2. Key Drivers of Change

2 Key Drivers of Change

This section identifies "key drivers" that are influencing, and will continue to influence, Oregon's transportation system users in the coming years. Although the future is uncertain, each of these elements will affect the transportation infrastructure Oregon builds and how Oregonians use the system. Understanding these drivers of change will in turn help to ensure resilient policies are created that weather these changes and promote desired outcomes. Some key takeaways include:

Oregon's population is growing, with more people in urban areas.

Many rural areas are experiencing outward-migration or slower population growth, which reduces overall transportation demand but connections to goods and services remain important. Urban areas, on the other hand, are experiencing population growth, which strains the transportation system with dramatic increases in mobility demand statewide.

Transportation is the biggest polluter and the transportation system is increasingly vulnerable to climate change and extreme weather events.

Reductions in GHG emissions are needed through mitigation actions to help achieve Oregon's climate goals and decarbonize the transportation system. As the climate changes and there are more wildfires, floods, and landslides efforts are needed to adapt the transportation system to be able to better withstand or recover quickly from these events.

New technologies can save lives, increase system efficiency, and support advancements towards other goals.

Oregon must keep pace with technology trends and understand how these trends will impact the transportation system especially with regard to mode choice and how they can be leveraged to improve user experience and address concerns such as traffic congestion and climate change.

Declining transportation funding and increasing costs leave Oregon's multimodal system grossly underfunded.

The Gas Tax is one of the primary sources of transportation funding in Oregon, and with more fuel efficient and electric vehicles, revenues are declining. This is compounded by the rapidly rising costs of materials, fuels, and labor to build, manage, and maintain the transportation system, resulting in a growing maintenance backlog and limited options to improve the system for current and future needs. To meet the vision of the OTP, four-times more funding is needed than is currently available.

2.1 Equity

Entrenched disparities in laws and public policies and public and private institutions have often denied equal opportunity to individuals and communities. In the transportation sector, these disparities have resulted in a system that does not serve all users and disproportionately and negatively impacts historically and currently excluded and underserved communities. As these communities grow and change in Oregon and as the focus on equity grows, transportation decision making must adapt to incorporate additional equity considerations, influencing projects in two ways; process and outcomes.

At the state level, ODOT has outlined equity goals that focus on workforce diversity and opportunities for advancement, expanding economic opportunities for minority groups, climate equity, and creating more representative public engagement processes.

A focus on equity in transportation planning and engineering is also driving change at the federal level, promoting a comprehensive approach to advancing equity for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality.

2.2 Climate Change

Transportation accounts for one-third of national carbon dioxide emissions that contribute to global climate change. In Oregon, a 2022 Department of Environmental Quality report indicates GHG from the transportation sector, including the movement of people and goods on all modes (car, truck, rail and air) make up around 35 percent of total emissions. In turn, climate change implications in Oregon include more frequent and severe wildfires, flooding, landslides, property damage and loss of life. Road closures resulting from extreme weather events impact freight, the economy, and provision of critical services. Oregonians need safe routes to use when catastrophic events require evacuation and potential relocation. While these and other efforts have made strides, and emissions are projected to be reduced long-term, there is still work to be done.

2.3 Population and Labor Force Changes

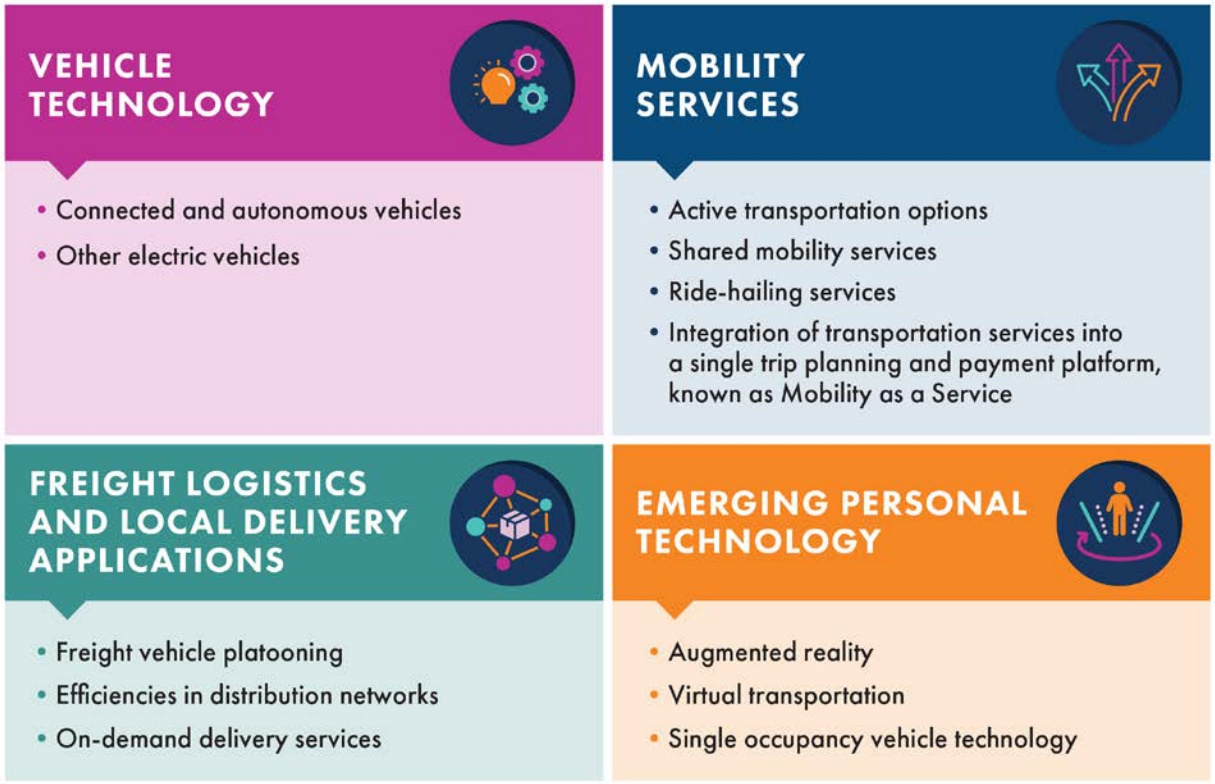
Demographic trends, including population and labor force changes, have and will continue to influence the transportation system use and needs within Oregon.

- **Population Growth** Oregon's population has increased rapidly, growing by about 24 percent (around 815,000 people) since 2000. Much of this growth has been clustered in regions along the statewide I-5 corridor and Central Oregon and is projected to continue into the future. This projected long-term growth will add further burden to the transportation system.
- **Aging Population** While Oregon's population grows, it is also getting older, which has implications on medical transportation, regional labor force and mobility needs (including mobility aids and devices that help people with disabilities get around). Outward migration has left many rural areas of the state with an aging population and slower expected growth in the labor force. This segment of the population relies on efficient transportation, and often public transportation, to access lifeline services.
- **Urbanization** In urban areas, urbanization has strained transportation systems which has resulted in severe traffic congestion conditions that impact communities statewide by constraining the movement of goods and services leading to higher costs for all Oregonians. Additionally, rapid population growth is exacerbating housing affordability issues, which further worsens congestion as people are forced to commute farther from more affordable locations.

2.4 Emerging Transportation Technology Trends

Technological advancements are and will continue to provide safety, mobility, and environmental benefits to users of Oregon's transportation system. These technological advancements—termed emerging transportation technologies—encompass a broad range of applications. Spurred by improvements in computing power and miniaturization, communications and networking, and an increase of available data, these emerging technologies are advancing rapidly and could significantly change transportation over the coming decades.

The emerging transportation technologies that are considered primary drivers of change are organized into four categories:



The development, implementation, and extent of adoption or market penetration of these options will vary. The most significant impacts are likely to occur beyond the next 20 years and will require the convergence of multiple technological advancements. However, over the next 20 years, Oregon will have a substantive mixed fleet of connected vehicles, automated vehicles, and electric vehicles that are not connected and have low levels of automation operating on the transportation system. While safety benefits can be realized, varying levels of automation may present challenges for Oregon.

2.5 Resiliency and Disaster Planning

There is consensus that a large-scale Cascadia subduction zone earthquake, and more surficial but potentially severely detrimental earthquakes, will occur in the not-so-distant future, and Oregon's transportation infrastructure must be better prepared to build necessary resilience.

Given limited resources Oregon must start with a strategic approach to this significant need, with investments planned over multiple decades to prioritize seismic deficiencies on key lifeline route, coastal erosion mitigation, culvert replacements needed for increasingly severe flooding events, landslide mitigation and emergency service access for wildland firefighting efforts.

2.6 Other Major Disrupters

Over the horizon of the OTP there will be other disruptive events that will have major impacts to the state and travel. For example, the COVID-19 pandemic experienced worldwide, extensively impacted the transportation system. Traffic volumes on the roadways dropped dramatically temporarily then quickly rebounded. Transit ridership and aviation enplanements are still recovering to pre-pandemic levels and logistical supply chain disruptions are still occurring. Some impacts from the pandemic, such as remote working and more on-demand delivery, are likely to continue into the future and affect how the transportation system is used.

Each of these drivers of change will continue to place pressure on the existing transportation infrastructure in Oregon and change the needs of travelers utilizing the transportation system summarized in Chapter 3.