EXECUTIVE SUMMARY

The Climate Action Strategy for Transportation

THE CLIMATE ACTION STRATEGY FOR TRANSPORTATION (the CAST) outlines actionable strategies to reduce carbon emissions produced from Transportation Services’ operations (electricity and fleet vehicles) and from Seattle campus commuting. The CAST responds to the UW Climate Action Plan, a plan that describes the university’s intent to achieve climate-neutrality by 2050 and meet its obligations under the American College & University Presidents’ Climate Commitment. The CAST sets out interim goals and strategies that will guide Transportation Services’ staff to make the department’s operations and campus-commuting climate neutral, as well as enable the department to engage with the UW Climate Action Plan implementation process as an informed partner and meaningful contributor.
Transportation Services’ Greenhouse Gas Contribution

The CAST represents an important step towards strategically reducing a significant portion of UW’s greenhouse gas emissions. Greenhouse gas emissions from transportation represent nearly one-third of total emissions at the University of Washington (27 percent for commuting, 2 percent for Fleet vehicles, and 0.7 percent for electricity) (see Figure 1).

Commuting

Campus commuting represents the second largest source of Seattle campus emissions, only behind emissions produced from the campus power plant. Campus commuting includes students, staff, and faculty traveling between their home and campus. Emissions from campus commuting are the product of five contributing factors and can theoretically be reduced in the following ways:

- The miles commuted can be reduced by encouraging more commuters to live closer to campus.
- The carbon emitted per mile can be reduced by encouraging greater use of lower-carbon modes and lower-carbon vehicles.
- The number of days per week commuted can be reduced by encouraging telecommuting, distance education, and compressed work weeks.
- The number of weeks per year commuted can be reduced, though this is not within the scope of Transportation Services.
- The number of commuters can be reduced, though this is also not within the scope of Transportation Services. If trends continue, the number of commuters is likely to increase, meaning reduction of other factors becomes even more important.
**Mode Hierarchy**
Different modes emit varying amounts of carbon per mile traveled and thus a Mode Hierarchy was created to depict these variations and desired mode shifts (Figure 2). The goal of the strategies for mode choice is to move more trips up the Mode Hierarchy.

![Mode Hierarchy](image)

**Strategic Actions**
Transportation Services aims to take a two-pronged approach to encouraging a shift to lower-carbon modes. First, Transportation Services seeks to improve the context for lower-carbon modes, such as improving the presence of facilities (e.g. bike parking, showers and lockers), access and connections (e.g. transit service, sidewalks), and economic structures (e.g. U-PASS, carpool parking fees). Second, Transportation Services will work to change how people perceive their transportation options, meaning influencing how individuals evaluate the costs and benefits of shifting modes (e.g. through individualized marketing, fostering peer support).

**Fleet Vehicles**
UW’s Fleet Services manages nearly 700 university vehicles that are used for all types of university business. Transportation Services can reduce emissions from fleet vehicles by making changes to any three of these contributing factors:
- Reduce vehicle miles traveled by changing the way trips are made, or whether the trips are made at all.
- Increase fuel efficiency by altering the vehicle type and how the vehicle is used and maintained.
- Increase use of lower-emission fuels such as electricity, biodiesel, and natural gas.

To reduce vehicle miles traveled, Fleet can:
- Work with users to replace a vehicle trip with another mode (e.g. if transit, walking, or biking can be used instead).
- Work with users to change routes, change scheduling, or carpool.
- Reduce extraneous driving, including driving for vehicle maintenance, through use of telematics.

To increase fuel efficiency, Fleet can:
- Replace vehicles with more fuel-efficient vehicles.
- Improve right sizing to better match vehicle type with vehicle use.
- Work with users to remove extraneous weight from vehicles.
- Ensure vehicles are well-maintained.
- Install technology that forces vehicles to operate in a more fuel-efficient manner.
- Work with users to drive vehicles in a more fuel-efficient manner.
- Work with users to reduce idling.
- Work with users to reduce cold starts.

To increase the use of lower-emission fuels, Fleet can:
- Use lower-emission fuels in vehicles that can already accept lower-emission fuels.
- Replace vehicles with ones that can use lower-emission fuel.
- Add technologies to existing vehicles to allow them to use a lower-emission fuel.

**Electricity**
Transportation Services uses electricity in its offices and in its parking facilities. Emissions from electricity can be reduced by altering any three of these contributing factors:
- The hours of electricity used can be reduced by decreasing the amount of space requiring electricity, reducing the demand for electricity-drawing devices (e.g. use less lighting), and reducing the amount of time electricity-drawing devices operate.
- More energy-efficient devices can be used.
- The source of electricity can be changed from higher-emitting sources to campus-based low-emitting sources.
Strategic Actions

Separate courses of action should be taken to reduce emissions from electricity used in Transportation Services’ offices and parking facilities. To reduce emissions from electricity used in its offices, Transportation Services should apply university-wide policies. To reduce emissions from electricity used in parking facilities, Transportation Services needs to identify potential strategies, determine how to select from these strategies, and then implement selected strategies.

Next Steps

Transportation Services understands that the long-range future is uncertain and that strategies will emerge over time. To respond to changes over time, Transportation Services plans to follow a process on an annual basis to decide which strategies it intends to pursue in the next one to two years. This process is outlined below:

1. Relevant teams for each carbon focus area (commuting, fleet, and electricity) meet to discuss which strategies are most advantageous for them to pursue in the coming years. The goal will be to identify those strategies that can help meet or out-perform the carbon reduction targets for that year.
2. Each team develops a proposal outlining the strategies selected.
3. The proposals are vetted through Transportation Services leadership.
4. To the extent that proposals are not fully integrated with operating enhancements for Transportation Service programs, that proposals have a negative return on investment, or that proposals would compete with other programs for limited institutional or outside resources, engage with the Climate Action Plan steering committee for guidance.

This process was completed in 2014 with the following strategies selected:

Commuting

1. Respond to the 2014–2015 Metro transit cuts with a Commute Concierge program. Expand the program by offering it to other commuters facing a context change (e.g. new employees, new students, individuals moving homes, individuals whose transportation options have improved, and individuals whose transportation options have become worse).
2. Pilot a commute calendar (called the Husky Commuter Club) with Pay Per Use Parking members in partnership with Luum. If successful, expand to a larger population.
3. Launch a commute ambassadors program to increase peer-to-peer assistance.
4. Hire an individualized marketing specialist to help integrate best practices in behavior change research to improve campaigns, written and graphic communication, presentations, and outreach through partners.

Fleet Vehicles

1. Add telematics to a selection of Fleet vehicles to better understand fuel performance and manage assets.
2. Through an academic partnership, collect and analyze data to further improve right sizing to match vehicle type to vehicle use.
3. Expand the use of Trapeze trip-scheduling software in Shuttles vehicles to help create operating and service efficiencies in the Dial-A-Ride system.
4. Purchase electric vehicles to replace combustion engine vehicles used for Parking Operations.

Electricity

1. Audit all parking facilities to better identify current electricity usage as well as opportunities for reducing hours of electricity usage and improving energy efficiency.
2. Use the Green Garage Certification Handbook as a guide in the design of new parking facilities as well as the retrofitting of existing parking facilities.