless of whether or not other remodeling is scheduled to happen. Some improvements may include:

- › improving pedestrian entrances,
- › planting street trees,
- › adding windows, architectural details and/or awnings,
- › and implementing unique solutions to make the loading docks more friendly.

These proposed changes will make the corridors feel like places pedestrians are supposed to be rather than like back alleyways that are not meant for walking through.

Next steps

Work with Campus Planning to create a corridor plan for SW Sam Jackson, Campus Drive, and US Veterans. This corridor plan could identify facades that are in most need of improvement and could have the greatest effect on the overall urban design of the corridor.

Associated recommended actions

- › NE.10 Create a policy to gradually relocate OHSU nighttime operations to rooms towards the exterior of the building

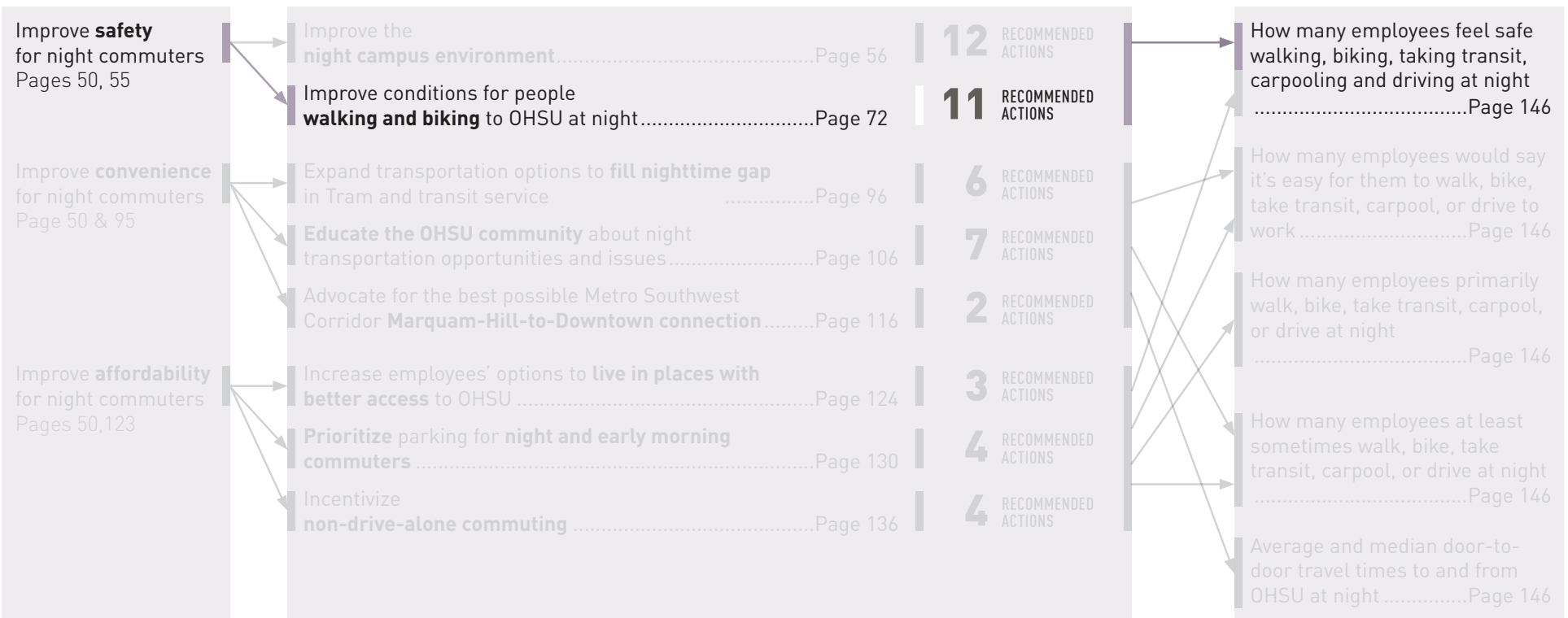
Measures of success

- › Increase in employees who work to OHSU at night
- › Increase in employees who feel safe walking to OHSU at night

WB

IMPROVE CONDITIONS FOR PEOPLE WALKING AND BIKING TO OHSU AT NIGHT

STRATEGIES: HOW TO MAKE IT EASIER





IMPROVE CONDITIONS FOR PEOPLE WALKING AND BIKING TO OHSU AT NIGHT

	Recommended action	Page	Time	Cost	Impact	Equity impact	Partners
WB.1	Install a protected bike facility on SW Terwilliger	74	Medium	\$\$\$	Medium	Medium	PBOT
WB.2	Improve lighting on SW Terwilliger	76	Medium	\$\$	Medium	Medium	PBOT
WB.3	Improve safety of nearby intersections	77	Long	\$\$\$	High	High	PBOT
WB.4	Improve SW Trail #1	82	Medium	\$\$	Medium	Medium	Parks & Rec, PBOT
WB.5	Continue to improve pathway from SW Terwilliger Bus 8 stop to Garage E	84	Short	\$\$	Medium	Medium	TriMet, PBOT, Wayfinding Committee
WB.6	Improve wayfinding to Garage E	86	Short	\$	Low	Low	Wayfinding Committee
WB.7	Improve bike facilities on Marquam Hill	88	Short	\$\$	Low	Low	None
WB.8	Extend athletic shower hours	90	Short	\$	Low	Low	None
WB.9	Extend hours of Tram tower elevator	91	Short	\$\$	Low	Low	None
WB.10	Organize bike trains for commuters	92	Short	\$	Low	Low	None
WB.11	Organize night commuter walking groups	93	Short	\$	Low	Low	None

WB.1

WB: Improve conditions for people walking and biking to OHSU

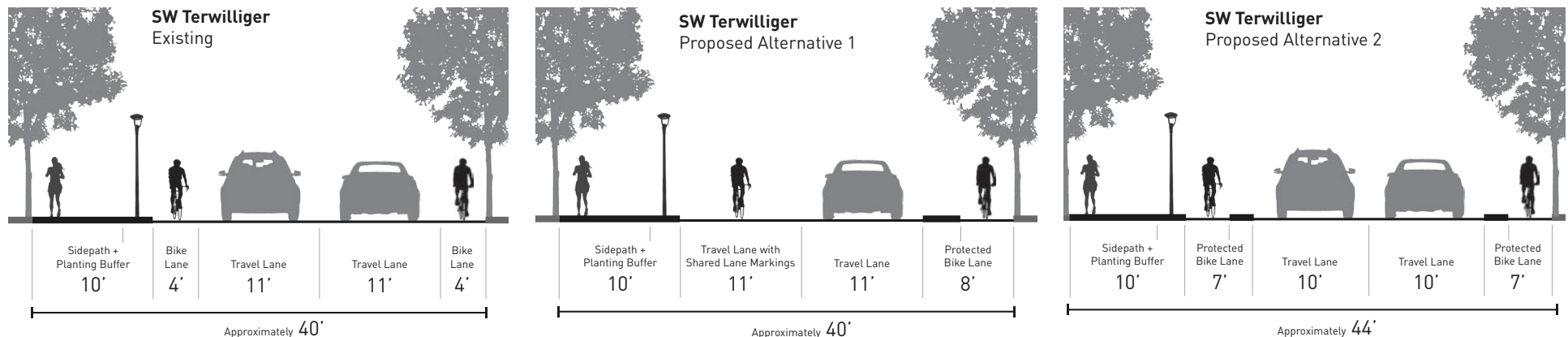
Install a protected bike facility on SW Terwilliger

STRATEGY	SAFETY	58% of NAP Employee Survey Respondents who bike to OHSU reported concerns about safety (personal or traffic) as one of the top three issues they face in accessing OHSU campuses late at night or early in the morning. 27% pointed out bike lane quality, specifically, as one of the top three issues. Of all of the areas for bike infrastructure improvements, SW Terwilliger arose the most in the NAP Employee Survey and in our meetings with OHSU staff and community members. This is largely because SW Terwilliger is already very daunting to cyclists due to its steep grade and dense surrounding forest. Add narrow bike lanes (less than five feet), poor pavement quality and high vehicle speeds and it is no wonder why employees do not consider biking to the Marquam Hill Campus an option.
PARTNERS	PBOT	
TIME	● ● ○	
COST	● ● ●	
IMPACT	● ● ○	
EQUITY	● ● ○	

Improving the bike conditions on SW Terwilliger would make biking to OHSU much more appealing for all employees, not just night employees. Installing a protected bike facility on SW Terwilliger, specifically, would make it much safer for all, including

pedestrians on the nearby path and drivers (due to the decreased chance of collision and better management of all street traffic). Furthermore, a protected bikeway would make it easier for relatively inexperienced cyclists to transition into bike commuting to the Marquam Hill Campus.

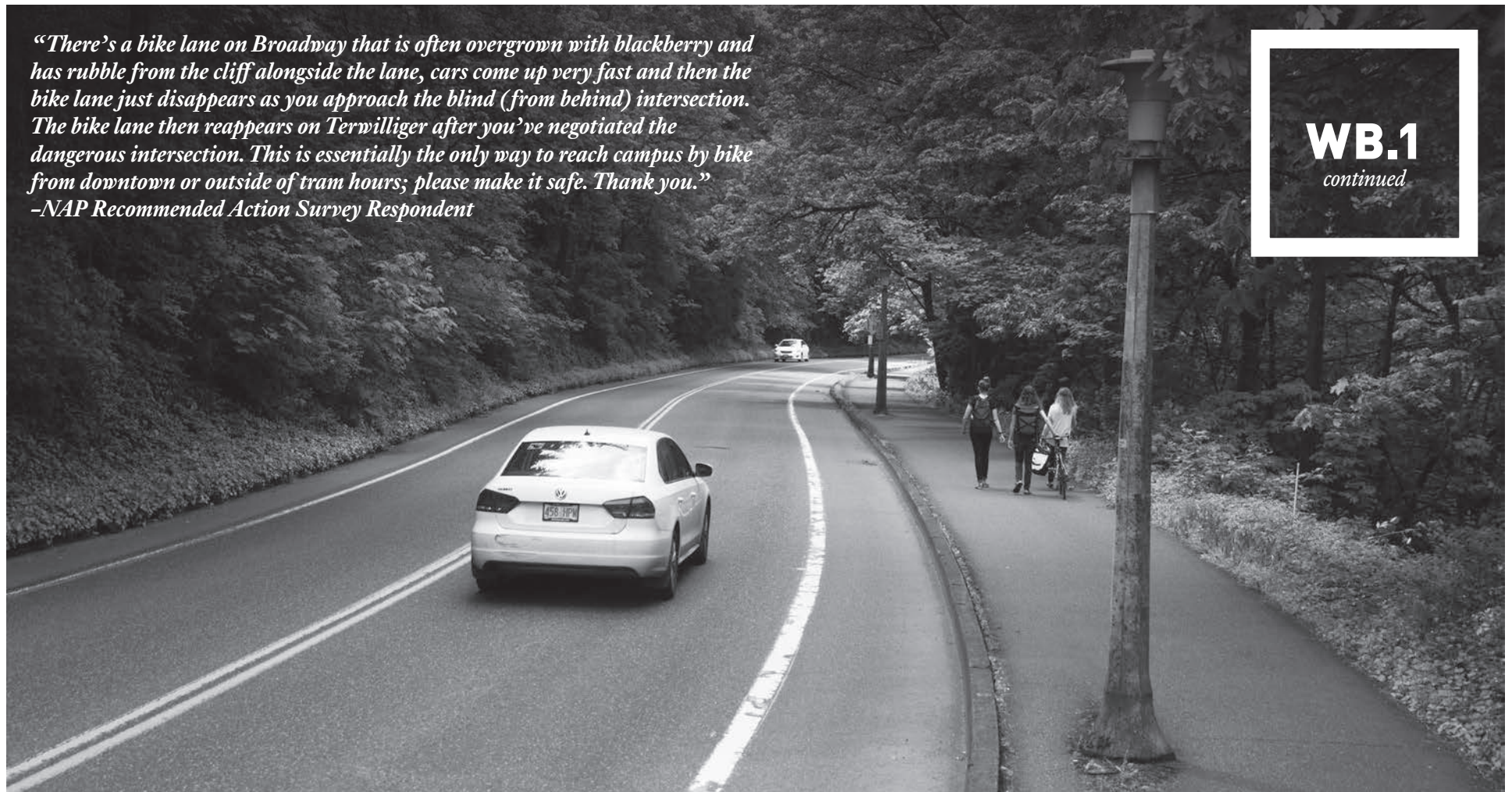
Proposed Alternative 1 shows adding a protected bike lane on the uphill side of SW Terwilliger and a shared lane on the downhill of SW Terwilliger, which can be done using existing right of way. In Proposed Alternative 2 we recommend expanding SW Terwilliger to make room for protected bike lanes on both the uphill and downhill directions, which would be much more comfortable for cyclists. This alternative provides a way for cyclists to completely bypass the SW Terwilliger and SW Sam Jackson intersection on their way off of the hill. Ideally, this protected bike lane would continue on SW Terwilliger until it merges with SW 6th Ave at I-405. This is another problematic area for bicyclists and pedestrians.



“There’s a bike lane on Broadway that is often overgrown with blackberry and has rubble from the cliff alongside the lane, cars come up very fast and then the bike lane just disappears as you approach the blind (from behind) intersection. The bike lane then reappears on Terwilliger after you’ve negotiated the dangerous intersection. This is essentially the only way to reach campus by bike from downtown or outside of tram hours; please make it safe. Thank you.”

–NAP Recommended Action Survey Respondent

WB.1
continued



Next steps

Meet with PBOT active transportation representative to discuss possibility of implementing protected bikeways. Use (1) qualitative evidence showing that people have issues with biking on SW Terwilliger (e.g. quotes from NAP Employee Survey), (2) bike quality assessment maps (included in Existing Conditions Report of OHSU NAP) (3) Vision Zero data on injuries and fatalities to convince PBOT that this is worth implementing and (4) projected employee growth on the Marquam Hill Campus (i.e. prospective bicyclist employees).

Associated recommended actions

WB.3 Improve safety of nearby intersections:

- › SW Terwilliger & Campus Dr
- › SW Terwilliger Blvd & Sam Jackson

Measures of success

- › Increase in number of cyclists on SW Terwilliger
- › Increase in employees who bike to OHSU
- › Increase in employees who feel safe biking at night
- › Increase in employees who feel biking is easy at night

WB.2

WB: Improve conditions for people walking and biking to OHSU

Improve lighting on SW Terwilliger

STRATEGY

SAFETY

PARTNERS

PB0T

TIME



COST



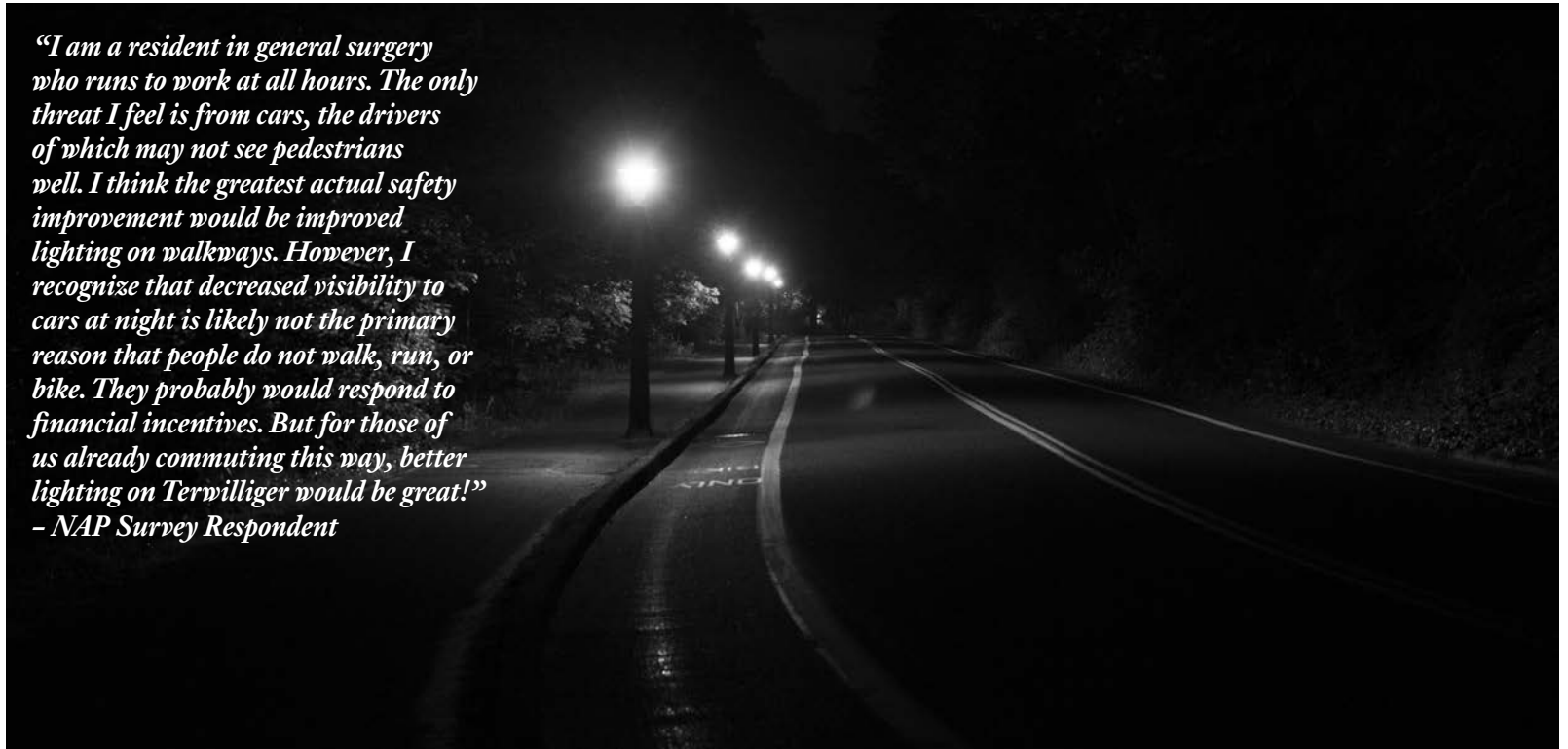
IMPACT



EQUITY



"I am a resident in general surgery who runs to work at all hours. The only threat I feel is from cars, the drivers of which may not see pedestrians well. I think the greatest actual safety improvement would be improved lighting on walkways. However, I recognize that decreased visibility to cars at night is likely not the primary reason that people do not walk, run, or bike. They probably would respond to financial incentives. But for those of us already commuting this way, better lighting on Terwilliger would be great!"
– NAP Survey Respondent



Currently there is a pedestrian path with street lighting that starts at Duniway Park at the bottom of Marquam Hill and extends up the hill, tracing the edge of SW Terwilliger and continuing past OHSU into the Homestead Neighborhood area. This pathway has street lighting. However, it does not properly illuminate the contours of the path, which is hazardous for pedestrians. (The path is uneven from being displaced by nearby tree roots). Furthermore, it does not create a continuous supply of light for those traveling up or down the hill. It is important to

consider pedestrians and their need for light when walking in the dark, in order to see and travel safely and not trip, but also the need to protect pedestrians from becoming victims when they are highlighted in spotlights of light, blind from the surrounding area due to sudden and drastic increases in lightness/darkness.

Next steps

Meet with PB0T to discuss possibilities for improving lighting on SW Terwilliger.

Associated recommended actions

- › WB.3 Improve safety of nearby intersections

Measures of success

- › Increase use of SW Terwilliger as a walking route at night
- › Decrease in number of pedestrian and bicyclist injuries and fatalities (Vision Zero data)
- › Increase in employees who walk to work and feel safe doing so

WB.3

WB: Improve conditions for people walking and biking to OHSU

Improve safety of nearby intersections

STRATEGY	SAFETY
PARTNERS	PB0T
TIME	● ● ●
COST	● ● ●
IMPACT	● ● ●
EQUITY	● ● ●

“Pedestrian crossing, across Terwilliger by Campus Drive is very dangerous in the early mornings (I walk across there at about 6:10am). In fact, I almost was hit by a car there this morning...”
- NAP Survey Respondent

SW TERWILLIGER AND CAMPUS DRIVE, A LOCATION THE PORTLAND BUREAU OF TRANSPORTATION RECORDED 8 CYCLIST INJURIES BETWEEN 2004 AND 2013

There are many intersections near the OHSU central campuses that can be considered dangerous and in need of improvement. The intersections listed below were identified using the City of Portland’s Vision Zero data.

- › SW Naito Pkwy & Whitaker St
- › SW Terwilliger & Campus Drive
- › SW Terwilliger & Condor Ln
- › SW Terwilliger & Sam Jackson
- › SW Campus Drive & Sam Jackson
- › SW Hooker & Barbur Blvd
- › SW Hooker & 1st Ave

SW Terwilliger & Campus Drive

The roadway curves dramatically on Terwilliger at Campus Drive, making it very difficult for pedestrians and cyclists trying to cross Terwilliger to get to OHSU’s campus. There are two bus stops at this intersection, making it a prime candidate for improvement.

WB.3 *continued*

INDIVIDUAL → INTERSECTION ANALYSIS

SW Naito Pkwy & Whitaker St

Pedestrians can take Whitaker St to get between Marquam Hill and the South Waterfront. However, they must cross Naito Parkway, a four-lane high speed road. It is difficult to cross without the help of a crosswalk or High Intensity Activity crossWALK (HAWK) beacon.



SW Terwilliger & SW Condor Ln

This intersection is very difficult to maneuver for all modes, with Condor Ln being a very narrow road with limited sight distance onto oncoming traffic on SW Terwilliger. Motorists making left hand turns from Condor Ln onto Terwilliger are especially dangerous.



SW Terwilliger & Sam Jackson

This intersection has perhaps the highest traffic and is the best candidate for improvement. Cyclists needing to turn left to stay on SW Terwilliger have to cross a lane of high-speed, thick traffic, while at the same time maneuvering through a tiny, rock laden bike lane.



SW Campus Drive & Sam Jackson

This tricky three-way intersection leaves pedestrians stranded, with a slight curve in Sam Jackson inhibiting the line of sight for those wanting to cross the road. There are no ADA curb ramps on the west side of Sam Jackson, making this a particularly difficult intersection for persons with limited mobility.



SW Hooker & SW Barbur Blvd

Barbur Blvd is a high-speed, high traffic four-lane road at Hooker. It is also a designated bikeway where left turns onto Hooker (a major cut through for those traveling between OHSU campuses) are nearly impossible without further intersection improvements. This is a high crash intersection that is a good candidate for PBOT to investigate.



SW Hooker & 1st Ave

Parked cars at Hooker and 1st Ave vastly decrease line of sight for all modes who require to cross or turn left onto either of these streets. Many of the sidewalks are lacking ADA curb ramps, making it difficult for those who do not have full mobility. There have been several pedestrian injuries at this intersection.

Various intersection improvement strategies can be used to decrease crashes and make people feel more comfortable biking, walking, and even driving around OHSU's campuses.



← **RELEVANT
TECHNIQUES
TO IMPROVE
INTERSECTION
SAFETY**

HAWK Beacons

According to the Federal Highway Administration (FHWA), High intensity Activity crossWalk (HAWK) Beacons are places where, "drivers receive multiple cues to emphasize the potential presence of a pedestrian. These cues include a unique configuration of the HAWK beacon (two red lights over a single yellow light), high-visibility crosswalk markings (ladder-style markings), a stop bar approximately 50 feet from the crosswalk, eight-inch solid lane lines between through travel lanes, signs that can be illuminated and read "CROSSWALK," and School Warning signs. When activated, the HAWK uses a red indication to inform drivers to stop, thereby creating a time period for pedestrians to cross the major roadway." A study in Tucson, AZ found that HAWK Beacons can provide a 29% reduction in total crashes and a 69% reduction in pedestrian crashes. This treatment would be especially helpful at the intersections of:

- › SW Naito Pkwy & Whitaker St
- › SW Terwilliger & Campus Dr and Condor Ave

BikeScout

BikeScout, used in the Netherlands, provides an innovative way to increase bicyclist safety. This technology detects when a cyclist is approaching an intersection and utilizes LED lights to illuminate the crosswalk, thereby alerting drivers of the oncoming cyclist. This can be especially useful along blind curves on SW Terwilliger and is recommended for implementation at the intersections of:

- › SW Terwilliger & Condor Ln
- › SW Campus Dr & Sam Jackson
- › SW Hooker & 1st Ave

WB.3

continued

RELEVANT → TECHNIQUES TO IMPROVE INTERSECTION SAFETY



Refuge Islands

Refuge islands essentially cut an intersection in half for both bicyclists and pedestrians. They are especially effective when crossing streets of four lanes or more and allow bicyclists and pedestrians to cross the street more safely, since they only need to navigate one direction of traffic at a time. They should be used in conjunction with ladder crosswalks or, in the case of a bicycle crossing, green paint. This treatment could be appropriate for use at the intersections of:

- › SW Naito Pkwy & Whitaker St
- › SW Hooker & Barbur Blvd



Two-Stage Turn Queue Boxes

Two-stage turn queue boxes allow bicyclists to safely execute a left turn without the need to cross traffic lanes into the left turn lane. Cyclists continue straight through the intersection, stop in the green queue box and wait for the signal to allow cross traffic. This treatment is especially needed at the intersections of:

- › SW Terwilliger Blvd & Sam Jackson
- › SW Naito Parkway & Whitaker St
- › SW Hooker & Barbur Blvd



Next steps

Meet with PBOT representatives to determine how to move forward and prioritize these improvements.

Associated recommended actions

- › WB.1 Install a protected bike facility on SW Terwilliger
- › WB.4 Improve SW Trail #1
- › WB.10 Organize bike trains for night commuters
- › WB.11 Organize night commuter walking groups
- › EC.1 Create a Night Transportation Travel Options map and online resource
- › EC.5 Organize an education campaign for safe driving at night
- › EC.6 Organize a transportation awareness fair

Measures of success

- › Decrease in the number of injuries and fatalities at these intersections (City of Portland data)
- › Increase in employees who bike and walk to OHSU
- › Increase in employees who feel safe biking and walking at night
- › Increase in employees who feel biking and walking is easy at night

WB.4

WB: Improve conditions for people walking and biking to OHSU

Improve SW Trail #1

STRATEGY

SAFETY

PARTNERS

PARKS & REC.,
PBOT

TIME



COST



IMPACT



EQUITY



SNAPSHOTS FROM A Nighttime JOURNEY DOWN SW TRAIL #1



When talking about accessing OHSU at night, it is inevitable that running the Tram 24/7 will arise. In order to address this point, we must consider what the real issue is—that there is no direct, easily accessible, safe way to get from the South Waterfront Campus to the Marquam Hill Campus when the tram is closed. SW Trail #1 runs almost directly beneath the track of the Tram. However, it is poorly lit, overgrown with vegetation, composed of a mix of crumbling path materials (e.g. pavement, brick, etc.) and difficult to navigate (i.e. no wayfinding mechanisms). This combination makes it an unfavorable route for those traveling between campuses, even during daylight hours. Important to note is that during the winter, nearly all OHSU employees will travel during the dark due to shortened daylight hours.

Improvements to this path could make it more inviting for all people when they are choosing their commute modes. Furthermore, it would encourage physical activity, which has been

proven to improve cognitive ability, overall moods, and therefore, likely productivity in the workplace. Generally speaking, people in the Portland Metropolitan Region are open to active commute modes, but are unlikely to choose to walk on a path that has the characteristics listed above.

Improving SW Trail #1 was the second most popular walking and biking recommended action after improving the bike facilities in Garage E, on the NAP Recommended Action Survey. People want this change and these improvements; they want taking SW Trail #1 to feel like it is more of an option when deciding how to cross between OHSU's two central campuses.

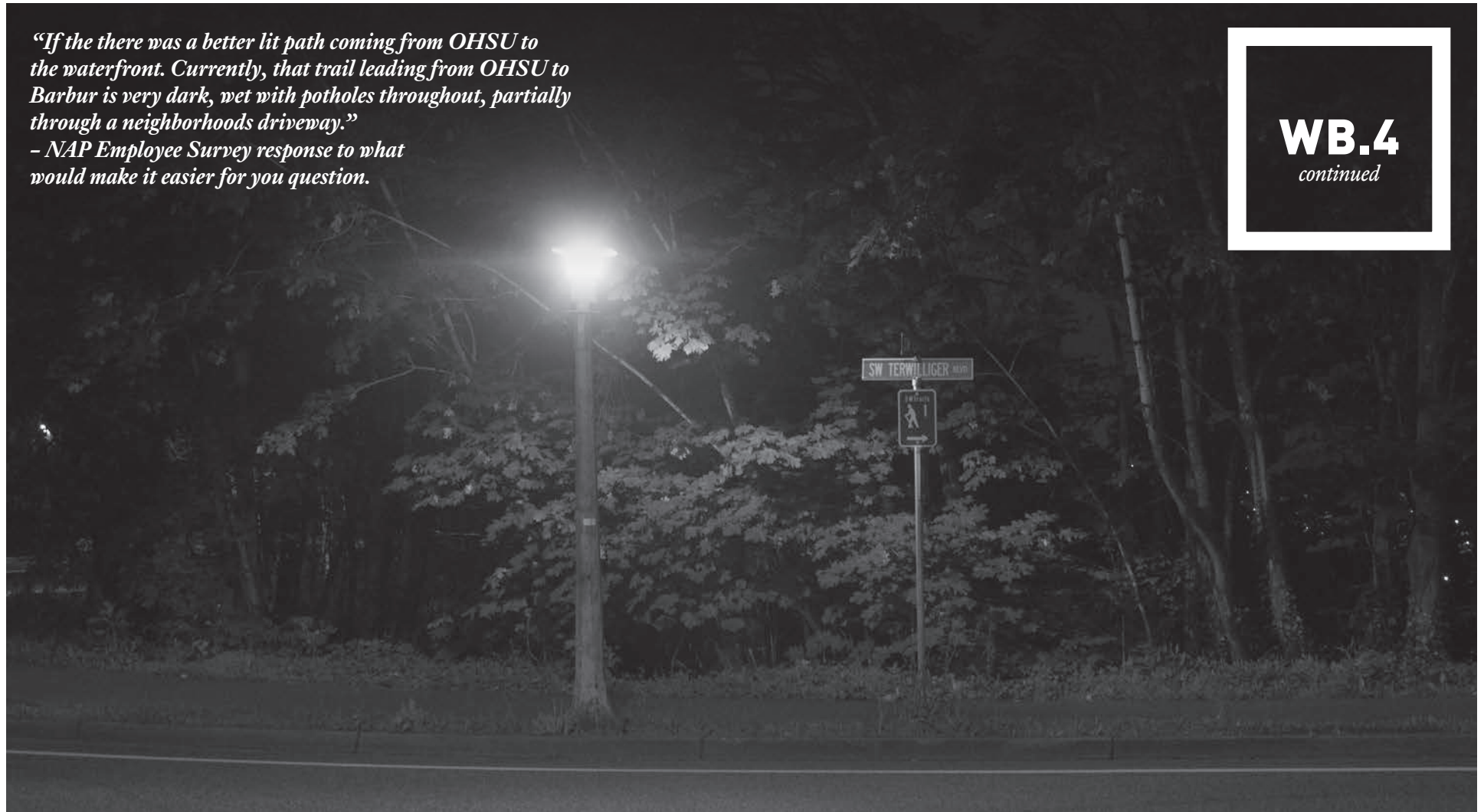
Although many improvements should be made, simple wayfinding signage, as well as lighting, should be top priorities for SW Trail #1. Since the trail does wind through residential areas, lighting should be non-intrusive and include neighborhood involvement

“If there was a better lit path coming from OHSU to the waterfront. Currently, that trail leading from OHSU to Barbur is very dark, wet with potholes throughout, partially through a neighborhood’s driveway.”

– NAP Employee Survey response to what would make it easier for you question.

WB.4

continued



in the implementation process. This recommended action pairs well with WB.11 (Organize night commuter walking groups), especially if groups of people starting shifts at roughly the same time wanted to, or were able to, get to the South Waterfront Campus (via bike, public transit, or foot), and then walk together up SW Trail #1 to the Marquam Hill Campus. It also complements WB.3 (Improve safety of nearby intersections, SW Terwilliger & Campus Drive), NE.8 (Designate and enhance specific corridors for night travel), for which we are recommending SW Trail #1.

Next steps

Determine where wayfinding signs are needed, design the signs and investigate different types of trail lighting to decide which would be most appropriate in this residential setting.

Associated recommended actions

- › WB.1 Install a protected bikeway on SW Terwilliger
- › WB.3 Improve safety of nearby intersections - SW Terwilliger and Campus Drive
- › WB.6 Improve wayfinding for Garage E

- › WB.7 Improve bike facilities on Marquam Hill
- › WB.9 Extend hours of Tram tower elevator

Measures of success

- › Increase in number of employees using the trail
- › Increased pedestrian traffic through Garage E to main hospital
- › Increase in employees who walk to OHSU
- › Increase in employees who feel safe walking at night
- › Increase in employees who feel walking is easy at night

WB.5

WB: Improve conditions for people walking and biking to OHSU

Continue to improve pathway from SW Terwilliger Bus 8 stop to Garage E

STRATEGY

SAFETY

PARTNERS

TRIMET,
PBOT,
WAYFINDING
COMMITTEE

TIME



COST



IMPACT



EQUITY



The gravel and dirt pathway from Bus Stop 8 at SW Terwilliger and SW Campus Drive to the back of the Casey Eye Institute is heavily utilized by those who commute to OHSU by foot and also by those who commute via bus. This pathway provides a shortcut from SW Terwilliger to Garage E, from which it is relatively easy for employees to get to other places on campus. Recent improvements have made this informal path much more walkable, but continued improvements would further benefit employees.

Currently the temporary gravel and wood steps, and dirt path are partially eroded, likely from heavy foot travel and rainfall.

In addition, it would be helpful for this pathway to be better marked, and lit, for those utilizing the pathway at night. Furthermore, since we are recommending that a protected uphill bike lane be installed on SW Terwilliger WB.1 (Install a protected bike facility on SW Terwilliger) and that the bike facilities in Garage

E be improved WB.7 (Improve bike facilities on Marquam Hill), we are also recommending that this path be upgraded to be bike friendly as it could offer a shortcut for cyclists (if making the path rideable is not feasible, adding a wheel-gutter could make it easier to walk bikes on the path). This path also offers cyclists a way to avoid the dangerous SW Terwilliger and Campus Drive intersection.



WB.5
continued

Next steps

Determine what material, light, and structural (i.e. bike accessibility) changes would need to happen. Work internally to make improvements, as well as with Wayfinding Committee to decide where signs should go and what they should say. Meet with TriMet early on in this process to keep them informed and address any issues they may have with the bus stop pull-out and the protected bicycle lane.

Associated recommended actions

- › WB.1 Install a protected bikeway on SW Terwilliger
- › WB.2 Improve wayfinding to Garage E
- › WB.3 Improve bike facilities in Garage E
- › WB.10 Extend hours of Tram tower elevator
- › WB.11 Improve safety of nearby intersections - SW Terwilliger and Campus Drive

Measures of success

- › Increase in number of employees using trail
- › Increased pedestrian traffic through Garage E to main hospital
- › Increase in employees who walk to OHSU
- › Increase in employees who feel safe walking at night
- › Increase in employees who feel walking is easy at night

WB.6

WB: Improve conditions for people walking and biking to OHSU

Improve wayfinding to Garage E

STRATEGY

SAFETY

PARTNERS

PBOT

TIME



COST



IMPACT



EQUITY



One of the many barriers to biking to the Marquam Hill Campus is not being able to find bike parking. Another barrier is the steep grade of SW Campus Drive. Both of these can be improved by drawing attention to, and making it easier to find, the bike parking facilities at the entrance to Garage E. Garage E is located behind the Casey Eye Institute, which is at a relatively low elevation for the Marquam Hill Campus. This makes the Marquam Hill Campus much less physically daunting to reach via bike. If more people knew about this garage they may be more willing to bike commute to Marquam Hill.

Next steps

Schedule a meeting with the Wayfinding Committee to discuss where signs should be placed for Garage E and whether or not additional wayfinding methods should be used.

Associated recommended actions

- › WB.1 Install a protected bike facility on SW Terwilliger
- › WB.5 Continue to improve pathway from SW Terwilliger Bus 8 stop to Garage E
- › WB.7 Improve bike facilities on Marquam Hill
- › WB.9 Extend hours of Tram tower elevator



WB.6
continued



Measures of success

- › Increase in bike rack usage in Garage E
- › Increase in Garage E elevator use at night
- › Increase in employees who bike to OHSU
- › Increase in employees who feel safe biking at night
- › Increase in employees who feel biking is easy at night

WB.7

WB: Improve conditions for people walking and biking to OHSU

Improve bike facilities on Marquam Hill

STRATEGY

SAFETY

PARTNERS

NONE

TIME



COST



IMPACT



EQUITY



There are two locations on the Marquam Hill campus that should be prioritized for bike facility improvements. The first is near Kohler Pavilion (KPV), and the second is in Garage E.

For those who bike to Marquam Hill from downtown or the South Waterfront, Garage E is one of the most accessible bike parking locations because of its relatively low elevation. For those who begin their shift before the Tram closes and are able to bring their bike on the Tram and up to the Marquam Hill Campus, the bike parking outside of KPV is the most accessible. Both of these locations should be prioritized for bike facility improvements. Some possible improvements include: adding more bicycle racks and making them more secure, providing bicycle light charging stations (USB), improving

access to and increasing the number of bicycle lockers available, and building additional active commuter showering facilities.

According to the NAP Employee Survey, nearly a quarter of respondents bike at least some of the time to OHSU and 11% bike as their primary mode. Furthermore, 21% of NAP Employee survey respondents reported bike security as one of the top three issues they face in accessing OHSU late at night or early in the morning. Improving bike facilities in specific locations such as Garage E and KPV, and then informing night employees of these improvements so they are inclined to use the updated facilities, would help address this issue.

This recommended action complements many of the other walking and biking recommended actions, but is very explicitly linked to WB.6 (Improve wayfinding for Garage E), WB.8 (Extend athletic shower hours), especially if other showering and changing facilities were not included in the Garage E bike facilities improvements. ND.3 (Expand biking incentives), is another recommended action that should be considered simultaneously to updating and improving the bike facilities in Garage E.

This was the most popular WB recommended action on the NAP Recommended Action Survey. For additional resources on how bike facilities at OHSU may be improved, it may be useful to look at the Dillehunt Hall Improvement Project that occurred while this plan was being crafted.



AN EXISTING BIKE CAGE ON CAMPUS—SOMETHING SIMILAR IN GARAGE E WOULD IMPROVE THE BIKING EXPERIENCE



AN EXISTING BIKE LOCKER IN GARAGE E

Next steps

Review the Dillehunt Hall Improvement Project to see what was done to improve those bike facilities and whether or not they have been well received by the bike commuters. Reach out to the OHSU bike community about which improvements they would like to see at KPV and Garage E. Assess the space in Garage E that is currently designated towards bike facilities and determine if, or how much, additional space could be allocated towards the new facilities. Then decide how to allocate the space - number of

secure bike racks, lockers, etc. Meet with campus planning to discuss construction of bike facilities outside of KPV, including commuter showers.

Associated recommended actions

- › WB.3 Improve wayfinding to Garage E
- › WB.8 Extend athletic shower hours
- › ND.3 Expand biking incentives

Measures of success

- › Increase in bike rack usage in Garage E
- › Increase in Garage E elevator use at night
- › Number of employees registered for other new facilities if they are installed, e.g. active commuter showers
- › Increase in employees who bike to OHSU
- › Increase in employees who feel safe biking at night
- › Increase in employees who feel biking is easy at night

WB.8

WB: Improve conditions for people walking and biking to OHSU

Extend athletic shower hours

STRATEGY	SAFETY	14% of NAP Employee Survey respondents reported biking or walking to work as their primary mode. Arriving at OHSU for a shift and not being presentable is a concern for OHSU employees. Currently there are some shower and changing facilities available to employees at the Marquam Hill Student Center and the Collaborative Life Sciences Building (CLSB).
PARTNERS	NONE	
TIME	● ○ ○	
COST	● ○ ○	
IMPACT	● ○ ○	
EQUITY	● ○ ○	

The CLSB bike garage includes access to day-use lockers, unisex showers, changing room and restrooms. A permit to the garage is \$15 per academic term or \$60 for the year. An active permit and OHSU badge offers 24/7 access to the CLSB bike garage. However, since most employees who currently work at night are stationed on Marquam Hill and not the South Waterfront, having access to this garage and these facilities without a way to then get up the hill is problematic.

Improving the bike and jog/walk commuter facilities on the South Waterfront and offering some type of shuttle service between campuses after the Tram is closed [FG. 1, FG. 6] would make biking and walking much more feasible for late night and early morning employees. Alternatively, extending the hours for the Marquam Hill Student Center AND improving the bike lane conditions [WB.1] and sidewalk conditions on SW Terwilliger [WB.2], would benefit those who prefer to bike or jog/walk up the hill.

Biking and jogging or walking are considered very affordable, and therefore favorable to lower-income commuters. This recommended action, to improve athletic facilities, has a high equity impact, but low overall impact because the percentage of employees who commute via bike/jog/walk is relatively low. It could be done relatively cheaply, unless OHSU Transportation & Parking wanted to waive the garage permit and membership fees for employees actively commuting when other transit options are unavailable (incentive opportunity).

Next steps

Talk to Marquam Hill Student Center management to see if it would be possible to grant 24/7 badge access to just bike/jog/walk facilities for late night and early morning commuters. Assess additional costs for staffing/personnel for this change. Investigate ways to improve CLSB bike garage facilities and connect the two campuses after the Tram is closed.

Associated recommended actions

- › WB.1 Install a protected bike facility on SW Terwilliger
- › WB.2 Install human-scaled lighting on SW Terwilliger
- › WB.7 Improve bike facilities on Marquam Hill
- › FG.1 Add nighttime shuttle between campuses
- › FG.6 Shift tram hours to serve early morning employees

Measures of success

- › Increase in employees who bike to OHSU at night
- › Increase in employees who walk to OHSU at night
- › Increase in employees who feel walking and biking is easy at night

WB.9

WB: Improve conditions for people walking and biking to OHSU

Extend hours of Tram tower elevator

STRATEGY	SAFETY
PARTNERS	NONE
TIME	● ○ ○
COST	● ● ○
IMPACT	● ○ ○
EQUITY	● ○ ○

What would make it easier for you to get to OHSU at night? "Having the tram tower elevator operate during these [9PM to 6AM] times."
– NAP Employee Survey response



This came up repeatedly in the NAP Employee Survey when we asked respondents about other issues they faced in accessing OHSU late at night or early in the morning that were not directly addressed in the survey. During Tram hours, this elevator is used as a shortcut to access many places on the hill. Since we are promoting more active and alternative modes of transportation with many of our recommended actions, such as WB.7 Improve bike facilities on Marquam Hill, not having access to this perceived shortcut may impact even more employees traveling to and from OHSU late at night and early in the morning. Therefore, we are recommending that Transportation & Parking either work with Public Safety to find a way to provide access to this elevator, regardless of the time of day or whether or not the tram is running, or that Transportation & Parking work with the Wayfinding Committee to make it clear that there are other ways to get from the top of Garage E to the main hospital that are similar distance. This could be done with internal pedestrian wayfinding signage or an education campaign.

Next steps

Meet with Public Safety to determine what would need to happen to provide 24/7 access to the Tram tower elevator. If this is determined unreasonable, then brainstorm alternative routes and ways to promote them with members of the Wayfinding Committee.

Associated recommended actions

- › WB.7 Improve bike facilities in Garage E
- › WB.5 Continue to improve pathway from SW Terwilliger Bus 8 stop to Garage E
- › WB.6 Improve wayfinding for Garage E

Measures of Success

- › Increase in elevator usage over time
- › Increase in employees who feel biking and walking to OHSU at night is safe and easy

WB.10

WB: Improve conditions for people walking and biking to OHSU

Organize bike trains for commuters

STRATEGY	SAFETY
PARTNERS	NONE
TIME	● ○ ○
COST	● ○ ○
IMPACT	● ○ ○
EQUITY	● ○ ○



Biking to OHSU can seem daunting, even to experienced cyclists. Bike trains provide a way for commuters to ease into their route to OHSU. They may be less familiar with biking in urban settings and what the rules are, they may be new to Portland and unsure of the best bicycle routes, or they may just prefer to bike with others. All of these are reasons to join a bike train.

Bike trains can be optimized for different areas or neighborhoods where multiple employees are commuting in from, or out to, at roughly the same time of day. Bike trains could be coordinated in a manner similar to how we are recommending carpools be coordinated, through an organized smartphone app or online database.

Bike trains provide a number of benefits, including (1) additional physical activity every day, which can boost moods and overall productivity levels, (2) opportunities for greater OHSU community cohesion through social connections, which coincidentally can also lead to greater productivity and an increased sense of belonging which will positively impact retention rates, and (3) safer conditions for cyclists as biking alone at night may not feel, or actually be, safe.

Bike trains for different neighborhoods would need at least one leader. OHSU could offer additional incentives for those willing to lead a bike train, such as entry in a drawing to win a free bike.

Next steps

Recruit employees for bike train pilot program via the O2 blog, email blasts and department staff promotion. Those interested would need to submit (1) trip origin (e.g. home address), (2) campus (South Waterfront or Marquam Hill), (3) level of cyclist (beginner, intermediate, advanced), (4) shift start/end days and times (e.g. Monday-Friday 7PM-7AM). This information could then be compiled to determine (1) possible bike train leaders (those who answered intermediate or advanced to level of cyclist), (2) bike train participants and (3) whether a central meeting location (e.g. the Safeway at SE 28th and Hawthorne) or direct “pick-up” would work for each respective bike train and its participants. Bike train leaders would attend a paid information session and bike train participants would be connected via smartphone app or online platform.

Associated recommended actions

- › WB.1 Install a protected bike facility on SW Terwilliger
- › WB.7 Improve bike facilities on Marquam Hill
- › WB.8 Extend athletic shower hours
- › EC.3 Educate OHSU shift managers about night transportation barriers and options to encourage coordinated shift schedules
- › ND.1 Implement an app to log incentives and help coordinate carpools, bike trains, and walking groups
- › ND.3 Expand biking incentives

Measures of success

- › Increasing number of participants in bike train program
- › Increase in the number of bike-related incentives distributed
- › Increase in employees who bike to OHSU at night
- › Increase in employees who feel safe biking to OHSU at night
- › Increase in employees who feel biking is easy at night

WB.11

WB: Improve conditions for people walking and biking to OHSU

Organize night commuter walking groups

STRATEGY	SAFETY	Walking commuter groups would be beneficial for OHSU night employees because they would provide an opportunity for those who live close enough to campus to walk commute and learn the pathways, shortcuts and inner pedestrian routes without feeling unsafe or uncomfortable. Furthermore, just like with the organized bike trains, walking groups would provide a way for employees to socialize and become a more cohesive community. Additionally, they would provide opportunities for OHSU employees to get active and be outside, both of which are associated with improved health, productivity, and work-life satisfaction.
PARTNERS	SOUTH WATERFRONT COMMUNITY RELATIONS	
TIME	● ○ ○	
COST	● ○ ○	
IMPACT	● ○ ○	It is less than one mile from the Center of Health and Healing (South Waterfront Campus) to the Casey Eye Institute (Marquam Hill Campus) and roughly 1.5 miles from Pioneer Courthouse Square (downtown Portland) to the Casey Eye Institute. These are not far distances to walk considering that the average person walks 3.1 miles per hour and the average travel to work time in Portland is 25 minutes (according to 2005 American Community Survey).
EQUITY	● ○ ○	Many things play into people's perception of what is, and what is not, a walkable distance. The steep uphill grade of SW Terwilliger and SW Trail #1, as well as the dense surrounding forest make the Marquam Hill Campus feel farther away from downtown Portland, or the South Waterfront Campus, than it really is. Furthermore, the trail system and inner-campus pedestrian routes create many shortcuts that can be used to access Marquam Hill more quickly on foot. However, many of these routes are not well marked, and therefore may not be well known or commonly traveled by OHSU employees. Since this action requires that a number of employees have similar shift start and/or end times and days, it is complementary to EC.3 (Educate OHSU shift managers about night transportation barriers and options to encourage coordinated shift schedules) and many of the other walking and biking recommended actions.

Next steps

Recruit individuals via the O2 blog and email blasts, and connect with South Waterfront Community Relations (they currently organize walking groups in the South Waterfront). During recruitment gather information on (1) where people would be walk commuting from (e.g. meet at South Waterfront Campus, commute to the Central Eastside Industrial District), (2) desired walk speed (e.g. leisure pace, speed walk, jog), (3) current shift start/end days/times. Then assign participants to walk commuting groups based on physical location, shift start/end times and desired commute pace.

Look into using existing smart phone apps like *Bugg*, *Are your friends nearby?* to coordinate walking groups.

Associated recommended actions

- › WB.2 Install human-scaled lighting on SW Terwilliger
- › WB.4 Improve SW Trail #1
- › WB.3 Improve safety of nearby intersections
- › WB.5 Continue to improve pathway from SW Terwilliger Bus 8 stop to Garage E
- › ND.1 Implement an app to log incentives and help coordinate carpools, bike trains, and walking groups
- › ND.2 Add incentives for walking to work
- › EC.3 Educate OHSU shift managers about night transportation barriers and options to encourage coordinated shift schedules

Measures of Success

- › Number of employees in walking program
- › Increase in walking-related incentives distributed
- › Increase in employees who walk to OHSU at night
- › Increase in employees who feel safe walking to OHSU at night
- › Increase in employees who feel walking to OHSU at night is easy

Alternative modes to driving alone to OHSU need to be more than just available; they also need to be convenient in order to be competitive. Expanding transportation options to fill gaps in Tram and transit service will help boost convenience of late night and early morning transit travel. In addition to being convenient, these options need to be well-known; therefore, it is important to educate the OHSU community about options and incentives for using them. Finally, Metro's Southwest Corridor project will better connect nearby cities, including Tualatin, Sherwood, and Tigard to Southwest Portland via rapid transit. In order for this final connection to OHSU to be convenient, it is essential that OHSU advocate now, with late night and early morning employees in mind.

IMPROVE CONVENIENCE

ACTIONS THAT IMPROVE CONVENIENCE

(FG) Expand transportation options to fill gap in Tram and transit service

- › FG.1 Add nighttime shuttle between campuses
- › FG.2 Add shuttling between OHSU and regional transit centers
- › FG.3 Add Car2Go spaces on Marquam Hill campus
- › FG.4 Implement an internal carpool program
- › FG.5 Subsidize night employee rideshare options
- › FG.6 Shift Tram hours to serve early morning employees

(EC) Educate OHSU community about night transportation opportunities and issues

- › EC.1 Create a Night Transportation Travel Options map and online resource
- › EC.2 Create a program that generates personalized transportation plans for employees
- › EC.3 Educate OHSU shift managers about night transportation barriers and options to encourage coordinated shift schedules
- › EC.4 Promote existing campus safety programs
- › EC.5 Organize an education campaign for safe driving at night
- › EC.6 Organize a transportation awareness fair
- › EC.7 Continue collecting and sharing data about late night and early morning workers and commuters

(SW) Advocate for best possible Marquam Hill-to-Downtown connection that will be a part of Metro's Southwest Corridor project

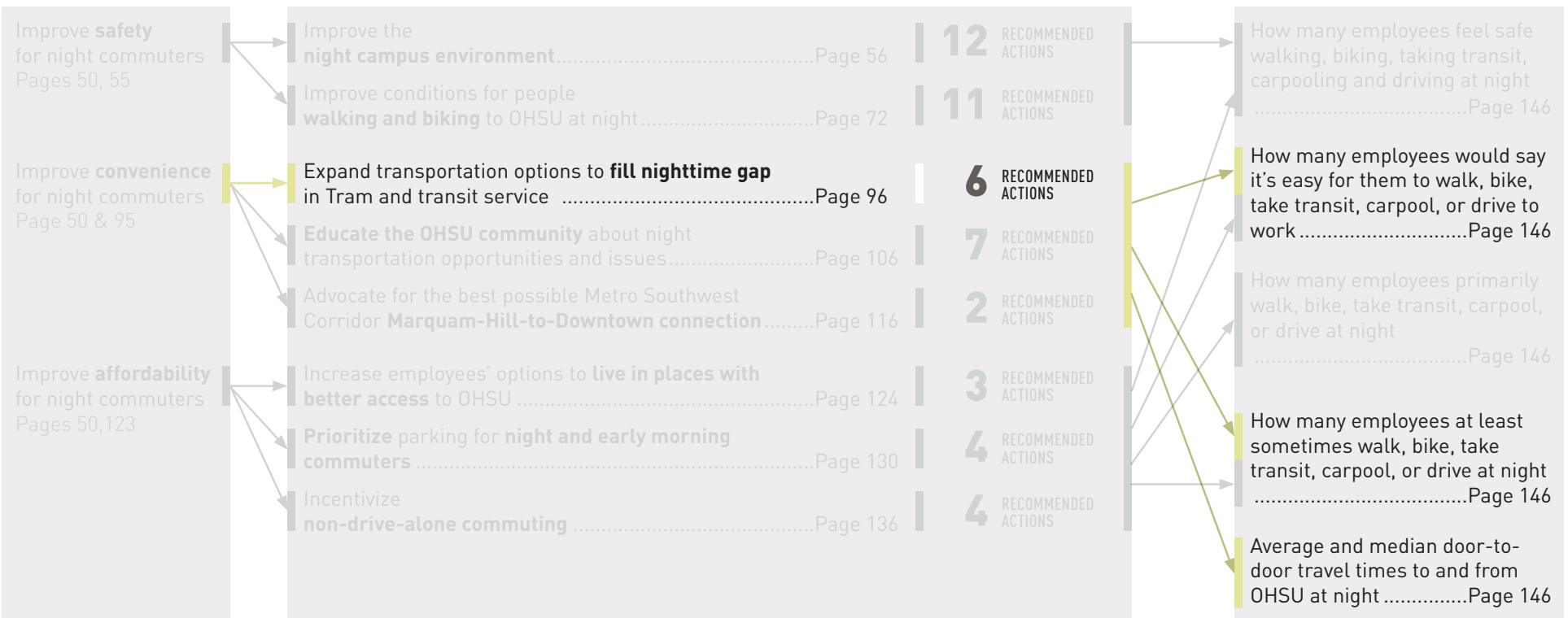
- › SW.1 Construct Downtown to Marquam Hill Aerial Tram
- › SW.2 Construct escalators between Marquam Hill and Barbur Blvd

FG

EXPAND TRANSPORTATION OPTIONS TO FILL NIGHTTIME GAP IN TRAM AND TRANSIT SERVICE

STRATEGIES: HOW TO MAKE IT EASIER

RECOMMENDED ACTIONS



FG

EXPAND TRANSPORTATION OPTIONS TO FILL NIGHTTIME GAP IN TRAM AND TRANSIT SERVICE

	Recommended action	Page	Time	Cost	Impact	Equity impact	Partners
FG.1	Add nighttime shuttle between campuses	98	Short	\$	High	Medium	None
FG.2	Add shuttling between OHSU and regional transit centers	100	Medium	\$\$\$	High	Medium	TriMet
FG.3	Add Car2Go spaces on Marquam Hill campus	102	Short	\$	Low	Low	Car2Go
FG.4	Implement an internal carpool program	103	Short	\$	Medium	High	Lyft
FG.5	Subsidize night employee rideshare options	104	Short	\$\$\$	Medium	Medium	Lyft
FG.6	Shift Tram hours to serve early morning employees	105	Short	\$	High	High	Doppelmayr

FG.1

FG: Expand transportation options to fill nighttime gap in Tram and transit service

Reallocate daytime shuttle service to a nighttime service

STRATEGY CONVENIENCE

PARTNERS NONE

TIME ● ○ ○

COST ● ○ ○

IMPACT ● ● ●

EQUITY ● ● ○



Extension of the Tram operating hours—either running into the night, starting earlier in the morning, or operating all night long—was the most common piece of feedback we received when engaging the OHSU employee community. Interestingly, employees did not seem attached to the Tram itself, but rather were concerned with getting between the South Waterfront Campus—where proximity to light rail, streetcar, several bus options, flat biking routes, and additional parking makes it an easier location to reach—and the Marquam Hill Campus. With this in mind, adding shuttle service between the South Waterfront and Marquam Hill Campuses late at night would effectively constitute an extension of Tram hours. This service could operate regularly (every 20 minutes, for example), or just around known shift start and end times. Though such a shuttle would take longer to travel

the distance between the South Waterfront and Marquam Hill, the necessarily circuitous route it would travel would enable the shuttle to directly serve other transportation hubs—such as the western landing of the Tillikum Crossing and the Transit Mall. The need for late night South Waterfront–Marquam Hill travel will grow, considering OHSU’s plans to expand its South Waterfront Campus—including a 24-hour emergency room—as well as the prospective Zidell Yards developments in the South Waterfront.

To create this shuttle service, OHSU has two options: it could subtract service from the current daytime Marquam Hill Shuttle—a service that duplicates the TriMet Line 8 between Marquam Hill and the south end of downtown Portland—and reallocate that service to night for little to no cost; or it could add additional



FG.1 *continued*

THE AERIAL TRAM OPERATING HOURS

The Portland Aerial Tram was constructed to connect the two central OHSU campuses. Currently it operates from 5:30AM to 9:30PM on weekdays and from 9AM to 5PM on Saturdays. It is not possible to run the Tram 24/7 as it must shut down for maintenance. If Tram managers and operators could find a way to get around this mandatory maintenance shutdown, running the Tram 24/7 would cause a 45% increase in operational hours, increase operation and reserve costs up to threefold, and shorten the lifespan by 22.5 years. According to Transportation & Parking staff it would be cheaper to either build a simpler tram to run off-hours, pay for taxis for employees needing to travel between campuses during off-peak hours, or run shuttles between campuses when the Tram is not running.

service to fill the gap in Tram operating hours from 9:30PM to 5:30AM.

Other solutions to directly address the deficiency in inter-campus connection when the Aerial Tram is not running include subsidizing employee rideshare options (recommended action FG.5) to ferry employees between Central Campuses, as well as from Central Campuses and their homes or nearby Park & Rides. Recommended action FG.6 (Shift Tram hours) would serve some of the demand for intercampus travel in the early morning. SW.1 (Construct a Downtown to Marquam Hill Tram) would provide a more direct connection between the

Transit Mall and Marquam Hill, alleviating some of the need to connect to the South Waterfront Campus with a shuttle.

Next steps

Determine whether there are resources to operate the proposed additional shuttle services. If there aren't, consider impacts to the daytime OHSU community of eliminating or reducing the Marquam Hill shuttle service.

Associated recommended actions

- › FG.5 Subsidize night employee rideshare options
- › FG.6 Shift tram hours to serve early morning employees
- › SW.1 Construct Downtown to Marquam Hill Aerial Tram

Measures of success

- › Increase in night shuttle ridership over time
- › Increase in employees who feel walking, biking, and taking transit to work is easy
- › Reduction in transit travel time during off-peak hours

FG.2

FG: Expand transportation options to fill nighttime gap in Tram and transit service

Add shuttling between OHSU and regional transit centers

STRATEGY	CONVENIENCE		
PARTNERS	TRIMET		
TIME	●	●	○
COST	●	●	●
IMPACT	●	●	●
EQUITY	●	●	○



Throughout our discussion of solutions to night transportation problems with OHSU employees, many expressed frustration with only being able to use transit for one direction of their commute (either from home to work or work to home) because it was unavailable when they were traveling in the other direction. Running shuttles between OHSU Central Campuses and the most popular Park & Rides would be one way to allow night employees to use transit when it is available for them to use, and to rely on the OHSU shuttle to get them back to their vehicles stored at Park & Rides when it is not available. This would give employees more

transportation options at night, allow them to get to campus without a car/paying for parking, and decrease the burden on OHSU’s parking supply and the regional transportation system during peak commuting hours. Late-night shuttling would also more efficiently use the region’s Park & Rides, which are only fully utilized during peak commuting hours. Some of the transit centers (TC) to consider serving are Barbur TC, Sunset TC, and Gateway TC.

FG.3 (Add Car2Go spaces on the Marquam Hill Campus) would also help small numbers of employees get to or from work at night while transit

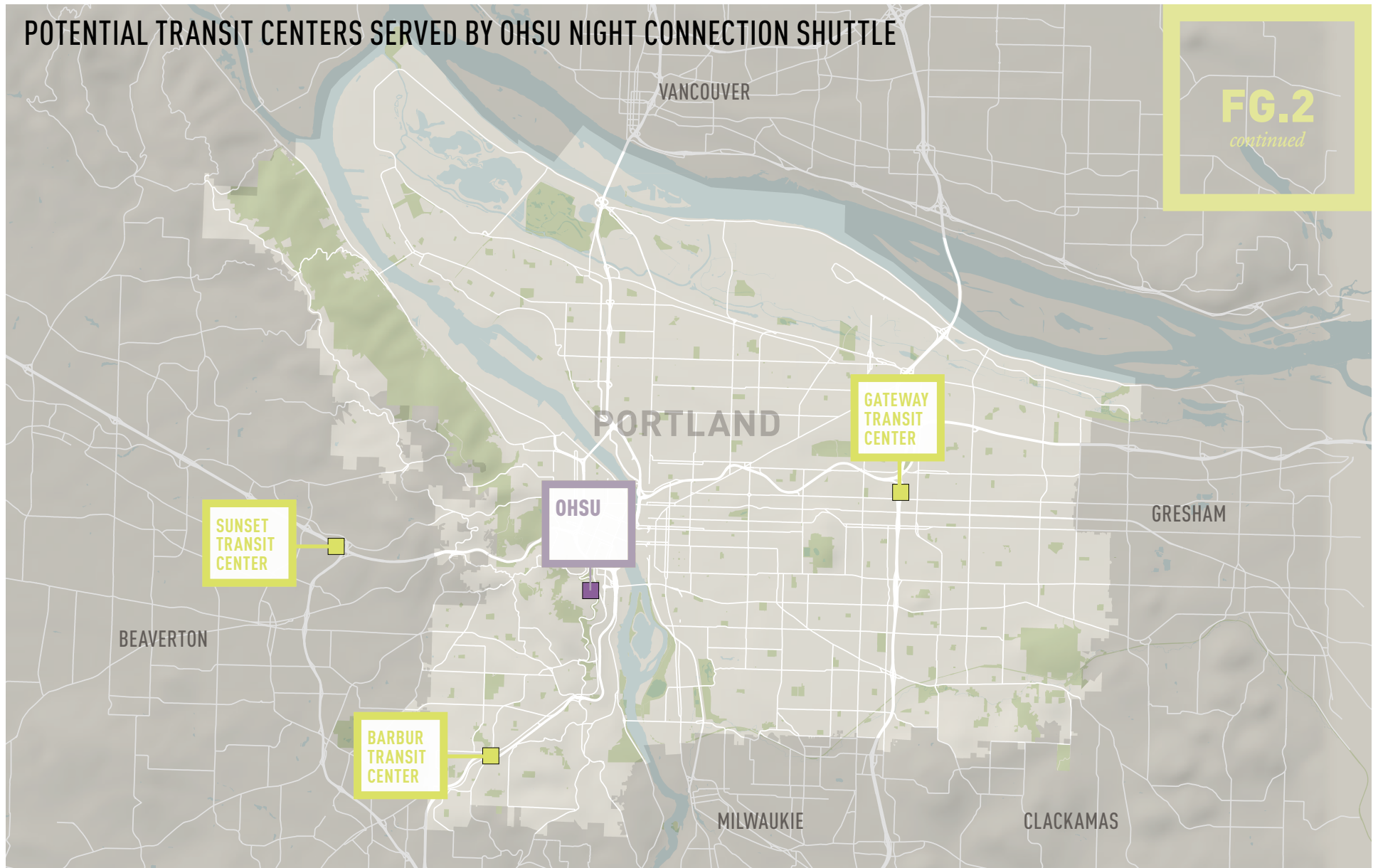
PUBLIC TRANSIT LATE NIGHT/MORNING RESTRICTIONS

Portland Streetcar Inc.
In order to begin Portland Streetcar services (NS Line, A Loop, and B Loop) just one hour earlier on weekdays would cost somewhere between \$75K and \$150K annually. According to Dan Bower, the Executive Director of Portland Streetcar Inc., they would need an additional seven vehicles, seven operators, two flex operators, a maintenance supervisor and an operations supervisor. In addition to just adding the capacity to run that extra hour, the agency would also have to take into consideration altering shift policies to ensure employees had eight hours off between shifts, changing maintenance schedules and whether or not to add security or officer support for the added hour.

TriMet
According to Adriana Britton, a Transportation Options Coordinator for TriMet, MAX service doesn’t operate 24 hours a day because the late night hours are used for maintenance in the MAX right of way. Within TriMet’s Service Enhancement Plans, there are plans to extend the service of several bus lines that currently have 19-21 hours of service per day. These improvements may not reach the 24 hour threshold, but they will come closer to it. It may take more than 10 years for the system to operate 24/7 given limited resources and changing conditions, plus the demand for service during higher ridership periods of the day.

is not running and leave the option to take transit for the other trip. FG.5 (Subsidize night employee rideshare options) would establish a Lyft for Work Account that pays for night employees to use Lyft or other ridesharing services to travel between the Central Campuses and home or a Park & Ride. This is a recommended action that would address the lack of transit options during the night.

POTENTIAL TRANSIT CENTERS SERVED BY OHSU NIGHT CONNECTION SHUTTLE



Next steps

Look into more detailed cost estimates for this action. Compare this cost with FG.5 and pursue one or the other (or both if resources are plentiful).

Associated recommended actions

- › FG.3 Add Car2Go spaces on the Marquam Hill Campus
- › FG.5 Subsidize night employee rideshare options

Measures of success

- › Increase in night connector shuttle use over time
- › Increase in employees who take transit to OHSU at night
- › Increase in employees who feel taking transit to OHSU at night is easy

FG.3

FG: Expand transportation options to fill nighttime gap in Tram and transit service

Add Car2Go spots on the Marquam Hill Campus

STRATEGY	CONVENIENCE
PARTNERS	CAR2GO
TIME	● ○ ○
COST	● ○ ○
IMPACT	● ○ ○
EQUITY	● ○ ○



Finding ways to give night employees alternatives to driving alone was a top priority expressed by OHSU employees. Providing additional Car2Go spaces on Marquam Hill (there are currently two) would allow more employees living throughout the Car2Go home area to access OHSU when they don't have access to other options. This option would not be a solution for most employees, but would provide flexibility in the transportation system that would allow both night and day employees who are considering using alternate options to make the leap.

- Next steps**
Contact Car2Go about what would be necessary to add additional Car2Go spaces on OHSU property. Begin searching for parking that can be designated for this use.
- Associated recommended actions**
None
- Measures of success**
- › Increase in employees who take transit to OHSU at night at least sometimes
 - › Increase in employees who feel taking transit to OHSU at night is easy

FG.4

FG: Expand transportation options to fill nighttime gap in Tram and transit service Implement an internal carpool program

STRATEGY CONVENIENCE

PARTNERS LYFT

TIME ● ○ ○

COST ● ○ ○

IMPACT ● ● ○

EQUITY ● ● ●

What would make getting to OHSU at night easier for you?

“Shared commuting options that are easy to use and focused on OHSU. Most carpooling and vanpooling sites are not focused on OHSU and the VA and it is very difficult to sort through all of the clutter.”

–NAP Employee Survey respondent

Helping employees to coordinate regular carpools—either through an internal system or through contracting a ridesharing company like Lyft to help out—will help night employees have access to the door-to-door convenience of a car while being able to split the operating and parking cost of the vehicle between the people in the carpool. Looking at when night employee shifts start and end, there are high enough concentrations that it is reasonable to expect there are people with similar shift starts and ends who live close enough that a carpool would be feasible. A more dynamic carpooling coordination system similar to Lyft’s Carpool would be able to deal with schedules that differ depending on the day or depending on how carpool members want to get to work on that day. Coordinating with other downtown employers could also help yield the economies of scale to make a nighttime carpooling program feasible.

An idea to adapt from Lyft Carpool program if their program isn’t adopted wholesale is paying the drivers of the carpool (potentially based on the size of the carpool) to operate the carpool so there is additional incentive to organize carpools.

EC.3 (Educating OHSU shift managers about night transportation barriers and options to encourage coordinated shifts) could complement this recommended action by creating the density of demand to organize more carpools.

Next steps

Follow up with Lyft about their Lyft Carpool pilot program and use the information in this document to make the case that there is demand for such a service.

Associated recommended actions

- › EC.3 Educate OHSU shift managers about night transportation barriers and options to encourage coordinated shift schedules

Measures of success

- › Increase in employees who take transit or carpool to OHSU at night at least sometimes
- › Increase in employees who feel taking transit and carpooling to OHSU at night is easy

FG.5

FG: Expand transportation options to fill nighttime gap in Tram and transit service

Subsidize night employee rideshare options

STRATEGY	CONVENIENCE	<div>Establishing a Lyft for Work account for OHSU employees and providing subsidies for employees traveling when there are few options (i.e. at night) would enable fewer employees to drive to work while maintaining the door-to-door level of convenience that driving can enable. With the subsidized cost, which could be billed to departments, employees would also be spending less on transportation than if they were to drive and pay for parking. There are a number of ways this Lyft for Work account can be used:</div> <div>(1) to run on-demand service between the South Waterfront and Marquam Hill Campuses to serve as a replacement for Tram service during the late night and early morning (9:30PM to 5:15AM);</div> <div>(2) to run on-demand service from TriMet Park & Rides and the Central Campuses, allowing employees to use transit to/from the Park & Ride for the other half of their commute, when it is available;</div> <div>(3) to run on-demand service between employees' homes and the Central Campuses, allowing employees to use transit or other options for the other half of their commute, when those options are available.</div> <div>This service would serve similar roles to OHSU shuttles running between the Central Campuses and OHSU shuttles running between the Central Campuses and Trimet Park & Rides (FG.1 and FG.2). Adding additional Car2Go service (FG.3) is also related, as this recommended action would also allow employees to travel directly between OHSU and their homes at night when other options may not be viable.</div>
PARTNERS	LYFT	
TIME	<div><div></div><div></div><div></div></div>	
COST	<div><div></div><div></div><div></div></div>	
IMPACT	<div><div></div><div></div><div></div></div>	
EQUITY	<div><div></div><div></div><div></div></div>	

Next steps
Encourage Lyft to look into bringing its Lyft for Work program to Portland. Investigate setting up internal OHSU department billing options for Lyft for Work.

LYFT FOR WORK

Lyft for Work allows employers to have their own website to designate employees the ability to charge a Lyft ride when needed. These Lyft rides are perfect for supplementing the typical way people get to work, including rides for business travel, the last mile, after work events, and a safe option for employees working late at night or early morning.

For employers, Lyft costs less than other options, and is a flexible, more affordable alternative to shuttle services. Lyft for Work makes administration quick and easy without dealing with expense reports and reimbursements, the employer can access the valuable data Lyft receives about transportation usage, and controls can be placed on the rides so the start or end point is within a certain distance from work. www.lyft.com/work.

- Associated recommended actions**
- › FG.1 Add nighttime shuttle between campuses
 - › FG.2 Add shuttling between OHSU and regional transit center
 - › FG.3 Add Car2Go spots on Marquam Hill
- Measures of success**
- › Increase in number of employees who use rideshare to get to OHSU at night—recorded through ridershare arranging interface
 - › Increase in number of employees who sometimes use transit to get to OHSU at night
 - › Increase in number of employees who feel using rideshare and transit service to get to OHSU at night is easy

FG.6

FG: Expand transportation options to fill nighttime gap in Tram and transit service

Shift Aerial Tram hours to serve early morning employees

STRATEGY CONVENIENCE

PARTNERS DOPPELMAYR

TIME ● ○ ○

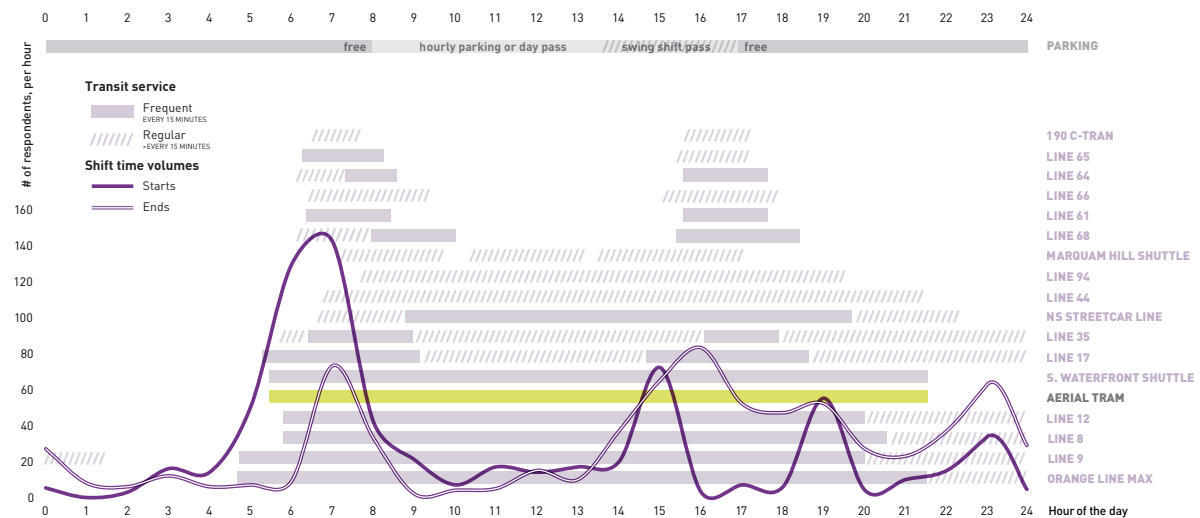
COST ● ○ ○

IMPACT ● ● ●

EQUITY ● ● ●

TRAM AND SHIFT START AND END TIMES

Employees who travel to OHSU at night daily, at least a few times a week, or on-call
n=703; 47% of respondents from the Night Access Plan Employee Survey



When the first Tram trip leaves around 5:15AM, its 78-person capacity is typically maxed out. During the last couple hours before the Aerial Tram shuts down for the day at 9:30PM, there are many trips where there are just a handful of passengers. This pattern of usage suggests there is unmet demand for Aerial Tram service earlier than 5:15AM while low usage in the evening suggests there is not a significant untapped market for Aerial Tram service were it extended later by an hour. Data we've collected on employee shift start and end times supports this idea that many employees would find earlier Aerial Tram service useful, as there are a significant number of shifts starting in the hour before the Aerial Tram begins service.

We recommend shifting the Aerial Tram operating hours one hour earlier. The new span of service would be 4:30AM to 8:30PM. Having the same total

number of hours of service should not drastically increase the maintenance cost burden for operating the Aerial Tram, a current constraint in extending its operating hours.

In the early morning, the Aerial Tram is the only option to get up the hill without driving, walking, or biking; before 5:15AM, there are no transit alternatives to get up Marquam Hill. Contrast this with the situation in the evening: when the Aerial Tram shuts down for the day at 9:30PM, transit is still an option to get on and off Marquam Hill until after midnight. By shifting the Aerial Tram's operating hours, OHSU would not be leaving the small number of employees needing to get between Central Campuses without options. With implementation of FG.1 (Add nighttime shuttle between campuses) and FG.5 (subsidize night employee rideshare options), all employees' options

to travel between Central Campuses when the Aerial Tram isn't running would improve.

Next steps

Obtain cost estimates for schedule shift. Schedule a month-long trial run that starts early but does not end early. Evaluate results.

Associated recommended actions

- FG.1 Add nighttime shuttle between campuses
- FG.5 Subsidize night employee rideshare options

Measures of success

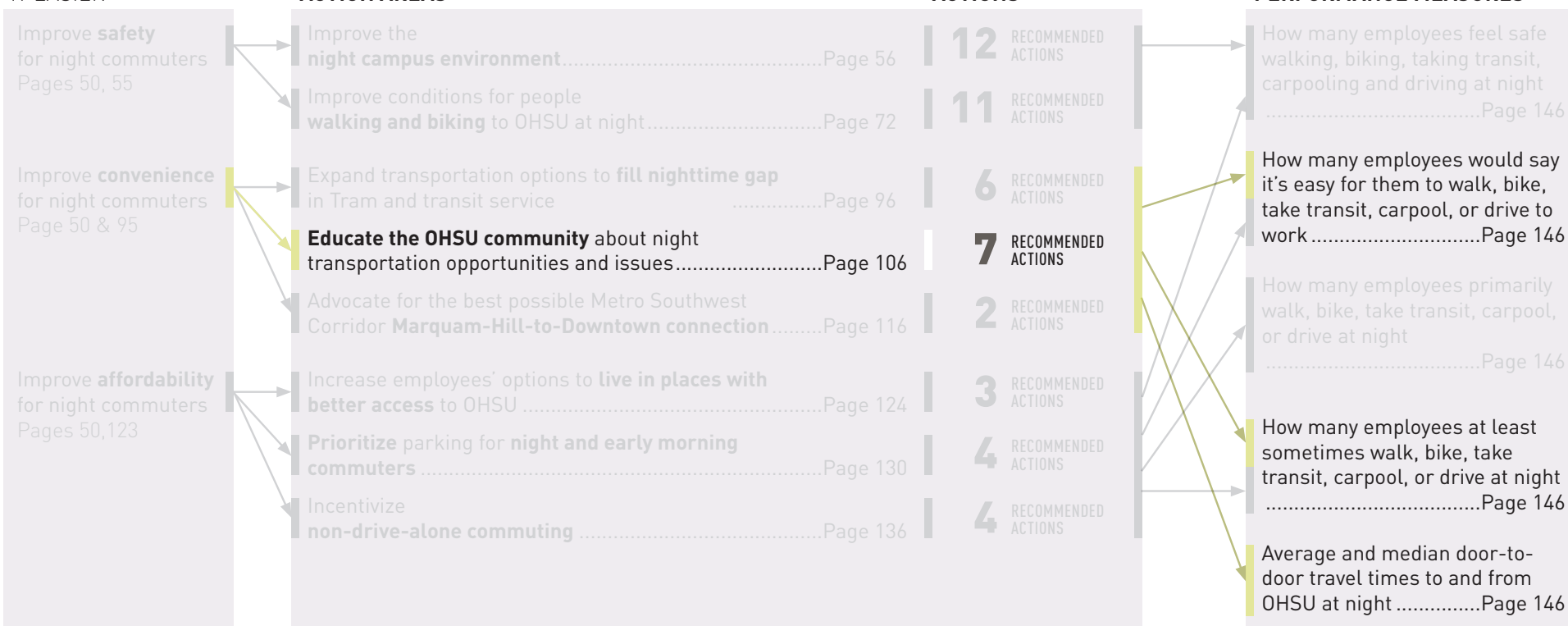
- Increase in overall Tram ridership
- Increase in employees who walk, take transit, and bike to OHSU at night

EC

EDUCATE THE OHSU COMMUNITY ABOUT NIGHT TRANSPORTATION OPPORTUNITIES AND ISSUES

STRATEGIES: HOW TO MAKE IT EASIER

RECOMMENDED ACTIONS



EC

EDUCATE THE OHSU COMMUNITY ABOUT NIGHT TRANSPORTATION OPPORTUNITIES AND ISSUES

	Recommended action	Page	Time	Cost	Impact	Equity impact	
EC.1	Create a Night Transportation Travel Options map and online resource	108	Short	\$	Medium	Medium	None
EC.2	Create a program that generates personalized transportation plans for employees	109	Short	\$	Medium	Medium	Web designer
EC.3	Educate OHSU shift managers about night transportation barriers and options	110	Short	\$	High	High	Shift managers
EC.4	Promote existing campus safety programs	111	Short	\$	Low	Low	Public Safety
EC.5	Organize an education campaign for safe driving at night	112	Short	\$	Medium	High	City of Portland
EC.6	Organize a transportation awareness fair	113	Short	\$	Low	Medium	Internal OHSU Partners – Events, Student Interest groups, External Partners – TriMet, Portland Streetcar, Lyft/Uber
EC.7	Continue collecting and sharing data about late night and early morning workers and commuters	114	Short	\$	Medium	Medium	Other OHSU Departments, TriMet

EC.1

EC: Educate the OHSU community about night transportation opportunities and issues

Create a Night Transportation Travel Options map and online resource

STRATEGY CONVENIENCE

PARTNERS NONE

TIME ● ○ ○

COST ● ○ ○

IMPACT ● ● ○

EQUITY ● ● ○

A night-specific transportation options map would provide information pertinent to travelers commuting after 9PM and before 6AM, displaying available transit options and the safest walking and biking routes. The map would also highlight alternative options available such as Uber services and OHSU Lyft programming (FG.5). Finally, the map would identify areas where emergency phones are on campus and provide further safety information (EC.4). Creating this resource would be invaluable in answering many of the questions that we encountered throughout the tabling series and public outreach events, making night specific information about transit availability easily accessible.

Next steps

Utilize findings in the NAP Defining the problem section to generate a map that shows options.

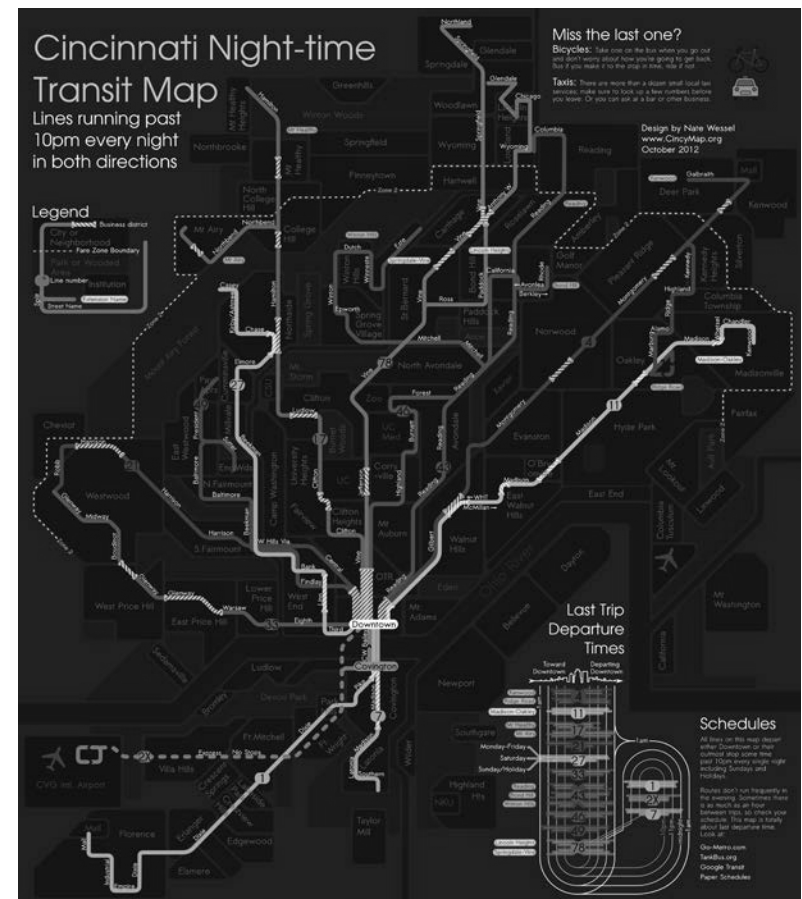
Associated recommended actions

- › FG.5 Subsidize night employee rideshare options
- › EC.4 Promote existing campus safety programs

Measures of success

- › Creation of Night Transportation Travel Options map
- › Annual number of maps distributed
- › Number of users reporting the program as helpful in planning commute, assessed through annual transportation census survey

CINCINNATI NIGHT TRAVEL OPTIONS MAP



Cincinnati created a Night-Time Transit Map for people needing transit at night. The map shows all bus lines that run in both directions after 10 PM and last trip departure times. Additionally, the map includes tips for people to get around if they miss the last bus of the night, including by bike and taxi.

EC.2

EC: Educate the OHSU community about night transportation opportunities and issues

Create a program that generates personalized transportation plans for employees

STRATEGY CONVENIENCE

PARTNERS WEB DESIGNER

TIME ● ○ ○

COST ● ○ ○

IMPACT ● ● ●

EQUITY ● ● ●

When asked what would be most effective in educating the OHSU community about night transportation options and barriers, the most popular response from the NAP Recommended Action Survey was personalized transportation plans during orientations. A personalized transportation plan would provide detailed route, time, and cost information for multiple modes of travel from an employee's home to a specific location on campus. For each mode, OHSU specific information would be included highlighting available incentives, tools for leveraging carpools, and the most convenient mode depending on the time of day of travel. Making the program available online would expand its influence beyond orientations and allow both old and new employees to benefit. This program can be automated, similar to the program created by the New Jersey non-profit Greater Mercer Transportation Management Association, "Good Moves." This service generates personalized transportation plans for New Jersey residents based on their location and mode interest, all in the aim of reducing traffic and improving mobility in the region. Upon request and a brief survey residents can receive personalized bike maps, transit schedules and resources to identify carpool matches.

Next steps

A quick first step would be to collect all nighttime-related information and resources, and create a "Traveling at Night" page on OHSU's Transportation & Parking subsite. This would provide useful information that could also eventually serve development of the personalized transportation program described above.

Associated recommended actions

- › EC.6 Organize a transportation awareness fair

Measures of success

- › Number of personalized transportation plans generated
- › Number of users reporting the program as helpful in planning their commute
- › Increase in employees who feel getting to OHSU at night by any mode is easy

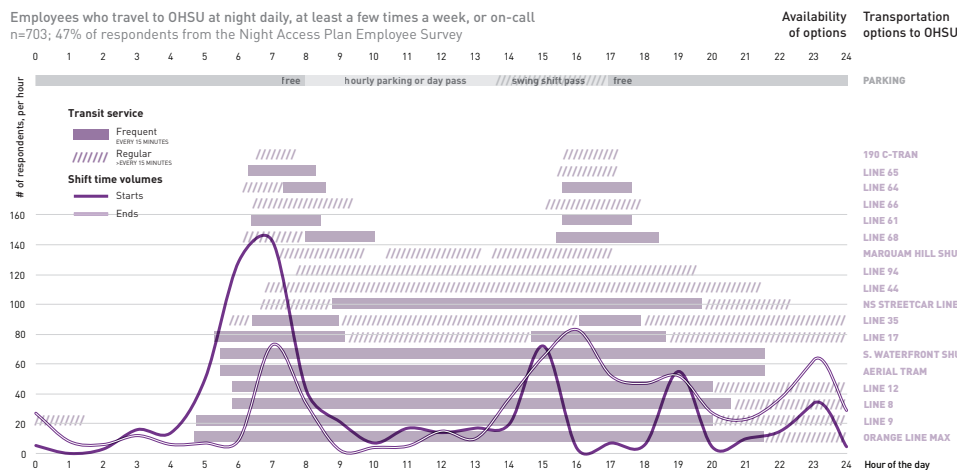
EC.3

EC: Educate the OHSU community about night transportation opportunities and issues

Educate OHSU shift managers about night transportation barriers and options to encourage coordinated shift schedules

STRATEGY	CONVENIENCE
PARTNERS	NONE
TIME	● ○ ○
COST	● ○ ○
IMPACT	● ● ●
EQUITY	● ● ●

TRANSPORTATION OPTIONS AND SHIFT START AND END TIMES



“The first [bus] leaves at 5:35AM so you can get to OHSU before 6am...but if you just miss it, you have to wait 45 minutes for the next, which is just too long to wait.”
-NAP Employee Survey respondent

Several employees expressed that if they missed an early connection or their carpool fell through, their only option was to wait for the next available bus and be late for their shift. An approach to prevent this is to reorganize OHSU shift schedules around times when transit is available. Developing and sharing guidelines with shift managers that show when and where available and reliable transportation options run late at night and early in the morning would allow managers to better arrange employee start and end times. As OHSU hospital begins to move towards a “level-loading” approach to balance employee workloads to meet demand, there is opportunity to design this reorganization with a transportation lens in mind.

Conversations about work and transit schedules with department shift managers also provide opportunities to discuss how to connect shift start and end times with carpooling groups or biking and walking groups, an option that could be facilitated with better organization of those services (FG.4 Implement an internal carpool program, FG.5 Subsidize night employee rideshare options, WB.10 Organize bike trains for night commuters, WB.11 Organize night commuter walking groups.) Overall operations logistics can also be engaged in the conversation to facilitate relocating operations

near the exterior of buildings to promote a sense of eyes on the street - NE.10 (Gradually relocate OHSU nighttime operations to rooms towards the exterior of the building).

Next steps

Develop transportation “guideline” briefs that provide transit information. Convene and collaborate with department shift managers to identify areas to align work and transit schedules.

Associated recommended actions

- › FG.4 Implement an internal carpool program
- › FG.5 Subsidize night employee rideshare options
- › WB.10 Organize bike trains for night commuters
- › WB.11 Organize night commuter walking groups
- › NE.10 Gradually relocate OHSU nighttime operations to rooms towards the exterior of the building

Measures of success

- › Increase in shift schedules that align with multiple transportation options
- › Increase in employees who walk, bike, take transit, and carpool/rideshare to OHSU at night

EC.4

EC: Educate the OHSU community about night transportation opportunities and issues

Promote existing Public Safety programs

STRATEGY CONVENIENCE

PARTNERS WEB
DESIGNER

TIME ● ○ ○

COST ● ○ ○

IMPACT ● ○ ○

EQUITY ● ○ ○

For NAP Employee Survey respondents, safety was a concern when using a few transportation options. 58% of those who walk and bike late at night or early in the morning report safety as their largest barrier. 12% of those who drive note parking lot security and safety as concerns. Additional concern was shown through the NAP Recommended Action Survey about bike parking facilities being vandalized and bike items being stolen.

Currently, the OHSU Department of Public Safety offers several programs to prevent crime and promote a safe campus environment. Safety escorts are available for employees, visitors, patients, and students for individuals concerned about their personal safety. Several emergency phones are available throughout the central campuses, with maps available identifying their locations. Public Safety also conducts security assessments for areas of potential security concern. Making these programs and offerings more accessible and better known to the OHSU community would help increase travelers' sense of safety while walking around campus at night. Directly advertising these services through transportation channels such as personalized transportation plans (EC.2), night transportation maps (EC.1), transportation fairs (EC.6) and the current OHSU Transportation & Parking website channels would make them more visible.

Next steps

Collaborate with Department of Public Safety to identify common avenues for safety programming promotion.

Associated recommended actions

- › EC.1 Create a Night Transportation Travel Options map and online resource
- › EC.2 Create a program that generates personalized transportation plans for employees
- › EC.6 Organize a transportation awareness fair

Measures of success

- › Increase in perceived safety reported by employees on campus
- › Increase in employees who take transit to OHSU at night
- › Increase in employees who feel safe walking, biking, taking transit, carpooling, or driving

EC.5

EC: Educate the OHSU community about night transportation opportunities and issues

Organize an education campaign for safe driving at night and cost savings of choosing other modes

STRATEGY CONVENIENCE

PARTNERS CITY OF
PORTLAND

TIME ● ○ ○

COST ● ○ ○

IMPACT ● ● ○

EQUITY ● ● ●



Several participants at tabling and outreach events conveyed concern with the aggressiveness of drivers on the hill throughout the day. For nighttime conditions these concerns grew stronger, particularly about the safety of walkers and cyclists in the paths of unheeding vehicles. National trends indicate that fatal crash rates increase at night, and that an important strategy to address this is to implement education programs for drivers to adopt safer behaviors behind the wheel. Implementing a driver education campaign specifically targeted at night and early morning commuters would work to reduce speeding and aggressive driving on the hill. Additionally, collaborating with the City of Portland to promote Vision Zero principles of traffic safety, a mandatory training for all taxi drivers, would further promote safer driving habits at night.

This education campaign would also provide further opportunity to encourage single occupancy drivers to choose an alternative mode of transportation and remove the risk of a collision entirely by taking one more car off the road. Promotion of other recommended actions such as adding incentives for walking to work (ND.2), expanding biking incentives (ND.3), and expanding

transit incentives (ND.4) would strengthen the campaign.

Next steps

Collect and create educational materials. Identify best channels of communication to target messaging towards night drivers.

Associated recommended actions

- › ND.2 Add incentives for walking to work
- › ND.3 Expand biking incentives
- › ND.4 Expand transit incentives
- › EC.6 Organize a transportation awareness fair

Measures of success

- › Number of drivers exposed to campaign
- › Increase in perceived safety reported by employees on campus
- › Increase in employees using non-drive-alone modes to get to OHSU at night
- › Increase in employees who feel biking and walking to OHSU at night is safe

EC.6

EC: Educate the OHSU community about night transportation opportunities and issues

Organize a transportation awareness fair

STRATEGY CONVENIENCE

PARTNERS EVENTS,
STUDENT
INTEREST GROUPS,
TRIMET,
PORTLAND STREETCAR,
LYFT/UBER, PBOT

A question that was consistently asked throughout the project when community members considered night access issues was, “what time does the [bus/MAX/streetcar] stop running?”. This demonstrates that a gap in knowledge of night transportation options exists. Additionally, 78% of NAP Employee Survey respondents indicated they do not carpool because of lack information on carpooling services. Providing an outlet for this information would develop a greater community understanding of night transportation options and a transportation awareness fair would provide opportunity for OHSU Transportation & Parking to educate the community about all available options for traveling to and from the Central Campuses.

TIME ● ○ ○

COST ● ○ ○

IMPACT ● ○ ○

EQUITY ● ● ○

A day-long event dedicated to educating the OHSU community about transportation is an excellent opportunity to promote and coordinate other programs and recommended actions that would make commuting easier. Overlapping this event with other institutional and local events such as (walk/bike to work days/weeks/months) would generate additional momentum for a transportation awareness event. Capacity for holding a transportation awareness fair would also be bolstered through partnering with community outreach teams from local transportation providers (TriMet, Portland Streetcar, Lyft/Uber), as well as campus student and interest groups that would benefit from better transportation options.

Next steps

Identify events an awareness fair could coincide with. Connect with internal and external partners to identify shared goals for transportation-related community education.

Associated recommended actions

- › WB.10 Organize bike trains for night commuters
- › WB.11 Organize night commuter walking groups
- › NE.5 Add Public Safety staff for safety escorts
- › NE.6 Create safety app that allows campus security to digitally “walk” employees
- › EC.1 Create a Night Transportation Travel Options map and online resource
- › EC.4 Promote existing campus safety programs
- › EC.5 Organize an education campaign for safe driving at night
- › ND.1 Implement an app to log incentives and help coordinate carpools, bike trains, and walking groups
- › ND.2 Add incentives for walking to work
- › ND.3 Expand biking incentives
- › ND.4 Expand transit incentives
- › PP.4 Start an annual permit buyback program to encourage daytime employees to give up their parking permits

Measures of success

- › Number of OHSU employee attendees at fair
- › Number of vendor/booth participants at fair
- › Increase in employees who walk, bike, take transit, carpool, or rideshare to OHSU at night
- › Increase in employees who feel safe walking, biking, taking transit, carpooling, or driving

EC.7

EC: Educate the OHSU community about night transportation opportunities and issues

Continue collecting and sharing data about late night and early morning workers and commuters

STRATEGY	CONVENIENCE
PARTNERS	HUMAN RESOURCES
TIME	<div><div></div><div></div><div></div></div>
COST	<div><div></div><div></div><div></div></div>
IMPACT	<div><div></div><div></div><div></div></div>
EQUITY	<div><div></div><div></div><div></div></div>

An integral element of the Night Access Plan has been data collection on multiple aspects of night conditions. Acquiring quantitative data on how many employees rely on certain modes late at night and early in the morning, the most common barriers they face, and when and where they are traveling, has been essential in identifying where the greatest improvements and services are needed. This data also carries tremendous weight in decision-making processes to guide policy and program developments to make night transportation options more safe, convenient, and affordable.

Continuing to track the indicators identified in the “Measures of Success” section, as well as demographic metrics captured in this report such as night employee campus role, shift times, and mode of transportation, will prevent the issues and barriers brought to light in this plan from slipping back into the dark. Using the information gathered as a part of the Night Access Plan effort as a baseline will allow Transportation & Parking to gauge success and continue to advocate for transportation programming that meets the needs of night employees. Sharing this information with other OHSU departments [EC.3], as well as other area transportation providers such as TriMet, will allow for more informed decisions regarding operation management that won’t marginalize those working after 9PM and before 6AM. Each recommended action identifies potential measures of success, providing additional future indicators to gauge night transportation metrics and evaluate their effectiveness.

See the “Measuring Success” section (pg 145) for more detail on how to approach the data collection element of this recommended action.

Next steps

Integrate an annual Night Access Survey into Transportation & Parking’s yearly reporting process. Share those results with local transportation providers to Continue to improve night transportation options.

Associated recommended actions

All recommended actions are associated with EC.7 because they include “Measures of Success” components

Measures of success

- › High participation in an annual night-specific transportation survey
- › Publication and dissemination of yearly reports on the state of night transportation

SW

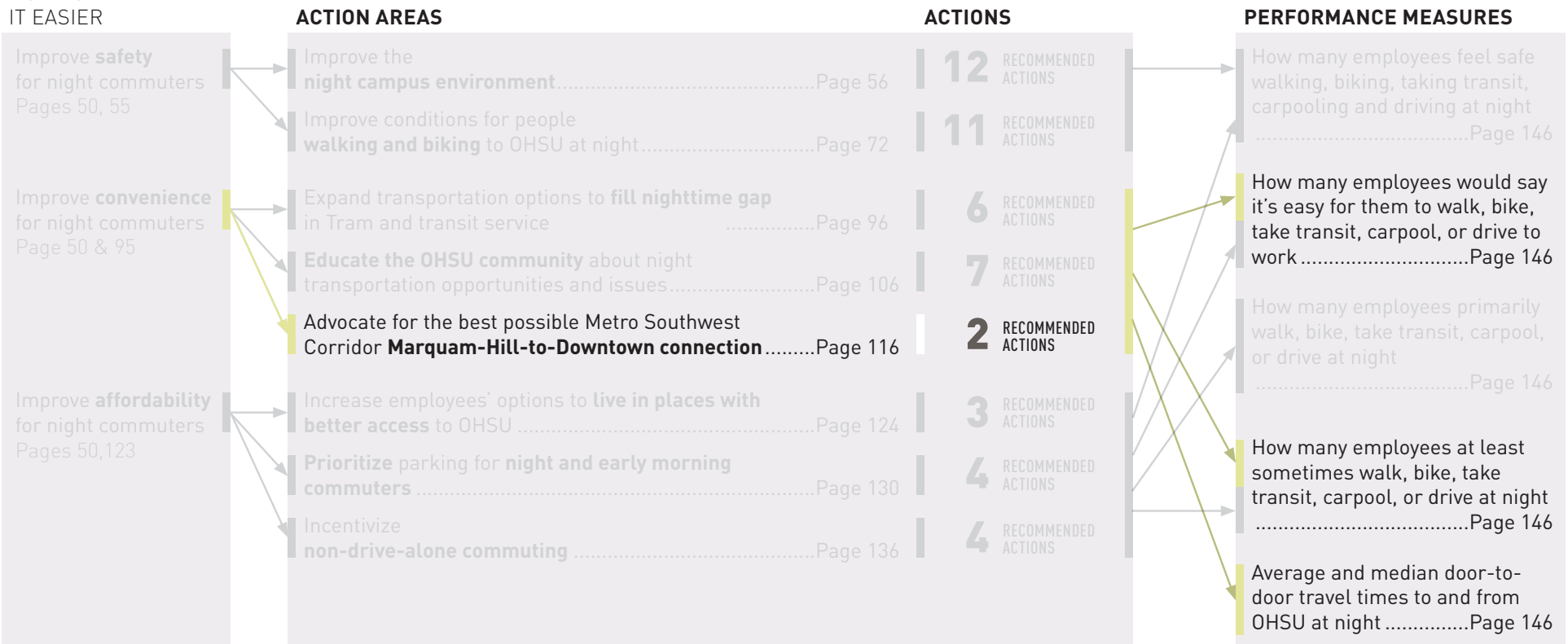
ADVOCATE FOR THE BEST POSSIBLE METRO SOUTHWEST CORRIDOR MARQUAM-HILL-TO- DOWNTOWN CONNECTION

SOUTHWEST CORRIDOR PROJECT CONTEXT

Metro's Southwest Corridor Project will bring high-capacity transit less than a quarter mile from the OHSU central campuses. The Southwest Corridor Project team considered providing a direct tunnel connection to OHSU's Marquam Hill Campus. However, this ended up being cost prohibitive. Now, the Southwest Corridor Project team is looking at the best way to connect OHSU to the proposed transit line - thereby linking downtown Portland to southwest Portland, PCC Sylvania, Tualatin, and Tigard.

STRATEGIES: HOW TO MAKE IT EASIER

RECOMMENDED ACTIONS



SW

ADVOCATE FOR THE BEST POSSIBLE METRO SOUTHWEST CORRIDOR MARQUAM-HILL-TO- DOWNTOWN CONNECTION

	Recommended action	Page	Time	Cost	Impact	Equity impact	Partners
SW.1	Construct Downtown-to-Marquam Hill Aerial Tram	118	Long	\$\$\$	High	High	Metro, PBOT
SW.2	Construct escalators between Marquam Hill and SW Barbur	120	Long	\$\$\$	High	High	Metro, PBOT

SW.1

SW: Advocate for the best possible Metro Southwest Corridor Project Marquam-Hill-to-Downtown connection Construct Downtown-to-Marquam Hill Aerial Tram

STRATEGY CONVENIENCE

PARTNERS METRO, PBOT

TIME ● ● ●

COST ● ● ●

IMPACT ● ● ●

EQUITY ● ● ●



An extensive study would need to be conducted in order to determine and validate the best location for Portland's second aerial tram. One likely result of such a study is the addition of an aerial tram between downtown Portland and the OHSU Marquam Hill Campus.

Given the likelihood of no direct connection via the new transit line, one highly desirable outcome of the Southwest Corridor High-Capacity Transit project would be a second aerial tram or gondola linking the Marquam Hill Campus with the southern end of the Downtown Transit Mall. This alignment would connect with Portland State University, two MAX light rail lines, and dozens of bus lines. The new aerial tram would operate at least as often and for the same length of time as is standard for the other area MAX light rail lines (no less often than every 15 minutes, from ~5AM to ~12AM). Running the new aerial tram less often may allow it to operate 24 hours a day (with exceptions during weekends for necessary maintenance) because operating it less

often than the current Tram will reduce wear and tear on the equipment.

The high concentration of jobs on Marquam Hill combined with its geographic remoteness and elevation change makes another aerial tram well-suited to addressing this connectivity issue, as demonstrated by the popular existing Tram. Building an additional aerial tram will increase transportation system resiliency; during peak commuting hours when the Portland Aerial Tram is not functioning, getting on and off of Marquam Hill can go from a 4-minute trip to a 40-minute trip.

As of May 2016, Metro is looking at constructing a connection to Marquam Hill via escalators, elevators, and/or stairs and the potential transit line as it runs along SW Barbur Blvd (at the eastern base of Marquam Hill) (SW.2). This solution would connect the Marquam Hill Campus to the new high-capacity transit line—improving the connection between the Lair Hill neighborhood and Marquam Hill, something

a new aerial tram would not do. However, a new pedestrian connection would not provide a direct link to the ~30,000-student Portland State University and the dozens of transit options on the Downtown Transit Mall.

Next steps

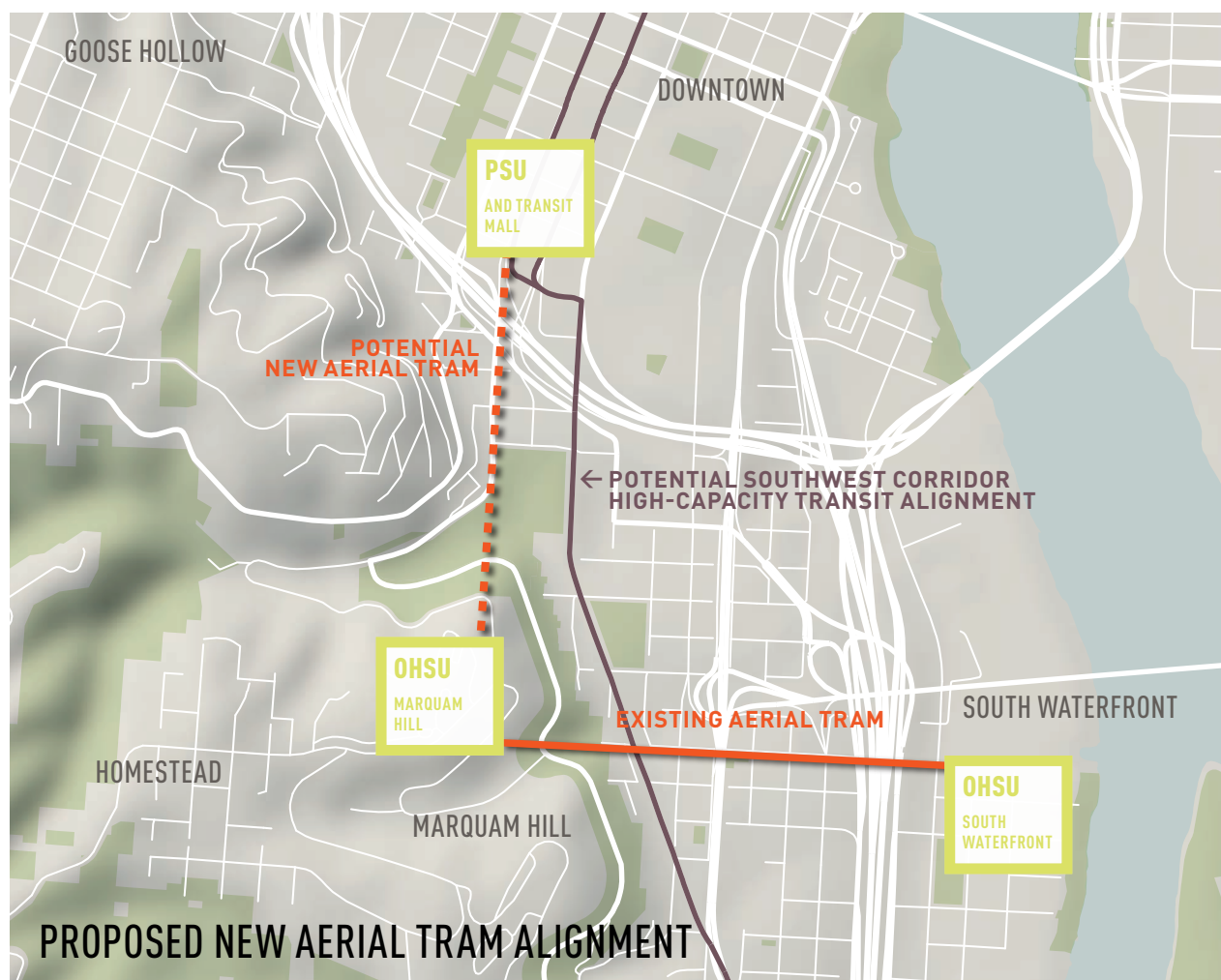
Remain engaged in the Southwest Corridor Project as it develops. Write a memo or letter in support of this solution from OHSU addressed to Metro.

Associated recommended actions

- › SW.2 Construct escalators between Marquam Hill and SW Barbur

Measures of success

- › Year over year increase in new aerial tram ridership
- › Increase in employees walking, biking, and taking transit to OHSU at night.
- › Increase in employees who feel walking, biking, and taking transit to OHSU at night is easy



SW.2

SW: Advocate for the best possible Metro Southwest Corridor Project Marquam-Hill-to-Downtown connection

Construct escalators between Marquam Hill and SW Barbur

STRATEGY CONVENIENCE

PARTNERS METRO, PBOT

TIME ● ● ●

COST ● ● ●

IMPACT ● ● ●

EQUITY ● ● ●



The Southwest Corridor High-Capacity Transit project provides an opportunity for OHSU to partner with Metro to substantially improve the SW Trail #1 connection (part of recommended action NE.8) between SW Barbur (where the new SW Corridor transit line will likely run) and the Marquam Hill Campus. This recommended action would connect the new transit line on SW Barbur Blvd and Marquam Hill with a series of elevators, escalators, and overpasses that could operate 24 hours a day, even when the transit line is not running. Paired with an enhanced pedestrian crossing of Naito Pkwy (WB.12), this recommended action would create an excellent any-time-of-day link with high-capacity transit and a much more comfortable, safe, and direct nighttime walking and biking route between the Central Campuses.

SW.1 (Construct downtown to Marquam Hill Aerial Tram) would help to improve the all-hours connection between the Marquam Hill Campus and the new high capacity transit line, but it would not improve the walking and biking route between the central campuses.

Next steps

Remain engaged in the Southwest Corridor Project as it develops. Encourage Metro to consider a connection that works at all hours of the day.

Associated recommended actions

- › NE.8 Designate and enhance specific corridors for night travel to and from OHSU

Measures of success

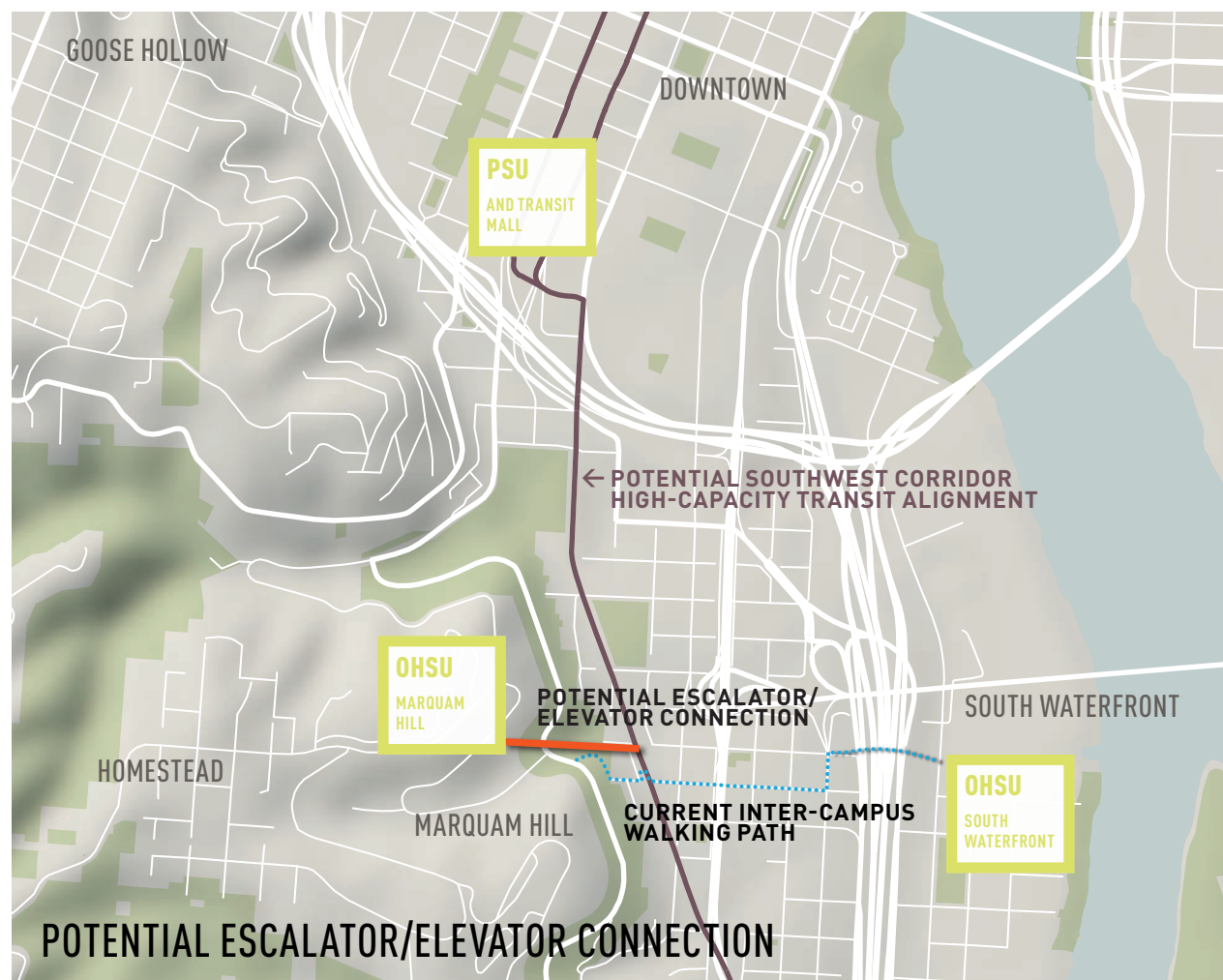
- › Increase in number of employees using SW Trail #1 between campuses at night (Public Safety staff can do counts)
- › Increase in employees walking, biking, and taking transit to OHSU at night
- › Increase in employees who feel walking, biking, and taking transit to OHSU at night is easy
- › Increase in employees who feel walking, biking, and taking transit to OHSU at night is safe


COMUNA 13, COLUMBIA

Residents of the Comuna 13 neighborhood in Medellin, Columbia have dealt with many of the same issues as those traveling to OHSU's Marquam Hill Campus. Comuna 13 is located on a hillside and used to only be accessible by hiking up a steep road—the equivalent of roughly 28 stories. To make this neighborhood more accessible, the city built a 384-meter-orange-roofed escalator. It scales the neighborhood in six sections and has changed the life of the neighborhoods residents - making jobs in Medellin more accessible, and sparking economic development and reducing violence and crime in the neighborhood itself.

<http://www.cnn.com/2015/12/14/travel/colombia-medellin-neighborhood/>

SW.2
continued





The high cost of transportation options was a common issue brought up by OHSU employees, students and researchers. While this was typically associated with the high cost of parking, there are other ways to reduce transportation cost in addition to prioritizing parking for night and early morning commuters. **Helping employees live closer to OHSU—or near transit lines that directly serve the central campuses—can also reduce the cost of transportation. In addition, OHSU could offer more competitive incentives for those who choose to not drive alone to and from work, reducing the strain on already tight parking.**

IMPROVE AFFORDABILITY

ACTIONS THAT IMPROVE AFFORDABILITY

(OL) Increase employees' options to live in places with better access to OHSU

- › OL.1 Subsidize housing near campus or direct transit lines
- › OL.2 Offer housing relocation services
- › OL.3 Collaborate with Zidell to develop dense and/or affordable housing on their South Waterfront parcels

(PP) Prioritize parking for night and early-morning commuters

- › PP.1 Offer a new type of parking permit targeting reverse swing shift employees
- › PP.2 Designate a specific garage, or specific parking spaces, for swing and reverse swing shift employees
- › PP.3 Reprioritize annual parking permit wait list based on salary and/or transit availability
- › PP.4 Start an annual permit buyback program to encourage daytime employees to give up their parking permits

(ND) Incentivize non-drive-alone commuting

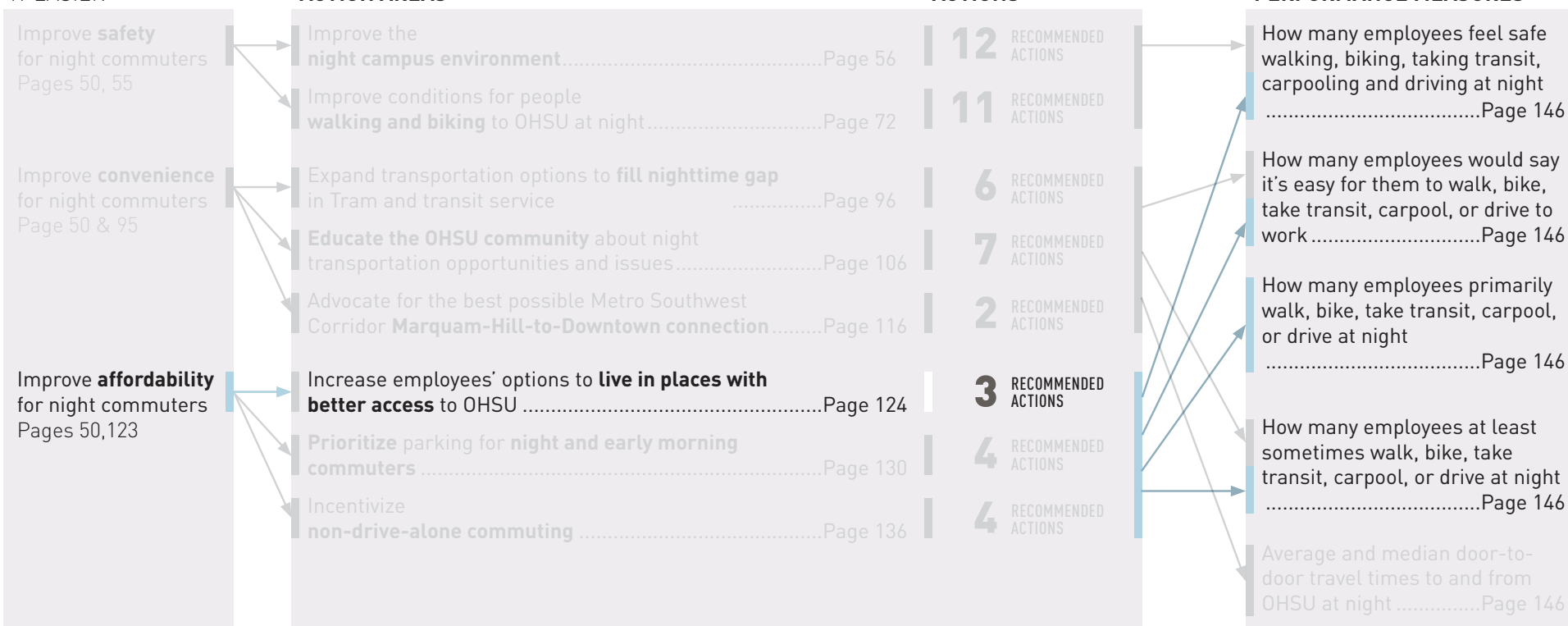
- › ND.1 Implement an app to log incentives and help coordinate carpools, bike trains, and walking groups
- › ND.2 Add incentives for walking to work
- › ND.3 Expand biking incentives
- › ND.4 Expand transit incentives

OL

INCREASE EMPLOYEES' OPTIONS TO LIVE IN PLACES WITH BETTER ACCESS TO OHSU

STRATEGIES: HOW TO MAKE IT EASIER

RECOMMENDED ACTIONS



OL

INCREASE EMPLOYEES' OPTIONS TO LIVE IN PLACES WITH BETTER ACCESS TO OHSU

	Recommended action	Page	Time	Cost	Impact	Equity impact	Partners
OL.1	Subsidize housing near campus or connected transit lines	126	Short	\$\$	Low	High	OHSU -Directors
OL.2	Offer housing relocation services	128	Short	\$	High	High	OHSU - Admissions Department, Human Resources Department
OL.3	Collaborate with Zidell to develop dense and/ or affordable housing on their South Waterfront parcels	129	Medium	\$	Low	High	Zidell, The South Waterfront Neighborhood Association

OL.1

OL: Increase employees' options to live in places with better access to OHSU

Subsidize housing near campus or connected transit lines

STRATEGY AFFORDABILITY

PARTNERS OHSU DIRECTORS

TIME	●	○	○
COST	●	●	○
IMPACT	●	○	○
EQUITY	●	●	●



Housing and transportation are generally the top two expenses for households. Housing that is available close to residents' workplace allows for significant savings in time and money. 51% of NAP Employee Survey respondents that use transit reported long transit times as a barrier to their late night or early morning commutes. Many also reported that they choose not to walk or bike to work due to the distance from their home to the OHSU campuses. As rent prices continue to rise in the Portland area, lower income employees will be looking for cheaper housing farther away from the downtown area, increasing their commute times and costs. Housing affordability may become, if it is not already, an issue for OHSU's ability to attract employees who have unique skills.

OHSU sponsored housing subsidization for employees through monthly housing stipends or down-payment help would enable workers to spend less time and money on their commute and to focus more on work or friends and family. An employer assisted housing program targeted at night employees would improve employee productivity by eliminating the opportunity for buses to be late or carpools to fall through. Housing assistance programs are rising in popularity among employers as the benefits of employee retention, recruitment, relations, and community revitalization become clear. For further explanation of employer assisted housing programs, see the study on the next page.

Next steps
Secure funding for housing subsidies. Conduct best practices research for employer-assisted housing programs (see Metropolitan Planning Guidebook). Develop application process and OSHU Employer-Assisted Housing program.

- Associated recommended actions**
- › OL.2 Offer housing relocation services
 - › OL.3 Collaborate with Zidell to develop dense and/or affordable housing on their South Waterfront parcels

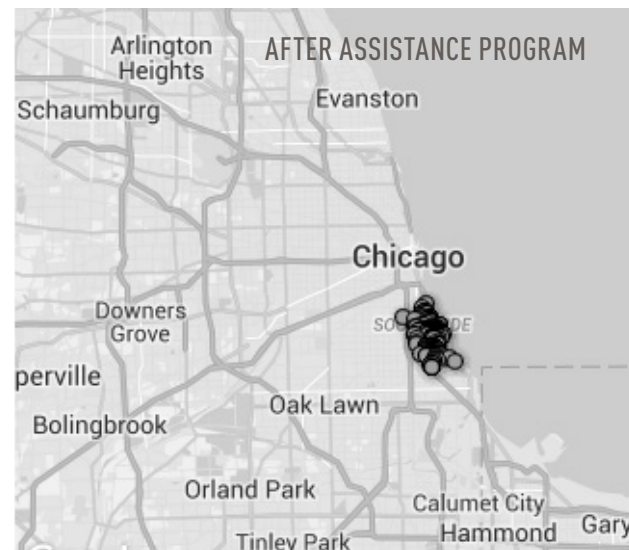
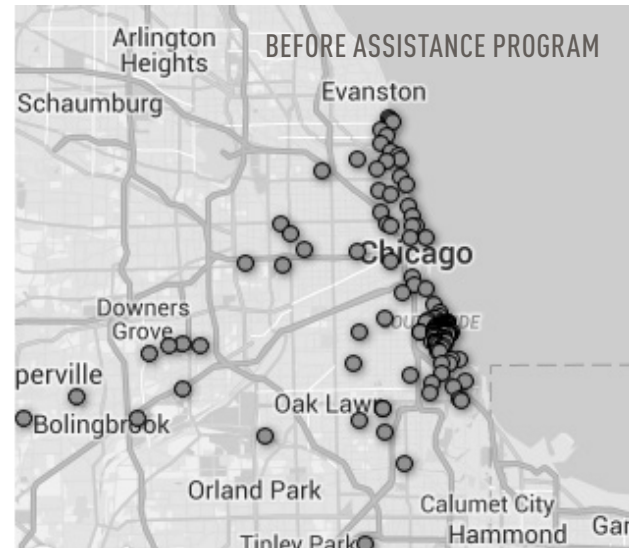
- Measures of success**
- › Number of employees using housing subsidies
 - › % of employees living within 30 minutes of OHSU by different modes, specifically employees from lower income households
 - › Increase in number of employees walking, biking, and taking transit to OHSU at night, specifically employees from lower income households
 - › Increase in number of employees who feel walking, biking, and taking transit to OHSU at night is easy, specifically employees from lower income households

EMPLOYER-ASSISTED HOUSING

Employer-assisted housing programs have been successfully implemented for academic, medical and research institutions. These programs typically take one of two forms. The first is when the employer constructs new housing near the workplace. This benefits both the employees and the surrounding neighborhood. The second is when the employer assists employees with down payment and house hunting services - perhaps providing monthly stipends to help offset various housing costs.

The University of Chicago and associated Medical Center launched their Employer-Assisted Housing benefit in 2003 as a way to address housing affordability concerns, attract the best talent from across the nation, and contribute to the well-being of the surrounding neighborhoods. The program encourages employees to purchase homes in certain neighborhoods through interest-free forgivable loans, housing credits, and homebuyer counseling. To date, 228 employees have received over \$1.7 million in down payment assistance, and the geographic relocation effects have been drastic.

This trend is being mirrored in other communities around the nation, driven by similar economic factors. The technology boom occurring in Silicon Valley has created a huge demand for housing as employees of tech companies like Facebook and Google flock to the Bay Area for work. With developers and housing resources unable to keep up with the demand, the spotlight has shifted to the employers themselves to help house their employees. Having more workers for these companies nearby is creating a healthier, happier workforce with shorter commute times. One consultant at the tech company Quicken notes after receiving rent help for two years that she, “got those two hours of traffic jam back into [her] schedule.”



OL.1
continued

OL.2

OL: Increase employees' options to live in places with better access to OHSU

Offer housing relocation services

STRATEGY	AFFORDABILITY
PARTNERS	ADMISSIONS DEPARTMENT, HUMAN RESOURCES
TIME	<div><div></div><div></div><div></div></div>
COST	<div><div></div><div></div><div></div></div>
IMPACT	<div><div></div><div></div><div></div></div>
EQUITY	<div><div></div><div></div><div></div></div>

Securing housing in Portland is a difficult process with the booming real estate market and the high demand for apartments and shared living. This competitive arena makes moving to the city difficult for those relocating from out of town, and often makes simply finding a place an end goal rather than finding a place that will save them time and money on their commute. In an attempt to address this, OHSU provides information on housing assistance programs and provides an online network off-campus housing list to connect current and future OHSU employees with available rentals and rooms through the OHSU public website. Additional information about moving to Portland is spread unevenly throughout the website, located in places where only certain potential OHSU employees would likely find it. This information is not readily available to all, nor to the degree of detail needed to make a decision guided by commute factors.

Identifying neighborhoods and residential units that are well serviced by transportation providers and well integrated into the active transportation infrastructure network to relay to employees relocating to Portland would enable them to make more informed decisions about where to live. To further attune it to the transportation needs of night employees, and acknowledge that these identified locations may not be financially accessible to all, information about current shuttling services to outlying city transit centers [FG.2] should be included to provide guidance on preferable locations for non-central, lower-cost housing. Relaying this information through website channels, one-on-one consults, and in a personalized transportation app [EC.2] would be instrumental in assuring the information was readily accessible. Aligning this information with housing that is eligible for an employer assisted housing program for provision of subsidies [OL.1] or designated as affordable in collaboration with Zidell [OL.3] would create a strong support system for finding housing for lower-income employees.

Next steps
Identify areas of the Portland metropolitan region that are well-served with transportation options. Collaborate with Admissions and Human Resources to identify best communication channels.

- Associated recommended actions**
- › FG.2 Add shuttling between OHSU and regional transit centers
 - › EC.2 Create a program that generates personalized transportation plans for employees
 - › OL.1 Subsidize housing near campus or connected transit lines
 - › OL.3 Collaborate with Zidell to develop dense and/or affordable housing on their South Waterfront parcels

- Measures of success**
- › Number of employees using housing relocation services
 - › Increase in employees from lower income households
 - › Increase in employees who walk, bike, or take transit to OHSU at night, specifically employees from lower income households
 - › Increase in employees who feel walking, biking, or taking to transit to OHSU at night is easy, specifically employees from lower income households

OL.3

OL: Increase employees' options to live in places with better access to OHSU

Collaborate with Zidell to develop dense and/or affordable housing on their South Waterfront parcels

STRATEGY AFFORDABILITY

PARTNERS ZIDELL,
S. WATERFRONT
NEIGHBORHOOD

TIME ● ● ○

COST ● ○ ○

IMPACT ● ○ ○

EQUITY ● ● ●



Significant development is occurring on the South Waterfront with a drastic increase in residential and other land uses that allow residents to fulfill their everyday activities and engage in social and recreational activities. Zidell is an active participant in this community and is in pursuit of creating a South Waterfront that embodies a vibrant neighborhood with a balanced mix of uses, access to transit, and commitment to sustainability. In June of 2015 Portland City Council approved a deal to subsidize redevelopment of 30 acres owned by the Zidell family along the South Waterfront. The three phase property development plan will involve roads, greenways, and apartment developments with an affordable housing commitment. Collaborating with OHSU to dedicate affordable units for late night or early morning workers would achieve many of the same benefits as identified in OL.1.

Affordable housing available on the South Waterfront would have several larger implications for night transportation beyond reducing the distance and

time employees would need to travel to get to work. Denser housing could push the South Waterfront to a 24-hour neighborhood, building demand for more nighttime services and establishments. This would lead to more people around after dark, generating a human presence and improving perceived safety for those walking and biking in the area. A message that continually resonated from both the South Waterfront and Homestead neighborhood associations throughout the community engagement of the NAP was the need for investment in transportation infrastructure that enhances local mobility as congestion continues to increase in the area with development. An OHSU partnership with Zidell would create a powerful alliance for advocating for more transportation investment in the area to match the increasing development.

Next steps

Open conversations with Zidell about the opportunity to collaborate on affordable housing.

Associated recommended actions

- › NE.5 Add Public Safety staff for safety escorts
- › NE.9 Contribute to development of diverse land uses
- › OL.1 Subsidize housing near campus or connected transit lines
- › OL.2 Offer housing relocation services

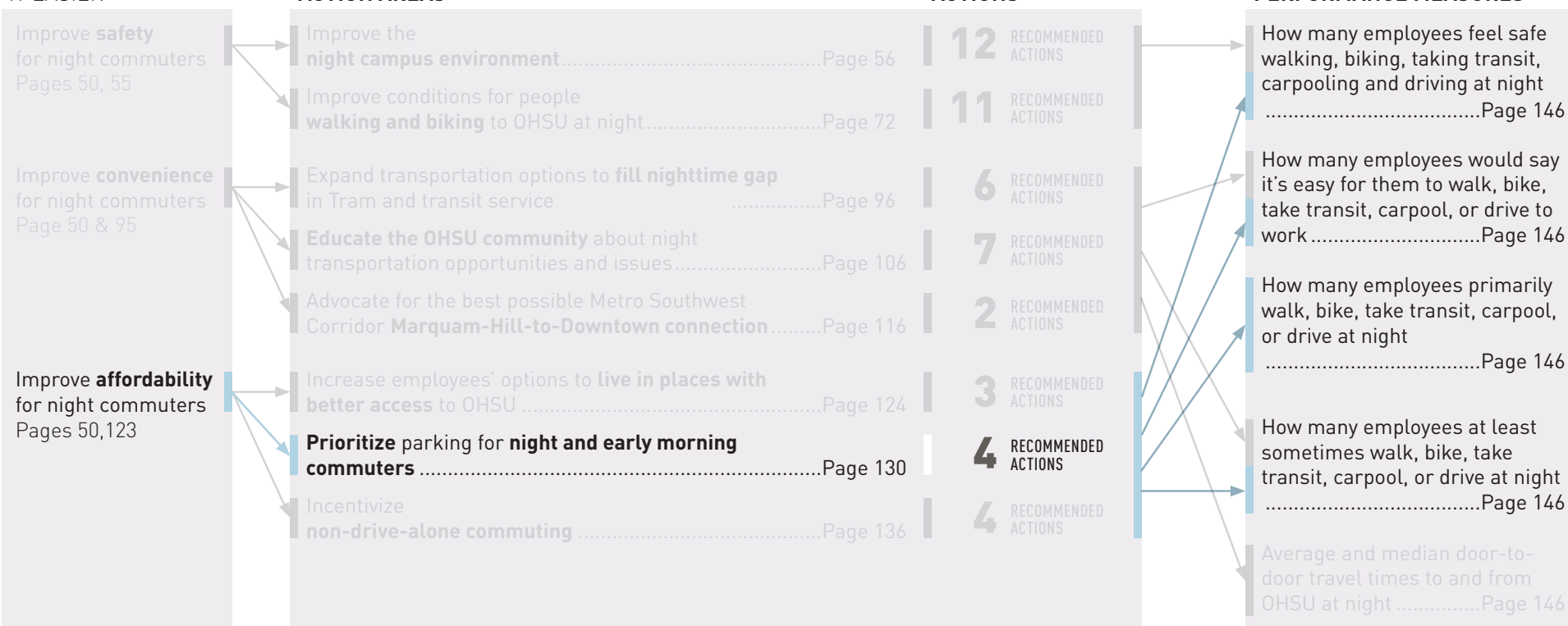
Measures of success

- › Number of affordable housing units reserved for night employees developed in collaboration with Zidell
- › Increase in employees from lower income households
- › Increase in employees who walk or bike to OHSU at night, specifically employees from lower income households
- › Increase in employees who feel walking or biking to OHSU at night is easy
- › Increase in employees who feel walking and biking to OHSU at night is safe

PP

PRIORITIZE PARKING FOR NIGHT AND EARLY MORNING COMMUTERS

STRATEGIES: HOW TO MAKE IT EASIER



PP

PRIORITIZE PARKING FOR NIGHT AND EARLY MORNING COMMUTERS

	Recommended action	Page	Time	Cost	Impact	Equity impact	Partners
PP.1	Offer a new type of parking permit targeting reverse swing shift employees	132	Short	\$	High	Medium	None
PP.2	Designate a specific garage, or specific parking spaces, for swing and reverse swing shift employees	133	Short	\$	High	High	None
PP.3	Reprioritize annual parking permit wait list based on salary and/or transit availability	134	Short	\$	Medium	Medium	None
PP.4	Start an annual permit buyback program to encourage daytime employees to give up their parking permits	135	Short	\$\$	Low	Low	None

PP.1

PP: Prioritize parking for night and early morning commuters

Offer a new type of parking permit targeting reverse swing shift employees

STRATEGY AFFORDABILITY

PARTNERS NONE

TIME ● ○ ○

COST ● ○ ○

IMPACT ● ● ●

EQUITY ● ● ○

56% of NAP Recommended Action Survey respondents said that a new type of parking permit based on transit availability would be the best way to prioritize parking for night and early morning commuters. OHSU currently offers a Swing Shift Permit, which allows those who work late into the night to park on campus without having to pay the full price for a day pass as long as they arrive after 1:30PM. The problem is that many shifts start before 1:30PM (for example, 11AM-11PM shifts), and end when transit is more difficult to catch or simply not available at all. Even more difficult are shifts that start before transit is running but extend into the daytime hours, which would require purchasing a full day of parking (for example, 4:30AM shifts that extend past 8AM). Individuals with these shifts have no choice but to drive to work and do not have a discounted paid-parking option.

Offering a parking permit based on transit availability acknowledges that driving is often the best or only available form of transportation for an employee. In this case, an efficient way to make this permit available would be to also implement recommended action PP.2 (Designating a specific lot for both swing and reverse swing shift employees). That way, a garage could remain at nearly full capacity throughout the day as shifts turnover around midday.

Since many people working overnight are lower paid, and because the reverse swing shift permit could be targeted to those with lower salaries, this could have a medium equity impact and high overall impact for night employees. This recommended action could also be implemented fairly quickly at relatively low cost, depending on how room is made in parking garages for the swing and reverse swing employees.

Next steps

Scan license plates in typical overnight garages early in the morning (5AM) and compare those plates with ones that get picked up later in the morning (10AM). Completing this same procedure over a period of two weeks should give Transportation & Parking a better idea of how many people might be interested in this parking pass.

Associated recommended actions

- › PP.2 Designate a specific garage, or specific parking spaces, for swing and reverse swing shift employees
- › PP.4 Start an annual permit buyback program to encourage daytime employees to give up their parking permits

Measures of success

- › Number of permits sold
- › Decrease in parking tickets/citations
- › Increase in employees from lower income households driving to OHSU at night
- › Increase in employees from lower income households who feel driving to OHSU at night is easy
- › Increased ratio of lower household income to higher household income employees who drive to OHSU at night

PP.2

PP: Prioritize parking for night and early morning commuters

Designate a specific garage, or specific parking spaces, for swing and reverse swing shift employees

STRATEGY AFFORDABILITY

PARTNERS NONE

TIME ● ○ ○

COST ● ○ ○

IMPACT ● ● ●

EQUITY ● ● ●



As described in PP.1 (Offering a new type of parking permit targeting reverse swing shift employees), one way to efficiently use parking garages is to use the same physical space for those who start work early in the morning, or in the afternoon and have to stay late into the night. For example, if OHSU sets aside 200 parking spaces for shifts that begin early in the morning before transit is running, those employees would leave before the swing-shift employees need to be at work freeing up space for them.

Crucial to this recommended action working well is to situate these parking spots on the Marquam Hill Campus near where many night and early morning employees work, rather than in a satellite lot that would require additional shuttling and added hassle to already stressful commutes.

Another way to get more mileage out of this recommended action would be to combine this with

carpooling incentives. For example, an employee with a swing or reverse swing permit who arrives with two or more additional OHSU employees in the car could get a refund credited to their paycheck every day they do this.

This recommended action has the potential to impact many night employees, and particularly those with fewer transportation options to begin with. As such, it is an effective way to address inequities in current parking policies, and at a relatively low cost.

Next steps

After running license plate scans discussed in PP.1 (Offer a new type of parking permit targeting reverse swing shift employees), determine how many spots early morning employees might need and compare this to garages on Marquam Hill that might have capacity.

Associated recommended actions

- › PP.1 Offer a new type of parking permit targeting reverse swing shift employees
- › PP.4 Start an annual permit buyback program to encourage daytime employees to give up their parking passes
- › FG.4 Implement an internal carpool program

Measures of success

- › Number of parking spots designated for swing and reverse shift employees
- › Percentage utilization of designated swing and reverse shift parking spots
- › Increase in employees from lower income HHs driving to OHSU at night
- › Increase in employees from lower income HHs who feel driving to OHSU at night is easy
- › Increased ratio of lower HH income to HH income employees who drive to OHSU at night

PP.3

PP: Prioritize parking for night and early morning commuters

Reprioritize annual parking permit wait list based on salary and/or transit availability

STRATEGY AFFORDABILITY

PARTNERS NONE

TIME ● ○ ○

COST ● ○ ○

IMPACT ● ● ○

EQUITY ● ● ○

Cheaper parking ranked third when NAP Employee Survey respondents were asked, “What would make it easier for you to travel to/from OHSU at night or early in the morning?” This is because many have no option but to pay the full price for a day pass while sitting on the annual permit wait list for years. The current parking permit wait list is based more around seniority than it is around need, as newer employees often have to wait so long to qualify.

Having a wait list based around need, both for those with lower salaries who should not be paying the full daily price for parking and also for employees who cannot take transit because it isn’t running, is designed to make current parking policies more equitable. Since paying for parking inherently comes with owning a car, which is a high-cost barrier to entry, its equity impact is still mid-level. This recommended action could be completed in a short timeframe with low financial cost. However, OHSU Transportation & Parking would need to be prepared to answer questions coming from people who have been on the wait list for years and would no longer be deemed priorities under the new policy.

Next steps

Determine how much demand there might be for PP.1 (Offering a new type of parking permit targeting reverse swing shift employees) and comparing it to PP.2 (designating a specific garage, or specific parking spaces, for swing and reverse swing shift employees). This will help make it known how much demand exists for parking among those who have no other transportation options, and how much supply of parking there is for them, giving Transportation & Parking an idea of how much space on the wait list might need to be freed up.

Associated recommended actions

- › PP.1 Offer a new type of parking permit targeting reverse swing shift employees

Measures of success

- › Increase in permits sold to night and early morning employees
- › Increased ratio of lower household income to higher household income employees who have an annual parking permit
- › Decreased number of parking tickets and citations

PP.4

PP: Prioritize parking for night and early morning commuters

Start an annual permit buyback program to encourage daytime employees to give up their parking permits

STRATEGY AFFORDABILITY

PARTNERS NONE

TIME ● ○ ○

COST ● ● ○

IMPACT ● ○ ○

EQUITY ● ○ ○

When asked “What would make it easier for you to travel to/from OHSU at night or early in the morning?” 19% of NAP Employee Survey respondents answered that they either wanted cheaper parking, or more parking availability. Due to the parking code restrictions contained within the Marquam Hill Plan, OHSU cannot build more parking on the hill, so one of the only feasible ways to increase capacity for night and early morning employees is to shift it away from daytime permit holders.

Beginning first by offering incentives to those who would voluntarily give up their annual permits would be less contentious and allow Parking & Transportation to gauge interest in the program. Offering refunds for permits coupled with free TriMet passes and even ridesharing (Lyft/Uber) credits would further incentivize employees to give up their passes.

Next steps

Dedicate some of the short-term funding opened up to Transportation & Parking to run a pilot, temporary program to get a sense of how many people would be willing to give up their parking passes. From here, better calculations could be made around cost and demand for the program.

Associated recommended actions

- › PP.1 Offer a new type of parking permit targeting reverse swing shift employees
- › ND.4 Expand transit incentives
- › FG.5 Subsidize night employee rideshare options

Measures of success

- › Number of day passes repurposed for night and early morning employees
- › Increased ratio of lower household income to higher household income employees who have an annual parking permit
- › Increased ratio of lower household income to higher household income employees who drive to OHSU at night

SEATTLE CHILDREN'S HOSPITAL PARKING MANAGEMENT

Seattle Children’s Hospital realized that in order to grow, they had to take steps to reduce the number of people driving alone to work. From 2006-2014, Seattle Children’s Hospital reduced the amount of their daytime employees who drive alone to work from 50% to 38%. Their latest target for 2028 is 30%. To meet this goal, the hospital’s transportation management plan is a multi-faceted approach to make it attractive to take alternatives and less attractive to drive.

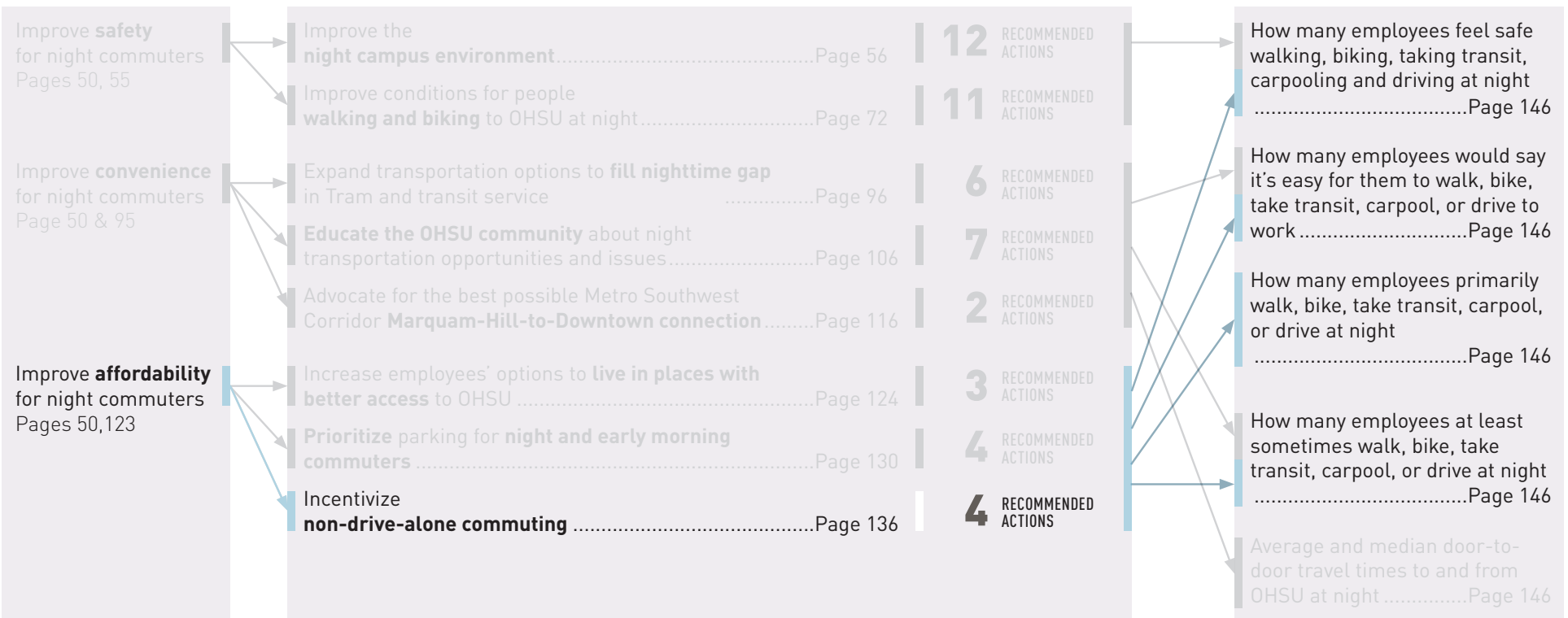
Parking management is a large component of that plan which includes two key strategies: (1) Removing monthly passes and requiring all employees to pay each day. A monthly permit was seen as a 30-day investment, which incentivizes someone to optimize that investment by getting as much parking as possible by driving and (2) Eliminating free parking for patients and families, with an exception to those with Medicaid vouchers.

ND

INCENTIVIZE NON-DRIVE-ALONE COMMUTING

STRATEGIES: HOW TO MAKE IT EASIER

RECOMMENDED ACTIONS



ND

INCENTIVIZE NON-DRIVE-ALONE COMMUTING

	Recommended actions	Page	Time	Cost	Impact	Equity impact	Partners
ND.1	Implement an app to log incentives and help coordinate carpools, bike trains, and walking groups	138	Medium	\$\$	High	High	External app developer
ND.2	Add incentives for walking to work	139	Short	\$	Low	Medium	OHSU's insurance provider
ND.3	Expand biking incentives	140	Short	\$	Low	Medium	Go By Bike
ND.4	Expand transit incentives	141	Short	\$\$\$	High	High	None

ND.1

PP: Prioritize parking for night and early morning commuters

Implement an app to log incentives and help coordinate carpools, bike trains, and walking groups

STRATEGY AFFORDABILITY

PARTNERS EXTERNAL APP DEVELOPER

TIME ● ● ○

COST ● ● ○

IMPACT ● ● ●

EQUITY ● ● ●

By making both carpooling and logging/receiving incentives more user-friendly, OHSU can simultaneously address two complaints that were repeated numerous times on the NAP Employee Survey. First, many employees want to carpool to work but find it difficult to locate people to ride with who also work at OHSU. Second, several employees who use the bike incentive program reported giving up on it because logging trips was too big of a hassle, and they had to wait too long to receive their payments. One respondent wrote, “Being able to log my bike trips on the OHSU web site would be best.” Another elaborated, “Current incentive system for biking is tedious and not user friendly. To log a bike trip now, you have to sign-in at least twice and trips can only be logged same day. As a night shift employee I often forget to log by midnight. Also there are no incentives for weekend commutes.”

Removing these obstacles reduces the barrier to entry, and one way to do that is to package all non-drive-alone incentives into one app, either available online or on mobile phones (but ideally both). The Westside Transportation Alliance recognized these challenges and addressed them with such an app, see the case study below.

Next steps

Continue evaluating Luum and other software providers to determine which platform best serves OHSU’s needs.

Associated recommended actions

- › FG.4 Implement an internal carpool program
- › FG.5 Subsidize night employee rideshare options
- › EC.2 Create a program that generates personalized transportation plans for employees

Measures of success

- › Number of app downloads
- › Increase in number of people utilizing incentives through app
- › Number of incentives distributed
- › Increase in employees who walk, bike, take transit, and carpool to OHSU at night, especially lower income employees

COMMOVE COMMUTE INCENTIVE APP

The Westside Transportation Alliance (the transportation management association for Washington County, Oregon) created a commuter app, Commove. Commove was created to “gamify” the commute by using friendly competition to encourage employees to try other options getting to work. Commove helps users find a transportation route to and from work, whether they want to walk, bike, take transit or carpool, and then awards points based on their calories burned, carbon reduced, and money saved by not driving alone. Additionally the app helps connect coworkers who live near each other to help find a carpool match.

Jenny Cadigan, the previous Executive Director of Westside Transportation Alliance, described the motivation behind the app: “The app makes commuting fun. We wanted to gamify the commute, really incentivize folks.” Instead of focusing on the typical 8AM to 5PM shift where transit runs more frequently, Commove was launched to help employees who may not be making a lot of money, have different shifts, and/or may not have computer access throughout their workday.

ND.2

PP: Prioritize parking for night and early morning commuters

Add incentives for walking to work

STRATEGY AFFORDABILITY

PARTNERS OHSU'S
INSURANCE PROVIDER

TIME ● ○ ○

COST ● ○ ○

IMPACT ● ○ ○

EQUITY ● ● ○

23% of NAP Employee Survey respondents reported that they sometimes walk to work. However, only about 3% said that walking is their primary mode. Increasing this 3% could help reduce OHSU's transportation strain since walking is such a low-impact, low-cost mode of travel both for the institution and the individual. Incentives are offered to those biking to work: 20 rides earns \$20. Incentives are not offered for walking, but easily could be.

One NAP Employee Survey respondent wrote, "Monetary incentives for walkers, like bicyclists have, would be fair and would motivate me to exercise more." Another echoed this sentiment, "Those who run/walk to work should receive the same incentive as the bike program. Perhaps that program should be renamed." Many organizations offer incentives to employees for any mode aside from driving alone to work. They see the goal as not necessarily to get more people to bike to work, for example, but to get people to work any way they can as long as it is not driving alone in a car. The case study from Patagonia illustrates the benefits of having this type of umbrella benefit.

Next steps

Create a budget and internal marketing campaign targeting walkers to let them know about new incentives; include this outreach in new employee orientations. Combine this with WB.11 (organize night commuter walking groups) to help introduce walking to those who currently use other modes of transportation.

Associated recommended actions

- › ND.1 Implement an app to log incentives and help coordinate carpools, bike trains, and walking groups
- › ND.3 Expand biking incentives
- › WB.11 Organize night commuter walking groups

Measures of success

- › Increase in the number of walking commuters, assessed through the annual transportation census survey
- › Number of incentives distributed

PATAGONIA'S "DRIVE LESS" PROGRAM

Patagonia, an outdoor clothing company, recognizes the benefit of encouraging employees to get to work using active transportation. Its Drive-Less program provides incentives for all non-drive-alone modes of transportation. Via Patagonia:

"Our Drive-Less program provides a monetary incentive to employees to carpool, ride a bike, skateboard, take public transit; anything but drive alone to work. It pays all U.S. and Canadian employees \$2 per trip, up to two trips per day. Each employee can earn up to \$500 (pre-tax) per year. In the first year, more than 900 employees participated. As a collective result, in that first year we drove 690,000 fewer miles, cut CO2 emissions by 500,000 pounds and saved 25,700 gallons of fuel."

ND.3

PP: Prioritize parking for night and early morning commuters

Expand biking incentives

STRATEGY AFFORDABILITY

PARTNERS EXTERNAL
APP DEVELOPER

TIME ● ○ ○

COST ● ○ ○

IMPACT ● ○ ○

EQUITY ● ● ○

People who use the bike incentive program appreciate its benefits, but these could be expanded to encourage even more non-drive-alone commuting. Currently, OHSU offers employees \$20 for 20 (bike) rides, as long as they happen Monday through Friday. While OHSU has maxed out cash incentives allowed under federal tax law, non-cash incentives, such as free bike tuneups and lights, could still be expanded, along with offering the cash incentive to employees who work weekends. More details on biking incentives are included in the Seattle Children's Hospital case study below.

Next steps

Create a budget for increased non-cash incentives and begin an internal marketing campaign targeting cyclists to let them know about new incentives; include this outreach in new employee orientations. Couple this with WB.4 (organize bike trains for night

commuters) to encourage new riders. Connect with Go By Bike to determine costs associated with offering free and reduced services to OHSU badgeholders.

Associated recommended actions

- › ND.1 Implement an app to log incentives and help coordinate carpools, bike trains, and walking groups
- › WB.10 Organize bike trains for night commuters

Measures of success

- › Increase in the number of biking commuters, assessed through the annual transportation census survey
- › Number of incentives distributed

SEATTLE CHILDREN'S HOSPITAL BIKE COMMUTE INCENTIVES

Seattle Children's Hospital is seen by many as the gold-standard of bike-commute incentives. Employees aren't just paid to ride their bikes to work, they are also offered many more bonuses, detailed below.

Regular Payment

The highlight of Seattle Children's commute program is a commute bonus: employees receive \$4 every day they don't drive alone to work. This adds up to about \$1,000 each year for dedicated alternative transportation users.

Building Motivation and Encouraging New Riders

Seattle Children's most successful commute trip reduction event occurs each year in May, for National Bike Month. Seattle Children's offers a \$50 bonus to everyone who captains a team with at least four riders, each of whom must complete at least four trips during May. The hospital regularly finishes among the top three organizations participating in Cascade Bicycle Club's annual virtual

Commute Challenge in many categories, including number of new cyclists, number of bike trips, number of miles biked, and number of bike teams formed.

Free Bikes

Seattle Children's Company Bike fleet has over 230 bikes, which are available to employees who commit to riding to work an average of twice a week, and employees can keep the bike as long as they keep that commitment. Each bike, a Jamis hybrid well suited for city travel, comes with lights, a lock, and a helmet.

Worry-Free Bike Ownership

Seattle Children's also has an on-site full-service bike shop. The shop offers many free and reduced services to employees, including (free services) two tune-ups per year, safety checks, air and bike chain lubrication, free flat repairs discounts, (discounted services) 10 to 30% off all gear and parts, 50% of all additional labor costs.

ND.4

PP: Prioritize parking for night and early morning commuters

Expand transit incentives

STRATEGY AFFORDABILITY

PARTNERS NONE

TIME ● ○ ○

COST ● ● ●

IMPACT ● ● ●

EQUITY ● ● ●

The retail price of an annual TriMet pass is \$1,100 which presents a significant barrier to many. These passes are steeply discounted for OHSU badge holders (including employees, students, professors, and researchers). The passes, which are good on all TriMet, Portland Streetcar, and C-Tran services (except C-Tran Express including the Marquam Hill 190 bus) cost \$313 for non-benefits eligible employees or \$60 for benefits-eligible employees.

While the discount is no doubt helpful, it is troubling that non-benefits eligible badge holders still have to pay more than five times the amount of benefits-eligible employees. Discounting the pass for all, regardless of benefits status, would have a high impact and a high equity impact. It would come at a steep cost to OHSU, but would help reduce drive-alone commuting.

To further encourage using transit, financial incentives should be offered for employees when they log transit trips. That way badgeholders may have to pay up-front costs to receive a transit pass, but would essentially be able to recoup their costs by using it. This aligns with the umbrella model of incentivizing all non-drive-alone commuting illustrated in the Patagonia case study from recommended action ND.2 (Add incentives for walking to work), and the Seattle Children's case study from ND.3 (Expand biking incentives).

Next steps

Part of this recommended action is already in progress - to offer low-cost transit passes for the entire OHSU community (\$70 - a slight increase for benefit employees but significant decrease for others, including students and part-time workers). The next step is to offer trip-based incentives.

Associated recommended actions

- › ND.1 Implement an app to log incentives and help coordinate carpools, bike trains, and walking groups

Measures of success

- › Increased number of transit passes purchased relative to number of OHSU employees

NIKE TRANSIT PASS PROGRAM

Nike provides full-time employees with a free Universal Annual TriMet pass, which allows them unlimited rides on all TriMet trains and buses. Nike promotes the pass subsidy with table sales in all buildings once per year and through quarterly advertising on their internal website. Nike also provides employee shuttling to and from nearby transit hubs to make it even easier for employees who choose to take advantage of this incentive.

In 1992, when Nike relocated their headquarters to its current Beaverton location, the drive-alone mode share was 98 percent. Today, the drive-alone mode share is closer to 70%, far surpassing the DEQ mandated 10% reduction.

PACKAGING AND IMPLEMENTING RECOMMENDED ACTIONS



The 49 recommended actions presented here demonstrate a range of opportunities with different time scales, levels of impact and influence, and cost. Depending on financial resources and timing considerations, tackling all recommended actions from the previous sections at the same time is not a feasible option. The provision of this “library” of improvement strategies is meant to allow Transportation & Parking with options and flexibility in implementation when variable funds or collaboration is available.

Developing different types of recommended action packages, which bundle actions based on implementation considerations, provides guidance on where to start improving night access to OHSU. We created three such packages of five actions each based on overall impact, things OHSU could begin without long external processes and collaboration, and strategies that are quick and low cost.

High Impact

The High Impact package includes actions that would be the most effective at improving travel experiences for the largest number of OHSU night employees. These actions address concerns about parking inequities and tram hours most commonly voiced from the community at outreach events and through the survey. The package also significantly improves cyclist and pedestrian safety near campus and promotes the education of shift managers who can influence when employees begin and end their workdays. The High Impact actions are:

- › PP.1 Offer a new type of parking permit targeting reverse swing shift employees
- › FG. 6 Shift Tram hours to serve early morning employees
- › EC. 3 Educate OHSU shift managers about night transportation barriers and options to encourage coordinated shift schedules
- › WB. 3 Improve safety of nearby intersections
- › FG. 5 Subsidize night employee rideshare options

Internal Improvements

The Internal Improvements package includes actions that Transportation & Parking does not need to work with external stakeholders such as TriMet or PBOT in order to implement, yet still would have a significant impact on making late night and early morning travel to OHSU more safe, convenient, and affordable. By combining these strategies Transportation & Parking can develop an internal agenda that does not face the barrier of coordinating efforts with other agencies. The recommended actions themselves collectively make taking transit, utilizing active modes, and carpooling more attractive through incentives and programs, along with enhanced end-of-trip facilities. The Internal Improvements actions are:

- › ND. 4 Expand transit incentives
- › NE. 7 Improve interior pedestrian routes with wayfinding
- › FG. 4 Implement an internal carpool program
- › WB. 3 Improve bike facilities in Garage E
- › WB. 8 Extend athletic shower hours

PACKAGING AND IMPLEMENTING RECOMMENDED ACTIONS



Express Bargains

The Express Bargains package includes actions that are low cost and require little time and organization to implement. Generally these solutions work to improve traveler access to information related to their transportation options, including night maps, transit screens, and personalized night transportation plans. They also include easy ways to improve the campus night environment, improving a well-traveled path and making Public Safety staff more visible at night. The Express Bargains actions are:

- › WB. 5 Continue to improve pathway from SW Terwilliger Bus 8 stop to Garage E
- › NE. 1 Install a transit arrival screen in the main hospital lobby
- › EC. 1 Create a Night Transportation Travel Options map and online resource
- › NE. 4 Increase visibility of Public Safety staff
- › EC. 2 Create a program that generates personalized transportation plans for employees

These three packages are recommended starting points for OHSU to improve night access to its Central Campuses. Other possible ways to organize recommended actions include by mode impacted, by implementation collaboration partner, or by influence on specific community groups identified by categories such as employee role, neighborhood of residence or income. While the packages included here provide guidance for next steps, it is important for OHSU to keep in mind how these actions complement their overall long-term transportation vision as they begin to develop their general transportation plan over the course of the next year. By keeping an eye on the long term goal of improving transportation options to OHSU both at night as well as during the day, Transportation & Parking can better prioritize the solutions provided here to fit the changing context and conditions surrounding OHSU in the upcoming years to create a fully functional 24/7 transportation system that meets the needs of the entire community.

ACCESS

A black and white photograph of a bicycle rack in a parking garage. The rack consists of several white, U-shaped metal posts. A bicycle is parked in the foreground, and another is visible in the background. The background shows concrete walls and pipes. The text "MEASURING SUCCESS" is overlaid in large, white, bold, sans-serif capital letters. The entire image is framed by a white border.

MEASURING SUCCESS

MEASURING SUCCESS

Why track performance?

To ensure the investments OHSU will make in improving night transportation for its employees are implemented as effectively as possible and are truly improving safety, convenience and affordability, progress must be measured periodically. In crafting the plan framework, we also created several metrics to help gauge how successfully the recommended actions are achieving a safer, more convenient, and affordable transportation experience for OHSU employees working at night. Performance measures are all about defining clearly (and usually quantitatively) what it means to be successful.

Each one of the 49 recommended actions has at least one of the metrics below in its "Measures of success " section, tying each recommended action to a concrete outcome that contributes to improving safety, convenience, and/or affordability. The list of metrics below is not exhaustive, but keeping track of these things over time should reveal if implementing the recommended actions in the Night Access Plan is moving the needle in a positive direction and how far.

WHAT MEASURES SHOULD OHSU USE TO TRACK THE STATE OF SAFETY?

- › Number of employees who feel safe walking, biking, taking transit, carpooling, ridesharing, and driving to OHSU at night
- › Number of incidents that occur on campus at night reported by Public Safety staff each year
- › Number of collisions that occur on nearby streets and intersections
- › 85th percentile speed on nearby streets

WHAT MEASURES SHOULD OHSU USE TO TRACK THE STATE OF CONVENIENCE?

- › Number of employees who feel walking, biking, taking transit, carpooling, ridesharing, and driving is convenient
- › Number of employees who primarily walk, bike take, transit, carpool, rideshare, and drive to OHSU at night
- › Number of employees who at least sometimes walk, bike, take transit, carpool, rideshare, and drive to OHSU at night
- › Number of employees whose one-way commute is 30 minutes or less

WHAT MEASURES SHOULD OHSU USE TO TRACK THE STATE OF AFFORDABILITY?

- › Number of employees who feel their transportation costs don't require them to make difficult choices about how to spend limited income
- › Number of employees living in areas where the combined housing and transportation costs are less than 45% of an employee's household income
- › Number of employees getting to OHSU at night via walking, biking, taking transit or carpooling
- › Number of lower income employees getting to OHSU at night via walking, biking, taking transit or carpooling

WHAT MEASURES SHOULD OHSU USE TO TRACK THE STATE OF EQUITY?

- › Number of lower income employees who feel safe traveling to OHSU at night
- › Number of lower income employees who feel traveling to OHSU at night is convenient
- › Number of employees who feel their transportation costs don't require them to make difficult choices about how to spend limited income

How can OHSU get the information for these measures?

While some of this information is made available by other sources (for example, the number of collisions reported at nearby intersections), to measure most of the items mentioned requires OHSU to collect information directly from its community members. The annual combined OHSU Transportation Census/Eco Survey provides an invaluable opportunity to collect this information and would only require asking OHSU community members a few additional questions, provided demographic information on household income and address is already included. A night-specific section on the survey might look something like this:

Hello! It's been a year since we completed the Night Access Plan to make it easier for OHSU employees to get to and from the central campuses at night (between 9PM and 6AM). Since then we've made a few big changes to make night transportation better, including shifting the hours of the Tram to serve more early morning workers, creating a new parking pass and parking lot exclusively for off-hours shift workers, and expanding our commute incentives programs. We would like to hear about your experiences getting to and from the central campuses at night to help us focus our future efforts to improve the nighttime travel experience.

What transportation options do you use to get to and from OHSU at night?

How safe do you feel traveling to OHSU at night using the following transportation options? (Please select a rating between 1 and 5, 1 being "not at all safe", and 5 being "no safety concerns") (List of transportation options...)

How convenient are the following transportation options for getting to and from OHSU at night? (Please select a rating between 1 and 5, 1 being "this is not an option for me", and 5 being "very convenient")

How much do you agree with this statement: Transportation costs traveling to and from OHSU at night require me to make difficult choices about how to spend limited income. (Please select a rating between 1 and 5, 1 being "I don't agree at all" and 5 being "I agree completely")

Is there anything in particular that would make getting to and from OHSU at night easier for you?



What can OHSU do with this information?

OHSU can use the aggregated answers to these survey questions to track year-to-year progress. This information will help identify which measures are most effective and for what OHSU community sub-populations. This information will also help identify and target areas where OHSU is not making as much progress as it would like.

Setting targets for these measures was not within the scope of the Night Access Plan, but we highly recommend doing so. The targets should be reexamined after a few years of data comes in and refined to create realistic expectations about what OHSU can reasonably achieve.



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