

Oregon State University

2030 SUSTAINABLE TRANSPORTATION STRATEGY

A Transportation Demand Management Plan
for the OSU Corvallis Campus

October 2020



Acknowledgements

Executive Leadership Team

Edward Feser, Provost and Executive Vice President
Mike Green, Vice President of Finance and Administration
Steve Clark, Vice President, University Relations and Marketing
Paul Odenthal, Senior Associate Vice President of Finance and Administration
Bruce Daley, Associate Vice President of University Facilities, Infrastructure and Operations
Dan Larson, Vice Provost for Student Affairs

Project Team

Paulo Nunes-Ueno, Nunes-Ueno Consulting
Meredith Williams, Transportation Services Director, OSU
Bob Richardson, Land Use Planning Manager, OSU
Sarah Bronstein, Transportation Options Supervisor, OSU

Sounding Board: OSU Transportation Committee

Aaron Collett
Bill Coslow
Allison Dean
Craig Flierl
Dean Fritz
Tina Green-Price
Kate Hunter-Zaworski
Jon-Michael McDaniel
Gabriel Merrell
Zac Pinard
Leonora Rianda
Lisa Scherf, Staff Liaison, City of Corvallis
Lori Siewell
Brian Stroup
Brandon Trelstad, Chair
Jay Well

Table of Contents

Chapter One: Charting a More Sustainable Course	2
Introduction	2
Setting a Bold Goal	3
Community Momentum	4
Supporting Campus and Community Plans	5
Engagement	7
Chapter Two: Analysis and Methods	10
Transportation and Parking Calculator	11
Future Scenarios	12
Market Analysis	14
Selecting Actions to Support Change	18
Monitor and Adjust	21
Case Study: Daily parking at OSU-Cascade – Removing unintended incentives to drive	22
Case Study: Transportation at Seattle Children’s Hospital – A comprehensive approach	24
Chapter Three: Sustainable Transportation Strategy	26
Actions in Pursuit of the Goal	26
Action 1: Pay-As-You-Go Parking	30
Action 2: Online Commute Platform	34
Action 3: Commute Incentives	36
Action 4: Flexible Carpooling	38
Action 5: Remote Work	40
Action 6: Personalized Communications	42
Action 7: Beaver Bus – CTS Connections	44
Action 8: Increased CTS Service	46
Action 9: Campus Mobility Hub	50
Action 10: Monroe Corridor Redesign	52
Action 11: Neighborhood Bikeways	56
Action 12: Harrison Boulevard to Campus Way Multi-use Path	60
Action 13: Shared Micromobility	62
Action 14: Bike Parking	64
Action 15: Car-free Campus Core	66



CHAPTER ONE:

Charting a More Sustainable Course

Introduction

Whether it is a walk across campus or a drive across the state, transportation touches many of the values Oregon State University holds most dear. It involves every member of the Corvallis Campus community from visitors to students, staff, faculty and neighbors. How individuals choose to travel to OSU has implications across the region for traffic, land use and climate change. A person's choice to work from home, pick up a bike

helmet, or grab their car keys is guided not only by internal motivations, but also by the surrounding physical and social environment.

As a land grant University in a somewhat rural setting, OSU faces unique challenges in providing affordable, attractive and safe transportation choices for students and employees without the density and transportation services of a larger city. And yet, as an employer, a street right-of-way owner, a landlord, and a parking system manager, OSU is in a unique position to support

mobility choices for students and employees. This 2030 Sustainable Transportation Strategy aims to make trips to and from the OSU Corvallis campus flexible, affordable and sustainable.

At the heart of the Sustainable Transportation Strategy is a suite of actions selected to expand the transportation choices available to meet peoples' needs as they shift from day to day.

These actions are grounded in the best practices of the field of Transportation Demand Management, or TDM, which aims to shift individuals' transportation behaviors away from

predominantly driving alone and more towards walking, biking, carpooling, transit, and remote work. OSU's adoption and implementation of the Sustainable Transportation Strategy will reduce overall demand for auto travel and its associated impacts and produce far-reaching benefits for the campus and the Corvallis community.

Setting a Bold Goal

In establishing the Sustainable Transportation Strategy, **Oregon State University commits to a goal to reduce drive-alone commute trips to the Corvallis campus by one-third, from 30% today to 20% by 2030.** The percentage of commute trips to campus made in single occupancy vehicles, also called the drive-alone rate, will serve as the primary benchmark of success for this plan. This goal was selected by OSU senior leadership in support of five key values.

Five Key Values:

1. Be bold in addressing the climate crisis.
2. Be a good neighbor.
3. Ensure affordability for students and employees.
4. Preserve land for education, research and open space.
5. Be good stewards of financial resources.

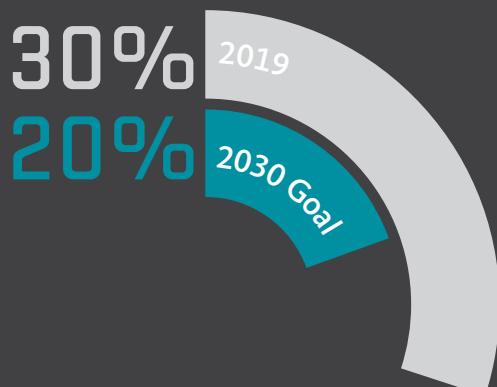
Be Bold in Addressing the Climate Crisis

Transportation is the biggest source of greenhouse gas emissions in Oregon.¹ OSU's Sustainable Transportation Strategy will cut the university's commute-related emissions, helping the University to reduce its climate impact from transportation.

Be a Good Neighbor

Neighborhood residents near campus are impacted by on-street parking and traffic congestion. OSU's Sustainable Transportation Strategy will benefit neighbors by reducing OSU-related traffic and parking congestion, increasing transit service and improving pedestrian and bicycle

Corvallis Campus Drive-Alone Rate



OSU pledges to reduce drive-alone commute trips to the Corvallis campus by one-third in the next ten years.

routes to campus. Achieving a 20% drive-alone rate will mean less congested and more livable neighborhood streets.

Ensure Affordability for Students and Employees

According to the Bureau of Labor Statistics, transportation is typically the second biggest household expense in the US, even greater than food.² OSU's Sustainable Transportation Strategy lowers transportation costs for students, staff and faculty by improving access to sustainable and affordable alternatives to driving alone. Students and employees will:

- Only be charged for parking on days when they use it, and enjoy savings or incentives on days when they choose another option;

¹ DEQ, Oregon Greenhouse Gas Sector-Based Inventory, www.oregon.gov/deq/

² Consumer Expenditures - 2018. News Release, Bureau of Labor Statistics. Tuesday, September 10, 2019.

- Avoid paying the higher permit fees that would otherwise be needed to cover the cost of parking garage construction;
- Experience increased frequency and reliability on select fareless transit routes and an improved transit hub for regional services that reduce the need for students to have a car at OSU; and
- Enjoy safe and convenient pedestrian and bicycle connections to campus.

Preserve Land for Education, Research and Open Space

As a land grant research institution, OSU stewards a significant amount of open space and agricultural research land. What may appear to an outsider to be vacant land is quite often working land serving a research purpose. What little land on campus is not actively in use has the potential to support new academic or residential buildings, or to be retained as open space. Without strategic investments in TDM, more OSU land will be required for new parking construction, leaving less space for these other uses.

Be Good Stewards of Financial Resources

By achieving a 20% drive-alone rate by 2030, the existing parking facilities on the Corvallis campus would provide more than enough capacity to meet parking demand, even with an annual average 1% growth in enrollment. If, however, current driving rates do not change, up to \$82 million would be required to build additional needed parking.³ Investing in sustainable

³ In 2019 dollars, not including financing or maintenance costs.

transportation is not free, but it is a far less expensive way to accommodate commute trips than building parking.

Community Momentum

The Sustainable Transportation Strategy builds upon positive momentum generated by local agencies over the past ten years:

- 2011 - Corvallis Transit System (CTS) transitioned to be fareless.
- 2014 - OSU Corvallis campus implemented a zonal parking system to optimize existing parking.
- 2015 - OSU Transportation Services created a new Transportation Options program funded through parking revenue.
- 2019 - New state funding supported a significant expansion of local transit services.

These improvements have made a difference. Over the last decade, OSU has observed a consistent reduction in the drive-alone commute rate and an increase in other modes. Additional recent transportation planning undertaken by OSU and the Corvallis community have introduced further opportunities for collaboration and mode shift (p. 5). University and community plans express a shared vision for expanding sustainable transportation. How the university and community work together to update policies and practices regarding the construction and management of parking - both on and off campus - will be critical to achieving shared goals. The Sustainable Transportation Strategy can be a tool to focus and propel this collaborative work.

City Development Requirements

OSU and the City have expressed a mutual desire to redefine how transportation and parking is regulated on campus. OSU will invest in the Sustainable Transportation Strategy because it is the most reasonable and effective path to achieving the 20% drive-alone rate goal and, as a by-product, its success will also minimize the need to construct additional parking, expand local transportation options, and preserve land and financial resources for other uses. These actions provide value and benefit both the university and community and may serve a role in the creation of new development requirements.

On-Street Parking

As OSU moves forward with investments in sustainable transportation and parking strategies, the momentum of this and other plans will be aided by parallel city efforts to manage nearby on-street parking. Currently free, proximate, and unregulated on-street parking hinders the university's ability to promote sustainable transportation as a competitive alternative to driving alone. OSU is supportive of community efforts to evaluate appropriate parking management practices for surrounding neighborhoods.

Supporting Campus and Community Plans

The Sustainable Transportation Strategy fits within a larger university planning framework.

• Strategic Plan 4.0

The university's strategic plan asserts the goal that “[W]e produce graduates, scholarship and solutions that achieve maximum positive impact on humanity’s greatest challenges.” The OSU Sustainable Transportation Strategy works in immediate service of such challenges.

• Corvallis Campus Vision

The Corvallis Campus Vision is a strategy to foster connections among people through the organization of buildings, open spaces, and circulation. It provides direction to align campus development with Strategic Plan 4.0, and it seeks to preserve the historic character of the Corvallis campus while supporting OSU's mission to promote progress through exceptional teaching, research, discovery, innovation and engagement. The actions identified in the Sustainable Transportation Strategy support the Campus Vision's design guidance for campus gateways and edges.

• OSU Transportation Plan

The OSU Transportation Plan outlines policies and transportation improvement projects for the Corvallis campus. It defines multi-modal campus transportation networks, provides guidance for campus transportation projects and facilities, and calls for a TDM Plan to further define OSU's work to support commuter alternatives to driving alone. Implementation of the projects and policies in the OSU Transportation Plan will benefit pedestrians, bicyclists, and transit riders traveling to and through OSU; the Sustainable Transportation Strategy supports key projects

and policies from the plan that are most effective at reducing drive-alone trips to campus.

• OSU Climate Plan

In 2009, OSU crafted “a strategic plan for institutional climate neutrality.” The plan included a bold goal for OSU to achieve net neutrality by the year 2025 through conservation and efficiency projects, on-site renewable installations, and carbon offsets. The plan includes recommendations to address emissions from ground transportation by promoting alternatives to driving such as bicycling and ridesharing.

Recently completed city plans also support the expansion of sustainable transportation options for OSU students and employees.

• Imagine Corvallis 2040

OSU’s 2030 Sustainable Transportation Strategy will support many objectives from this visionary document, adopted by the City of Corvallis in 2016. This includes the “Green and Sustainable University” objective which states, “Corvallis works collaboratively with Oregon State University to plan and implement a green, sustainable campus with a light environmental footprint.” An additional “Coordinated City & University Planning” objective envisions that “Corvallis works closely with Oregon State University to improve community livability, minimize its impacts on neighborhoods, mitigate parking and traffic issues, and improve collaboration between City and University.”

• City of Corvallis Transportation System Plan (TSP) and Transit Development Plan (TDP)

The City’s TSP, adopted in 2019, includes overarching policy support for multimodal transportation, with objectives to “Increase the number of walking, bicycling, and transit trips in the city,” and “Encourage comprehensive on-site Transportation Options programs - including incentives and disincentives - by major employers and educational institutions.” Several actions within the Sustainable Transportation Strategy are drawn directly from the City’s TSP and TDP project list. By including projects from adopted city plans, the Strategy recognizes that commute trips do not start and end at the campus boundary. These projects invite collaboration between the university and the city to achieve shared goals.

• Corvallis Climate Action Plan

Adopted by the Corvallis City Council in December 2016, the Corvallis Climate Action Plan places a high priority on transportation demand management actions. Actions within the Sustainable Transportation Strategy echo many of the recommended actions from this plan, including increasing Corvallis Transit system service (Action 8, pp. 46-49) and improving the bicycle and pedestrian network (Action 11, pp. 56-59).

Engagement

Diverse groups of interested parties and subject matter experts contributed vital input at each phase of the development of the Sustainable Transportation Strategy.

Engagement took many forms. Innovative and interactive events provided participants and stakeholders with the opportunity to learn and respond to concepts, ideas and actions about sustainable transportation through games, a hackathon, workshops and presentations.

Stakeholder Groups:

- **OSU Leadership** steered the plan, providing direction to the project team by establishing guiding values, setting goals and reviewing drafts.

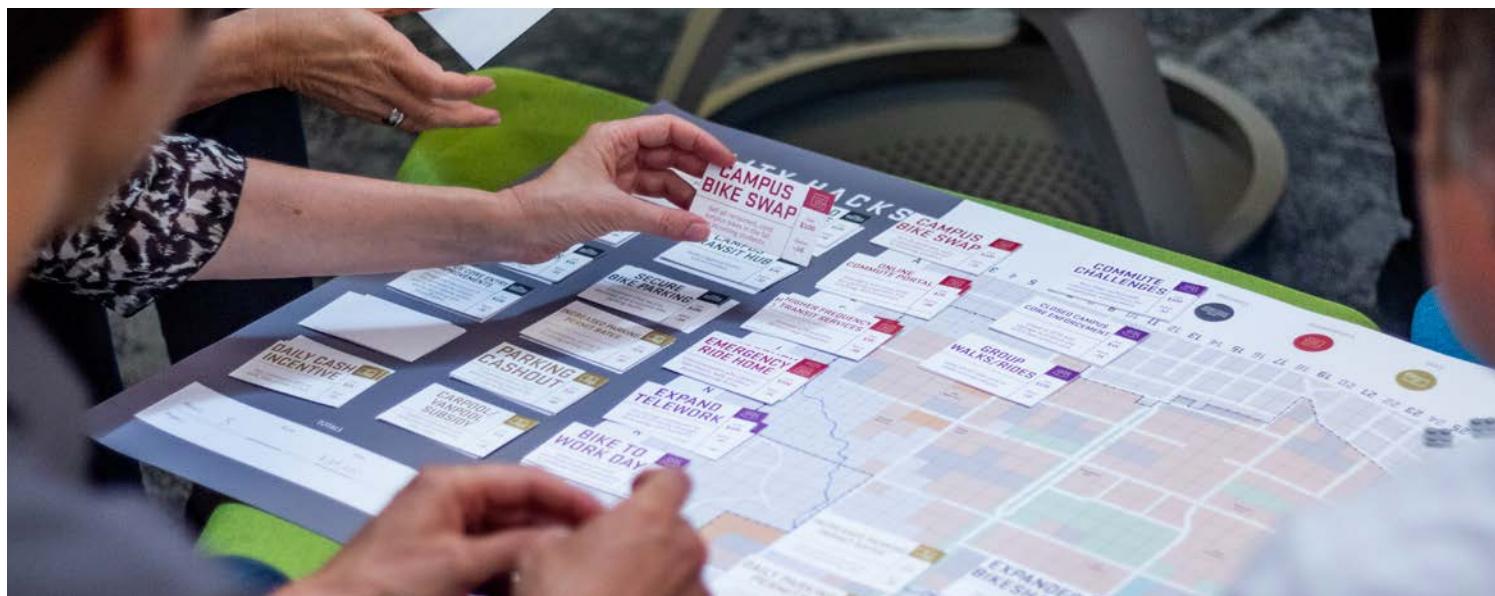
This group included the Provost and members of OSU's senior leadership.

- The **OSU Transportation Committee**, composed of department and student representatives from across OSU, served as the advisory committee and sounding board for the plan.

- The project team submitted OSU's TDM planning effort as a community initiative to the **Imagine Corvallis Action Network (ICAN) Advisory Board**, a city advisory board charged with implementing the Imagine Corvallis 2040 Vision.

- The project team sought input from the **Oregon State Environmental Council** (a committee of the Associated Students of OSU (ASOSU)) as well as the **Transportation Subcommittee of the Faculty Senate Ad Hoc Committee on the Carbon Commitment**.

OSU students and employees at the Campus Transportation and Parking Workshop, June 2019.



Outreach Events

- **Campus Transportation and Parking Workshop**

Representatives of departments across campus and partners from the City participated in a four-hour workshop with guided activities to explore influences on our transportation behaviors, to brainstorm in a Mobility Hackathon, and to play a custom transportation and parking board game.

- **Parking in Corvallis: Exploring Solutions**

(hosted by the Corvallis Sustainability Coalition and the League of Women Voters)

The Director of Transportation Services presented the TDM Plan project to Corvallis residents as part of a panel of parking experts at the Corvallis-Benton County Public Library.

- **Sustainable Transportation Game Night**

(cohosted by ASOSU)

More than 70 students attended a game night on campus to play a custom board game about transportation and parking at OSU.

- **Sustainable Transportation Workshop**

(cohosted by ICAN)

The project team played the campus Transportation and Parking Board Game with a group of community members, including city councilors and a city planning commissioner.

OSU students learn about the trade-offs of investing in parking versus sustainable alternatives at the Sustainable Transportation Game Night on campus, January 2020. *Cohosted by OSU Transportation Services and Associated Students of OSU*





Corvallis residents play the Transportation and Parking Board Game at a community workshop, February 2020. Cohosted by OSU Transportation Services and Imagine Corvallis Action Network

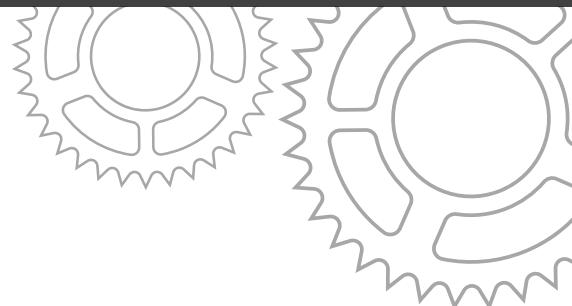
The Transportation and Parking Board Game

The project team developed a custom Transportation and Parking Board Game to guide public engagement on the plan development. The fun and collaborative game was used to engage OSU students, employees, and members of the community, including city staff and elected officials. Players took on the role of a campus planner strategizing to accommodate 1,600 new daily trips to campus in the next ten years. With a constrained budget and limited land, players had to collaborate to accommodate the trips through some combination of parking and Mobility Hacks (investments or programs to influence transportation behavior). Through collaborative game play, the players built a comprehensive strategy to accommodate future trip demand, while also assessing the impacts of these investment choices on greenhouse gas emissions, land use and community relations.

The board game was well-received, and was recognized by the Association for Commuter Transportation with the 2020 Award for Best Overall Marketing Campaign. The project team plans to continue to play it with community and campus groups to discuss the OSU Sustainable Transportation Strategy and the complex relationships between parking and sustainable transportation investments. The game will be made available for check out at the OSU Library as well as in a printable format online.

CHAPTER TWO:

Analysis and Methods



The work to develop a TDM Plan for the OSU Corvallis campus took place over the course of a year through data analysis, scenario planning and engagement with OSU students, employees and community members.

As part of the process, the project team conducted the following steps to develop the Sustainable Transportation Strategy:

1. Test future scenarios against the five Key Values.
2. Identify a preferred scenario, including a mode split goal (the percent of daily trips to campus made by driving alone).
3. Conduct a market analysis to determine feasibility of the preferred scenario.
4. Develop a strategy to achieve the mode split goal.

Testing the scenarios revealed that a bold stance on climate action through transportation investments was most consistent with the university's values. Further evaluation of commute "markets" among OSU students and employees revealed untapped potential for a mode shift in travel behavior. This analysis of population distribution and market potential coupled with industry best practices for effective TDM measures formed the basis for the Sustainable Transportation Strategy which will guide the University's investments in TDM over the next ten years.



Transportation and Parking Calculator

The project team used data from the OSU Corvallis campus and growth assumptions from current campus plans, as well as knowledge of other peer institutions, to develop and refine a custom Campus Transportation and Parking Calculator (Figure 1). The Calculator allowed the team to estimate the parking impacts and costs of the different scenarios over the next ten years. In addition to supporting a cost-benefit analysis during the plan development process, the Calculator can continue to serve as a tool for OSU to monitor its progress towards the goal of a 20% drive-alone rate by 2030.

Baseline assumptions and inputs:

Population: The campus population of students and employees is expected to grow an average of 1% per year over the next ten years. The 2019 base level populations used for the Corvallis campus were 24,344 undergraduate and graduate students and 5,509 permanent and temporary employees, growing to 29,216 students and 6,474 employees by the year 2030.⁴

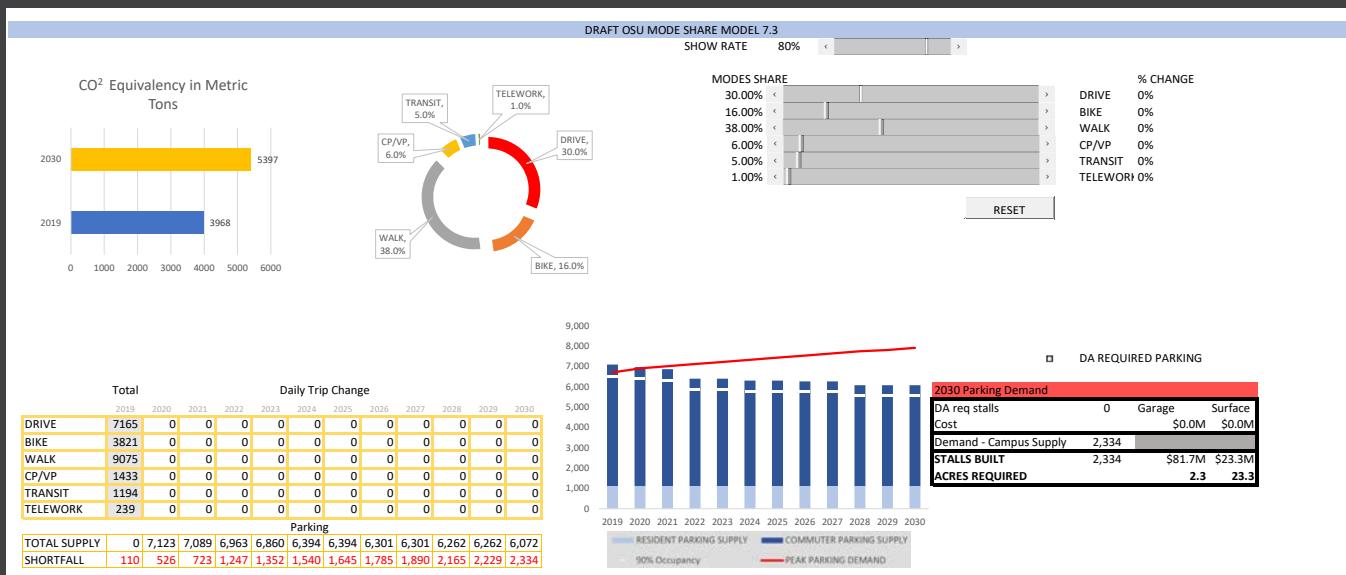
New capital projects: The projects on the University's ten-year capital forecast will be completed within the planned time horizon, resulting in a loss of existing parking due to construction on surface parking lots.

Neighborhood parking: As a conservative measure, the calculator assumes that all University-bound drivers must park on campus, and no parking will occur on neighborhood streets.

Residential parking: The quantity and occupancy of residential parking on campus was assumed to remain constant from 2019 levels.

Visitors: Based on permit use, it is estimated that an average of 150 visitors, including contractors, prospective students, event attendees and others park on the Corvallis campus each day using daily or hourly permits. This average rate was assumed to remain constant over the planning horizon.

Figure 1: Calculator Dashboard



⁴Sources: 2019 campus population provided by the OSU Office of Institutional Research, population growth rates provided by OSU Capital Planning and Development.

Future Scenarios

Using a custom Transportation and Parking Calculator (page 11), the project team developed several possible scenarios representing future campus mode splits resulting from different policy decisions. The results produced by the Calculator helped the project team to assess the impacts of each scenario based on the five Key Values: be bold in addressing the climate crisis; be a good neighbor; ensure affordability for students and employees; preserve land for education, research, and open space; and be good stewards of financial resources. Two of these scenarios, described here, demonstrate the very different outcomes that could result from the policy decisions OSU makes today.

Status Quo Scenario

In the “Status Quo Scenario,” OSU’s investment in TDM remains static, and the drive-alone rate remains at its current level (30%) as the campus population grows by a modest 1% per year over the next ten years. The scenario assumes that OSU will build parking as needed to meet demand, and conservatively assumes that all university-related parking demand would be met on campus, with none on neighboring streets. This assumption was used to reflect the high-end of future parking costs under this scenario.

In this scenario, without any additional investments in TDM, OSU must build a total of 2,334 new parking spaces by 2030. If these spaces were built as surface lots, they would require a total of 16 acres of land, far more than is currently available on the Corvallis campus.

In reality, because of the lack of land available for development due to land use regulations and active agricultural research uses, OSU would need to build these spaces as a new parking structure(s). This would cost the university an estimated \$82 million (not including maintenance or financing costs), and use 2.5 acres of land (Figure 2), equal to two football fields. The cost of the additional parking would be borne by increased parking permit fees for students and employees. This may impact access to education and employment for lower income employees and financially strapped students, many of whom live outside of Corvallis and have limited access to walking, biking, and transit. Additionally, while the percentage of commuters driving alone would remain the same, the total number of driving trips to campus would increase, leading to increased greenhouse gas emissions and neighborhood traffic impacts.

Results of the Status Quo Scenario

- Annual GHG emissions grow from 6,500 to 8,100 CO₂ Metric Tons (*It would take 2,000 acres of forest to sequester that much additional carbon in a year*)
- Up to \$82 million spent on new parking structure(s) (*4x the cost to design and reconstruct a multi-modal campus roadway end to end*)
- >2.5 acres of land is required (*equal to two football fields*)
- Costs go up for students and employees

Bold Climate Action Scenario

A different scenario projected a future in which OSU takes bold action to lessen its transportation-related greenhouse gas emissions. In this scenario, the percentage of drive-alone trips is reduced to 20% by 2030, a reduction of one-third from today's drive-alone rate of 30%. An achievement of that magnitude would require support and investment to see expanded use of sustainable transportation modes. Such investments, while significant, would be much less than those needed to construct the parking needed in the Status Quo Scenario. By freeing financial resources from being committed to new parking, OSU can invest instead in more diverse and reliable transportation options. The reduction in drive-alone trips in this scenario also correlates to a direct reduction in greenhouse gas emissions (Figure 3).

Results of the Bold Climate Action Scenario

- Annual GHG emissions fall from 6,500 to 5,800 CO₂ Metric Tons (a 10% reduction)
- \$0 spent on parking construction
- No additional land needed for new parking
- Lower cost choices for students and employees

This scenario closely aligns with the five key values, and as such was selected by university leadership as the preferred scenario. The Sustainable Transportation Strategy 2030 goal of reaching a 20% drive-alone rate originated with this scenario.

Figure 2: Space and Cost of New Parking

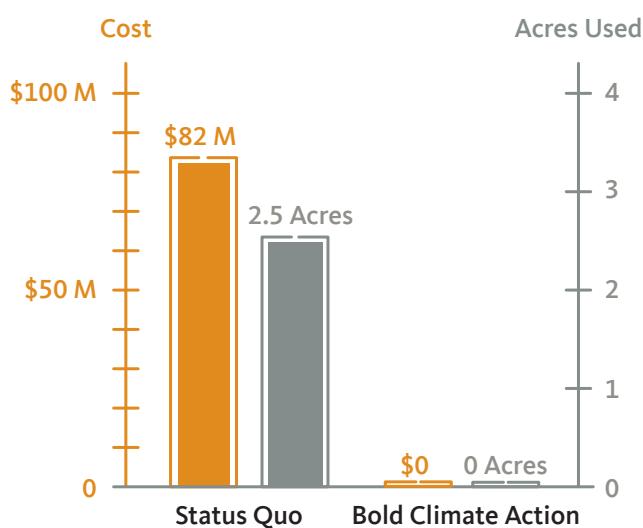
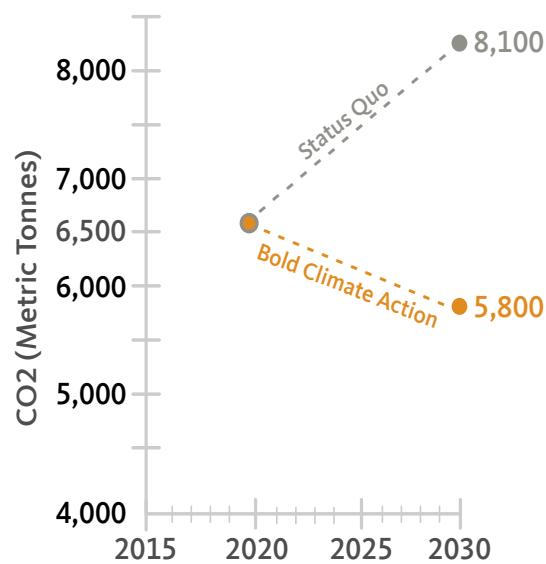


Figure 3: Commute Emissions by 2030





Market Analysis

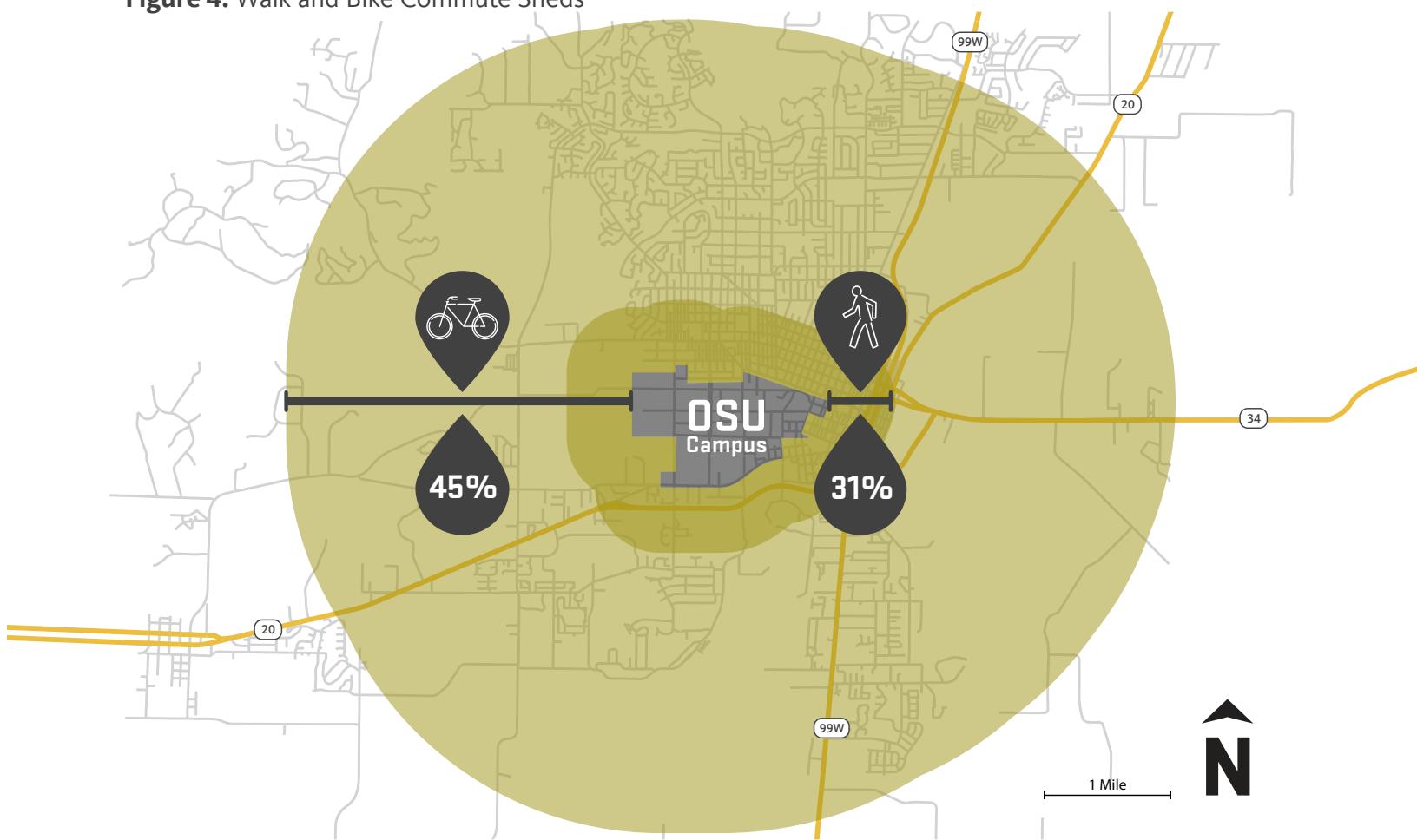
The Bold Climate Action scenario is a significant change from business-as-usual, both for the university and for commuters. While the preferred scenario and a goal of a 20% drive-alone rate clearly supported university values, the project team needed to determine if such a goal was even possible given the geographic distribution of students and employees and their access to sustainable transportation options.

The project team evaluated the feasibility of such a bold goal by examining the transportation options available to students and employees at or near their homes. To evaluate untapped markets for a shift from driving to other transportation types, the project team mapped anonymous home address points within easy walking or biking distances from campus, within walking distance of a transit route that serves campus, and within clusters of potential carpoolers. These markets were then compared to OSU's existing mode split to look for opportunities and untapped potential (Table 1, p. 18). The following key takeaways highlight OSU's transportation market potential.

Housing on or near campus supports walking trips. Approximately 7,500 current student and employee commuters (or 31% of the 2018 commuter population) live within a half mile of the campus boundary, an area defined as the campus “Walkshed” (Figure 4). This does not include the approximately 5,000 on-campus residents, who also tend to walk to class. Gains in this mode would result from new construction of high-density housing on or adjacent to campus.

Bicycling has some room to grow. The project team defined the campus “bikeshed” as the area within 2.5 miles of the campus boundary, on slopes of less than 3% (Figure 4). An estimated 10,800 individuals, or 45% of the campus population, live within this area. Increased adoption of electric bicycles, continued construction of nearby housing, and construction of the city’s low-stress bike network as outlined in the Corvallis Transportation System Plan can lead to growth in this mode.

Figure 4: Walk and Bike Commute Sheds



Bike Shed: within 2.5 miles and under 3% grade | Walk Shed: within 0.5 mile

Transit provides a significant opportunity for behavior change. The analysis of local transit routes revealed that nearly 13,000 commuters, or 53% of campus commuters, live within a quarter mile of a CTS transit stop with 30-minute frequency bus service to campus (Figure 5). Many of these routes were just increased to the current half-hour service from hourly service in 2019 due to new state transit funding. This additional service, along with other planned improvements to frequency and service hours in the city's Transit Development Plan, will likely lead to increased ridership. While these improvements would happen in the long term, targeted support from OSU could elevate and speed up the implementation of specific service improvements that would benefit the campus.

Figure 5: The CTS Transit Commute Shed – within a quarter mile of a route

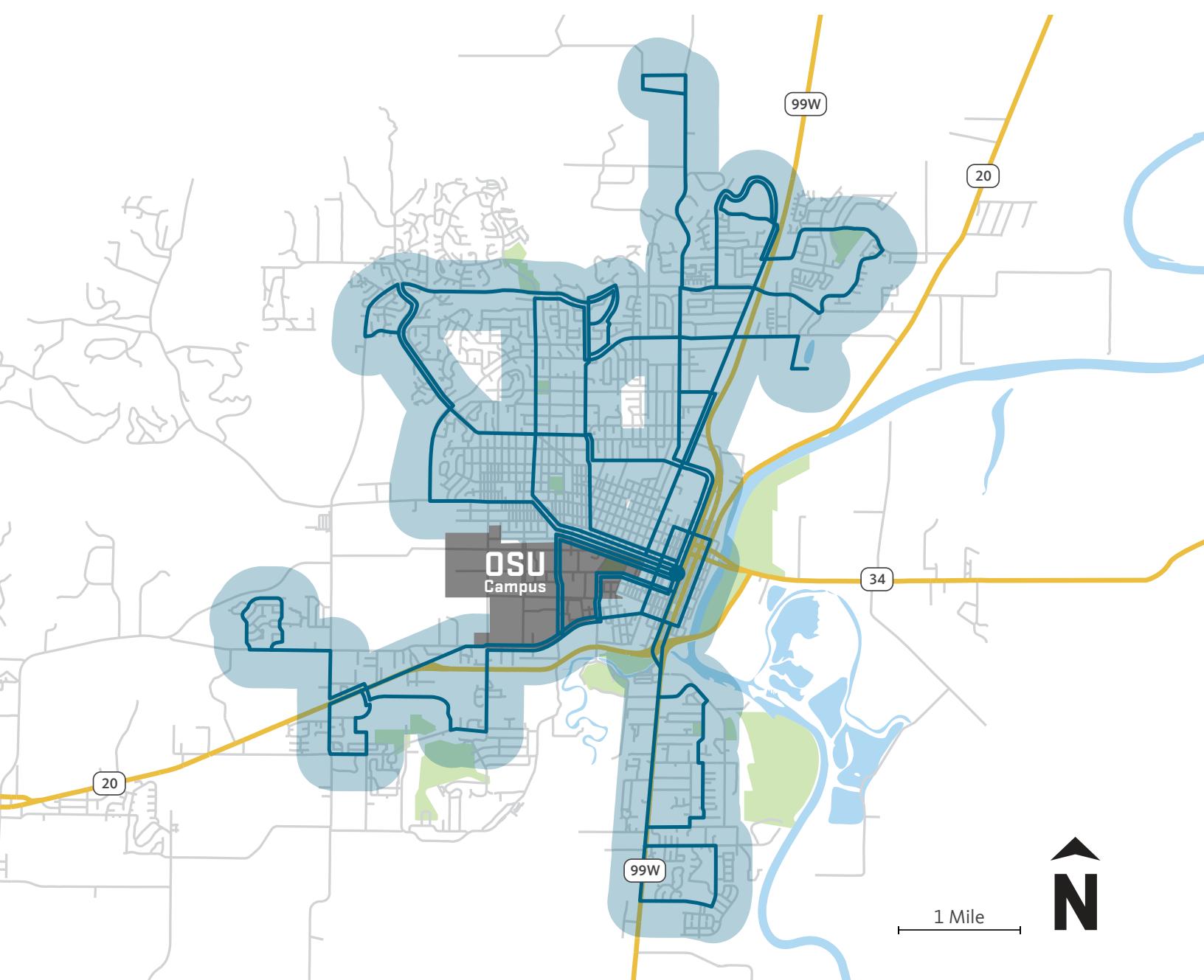
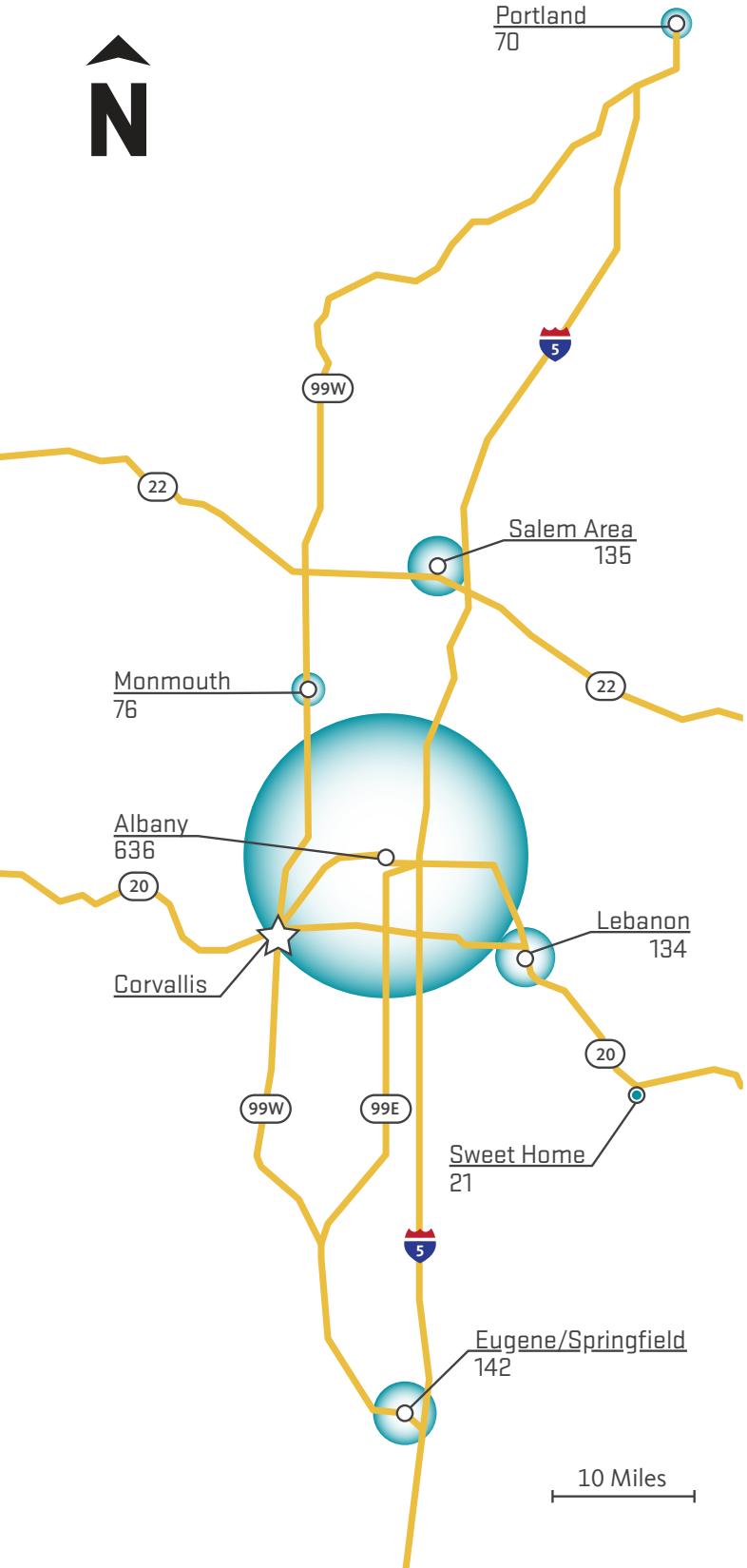


Figure 6: OSU Employee Carpool Markets



Carpooling could grow with focused support, added convenience, and flexibility. The project team evaluated OSU's carpool markets by identifying geographic clusters of commuter addresses outside of Corvallis. Approximately 6,000 employees and students, or 27% of the commuter population, live within such a cluster. For these commuters, carpooling may be the only viable alternative to driving alone. Investment in services and technologies to support and incentivize carpooling will be essential to ensure affordable mobility choices are available to those living outside of Corvallis. Most notably, modern online and app-based commute platforms, when combined with daily parking permits for all commuters and visitors, can encourage carpooling as a flexible and convenient daily option rather than an annual commitment. Furthermore, a work culture allowing flexible scheduling would support commuters in matching their schedules for carpooling and vanpooling.

Key: Corvallis Campus Employees Outside of Corvallis

- 50 OSU Commuters
- 200 OSU Commuters
- 400 OSU Commuters

Remote Work/E-campus is anticipated to grow. Investments in online communication platforms and the rapid adoption of remote work in response to the coronavirus pandemic in 2020 have led to broad-based acclimatization and acceptance of working and learning remotely. Some portion of OSU employees are expected to continue working remotely at least part time into the future, and an update to OSU's telecommute policy to allow for increased daily flexibility will support this change for the long term.

Table 1: Mode Split Market Analysis

Mode	2018 Mode Split ³	Market Potential*
Drive Alone	32%	
Walk (<0.5 miles)	31%	31%
Bike (<2.5 miles AND <3% slope)	20%	45%
Transit (<0.25 Mi from 30 min CTS stop)	7%	53%
Carpool/Vanpool (Clusters outside Corvallis)	8%	27%
Remote Work/ECampus	2%	
Other	1%	
Total	100%	

*Due to overlapping markets, total is >100%

Selecting Actions to Support Change

Market analysis demonstrated that with targeted investments, OSU could achieve the reduction in drive-alone trips proposed in the Bold Climate Action Scenario. The next and final step was to lay out a comprehensive strategy to chart a course for success. Using the information from the market analysis as a guide, the project team evaluated a broad list of potential actions the university could take over the next ten years to reach its goal of a 20% single-occupancy vehicle trip rate by 2030. The initial list was

³ Mode Split and Population data for the Market Analysis used 2018 as the base year, as 2019 travel survey data was not yet available at the time.

refined down to a set of fifteen actions carefully selected to achieve this goal. Care was taken to include actions that respond to the diverse needs of all OSU students and employees and to prioritize individual flexibility and daily choice.

The actions chosen do not represent the totality of transportation-related investments OSU will need to make in the coming years. Rather, they complement the detailed descriptions of campus transportation investments and network gaps contained in the OSU Transportation Plan.

The Four C's: A Comprehensive Approach to Transportation

In developing the list of actions to include in the Sustainable Transportation Strategy, the project team followed a conceptual framework for understanding individual transportation choice called the Four C's. This framework acknowledges that the transportation choices people make are the result of many different factors, including how much a trip costs, how long it takes, how safe it feels, or even how normal it

is among our peer group. Of the factors within an employer's control, these influences can be organized into four categories:

- **Cost:** Both the actual price of a trip, and the way that cost is experienced (such as daily vs. annually), can have a profound effect on an individual's transportation choices.
- **Culture:** Institutions send strong messages about desirable behavior through both official communications and actions as well as the subconscious messages inherent in rewards and investment priorities.
- **Convenience:** Time and efficiency play a critical role in an individual's decision about how to get to work or class.
- **Concrete:** The built environment, both on and off campus, can influence how safe or how welcomed someone feels taking a particular mode of transportation.

Transportation demand management studies and results at peer institutions (See Case Studies, pp. 22-25) have shown that when sustainable transportation investments are coordinated and comprehensive across multiple modes, their

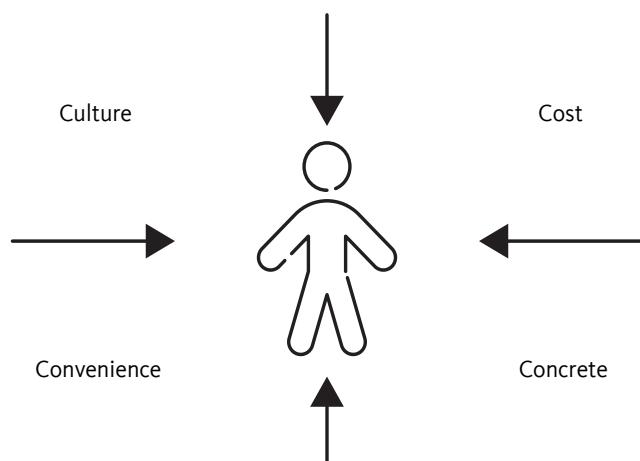


Figure 7: The four Cs work together to influence an individual's transportation choices

collective impact is greater. OSU's Sustainable Transportation Strategy balances the 4 C's to make it normal, convenient, affordable, and safe for people to choose a variety of transportation options. In doing so, the university builds a transportation system that provides flexibility and opportunity for students and employees and to make affordable, sustainable trips. The Sustainable Transportation Strategy leverages the Four Cs in the following ways:

Cost

The impact of all other actions hinges on a shift to daily parking permits. Today, most OSU commuters who drive to campus are locked into annual or monthly parking permits that encourage people to "get the most bang for their buck" by driving as often as possible. At the same time, people who cannot afford the up-front cost of an annual permit pay far more over the course of a year through buying monthly, hourly, or daily permits. A shift away from annual commuter permits to convenient and lower-priced daily permits must happen first in order for the Sustainable Transportation Strategy to succeed. When driving and parking is a daily choice, other sustainable transportation choices become more viable commute options on any given day (Case Studies pp. 22-25). Commuters only pay for the days when they choose to drive and not for the days they make other choices. Financial incentives can further sweeten the pot for those who are considering another option on any given day.



Culture

The success of the Sustainable Transportation Strategy hinges on a cultural shift led by OSU leadership. To shift the culture, leaders at all levels of the organization must champion the use of sustainable transportation, lead by example, make meaningful investments, and choose consistent, supportive messaging. Some of the actions identified in the Sustainable Transportation Strategy may be difficult to implement, making leadership all the more important.



Convenience

Commuters will be more likely to choose other travel modes if those options are as convenient as driving. Over half of OSU's students and employees live less than an eight-minute walk from a CTS bus stop that serves campus. And yet, some of the routes that serve the greatest number of employees run only hourly when school is not in session, making the system less convenient and reliable. Increased transit frequency year-round could attract employees who drive to campus today. Small changes to campus Beaver Bus routes will facilitate transfers from city bus stops. A new campus mobility hub to co-locate multiple bus and shuttle stops would improve the visibility and attractiveness of intercity services such as the Linn Benton Loop, which will soon extend service hours and double frequency between OSU and Linn Benton Community College.



Concrete

Making safe routes for people to walk, bike and take transit does not begin and end at the campus boundary. The Sustainable Transportation Strategy includes a combination of actions to improve on-street and end-of-trip facilities that will make walking, biking, and transit trips to campus safe, comfortable, and attractive. The project team looked beyond the needed investments on the Corvallis campus to ask what actions should be taken to support commuters during their trip to campus. Knowing that the City of Corvallis recently completed a Transportation System plan, the project team consulted this plan to identify proposed projects that connect to the OSU campus and would make bicycling and pedestrian trips to campus safer or more convenient.



Monitor and Adjust

Progress toward the goal of a 20% drive-alone commute rate will be measured through the annual travel survey of OSU students and employees on the Corvallis campus. Travel surveys have been continually identified as the preferred method to measure transportation behavior, both at OSU and at many peer institutions. In pursuit of the 2030 goal, other mode-specific or short-term objectives may be established along the way to assess the progress and efficacy of the program. Each year, OSU will review the travel survey and other program results and adjust short-term objectives accordingly.



CASE STUDY:

Daily Parking at OSU-Cascades

Removing unintended incentives to drive

When looking for examples of daily parking at a college campus, OSU does not have far to look. At the OSU-Cascades campus, a daily parking model has been in place since the campus opened in 2016. In its master plan, the university made robust commitments to sustainability. While building the commute program from scratch, Casey Bergh, campus transportation program manager, looked for best practices from around the country that would support a sustainable campus.

A Seattle Times article caught his eye. The piece, headlined The not-so-secret trick to cutting solo car commutes: Charge for parking by the day, tells the story of multiple employers in the Seattle region, including the Gates Foundation and Swedish Medical Center, that saw dramatic reductions in the percentage of employees that drove alone to work. In each workplace, the move to charging for daily parking was the single biggest factor behind that shift. Until then, employees with monthly or annual permits had an unintended incentive to use their prepaid parking as much as possible to get their money's worth. As the article noted, "When you pay a monthly fee, you're really paying a big fee for the first day and then every day after that is free."

Seeing how successful daily parking could be, OSU-Cascades adopted a similar approach from day one. Commuters and visitors alike can only purchase parking by the day. This encourages students and employees to choose other transportation options on many days, which in turn reduces the need to build additional parking. Students and staff can load a parking account with money, and a license plate reader at the parking lot entrance deducts a charge by the hour or by the day. A notification alerts users when their account balance dips below \$5.

The daily parking charge has not overwhelmed the nearby neighborhoods as residents had feared. Parking utilization on campus has grown, while off-campus street parking use has remained relatively flat. The program has been popular among commuters who want the flexibility to only drive occasionally. One such commuter, Ron Reuter, Associate Professor of Natural Resources, has reported saving over \$650 in parking fees by biking most days and driving when needed.

⁴ Gutman, A. (2017, August 10). The not-so-secret trick to cutting solo car commutes: Charge for parking by the day. Seattle Times, Retrieved from <http://www.seattletimes.com/>

**“When you pay a monthly fee, you’re really
paying a big fee for the first day of parking
and then every day after that is free.”**

David Gutman, Seattle Times⁴



CASE STUDY: Transportation at Seattle Children's Hospital

A comprehensive approach

Seattle Children's Hospital, which treats children from Washington, Alaska, Montana, and Idaho, sits in a leafy neighborhood north of the University of Washington, about seven miles from downtown Seattle. Over the years, growth, construction, helicopter flight paths, and other daily aggravations involved with living near a regional healthcare facility sometimes caused conflicts with neighbors. In 2008, facing a chronic shortage of space to treat a growing population, the hospital applied for its largest expansion to date—a master plan to more than double the size of the hospital over 20 years.

In addition to the usual concerns with pending development, alarm over traffic impacts dominated the conversation. The worry was understandable. The hospital campus is far from the main freeways and was poorly served by transit. It was easy to imagine growth would lead inexorably to gridlock.

But that is not what happened. Seattle Children's Hospital chose instead to develop a comprehensive transportation plan to decouple growth from an increase in traffic. Today the hospital serves many more patients but produces fewer traffic impacts than it did before the expansion. This case study tells the story of how it was done.



An All-of-the-Above Strategy

The Seattle Children's Hospital Comprehensive Transportation Plan set out to meet four objectives: reduce the drive-alone rate; make traffic flow more smoothly on nearby arterials; improve biking and walking in neighborhoods surrounding the hospital; and ensure that campus development supports sustainable mobility. Each objective was supported by specific actions and its own budget.

Culture

Hospital leaders knew that changing a deeply ingrained habit is hard, and driving is no exception. So they set out to lead by example. The Chief Executive Officer, the hospital's president, the Chief Medical Officer, and a few other C-suite members formed a vanpool and shared a ride to work several days a week. A can-do communication campaign was mounted to enlist staff into the journey.

Cost

The hospital's comprehensive approach to transportation made the costs and rewards of transportation choices easy for everyone to see. They switched from monthly permits to flexible daily parking charges—and daily incentives for people to bus, bike, walk, or carpool to work. This cleared one of the biggest hurdles to long-term behavior change in transportation: the sunk cost trap of pre-paid parking. Instead of driving out of habit, each day now starts with a decision. Got a few extra minutes? Take the bus. Need a bit of exercise? Ride your bike. Running late? Hop in your car. An online Commute Platform brought together commuting information to help staff decide the best way for them to get to work on any given day.

Convenience

Nestled in an affluent, single-family neighborhood in NE Seattle, the hospital counted on only one bus line. Children's worked closely with King County Metro to improve transit service. A low performing route was moved closer to the hospital—causing a jump in ridership; Children's paid for more frequent buses during shift

change times; hospital shuttles were reimagined connecting every 15 minutes to transit hubs in the University District and Downtown.

Concrete

Mapping home addresses showed that more than a quarter of staff lived within walking and biking distance, though most drove to work—probably because no bike routes existed and crossing the main arterials on foot was a challenge. Children's partnered with the neighborhood and the city to identify and fund new sidewalks, neighborhood bikeways and signalized crossings that improve commutes to the hospital as well as link to schools, parks, and to the Burke-Gilman Trail, a popular multi-use corridor that spans NE Seattle and reaches the east side of Lake Washington.

Results

Children's set out to reduce its drive-alone rate by a quarter from 40% of staff driving to work down to 30% over the course of the master plan's 20-year timeline. In 2018, after only 10 years, Children's posted a 31% drive-alone rate. Through this intentional approach to transportation involving leadership, neighbors, partners from the city and the transit agency, the hospital was able to grow to meet its mission, reduce money and land going to parking, lower its emissions, and make the surrounding neighborhoods better and more sustainable places to live.



CHAPTER THREE:

Sustainable Transportation Strategy

Actions in Pursuit of the Goal

The Sustainable Transportation Strategy contains a carefully selected set of 15 actions to achieve OSU's goal of reducing the percentage of drive-alone commute trips to 20% by 2030. Care was taken to include actions that respond to the diverse needs of all OSU students and employees and to prioritize individual flexibility and daily choice. In this new flexible system, commuters are not defined or limited by one transportation mode, nor must they make a wholesale life change. Even occasional choices to work remotely, carpool, or take the bus can have powerful collective results.

How to Read This Chapter

This chapter includes a summary of the 15 actions in Table 2 (pp. 27-29), followed by action sheets. Each action sheet includes order-of-magnitude cost estimates and project timing, complementary actions, and responsible parties. At the top of each action sheet, icons identify how the action will influence commute behavior, using the Four C's that were introduced in Chapter Two:

Cost: Actions rooted in behavioral economic science, such as sunk costs and loss aversion.

Concrete: Physical infrastructure investments that will improve the safety and visibility of walking, biking, and transit.

Convenience: Actions that will make other options competitive to driving alone in terms of time and effort.

Culture: Efforts that normalize and celebrate sustainable transportation.

Project Timing and Lead

Each action is ranked according to a likely timeline for implementation: Short (1-3 years), Medium (3-5 years) and Long Term (5-10 years). Timelines are not fixed, and will continue to shift based on opportunities and changing trends.

Some actions are fully within the authority of OSU, while others will be led by the City with OSU's support. By including projects from adopted city plans, the Strategy recognizes that commute trips do not start and end at the campus boundary. These projects invite collaboration between the university and the city.

Implementation

Being fair and equitable to all commuters is important. As actions are implemented, there will be opportunities for engagement and input to address issues such as equity, safety, security, and accessibility. Attention will be given to diverse individual needs, recognizing that campus commuters experience changing personal circumstances ranging from housing costs to work schedules to physical abilities.

Table 2
SUSTAINABLE TRANSPORTATION STRATEGY:
OSU COMMUTE PROGRAMS

Action #	Action	Description	Lead	4 C's
1	Pay-As-You-Go Parking	Adopt a daily parking system for OSU Corvallis that is easy to use and supports flexibility and choice.	OSU Transportation Services	Cost
2	Online Commute Platform	Develop a commute platform that brings all commuter transactions together into one site offering: daily parking payment, flexible carpooling, transit, biking, and incentives.	OSU Transportation Services	Convenience
3	Commute Incentives	Introduce a system to reward commuters for daily trips other than driving alone.	OSU Transportation Services	Cost
4	Flexible Carpooling	Create a flexible carpool program to match riders, manage incentives and access to preferred parking.	OSU Transportation Services	Cost Convenience
5	Remote Work	Update the university's telecommute policy to make remote work a flexible daily option for as many employees as possible, while still delivering excellence in research, teaching, and the student experience for both in-person and remote modalities.	OSU	Convenience Culture
6	Personalized Communications	Design personalized communications to share relevant, customized information with students and employees.	OSU Transportation Services	Culture

Table 2 (Continued)

SUSTAINABLE TRANSPORTATION STRATEGY: TRANSIT IMPROVEMENTS

Action #	Action	Description	Lead	4 C's
7	Beaver Bus – CTS Connections	Adjust Beaver Bus routes to provide direct “last-mile” connections with local transit stops on campus.	OSU Transportation Services	Convenience
8	Increase CTS Service	Seek expanded service on select CTS routes to campus, both in frequency and in the span of service through the year.	City/OSU	Convenience
9	Campus Mobility Hub	Construct a campus mobility hub to serve intercity transit services and improve the attractiveness and visibility of transit as a means to get to and from Corvallis.	OSU	Concrete
10	Monroe Corridor Redesign	Collaborate with the city to redesign, fund and reconstruct NW Monroe Avenue from SW 14th Street to SW 26th Street to improve pedestrian, bicycle, and transit operations and safety.	City/OSU	Concrete

Table 2 (Continued)

SUSTAINABLE TRANSPORTATION STRATEGY: BICYCLE AND PEDESTRIAN IMPROVEMENTS

Action #	Action	Description	Lead	4 C's
11	Neighborhood Bikeways	Partner with the city to develop select neighborhood bikeways that connect to OSU. Development will include crossing treatments that make pedestrian and biking trips to campus safer and more inviting.	City/OSU	Concrete
12	Harrison Boulevard to Campus Way Multi-use Path	Develop a new multi-use path between NW Harrison Boulevard and NW Campus Way, creating a safe, attractive, and convenient walking and biking connection to campus.	OSU/City	Concrete
13	Shared Micromobility	Implement a robust, reliable system of shared bicycles, scooters, and/or other micromobility devices to provide last-mile connections to transit, replace driving trips across campus, and facilitate access to nearby destinations.	OCWCOG	Convenience
14	Bike Parking	Provide more secure bicycle parking on campus to meet growing demand and create a comprehensive bike parking management program.	University Facilities, Infrastructure and Operations	Convenience Concrete
15	Car-free Campus Core	Limit personal vehicle access to the campus core to prioritize pedestrians and bicyclists, as described in the OSU Transportation Plan.	University Facilities, Infrastructure and Operations	Culture Concrete



ACTION 1:

Pay-As-You-Go Parking

Adopt a daily parking system for OSU Corvallis that is easy to use and supports flexibility and choice.

Opportunity

Paying for parking by the day gives people the flexibility to choose the transportation option that works best for them on *each* day.

Current State

Today's annual parking permits cost the same amount no matter how much or how little they are used. This type of pricing is known to increase consumption: the more you drive, the cheaper each trip gets. But, when driving and parking is a daily choice, other sustainable transportation choices become more viable options on any given day. To promote greater flexibility and freedom of choice for commuters, OSU will develop a simple and affordable daily parking system.

Cost

\$\$

Timeline

Short

Lead

OSU Transportation Services

Partners

N/A

Complementary Actions

Commute Platform (Action 2)

Commute Incentives (Action 3)

Flexible Carpooling (Action 4)

Discussion

Leading Along with Our Peers

The shift to daily parking permits is an emerging trend on campuses across the nation. By shifting the Corvallis Campus from an annual parking permit system to a daily parking model, OSU is following an innovative and growing parking management trend. Organizations in Seattle, including Seattle Children's Hospital (See Case Study, pp. 24-25) and the Gates Foundation pioneered daily parking over the last decade. In higher education, campuses around the country including Oregon Health Sciences University, University of California Davis, Vanderbilt University, Arizona State University, and many others are in the process of adopting daily parking models.

While the concept would be new to the Corvallis campus, a daily parking program has already been successfully implemented at the OSU-Cascades campus in Bend. There, commuters have been purchasing daily permits since the campus opened in 2016 (See Case Study, pp. 22-23).

Pay When You Park. Save When You Don't.

Initially, many people encounter the idea of daily parking rates with consternation, assuming that the price over the course of a year will be unaffordable, or that the daily act of purchasing a permit will be unwieldy. These concerns are based on an understanding of today's parking management, but a daily parking system would look very different. Modern parking systems can be configured to make daily parking easy to use. And by setting prices correctly, annual parking costs would be similar to annual permit rates for most users.

Framing the proposition with complete information can go a long way in managing people's anxiety. In reality, a daily parking program gives commuters more control over their costs. No one has to pay for parking while on vacation, or when they take transit or ride a bike.



Implementation

Selecting fair and sustainable daily parking rates will take considerable thought, and many factors must be taken into account. However, as a starting point, daily parking should not be more expensive than annual parking for most customers.

In the past, technologies for parking access and revenue control constrained the range of parking permitting options available to institutions. Today's technologies, however, make more sophisticated parking permitting and pricing possible.

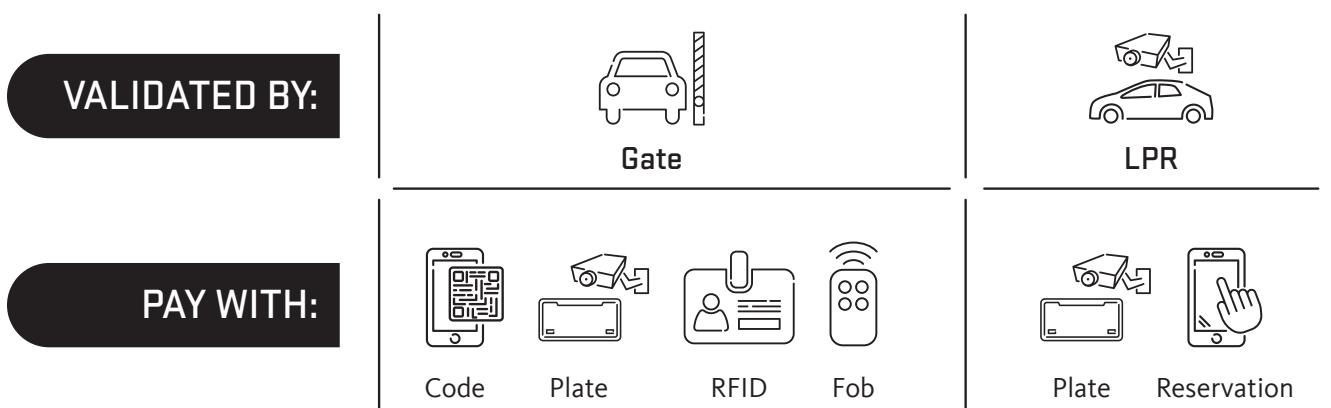
Logistics Decisions

As OSU moves to implement a daily parking model, Transportation Services will need to consider which method (or methods) it uses for permit sales and permit validation. Selections must balance the need for a simple customer experience with the need for a sustainable, balanced budget.

In OSU's current virtual parking permit system, license plates serve as each customer's virtual permit, allowing individuals to pay for parking remotely without the need to collect and display a physical permit. The virtual permit associates the license plate with parking permissions that can be validated through a number of strategies (see Figure 8). Currently, mobile License Plate Readers (LPR) validate parking permissions by scanning license plates. If a reader scans a license plate that has no permit or is not permitted to park in that area, the enforcement representative issues a citation.

Another method to validate parking permissions is to place fixed license plate readers at parking lot entrances, or without fixed license plate readers, permissions could be recorded on RFID cards or phones for validation at parking lot gates. Such physical gates would only grant access after validating permissions. While gate controls offer assurance that only permitted vehicles will be allowed to park, the sheer number of lots on the OSU Corvallis campus limits the widespread application of this method. Their use might be employed, however, as part of a hybrid strategy alongside a mobile LPR system.

Figure 8: Payment and Validation Sources



The OSU Corvallis campus uses vehicle-mounted license plate recognition (LPR) technology to enforce a virtual permit system, which could play an important role in supporting a shift to daily parking.





ACTION 2:

Online Commute Platform

Develop a commute platform that brings all commuter transactions together into one site offering: daily parking payment, flexible carpooling, transit, biking, and incentives.

Opportunity

An online commute platform can support commuters in making daily transportation decisions that are best for them on any given day. The ideal platform will integrate with Human Resources and Payroll to facilitate daily parking payments, flexible carpooling, and daily incentives to easily become a part of daily work routines. By displaying the cost of daily parking and sustainable transportation incentives side by side, the financial benefit of a sustainable transportation choice is magnified. Commute platforms typically also include information about commute services and gamification to support friendly competitions.

Current State

Information about parking and commute options are available online but the programming and incentives are not consistent across modes. The savings and benefits from sustainable transportation choices are not made apparent. Systems that support various transactions are not connected or centralized. For example, bicycle commuter statistics in the ZAP bike commuter program are not integrated into any other system, and parking sales transactions provide no information about other transportation choices.

Cost

\$\$\$

Lead

OSU Transportation Services

Partners

N/A

Timeline

Short

Complementary Actions

Daily Parking (Action 1)

Commute Incentives (Action 3)

Discussion

A Unified Commute Experience

Giving commuters the option to pay for parking each day will be a giant step towards giving commuters the freedom to choose their transportation mode on a daily basis. However, bundling daily parking with daily incentives for all other modes magnifies the financial impact of sustainable transportation decisions. Just as commuters feel the cost of a daily parking permit more acutely than one transaction per year, they also see immediate savings when they choose to walk, bike, take transit, carpool, or work remotely. The combined magnitude of these costs and benefits can be made transparent to individuals in real time through an online platform, illuminating the impact of daily choices.

Roadmap to Daily Parking and Commute Platform

Building and implementing the commute system described above will take careful planning and involve a team led by Transportation Services with active participation from partners within OSU including Information Services, Human Resources, Payroll, and Procurement. Ideally, the platform will be safely integrated with other official OSU systems to ease processing of payments and rewards.

Figure 9: A comprehensive commute platform like this one from Luum would integrate both commute incentives and parking payment, making the true daily cost and benefit of each trip more transparent to the user.

The screenshot displays the Luum platform interface. At the top is a weekly calendar for July 2014. Below the calendar is a navigation bar with icons for 'SINGLE MODE' (PARKING), 'DISTANCE (one-way): 3.1 mi', and various transport modes: bicycle, bus, car, van, pedestrian, train, boat, and plane. To the right of the calendar is a detailed view for Thursday, July 10, 2014. This view includes a summary of travel (6.2 miles, \$4.00), a note about the trip counting towards a 'Walk Bike Ride Challenge', a 'Pay Period Summary' for July 7 - July 20 (Charge: \$14.00, Bonus: \$6.00, Donation: \$6.00, supporting 'The American Red Cross'), and sections for 'My Rewards' (log 20 bike trips, 9 trips to go, ends 7/25/14) and 'My Active Challenges' (Walk Bike Ride, see leaderboard). At the bottom is a 'Pay Period Details (July 7 - July 20)' table:

Date	Time	Location	Description	Bonus	Charge
7/7/2014	7:00 AM	Springbrook	Carpool	\$2.00	(\$6.00)
7/8/2014	7:00 AM	Springbrook	Parking	\$0.00	(\$8.00)
7/9/2014	---	---	Bike	\$2.00	\$0.00
7/10/2014	---	---	Bus	\$2.00	\$0.00

Below the table is a 'LEVELS: Bus' section featuring an illustration of two people cheering and a progress bar for 'CASUAL RIDER' at Level 1, with 2 trips completed and 38 more to reach the next level.



ACTION 3: Commute Incentives

Introduce a system to reward commuters for daily trips other than driving alone.

Opportunity

Peer institutions have successfully shifted commute behaviors away from driving alone by providing financial incentives. Commute incentives provide a daily financial reward to encourage commuters to opt for a non-driving trip. When coupled with daily parking, these can significantly influence behavior changes.

Current State

Currently, the only incentive for not driving to campus is for bike riders who participate in the OSU ZAP bike commute rewards program. Participants can earn rewards and prizes when they ride to campus. Winners are selected through a monthly drawing rather than receiving an earned financial benefit for each daily choice. At this time, no reward systems are in place for people who ride transit, walk or carpool.

Cost

\$\$\$\$

Timeline

Medium

Lead

OSU Transportation Services

Partners

N/A

Complementary Actions

Daily Parking (Action 1)

Commute Platform (Action 2)

Discussion

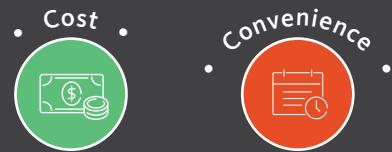
Incentivising All Modes

OSU already has a strong incentive program in place for bike commuters through the ZAP bike commute rewards program. Ridership data from the program has revealed trends of increasing ridership during team-based commute challenges with added incentives and prizes. Action 3 aims to build on what OSU has learned through this program, as well as best practices and research that support incentives as a means to change behavior.

Leveraging the commute platform, OSU will create effective incentive programs for an array of transportation choices to encourage commuters to drive less. There are many approaches to commute incentives, and OSU will evaluate and select the most suitable ones and adjust over time as needed. Besides financial rewards, OSU might incorporate incentives using paid time off, prizes, and virtual game badges.

ZAP Oregon State offers incentives for students and employees to bike to campus





ACTION 4:

Flexible Carpooling

Create a flexible carpool program to match riders, manage incentives and access to preferred parking.

Opportunity

Carpooling presents an affordable and sustainable choice for those who live too far from campus to walk or bike and do not have access to fixed route transit services. If carpooling can be made easy, flexible, and available to more people, OSU commuters will have a resilient and simple way to share a ride on the days they choose. A successful carpool program can support both individual needs as well as institutional emergency response plans.

Current State

Today, in order to access the ten dedicated carpool spaces provided at OSU, vehicles must have an annual carpool parking permit. Members share the cost and commit to a year of driving together. If a carpool member needs to drive alone one day, they must buy a separate daily parking permit. While this system works for a small number of people who can commit to carpooling together all of the time, such as married couples or roommates, it mostly excludes the majority of people who could benefit from sharing a ride with a fellow student or co-worker every once in a while. There are no systems or benefits in place at OSU to support occasional carpooling.

Cost

\$\$

Timeline

Medium

Lead

OSU Transportation Services

Partners

N/A

Complementary Actions

Daily Parking (Action 1)

Commute Platform (Action 2)

Discussion

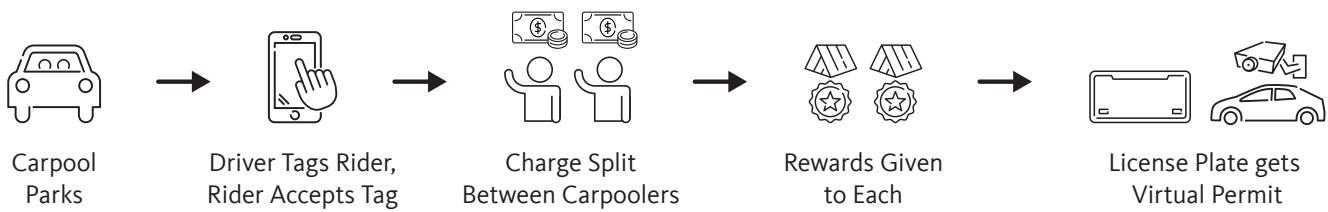
Modern Ridematching: Secure, Convenient, Affordable

This Sustainable Transportation Strategy hinges on giving commuters the flexibility to make transportation choices on a daily basis. Ideally, students and employees would see benefits from sharing a ride whether it's done once a year, once a month, or once a week. Modern carpool matching and payment platforms can mitigate many of the common concerns commuters have about carpooling, especially those related to varying or unpredictable schedules. Carpoolers within a protected online OSU network would be matched day by day based on their common routes and schedules. Access to the local guaranteed ride home program would provide backup for riders in case they need to change their plans once on campus.

Carpool Parking Logistics

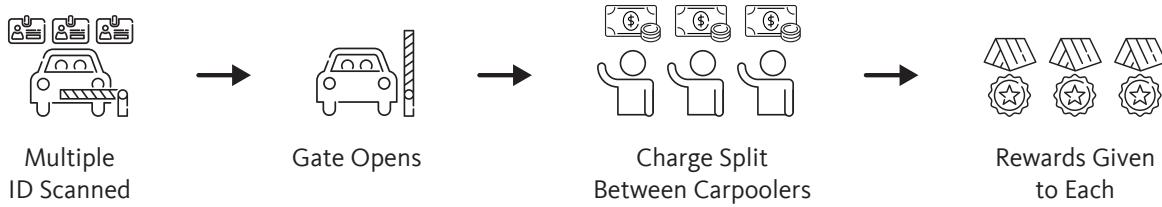
A flexible daily carpool program will function best with a daily parking permit and a payment option that is integrated into a commute platform. A carpool driver can use the platform to 'tag' their carpool partner who then accepts the tag to confirm that they carpooled together. The commute platform splits the daily parking charge between them, credits each for any appropriate reward and assigns a virtual permit to the license plate (Figure 10). This can also pair well with the designation of entire parking lots as carpool lots.

Figure 10: Carpool Management with Commute Platform



Alternatively, entry gates can be programmed to read multiple ID cards. Using this method, carpoolers agree to share a ride and present their OSU IDs at the lot gate. With the commute platform connected to the gates, it opens the gate for entry and then splits the daily parking charge among the carpoolers, and applies the appropriate reward to each person (Figure 11).

Figure 11: Carpool Management with Gates





ACTION 5: Remote Work

Update the university's telecommute policy to make remote work a flexible daily option for as many employees as possible, while still delivering excellence in research, teaching, and the student experience for both in-person and remote modalities.

Opportunity

The coronavirus pandemic in 2020 has provided OSU with a unique opportunity to fast-track the infrastructure and cultural changes needed to support remote work as a viable option for employees. Working and learning from home has now been normalized, and many employees have demonstrated to themselves and their supervisors that they can be productive and even happy working remotely. Given the proper support, working remotely can be a daily option, reducing the time spent commuting and providing more freedom and job satisfaction for employees.

Current State

The current OSU telecommute policy assumes a long-term commitment rather than accommodating flexibility. Current policy says that all employees must have a telecommute agreement in place, signed by their dean or department head. The remote work arrangement must be deemed to be in the university's financial interest. The OSU telecommute policy was temporarily suspended for the duration of the pandemic-related stay-at-home order, allowing employees to work from home without a signed telecommute agreement in place.

Cost
\$

Lead
OSU Leadership

Partners
OSU Human Resources,
OSU Transportation Services

Timeline
Medium

Complementary Actions
Daily Parking (Action 1)
Commute Platform (Action 2)

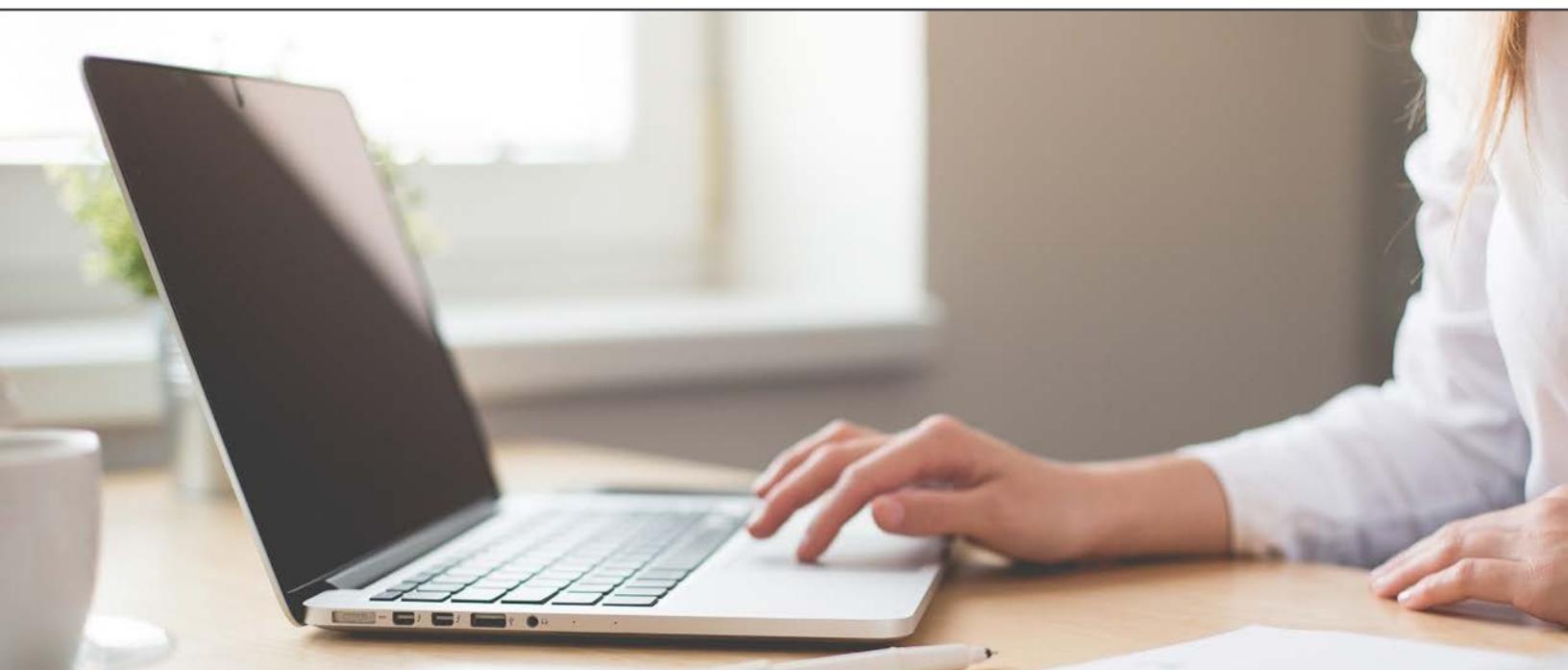
Discussion

Lessons from the Pandemic

During the spring of 2020, OSU's response to the coronavirus pandemic included a rapid shift to remote work and remote learning where possible. Within the course of one week, OSU transitioned from an on-campus environment with nearly 30,000 individuals in one place to a distributed digital working and learning environment. While some essential employees continued to report to campus, a large portion of faculty and staff whose work could be conducted on a computer began working from home. This is not a perfect comparison to a typical remote work arrangement. Many have had to balance work with childcare as daycare facilities and public schools closed to prevent the spread of coronavirus. Some do not have adequate space in their home to work comfortably. And for some, their work has been compromised by the lack of in-person connection to students and colleagues. These circumstances have shown that remote work is not an all-or-nothing solution.

However, many OSU employees are quite capable of completing their work online, and some prefer it to a traditional office environment. Once the Corvallis campus returns to in-person instruction, many have expressed a preference to continue to work remotely at least a few days each week. An ideal remote work policy is one that allows for employees to make this choice in a way that is supportive of both their needs and the requirements of their position.

Evidence indicates that policies which support flexible remote work will improve both employee productivity and institutional resilience. OSU has already begun surveying employees to understand and harness the lessons learned from the COVID-19 remote working experience. With new information in hand about perceived barriers and benefits to remote work, the next step will be to create a representative committee of stakeholders from across campus to update the current university telecommute policy and develop a lasting strategy to support flexible remote work for OSU employees.





ACTION 6:

Personalized Communications

Design personalized communications to share relevant, customized information with students and employees.

Opportunity

OSU has a unique ability to send tailored communication materials directly to employees and students based on the transportation options that are most relevant to them. Messages to employees or students could be tailored to meet individual needs based on their geographical region or stated preferences.

Current State

Currently, OSU communicates information about transportation in the same way to everyone. As a result, the messaging about bicycling, transit, or carpooling rarely reaches a receptive audience. Transportation Options programs are marketed primarily through a website, social media, and a printed guide that is distributed to new employees and students.

Cost

\$

Timeline

Short

Lead

OSU Transportation Services

Complementary Actions

Commute Platform (Action 2)

Commute Incentives (Action 3)

Partners

N/A

Discussion

Addressing Individual Needs

OSU has devoted much time and attention to developing marketing materials to promote transit and biking, carshare, and more recently carpools. Methods of reaching students and employees have included posters, social media posts, sidewalk stickers, and brochures. These campaigns have elevated the awareness of the various transportation programs on campus, and the quality of the materials has improved their visibility and effectiveness. However, all of these strategies craft one message that is then distributed as widely as possible, in the hopes that the right audience will happen to see it.

By using data such as geographic region, stated preference, or commute behavior recorded through the Commute Platform (Action 2), OSU Transportation Services can share specific, relevant information to help employees and students understand their transportation options. For example, after transit frequency is increased (Action 8), OSU could contact employees along the improved routes to alert them to the new opportunity. Alternatively, if an employee were to log one bike trip in the Commute Platform, and then drive alone for the remainder of the month, they might receive additional resources or incentives to make another bike trip. Opt in or out features can give employees more power to tailor their experience.





ACTION 7:

Beaver Bus – CTS Connections

Adjust Beaver Bus routes to provide direct “last-mile” connections with local transit stops on campus.

Opportunity

With relatively little cost, Beaver Bus shuttle routes can be optimized to connect riders to public transportation, making commute trips faster and more convenient for riders.

Current State

The Beaver Bus serves on-campus trips, and it currently functions primarily as a parking shuttle. Today, there are a few shared Beaver Bus and public transit stops on campus; however, no shuttles serve Monroe Avenue, where the highest number of Corvallis Transit System (CTS) boardings and alightings occur. Transit riders coming to campus must walk up to a mile from the nearest bus stop to their campus destination, adding time and inconvenience to their trip. This presents a significant barrier during inclement weather, for those with tight schedules, or for those unable to walk such distances.

Cost

\$

Timeline

Short

Lead

OSU Transportation Services

Complementary Actions

Increased CTS Service (Action 8)

Partners

Corvallis Transit System

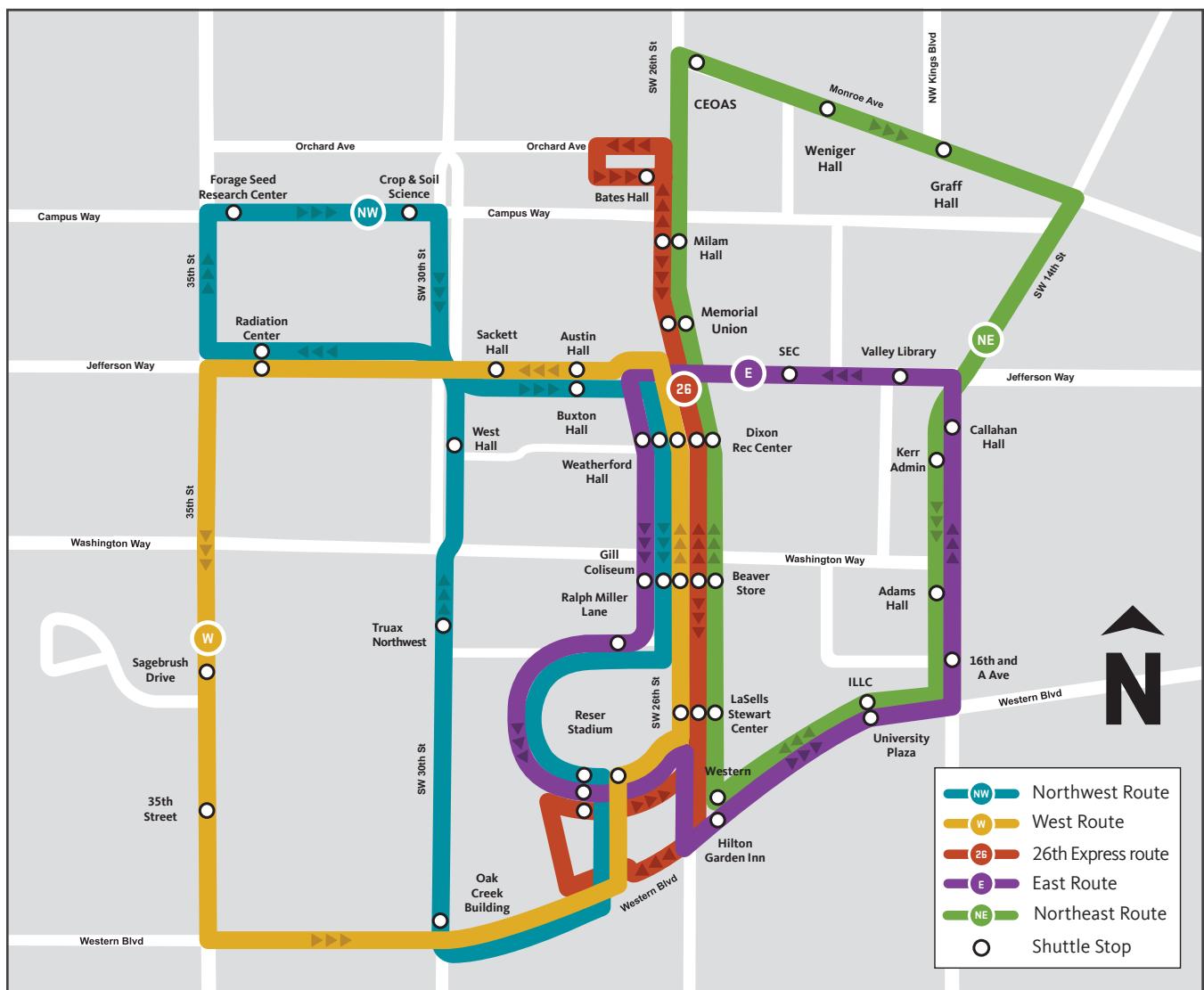
Discussion

A Last-Mile Connection

Configuring Beaver Bus routes to act as a last-mile connection to and from public transit could make transit more convenient for OSU students and employees. The shuttle routes are entirely within OSU's control, although any new shared

stops on city streets would require collaboration with CTS. Costs associated with the strategy mostly involve staff time to adjust bus stop locations, as well as design, test and promote new routes. The modified shuttle service should make transit a more convenient no-cost option for commuters.

Figure 12: A proposal for expanded Beaver Bus Shuttle service on Monroe



Source: OSU Transportation Services



ACTION 8:

Increased CTS Service

Seek expanded service on select CTS routes to campus, both in frequency and in the span of service through the year.

Opportunity

Over 50% of OSU employees and students live within a quarter mile of a Corvallis Transit System (CTS) stop with 30-minute frequency, suggesting they have access to fareless transit as a commute option. And yet currently less than 10% of trips to campus are made by bus. With targeted investments focused on convenience, public transit can be an even more attractive service for a significant portion of OSU's commuters.

Current State

Almost every CTS route that serves campus has either 30-minute or hourly frequency. When OSU is not in session, peak period service is reduced on some routes from 30-minute to hourly service. This presents two barriers to increasing ridership. First, low-frequency, hourly bus routes compete poorly against cars in an environment like Corvallis where driving distances are relatively short. Second, when frequency is reduced during OSU breaks and over the summer, employees cannot rely on it year-round and are less likely to use the service.

Cost

\$\$\$\$

Lead

CTS

Partners

OSU Transportation Services

Timeline

Medium

Complementary Actions

Commute Incentives (Action 3)

Communications Strategy (Action 6)

Monroe Corridor Redesign (Action 11)

Discussion

Frequency and Consistency = Convenience

OSU supports service expansion on select CTS routes serving campus to make transit a more competitive and convenient transportation choice. More frequent service, as well as service continuity during academic breaks, will go a long way toward making transit an attractive option for students and employees as well as other Corvallis residents.

In order to determine which routes have the highest opportunity for ridership growth, the project team analyzed all CTS routes alongside anonymous student and employee home address data to identify which routes traverse areas with the highest density of students and employees. Routes 1, 5, 6, and 7 were identified as having the greatest potential to support a shift in commute behavior, due to the high number of students and employees living along the routes.

The recommendations for service increases on these routes are based in part on the city's Transit Development Plan, with added emphasis on year-round, weekday service to provide continuity and reliability for employees who work on campus all year. Although these improvements are designed to target OSU commuters, Corvallis residents across the city will benefit from these improvements.

The recommended service increases shown in Table 3 and Figure 13 would require close collaboration with the City of Corvallis to purchase additional buses and identify funding for the additional service hours. OSU can support these service expansions by creating transit marketing campaigns. For example, personalized communications could be sent to OSU community members who live within walking distance of the improved routes (Action 6).

Table 3: Recommended CTS Service improvements

TDP project #	Description
AG	Operate Route 1 every 30 minutes all day on weekdays, year round
AF	Operate Routes 5 and 6 every 20 minutes all day on weekdays, year round
AI	Operate Route 7 every 30 minutes during peak periods on weekdays, year round

Source: 2018 City of Corvallis Transit Development Plan

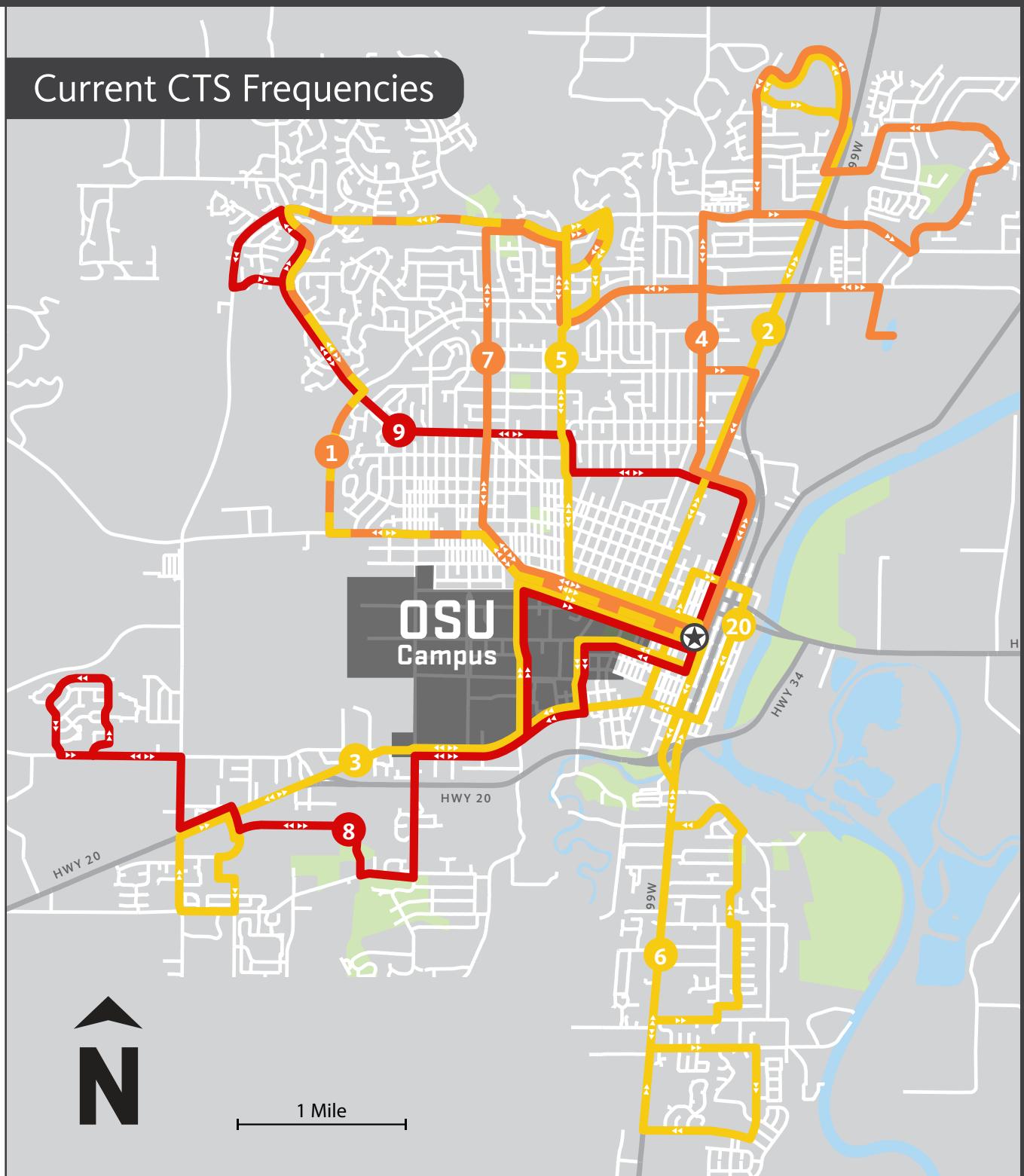
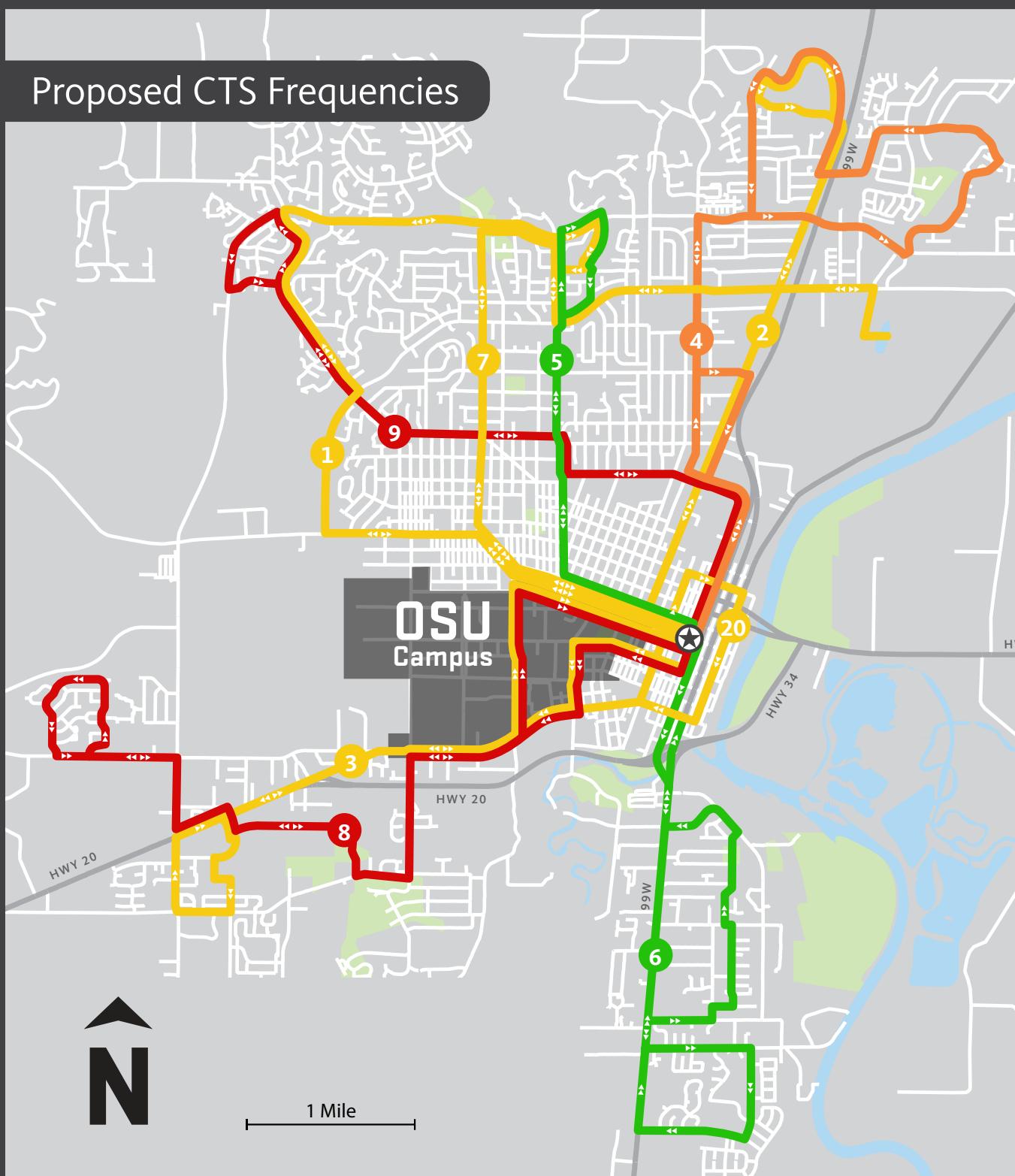


Figure 13: Current vs Proposed CTS Frequencies

Proposed CTS Frequencies



<30 Minutes

60 Minutes

Service Increase

30 Minutes

120+ Minutes

30 minutes (reduced to 60 minutes when OSU is not in session)

CTS Transit Hub

Transit Improvements



ACTION 9:

Campus Mobility Hub

Construct a campus mobility hub to serve intercity transit services and improve the attractiveness and visibility of transit as a means to get to and from Corvallis.

Opportunity

Well-built and well-signed transit stops serve the dual purpose of making transit more appealing while also advertising the services provided there. Improving signage, waiting and loading areas, shelters, and consolidating multiple service pick-up locations across campus into one hub can make it easier and more attractive for riders to use transit.

Current State

OSU is currently served by a number of regional transit services. The Linn Benton Loop, for example, runs between Albany and Corvallis, providing a critical connection for students who are dual enrolled at Linn Benton Community College and OSU or who live in Albany. Other services include a PDX airport shuttle, the Coast to Valley Express bus between Newport and the Albany Amtrak Station, the Philomath Connection, and several other intercity transit services. Today stops for these services are sited in different locations across campus, in many cases with little or no signage, lighting, or shelters to welcome riders (Figure 14).

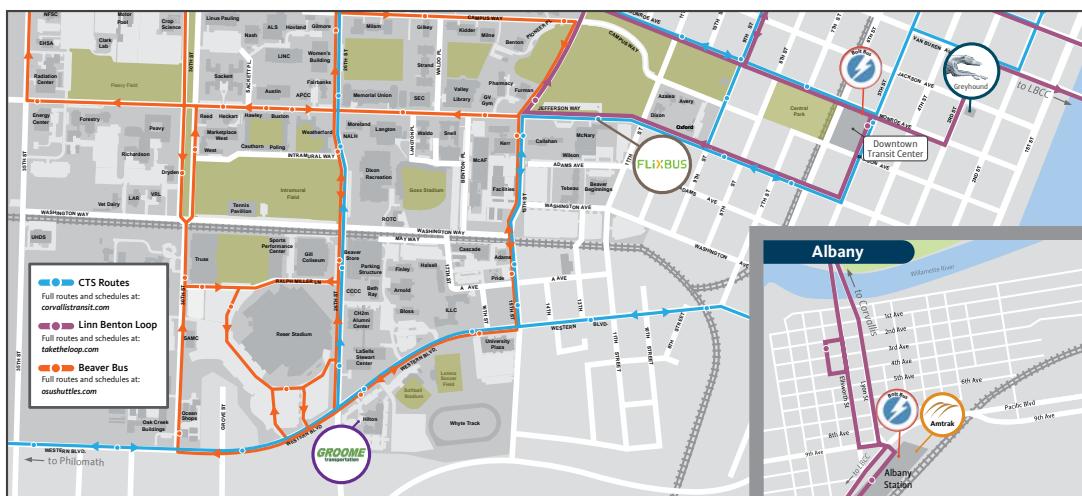


Figure 14: Currently, intercity bus service is spread across campus, with most services stopping in places with no signage, shelters, or seating.

Discussion

Laying Out the Welcome Mat

The construction of a mobility hub on the OSU campus would consolidate and improve access to transit services that allow students and employees to travel car free. Students without a car rely on multiple intercity bus services to get home over breaks, to get to campus from nearby Albany and Philomath, to take courses at the Linn Benton Community College, and to reach the Amtrak station. A consolidated hub for intercity transit with passenger amenities such as shelters, benches, bike parking and rider information will greatly improve the rider experience and the visibility of regional transit. Providing a well-lit and visible design sends a welcoming message to potential riders, including prospective students who frequently make their decision about whether or not to bring a personal vehicle during their campus tour and new student orientation.

The OSU Transportation Plan includes a recommendation for a mobility hub near the intersection of Jefferson Way and SW 15th Street. In 2019, an OSU civil engineering course tasked with designing a regional transit hub on the Corvallis campus recommended repurposing the parking lot south of Jefferson Way adjoining McNary Residence Hall for this purpose (Figure 15). Preliminary design work has already begun to determine the capacity of the lot to accommodate transit vehicles and site amenities such as shelters, benches and bike parking.



Figure 15: Rendering of transit hub at McNary Dining Hall designed by OSU Civil Engineering students.

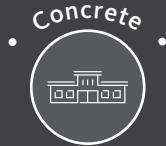
Lead
OSU Transportation Services

Partners
OSU Capital Planning & Development
Benton County Transit
City of Albany
City of Corvallis
Linn Benton Loop Governing Board
private shuttle operators

Cost
\$\$\$

Timeline
Medium

Complementary Actions:
Commute Incentives (Action 3)



ACTION 10:

Monroe Corridor Redesign

Collaborate with the city to redesign, fund and reconstruct NW Monroe Avenue from SW 14th Street to SW 26th Street to improve pedestrian, bicycle, and transit operations and safety.

Opportunity

In many ways NW Monroe Avenue (Monroe) is OSU's "Main Street," with a vibrant mix of restaurants, businesses, and residential developments functioning like a commercial downtown. Monroe is also an essential transit corridor serving the university with a high volume of transit boardings and alightings, including one of the busiest bus stops in the entire CTS system at NW Kings Boulevard and Monroe. High volumes of pedestrian and bicycle traffic are also typical, particularly between SW 26th Street and SW 14th Street.

Current State

Despite the high volumes of multi-modal traffic along Monroe, the project team heard from many individuals during public outreach events who felt unsafe walking, biking, and driving there. Today, Monroe allows all travel modes, but it is not designed to safely accommodate the intersecting needs of pedestrians, cyclists, motorists, and transit users.

Cost

\$\$\$

Lead

City of Corvallis

Partners

University Facilities, Infrastructure and
Operations

Timeline

Medium

Complementary Actions

Beaver Bus - CTS Connections (Action 6)

Neighborhood Bikeways (Actions 11)

Car-Free Campus Core (15)

Discussion

An Opportunity for Collaboration

Northwest Monroe Avenue is cited in both City and OSU plans as an opportunity area for place-making and transportation safety improvements.

- The OSU Corvallis Campus Vision recommends bicycle and pedestrian gateway improvements on NW Monroe Avenue to make the campus edge more welcoming and porous.
- The Corvallis Campus Vision also calls for the design and construction of a Mobility Hub for transit on Monroe Avenue, which would likely increase future pedestrian, bicycle and transit rider activity along the corridor.

- The OSU Transportation Plan identifies NW Monroe Avenue as a Pedestrian Access Route and calls for sidewalk improvements along the length of the roadway where it borders campus.
- The City of Corvallis Transportation System Plan (TSP) includes many projects along Monroe, for individual intersections as well as for the corridor as a whole. Specifically, the TSP project PB16 suggests that OSU and the City collaborate to study potential pedestrian, bicycle, and transit improvements along Monroe from SW 14th Street to SW 26th Street. Such a project would likely incorporate other overlapping intersection projects from the TSP (See Table 4).

Table 4: Planned Transportation System Plan Projects along Monroe to support pedestrians, bicyclists and transit riders

City TSP Project ID	Project Type	Project Name	Primary Funding Source	Description
PB16	Refinement Study	Monroe Avenue Shared Pedestrian, Bicycle, Transit Street Study	City/OSU	Conduct a study to evaluate the safety of walkers, bicyclists, transit users and motor vehicles along Monroe Avenue from 14th Street to 26th Street. Develop street design alternatives which enhance the environment for pedestrians and bicyclists, while also supporting multimodal access to local businesses along the corridor.
PB69	Pedestrian Safety Improvements	Monroe Ave/ 16th St	City	Intersection safety improvements may include adding curb extensions.
P34	Pedestrian Safety Improvements	Monroe Avenue and Kings Boulevard Pedestrian Safety	City	Intersection safety improvements may include adding curb extensions to reduce pedestrian crossing distance.

Source: 2018 City of Corvallis Transportation System Plan

Incorporating Best Practices in Design

In 2006, OSU collaborated with the City and hired a landscape architecture firm to develop a streetscape improvement schematic design for Monroe Avenue that would recognize the multimodal nature of the corridor and transform it into a “great street” (Figure 16). Recommendations from the resulting master plan included raised intersections, shortened pedestrian crossings, pedestrian-scale lighting, and additional covered bike parking and bus shelters. The plan was never implemented, but many of these design elements remain relevant and potentially effective.

A new design process, as called for in the City’s TSP and here in the OSU Sustainable Transportation Strategy, would build on past efforts and incorporate new best practices in street design to prioritize pedestrian, transit, and bicycle modes while also accommodating vehicle traffic and on-street parking. Best practices in urban transportation design have evolved since the 2006 Monroe Avenue improvement plan was drafted, and today Corvallis and OSU have access to many more design tools and resources. For example, a new design process could incorporate design recommendations from the OSU Transportation Plan and the City’s Active Transportation Toolkit, as well as state and national sources such as NACTO (North American City Transportation Officials) Design Guides.

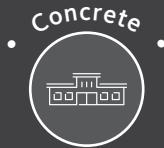
Prioritizing Transit

Almost all CTS routes to campus run along Monroe Avenue, and the busiest transit stops in the system lie along this corridor. Focused investment in the comfort, convenience and safety of transit riders here will serve people taking transit to OSU from around the city. Best practices for Transit Street design help improve on-time transit performance and reduce user conflicts through designs like “Island Stops” that route bike lanes between an elevated stop and the sidewalk (Figure 16). Designing safer pedestrian and bicycle infrastructure both along the road and at crossings is also critical to support transit riders before and after their trip.



Figure 16: The National Association of City Transportation Officials (NACTO) has developed design guidance for “Transit Streets” that prioritize bus operations. (Image source: NACTO.org)

Bicycle and Pedestrian Improvements



ACTION 11:

Neighborhood Bikeways

Partner with the city to develop select neighborhood bikeways that connect to OSU. Development will include crossing treatments that make pedestrian and biking trips to campus safer and more inviting.

Opportunity

While 16% of students and employees bike to campus today, about 45% live less than three miles from campus on flat terrain, an easy biking trip of less than 20 minutes. This represents an opportunity to attract new riders who could ride to campus if they felt comfortable doing so. In the 2019 OSU Transportation Survey, students and employees were both more likely to say “safer routes to campus” would encourage them to ride to OSU than almost any other factor.

Current State

Bicycle facilities in Corvallis today are primarily composed of bike lanes along arterials and collectors, as well as some multi-use paths. Riding a bicycle along neighborhood streets, where vehicle traffic is lighter and slower may seem safer, but it can be onerous and dangerous due to numerous stop signs and difficult crossings at intersections with higher-volume roads. The project team heard from students who tried riding a bicycle in Corvallis, but gave up cycling and opted to drive to class because of safety concerns. Implementing a network of Neighborhood Bikeways that connect to campus might alleviate some of these concerns and encourage less experienced riders to commute by bike.

Cost

\$\$\$

Timeline

Medium

Lead

City of Corvallis

Complementary Actions

Commute Incentives (Action 3)

Bike Parking (Action 14)

Partners

University Facilities, Infrastructure, and
Operations, OCWCOG

Discussion

Neighborhood Bikeways

Neighborhood Bikeways are streets designed to create a safer and more attractive walking and biking environment for riders of all ages by reducing the volume and speed of motor vehicle traffic (while remaining open for local vehicle access). Neighborhood Bikeways also include crossing treatments at busier streets that serve pedestrians as well as people on bikes. Because the designs rely on minimal changes to existing residential streets, Neighborhood Bikeways can be very affordable to build relative to constructing new paths or sidewalks, and generally require no removal of parking or vehicle lanes.

The City of Corvallis Transportation System Plan (TSP) identifies a low-stress network of neighborhood bikeways and buffered protected bike lanes that would attract riders of all ages

and abilities. Several of these proposed bikeways connect to or pass through the OSU campus at gateways or along bicycle routes identified in the OSU Transportation Plan. The intersections where these bikeways connect to campus also provide opportunities for improved pedestrian crossings and connection to bike facilities on campus. A portion of one route, the Campus Way/Madison Avenue Neighborhood Bikeway, is further developed in detail in the OSU Transportation Plan, including a schematic design that recommends a separated cycle track and pedestrian improvements along Southwest Campus Way from SW 11th Street to SW 35th Street.

OSU is interested in partnering with the City of Corvallis to develop key segments of the low-stress bikeway network from the Corvallis Transportation System Plan that serve both the campus and the community (Table 5 and Figure 17).



Table 5: Neighborhood Bikeways from the Corvallis Transportation System Plan that connect to the OSU Corvallis campus

TSP Project ID	Project Name	Primary Funding Source	Description
B41	26th/27th St Neighborhood Bikeway	City/OSU	Develop neighborhood bikeway along 27th Street between Walnut Boulevard and 25th Street on the north, and 26th Street and OSU on the south. This project is one segment of a citywide low-stress network. Refer to Low-Stress Network map for routing. The City will work with OSU to identify appropriate improvements to be implemented.
B42	16th/17th St Neighborhood Bikeway	City	Develop neighborhood bikeway along 16th and 17th Streets between Walnut Boulevard and Rolling Green Drive on the north, and 14th Street and Monroe Avenue on the south. This project is one segment of a citywide low-stress network. Refer to Low-Stress Network map for routing.
B43	11th Street Neighborhood Bikeway	City	Develop neighborhood bikeway along 11th Street between 13th Street and Angelica Drive on the north, and 15th Street and E Avenue on the south, which may include adding curb extensions at the Monroe Street/11th Street intersection to improve pedestrian and bicycle safety. This project is one segment of a citywide low-stress network. Refer to Low-Stress Network map for routing. Coordinate with Project M47.
B46	Campus Way/ Madison Ave Neighborhood Bikeway	City/OSU	Develop neighborhood bikeway along Campus Way (under OSU jurisdiction) between western OSU boundary and 11th Street, Madison Avenue between 11th Street and the Riverfront Park Multi-Use Path for westbound travel, and on Jefferson Avenue between 7th Street and the Riverfront Park Multi-Use Path for eastbound travel. Segments along Jefferson Avenue may require roadway widening to install a buffered bike lane. This project is one segment of a citywide low-stress network. Refer to Low-Stress Network map for routing. Coordinate with OSU and Project P2.
B47	SE Corvallis Neighborhood Bikeway	City/ Assessments to Property owners	Develop neighborhood bikeway in Southeast Corvallis from Vera Avenue and Crystal Lake Drive, along Vica Way, Bethel Street, Thompson Street, Goodpark Street, Summerfield Drive and Dockside Drive to Shoreline Drive. This project is one segment of a city-wide low-stress network. Refer to Low-Stress Network Map for routing.

Source: 2018 City of Corvallis Transportation System Plan

Neighborhood Bikeways to OSU

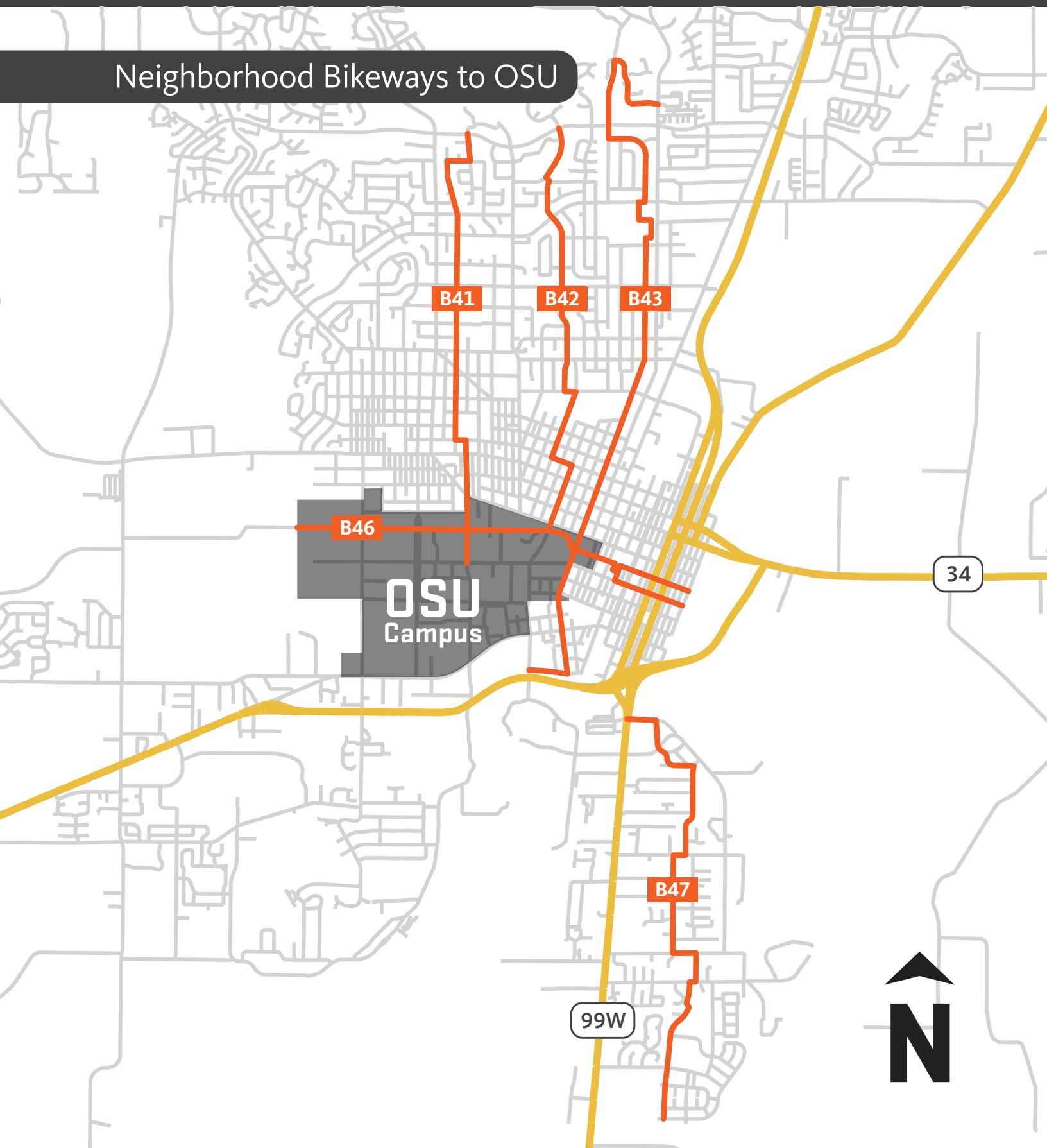


Figure 17: Planned Neighborhood Bikeways to campus from the Corvallis Transportation System plan

Bicycle and Pedestrian Improvements



ACTION 12:

Harrison Boulevard to Campus Way Multi-use Path

Develop a new multi-use path between NW Harrison Boulevard and NW Campus Way, creating a safe, attractive, and convenient walking and biking connection to campus.

Opportunity

The Witham Hill neighborhood, sitting only a mile from the OSU campus, is home to a high concentration of OSU students and employees in single-family homes and in high-density housing developments, both older and newly built. If a low-stress biking and walking route to campus were built from this area, it would likely attract numerous students and employees to add bicycle or walking commute trips to their regular routines.

Current State

Pedestrian and Bicycle trips to campus from the Witham Hill neighborhood today follow a circuitous and discontinuous route along substandard pedestrian and bicycle facilities. NW Harrison Boulevard, the only direct connection from the neighborhood to the north side of campus, carries high volumes of traffic traveling at high speeds during peak periods. Unprotected bicycle lanes that turn into shared vehicular lanes (marked with sharrows) make it uncomfortable for all but the most confident cyclists. Recently, the extension of NW Circle Boulevard to NW Harrison Boulevard now provides access to a new high-density residential development less than a mile from campus, with a high potential for pedestrian and bicycle trips to OSU.

Cost

\$\$\$\$

Timeline

Long

Lead

OSU/ City of Corvallis

Partners

CAMPO

Complementary Actions

Commute Incentives (Action 3)

Bike Parking (Action 14)

Discussion

A Critical Yet Complicated Connection

Over many years, the Corvallis community has demonstrated interest in this walking and biking connection, which appears as a recommendation in many adopted plans.

- The Corvallis Transportation System Plan identifies project PB2 to develop a new multi-use path between Harrison Boulevard and Campus Way, fully separated from motor vehicle traffic, as a high priority.
- The Corvallis Parks and Recreation Master Plan includes a Tier 1 project (C14) that calls for a new Connector Trail between NW Harrison Boulevard and SW Campus Way.
- The Corvallis Area Metropolitan Planning Organization (CAMPO) Regional Transportation Plan includes a similar project: “Circle Boulevard Multi-Use Path: Extend from Harrison to Campus Way (#16).”

A specific alignment for the project has not yet been identified. Successful project planning will require listening to and understanding the needs

of both OSU agricultural research programs and adjacent residential neighborhoods that may be impacted by the project. Creative design and engineering solutions may be required to accommodate the needs of these diverse stakeholders.

The OSU Dairy Research Center in the College of Agricultural Sciences actively uses the open fields between NW Harrison Boulevard and SW Campus Way for research on animal science and forage crop production. If a route were designed to traverse these fields, it would need to safely accommodate ongoing research in the area, including the east-west passage of milking cows between the forage fields and the dairy barn.

Further east, residents of the neighborhood that borders the agricultural fields have expressed concerns about having a multi-use path located immediately adjacent to their properties. Coming to a decision on the alignment of a path through this area will require outreach to these and other stakeholders.

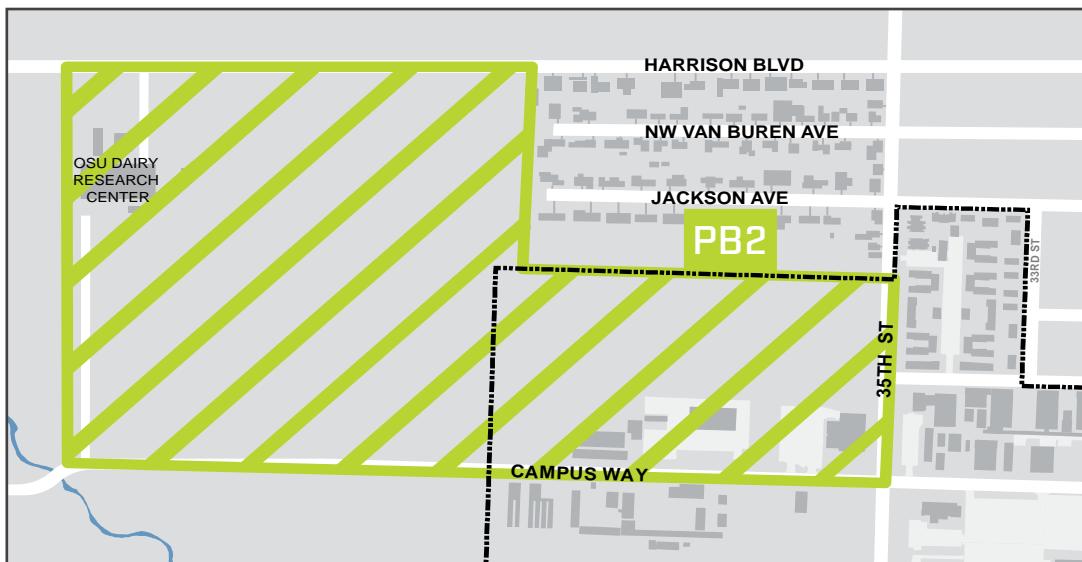


Figure 18: An alignment for the Harrison Boulevard to Campus Way Path has not yet been identified.



ACTION 13:

Shared Micromobility

Implement a robust, reliable system of shared bicycles, scooters, and/or other micromobility devices to provide last-mile connections to transit, replace driving trips across campus, and facilitate access to nearby destinations.

Opportunity

Access to a robust system of shared bicycles, scooters, or other micromobility devices could provide students and employees with last-mile connections to transit, replace driving trips across campus, and offer an easy connection from campus to nearby destinations including downtown businesses, nearby housing and grocery stores.

Current State

From 2016 to 2020, the Oregon Cascades West Council of Governments (OCWCOG) operated a city-wide bikeshare program, called Pedal Corvallis, with over 50 bikes at 10 stations provided by a private vendor. OSU sponsored four Pedal Corvallis bikeshare stations on campus until the system ended in the Spring of 2020 when the vendor went out of business nation-wide.

Cost
\$

Lead
OCWCOG

Partners

OSU Transportation Services, OSU Capital Planning and Development, City of Corvallis

Timeline
Medium

Complementary Actions
Monroe Corridor Redesign (Action 10)
Neighborhood Bikeways (Actions 11)

Discussion

The Future of Shared Micromobility in Corvallis
Throughout the duration of the Pedal Corvallis program, the four stations on campus consistently experienced the highest ridership in the system. Most trips started and ended on campus, in part due to the limited number of stations off campus where people could end a ride. Nevertheless, riders used the bikes to travel from campus to destinations all over the city, accessing local businesses, parks, and grocery stores. The high ridership experienced by Pedal Corvallis bikes indicates a robust demand for shared micromobility among campus visitors, international students, visiting scholars, and others for whom purchasing a bike is not a reasonable option. While the program has stopped, the demand for this type of service has not.

OCWCOG and OSU remain committed to facilitating a system of shared bicycles, scooters, or other micromobility devices in Corvallis, and together will be conducting a review of technologies and best practices to inform future investments in a safe and orderly shared micromobility system in Corvallis. In order to implement a city-wide system in which users of micromobility devices can travel between campus and nearby businesses or neighborhoods, some changes to city regulations will be required, including lifting the City of Corvallis' temporary "prohibition on operating a motor assisted vehicle rental business" (Section 8.17.030), which was enacted in the summer of 2019.

Pedal Corvallis operated as a docked bikeshare system in Corvallis from 2016 to 2020





ACTION 14:

Bike Parking

Provide more secure bicycle parking on campus to meet growing demand and create a comprehensive bike parking management program.

Opportunity

With nearly half of OSU students and employees living within an easy bike ride of campus, bicycles will play an important role in reducing drive-alone trips to campus. Respondents to the 2019 OSU transportation survey consistently report that both more covered and secure bike parking would encourage them to bike more often. Among surveyed employees, 33% stated that secure bike parking near their building would encourage them to ride to campus more often. Additionally, 19% of students said that more covered bicycle parking near their building would make them more likely to bike to OSU.

Current State

OSU has added over 2,500 new bike parking spaces over the past decade, mostly in the form of uncovered and covered outdoor hoop racks. These outdoor racks are best suited for short-term bike storage from a few hours up to a day. OSU does not have internal or municipal requirements for the provision of long-term, secure bicycle parking (typically a bike locker, cage, or locked room). As a result, the availability of secure bike parking on campus is limited and the quality is inconsistent. Today, secure bike parking on campus includes a mix of bike lockers, bike rooms, and other locked areas, and these are only available to certain populations. The systematic provision and maintenance of bike parking, secure or otherwise, is hindered by the lack of a centralized bike parking management program.

Cost

\$\$\$

Timeline

Medium

Lead

University Facilities, Infrastructure and
Operations

Complementary Actions

Commute Incentives (Action 3)
Neighborhood Bikeways (Action 11)

Partners

OSU Transportation Committee

Discussion

Adopting a Standard for Secure Bike Parking

Secure bike parking is typically needed when a bicycle is parked in one place for more than a few hours, especially overnight, in order to protect the bicycle from weather and theft. This is especially critical for campus residents, as well as students or employees who are on campus late at night. The increased use of electric bikes, cargo bikes, and family bikes has also led to an increased need across campus for secure bike parking that can accommodate heavy or nonstandard bike frames.

In order to meet this need, OSU will develop a design standard for new secure bike parking installations on the Corvallis campus. The standard should employ modern design guidance to meet the needs of all riders. For example, the standard could ensure that riders can park their bikes securely without needing to lift the full weight of the bike to navigate stairs or to hang the bike on the rack.

In addition to fostering more uniform and high-quality facilities across campus, adopting a design standard for secure bike parking may also assist with the provision of these facilities. This is because secure bike parking is not included in the city's bike parking standards, and therefore does not count towards the required number of bike parking spaces for new developments. Projects can rarely afford to provide secure bike parking in addition to the amount required by code. If the university's new design standard for secure bike parking were recognized by the city as a means to meet development requirements,

then secure bike parking would be more likely to be included in new capital projects.

Dedicated Management

Just as vehicle parking benefits from careful management by an invested owner, the campus bike parking system cannot grow and thrive until it has a steward and a champion.

The OSU Transportation Plan describes a systems approach to bike parking. It provides guidance on the “best methods of determining the amount and type of bike parking for several primary building types on the OSU campus,” as well as recommended locations for new or consolidated bicycle parking to serve campus regions rather than individual buildings. The plan does not identify who will lead installations and maintenance or how it will be funded and managed. The creation of a comprehensive Bicycle Parking Management Program would advance the implementation of this systems approach.

OSU will designate a responsible party to own a Bike Parking Management Program charged with the following responsibilities:

Bike Parking Management Program:

- Asset management and maintenance
- Monitoring bike parking occupancy
- Responding to changing or unmet demand
- Access control and payment systems for secure bike parking
- Provide centralized bicycle expertise
- Budget for construction and installation of new bike parking facilities separate from other capital projects.

Bicycle and Pedestrian Improvements



ACTION 15:

Car-Free Campus Core

Limit personal vehicle access to the campus core to prioritize pedestrians and bicyclists, as described in the OSU Transportation Plan.

Opportunity

One of the five major projects called for in the OSU Transportation Plan is to strengthen and expand an area within the campus called the Pedestrian and Bicycle Priority Zone. This space would have reduced access for personal vehicles and greater mobility for pedestrians, people on bikes, and transit riders. As OSU reduces its drive-alone rate, it will become even more important to protect safe, attractive, and people-oriented places in the heart of campus.

Current State

OSU has had a nominally closed campus core for many years, but the University has not enforced this rule in the recent past. As a result of poor signage, the removal of gates, and a street network that leads freight, ADA and buses directly into the campus core, private vehicles also regularly travel into restricted areas without consequence. The current policy needs to be more strongly communicated and enforced to be effective.

Cost

\$\$\$

Lead

University Facilities, Infrastructure and Operations

Partners

City of Corvallis

Timeline

Medium

Complementary Actions

Monroe Corridor Redesign (Action 10)

Discussion

Pedestrians First

The OSU Transportation Plan clearly states the order of campus modal priorities (See Figure 19):

1. Pedestrian
2. Bicycle/Skateboard
3. Beaver Bus/Transit
4. Service/Delivery
5. Private Motor Vehicle

Nowhere is this modal priority more important than in the center of campus where population density is highest.

The Transportation Plan comprehensively explains the long-term vision, policies and procedures for the Pedestrian and Bicycle Priority Zone, including the needed infrastructure and communications to complete the project. It lays out a phased implementation of an expanded area of vehicle restrictions, consistent with the campus modal priorities (Figure 20).

The OSU Sustainable Transportation Strategy emphasizes the importance of this project and recognizes that it will signal a clear cultural (and concrete) commitment to sustainable transportation. Successful implementation and expansion of the Pedestrian and Bicycle Priority Zone would reduce congestion and user conflicts and encourage pedestrian, biking, micromobility and shuttle rides for intra-campus trips.

Assign a Project Manager

While the OSU Transportation Plan provides a comprehensive outline for implementing this project, its execution will be time consuming and will involve a great deal of interaction with a broad cross-section of campus stakeholders. Realistically, taking action on this project will require funding a dedicated staff person to serve as a project manager. In addition to the staffing cost, OSU will identify funding for necessary infrastructure for implementation as well as ongoing operations, maintenance, and enforcement.

Figure 19: OSU Transportation Plan Campus Modal Priorities



Source: Kittelson and Associates

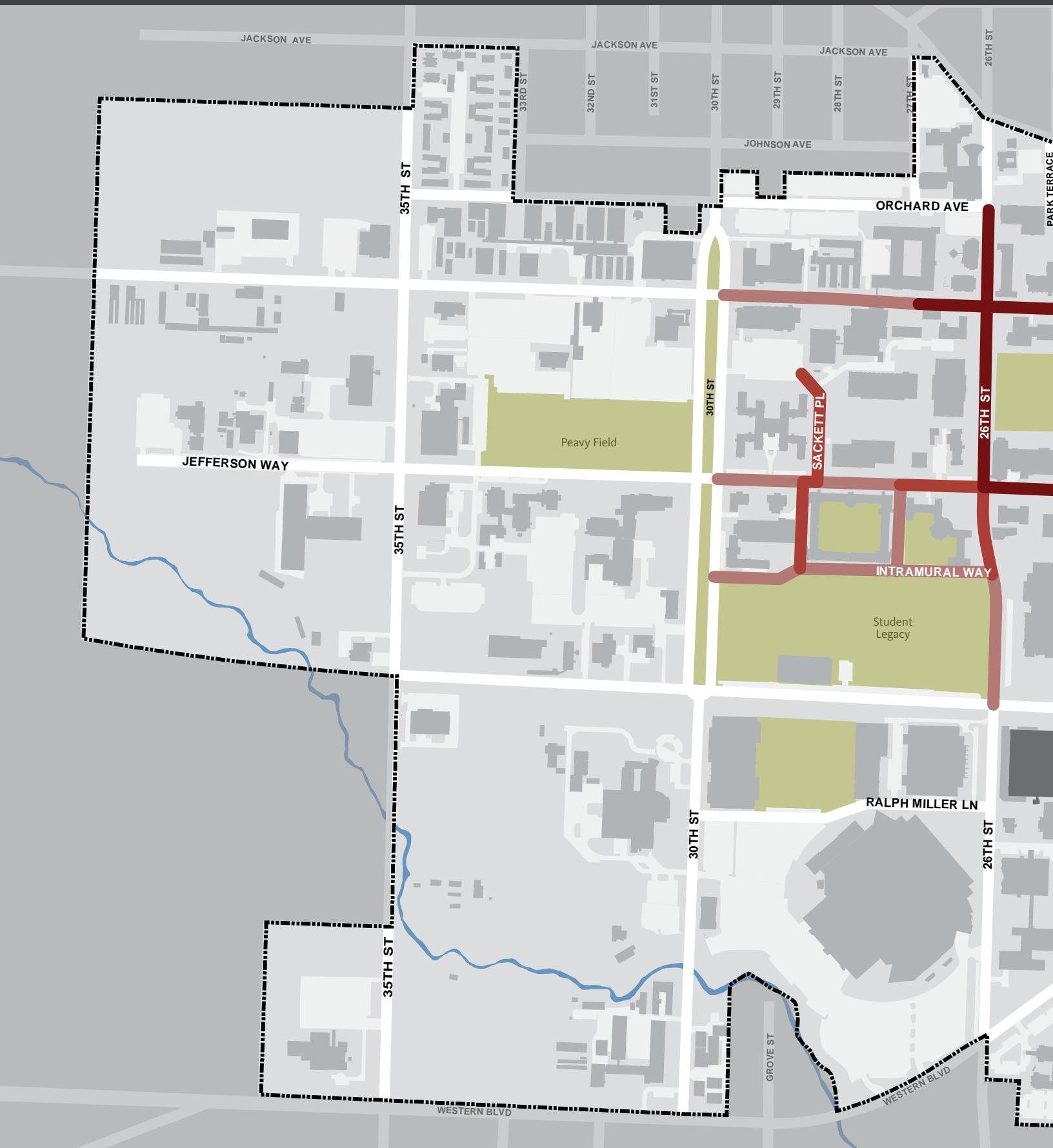
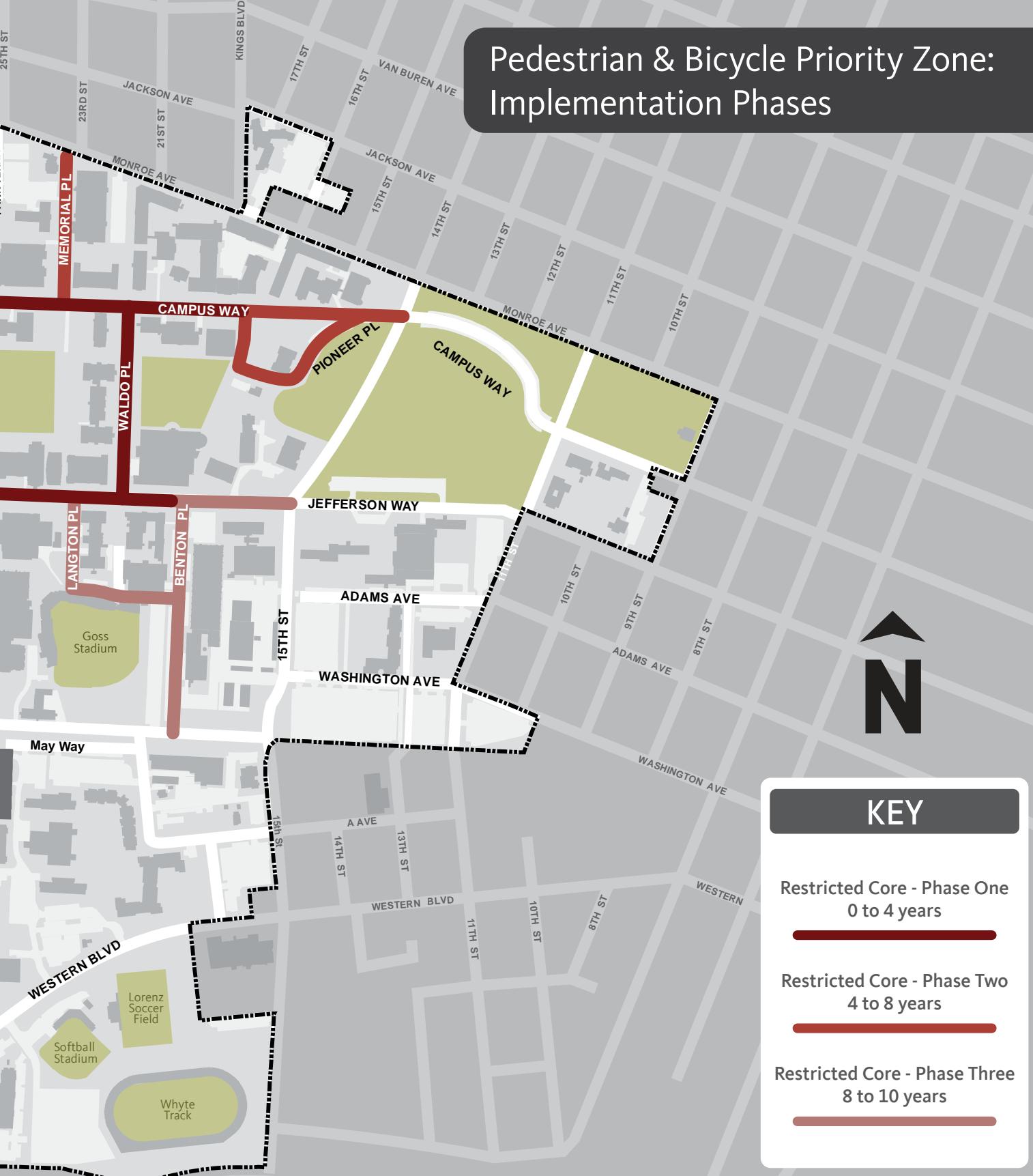


Figure 20: Implementation phases of the Pedestrian and Bicycle Priority Zone from the OSU Transportation Plan

Pedestrian & Bicycle Priority Zone: Implementation Phases





Oregon State University
Transportation Services