

2017 ANNUAL REPORT on TRANSPORTATION

#### **TABLE OF CONTENTS**

Challenge Seattle's Commitment to Reduce Single Occupancy Driving
The Mobility Innovation Center: A partnership of the University of Washington and Challenge Seattle 4
Measurement of Key Goals6Safety7Reliability8Equity9Environmental Sustainability10
The Six Collaborative Strategies11
Courses 14







In 2016, Challenge Seattle published "<u>Working Together for a Better Future</u>"—a "Call to Action" to the region to address head-on the challenges and constraints posed by our transportation system.

To create a workable transportation system, the entire community must work together. We are all users of the system, and we must all be part of the solution. Our problems did not develop overnight, and the solutions will require never-before-seen collaboration and diligent work for years to come to achieve success.

Keeping this in mind, the "Call to Action" laid out a vision for our transportation system and six collaborative strategies for how we can work together to create a more integrated, efficient, user-centric system that leverages technology and looks towards the future needs of our region.

Challenge Seattle is committed to being part of the solution. The 17 members of Challenge Seattle agreed to tackle their own contributions to congestion by working to significantly reduce single-occupancy commuting among their employees. Additionally, Challenge Seattle announced the creation of a new Mobility Innovation Center at the University of Washington to bring together private, public, and academic experts to address the real-world transportation problems affecting the region.

In the "Call to Action," we made a commitment to publish an Annual Report to track the region's progress on achieving the vision—a user-focused transportation system that is safe, reliable, equitable, and environmentally sustainable.

This first Annual Report sets the baseline against which we will track progress and hold ourselves accountable to our commitments. It provides a report and update on:

- 1) Challenge Seattle's Commitment to Reduce Single Occupancy Driving
- 2) The Mobility Innovation Center: A partnership of the University of Washington and Challenge Seattle
- 3) Measurement of Key Goals Reliability, Safety, Equity, Environmental Sustainability
- 4) The Six Collaborative Strategies

Cleris Tregaire

In the "Call to Action," Challenge Seattle committed to taking calculated risks, exploring innovative solutions, and leveraging our business acumen in pursuit of a better transportation future. Challenge Seattle also committed to encourage and support public and private transportation actors in testing and advancing innovative technologies to improve mobility and reduce congestion. This report highlights a number of current efforts underway.

As the "Call to Action" stated, we may not always succeed, but we will always try. We will test new ideas—and use what we learn to raise the possibilities for transportation everywhere. By working together and holding ourselves accountable to one another, we will make progress and create a better future.

Finally, let me offer a special thank you to the Boston Consulting Group for their research, analysis, and thought partnership in putting this report together and to Envirolssues whose design brought the report to life.

Sincerely,

Chris Gregoire Chief Executive Officer Challenge Seattle

# Taking ACTION

# Challenge Seattle's Commitment to Reduce Single Occupancy Driving

While the Seattle region has enjoyed tremendous economic growth over the last decade, the growth has brought new challenges. Chief among them—traffic. The influx of new jobs and residents coupled with the region's aging and geographically-constrained infrastructure is challenging our efforts to combat worsening congestion and improve travel times. Not surprisingly, Seattleites rate traffic and congestion as their number one local concern.

Seattle is not alone. Cities around the world struggle with congestion and no one yet has found a silver bullet. In fact, while the average Seattle area resident spent 54.8 hours in 2016 stuck in congestion, residents in 9 other major U.S. cities had it even worse according to Inrix. Los Angeles and San Francisco residents lost 104.1 and 82.6 hours, respectively, last year to congestion. Every challenge presents an opportunity, and Seattle can lead the nation in addressing traffic and congestion.

Recognizing that we must all work together to solve the problem, Challenge Seattle member companies committed to doing their part to lessen their collective strain on the system. Specifically, the companies have agreed to significantly reduce single occupancy driving among their employees commuting to work.

# 35 by 35

As an initial step, Challenge Seattle adopted the City of Seattle's "35 by 35" goal to limit the percent of Seattle-based employees driving to work alone to less than 35 percent by 2035.² By the end of 2016, Challenge Seattle worksites within the city exceeded this goal—achieving a 33 percent drive-alone rate. That is, according to the Washington State Department of Transportation's latest survey, only 1 in 3 Challenge Seattle company commute trips in the city were made by employees driving alone.³

These results show the power of public and private commitments working together to reduce congestion by improving options for Seattle commuters. Employers are making concerted efforts to incent employees to get out of their cars and walk, bike, carpool, and ride public transportation. Recent public investments have significantly enhanced transit options, improved bike and pedestrian access, and increased travel information for the public.

Together, these efforts have shown meaningful results. In fact, according to Commute Seattle, while 45,000 jobs were added in downtown Seattle in the last 6 years, 95 percent of net added commute trips were absorbed by non-drive-alone modes.<sup>4</sup>

### Transit access = reduced SOV

Throughout the region, transit access is key to reducing single-occupancy commuting. An analysis of all Challenge Seattle worksites in King County showed that the level of transit access accounted for approximately 75 percent of the variation in drive-alone rates between sites.

The City of Seattle recognizes this correlation between density, transit access, and drive alone rates. In setting its 35 percent citywide goal, the city set different sub-goals for various neighborhoods based on density and transit.

For example, the city's 2017 sub-goal for downtown is 20 percent SOV, while South Seattle's target is 63 percent.<sup>5</sup> In each area of the city, Challenge Seattle company worksites are exceeding the city's sub-area targets for 2017.

Seattle Sub Area	2017 City of Seattle sub-area target	2015-16 Challenge Seattle SOV rate
Downtown	20%	16%
South Lake Union	40%	31%
South Seattle	63%	61%
Northgate	69%	19%

# More work is needed

While Challenge Seattle members have met the goal set by the City of Seattle, there is more work to be done. First, Challenge Seattle members will continue to reduce employee reliance on single occupancy vehicles, particularly in light of the significant public investments that the region is making in transit service. The recent passage of Sound Transit 3 (ST3) by the voters will add 62 miles of light rail and significantly expand bus service throughout the region. To fully reap the congestion-reduction benefits of new service coming on line over the next two decades, Challenge Seattle members and other employers must step-up efforts to incent more employees to get out of their cars.

Second, Challenge Seattle companies will tackle the specific challenges faced by worksites lacking transit options, finding innovative and effective ways to reduce drive-alone commuting—with initiatives like privately-funded shuttles, ridesharing options, and addressing the "first and last mile" problem.

Finally, Challenge Seattle members will share lessons learned, best practices, and innovative ideas with employers and transportation agencies throughout the region to build partnerships and foster the collaborative environment needed to tackle the region's congestion.

#### **INNOVATIVE INCENTIVES**

Bill & Melinda Gates Foundation

In 2009, 88 percent of Bill & Melinda Gates
Foundation employees were driving to work
alone. Thanks to a concerted and cutting edge
effort to reduce the drive alone rate and improve
the organization's environmental footprint, that
figure has been slashed to 34 percent by 2016.
What were the key elements in this 54-point swing?
Choices, incentives, and flexibility for employees,
prioritization by senior management, and dedicated
resources to support the effort.

After conducting a year of change management to understand employees' commuting challenges and the barriers to taking alternative transportation, the Gates Foundation established a new set of "transportation benefits" for their employees. Today, every employee receives an ORCA card free of charge and a \$3 a day incentive if they do not drive alone to work. Monthly parking was eliminated and replaced by a \$12 daily rate with the charge split for carpoolers based on the number of employees in the car. Zipcars are available for mid-day errands or emergencies and a user-friendly software system tracks daily commuting choices. Employees can track their commuter bonuses and participate in friendly competition through leaderboards, CO<sup>2</sup> tracking, and other fun "gamification" applications.

The program has been a success—not only dramatically driving down the drive alone rate—but saving the Foundation the cost of building additional employee parking.





### The Mobility Innovation Center:

# A partnership of the University of Washington and Challenge Seattle

In 2016, the University of Washington (UW) and Challenge Seattle teamed up to create the Mobility Innovation Center at the UW—a unique partnership between a research university, public agencies, and the private sector. The MIC is committed to advancing the region's economy and protecting its quality of life by helping to build the transportation system of the future through innovation and technology.

The Center is a cross-sector, multi-disciplinary effort to design, test, deploy, and evaluate technology-based solutions that address the problems facing the region's transportation system. Bringing together the region's leading expertise from business, government, and academia, the Center will focus on:

- Short-term projects with 6-9 month deliverables;
- Research that can be applied in the real world;
- Technology and policy-driven solutions; and
- Partnerships to test prototypes, implement recommendations, and put solutions to work.

#### **ADVISORY COMMITTEE**

The Mobility Innovation Center is guided by an accomplished team of advisors representing leaders in industry, government, and the nonprofit sector.





# CROSS-SECTOR PROJECT TEAMS

# GOVERNMENT

Public agencies bring knowledge, context, and ability to implement solutions.

### **ACADEMIA**

UW experts across campus bring social, legal, engineering, and technical perspectives.

### **PRIVATE SECTOR**

Private-sector subject matter experts harness cutting-edge technology and data science.

# Recent Projects

#### Driverless Seattle - How Cities Can Plan for Automated Vehicles

Autonomous Vehicles (AVs) are coming, and they will revolutionize transportation as we know it, creating opportunities and challenges for local jurisdictions and policy makers. This multi-disciplinary report identifies the major legal and policy issues that Seattle and other cities should consider as they prepare for the arrival of AV technology on our roads.

AVs bring the potential to increase public safety, improve congestion, and reduce dedicated parking needs. However, AVs raise legal and policy issues across several domains, including challenges to transportation planning, infrastructure development, municipal budgeting, insurance, and police and emergency services. Now is the time for cities like Seattle to plan for possible impacts, seek public input, develop relationships with public and private AV actors, and make policy choices to maximize the benefits of AVs.

Since publication, the findings of the report have been shared with the city of Seattle, King County, Washington State legislators, officials, and other policy makers, as well as the Council of State Governments, to help inform policy-making decisions.

See the full report at: <a href="https://www.mobility-innovation-center.uwcomotion-sites.com/wp-content/uploads/2017/02/TPL">www.mobility-innovation-center.uwcomotion-sites.com/wp-content/uploads/2017/02/TPL</a> Driverless-Seattle 2017.pdf

# Projects Underway

# Improved Incident Response on I-5: Using Technology to Speed Clearance and Get Traffic Moving

Jointly supported by the Seattle Department of Transportation and the Washington State Department of Transportation, in partnership with emergency responders, law enforcement, and other transit agencies, this project will examine how technology could be leveraged to improve incident clearance in the I-5 corridor and mitigate the resulting traffic impacts.

# Alternative to Gas Tax? Developing an App to Pilot a Road Usage Charge

Funded by a grant from the Washington State Transportation Commission, the Mobility Innovation Center is bringing together teams of students to develop a mobile app that would enable the state to pilot a Road Usage Charge, a per-mile fee paid by drivers as a potential alternative revenue source for transportation infrastructure.

#### Virtual Command Center

In collaboration with the region's transportation agencies, this project will create a shared transportation data system to allow robust coordination and real-time data sharing between agencies and the public. The long-term goal is to create a system where transportation agencies share data to enhance planning and operations and provide the public with accurate and real-time travel information to enable more informed travel choices.

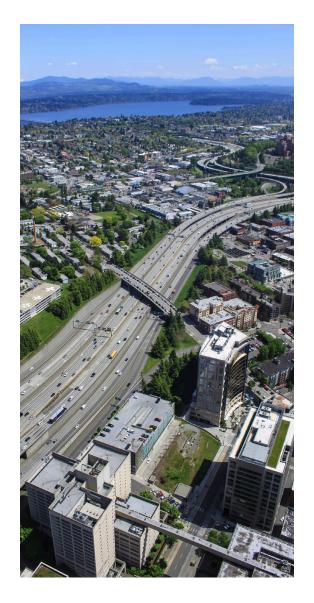
# Key Goals ASSESSING OUR PROGRESS

Challenge Seattle's 2016 "Call to Action" established four key goals and corresponding metrics to assess the overall health of our transportation system and hold ourselves accountable as a region for improvement.

The four key goals are:

- 1. **SAFETY:** Roads that are safe with a goal of zero fatalities and serious injuries.
- 2. **RELIABILITY**: A transportation system that provides reliable travel times for workers, families, and business.
- 3. **EQUITY:** Transportation accessibility and affordability to all people in the region.
- 4. ENVIRONMENTAL SUSTAINABILITY: Reduced carbon emissions for both passenger and freight transportation.

This first annual report establishes the baseline against which we will measure our future progress. While the initial data show us that we have strengths, we have work to do as a region to reach our collective goals.



#### 1. SAFETY

### Zero Fatalities and Serious Injuries

To assess the safety of our region's roads, we track the number of fatal and serious crashes occurring each year in King County per 100,000 residents and where we stand in comparison to the state and nation as a whole.

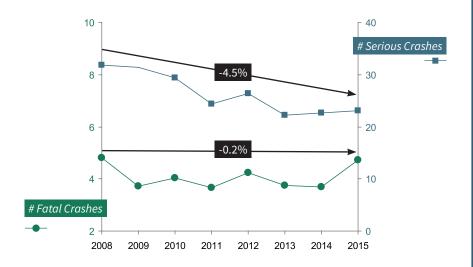
In 2015, there were 100 fatal traffic crashes in King County, resulting in 111 fatalities. Taking population into account, King County experienced 5.2 traffic fatalities per 100,000 residents in 2015, a significantly lower rate than the 7.9 fatalities per 100,000 residents in Washington State and 10.9 traffic fatalities per 100,000 in the U.S.

King County also saw 490 serious crashes in 2015, resulting in 567 serious injuries—for a rate of 26.8 serious injuries per 100,000 residents. Compared to the statewide rate of 29.2, our region has fewer serious crashes.

The leading factors for traffic fatalities in King County are driver impairment (49 percent), speeding (42 percent), and cars running off the road (35 percent), mirroring the leading factors statewide. For serious crashes, the most common factors were intersection related (44 percent), drivers age 16-25 (31 percent), and speeding (24 percent).

In recent years, traffic safety has improved in King County with a 4.5 percent decline in the rate of serious crashes and relatively little change in the rate of fatalities. However, a recent uptick in 2015 in the rate of traffic fatalities throughout King County, Washington State, and the U.S. is cause for attention and close watch in coming years. As one of the first states in the nation to adopt a strategic plan for reaching zero fatalities on our roadways, we believe that any loss of life on our roadways is unacceptable, and we must stay vigilant in our efforts to eliminate traffic fatalities.

#### KING COUNTY CRASHES (PER 100K PEOPLE)



#### TARGET ZERO AND VISION ZERO

More than a decade ago, Washington State was among the first to adopt a strategic plan for reaching zero fatalities on our roadways through improvements in infrastructure, traffic safety laws, enforcement, and roadway management. Over time, our local communities have also adopted "Target Zero" and "Vision Zero" strategies to eliminate fatalities and serious injury crashes and improve transportation safety. Here are a few examples of recent innovative efforts:

#### **ANALYZING "NEAR MISS" DATA**

Cloud computing, machine learning and other digital innovations are fundamentally reshaping transportation analytics. The City of Bellevue has teamed up with Microsoft and the University of Washington to harness this technology to save lives. Using the city's existing traffic cameras, the team is generating detailed data on traffic flow, speeds, and other vehicle conditions. These data have the potential to identify near-collision events, such as when a car abruptly stops or swerves to avoid striking a pedestrian. These close calls are much more frequent and more useful than actual crash reports in detecting systemic safety problems. Armed with this data, city staff can prioritize problem areas and implement solutions before collisions occur.

#### **LOWERING SPEED LIMITS**

As part of a comprehensive Vision Zero strategy, the City of Seattle is systematically examining speed limits to improve traffic safety throughout the city. Using data to identify the impacts of speed on pedestrian outcomes and prioritizing corridors with histories of collisions, Seattle has reduced speed limits throughout the city. While travel times have been reduced by a mere 17 seconds per mile, public safety has improved. For example, the 75th Street Road Safety Project has reduced crashes by 45 percent with no impact on travel times.<sup>10</sup>

#### 2. RELIABILTY

### **Dependable Travel Times**

Our goal is to create a reliable, high performing transportation system that reduces both travel times and the variability in travel times. Knowing the time needed to reliably get from point A to point B is crucial to allowing commuters, families, and freight operators to maximize efficiency and plan for an on-time arrival.

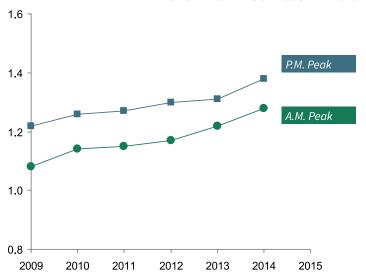
Using the state's reliability index, which measures reliable travel times on 26 strategic commute routes in the central Puget Sound region—reliability on our roads is getting worse. According to the index, travel time reliability has worsened by 7.7 percent between 2012 and 2015. 11

Travel times in the region also continued to worsen. Average travel times during the peak morning commute increased by 9 percent across the region's major highway commuting routes from 2013 to 2015. Average evening commute times increased by 6 percent during the same two-year period.<sup>12</sup>

Compared to major metropolitan areas across the nation, Seattle's transportation system performs poorly in terms of reliability and congestion. Various analyses of congestion and reliability consistently place Seattle among the top 10 worse U.S. cities for congestion. For example, in 2016, Seattle ranked 10th in the nation for the total time spent by drivers in congestion during peak commuting hours. According to the Inrix analysis, Seattle drivers spent an average of 55 hours in 2016 in peak congestion—costing over \$2 billion in total wasted fuel, lost time, and higher freight costs.<sup>13</sup>

As WSDOT points out in their 2016 Corridor Capacity Report, the region's recent economic growth, population increases, and relatively low fuel prices have conspired to increase congestion and worsen reliability. <sup>14</sup> As we look to the future and our continued economic health, we must employ strategies that increase reliability and reduce travel times.

#### TRAVEL TIME RELIABILITY WORSENING IN PUGET SOUND REGION



\*Calculated as the 80th percentile travel time divided by mean throughput travel time. Higher values equal less reliable times.

# CORRIDOR INVESTMENTS TO ADDRESS RELIABILITY

While the data show that more work needs to be done, efforts are underway to address travel times and reliability, from increasing transit service to improving incident clearance on major roadways. In addition, investments to critical corridors are being made:

#### **I-405 EXPRESS TOLL LANES**

In September 2015, WSDOT opened express toll lanes on I-405 between Bellevue and Lynnwood. Since then, overall reliability and travel times in the I-405 corridor have improved, even as traffic volumes have increased. During peak commute periods, the drivers using the express toll lanes are saving an average of five minutes over travel in the previous HOV lanes. Drivers in the generalpurpose lanes have also seen improvement, with average commute times decreasing by 3 minutes between Bellevue and Bothell in both directions.15 Certain segments of the route, particularly north of Bothell, still need attention, and WSDOT will be working with the legislature to evaluate overall performance and assess the possibility of building-out express lanes throughout the I-405 corridor.

#### MERCER STREET IMPROVEMENTS

For decades, the "Mercer Mess" was one of Seattle's biggest transportation headaches, creating congestion on I-5, contributing to 200 accidents each year, and impeding growth in the South Lake Union neighborhood. With more than 80,000 vehicles and counting using the corridor each day, the Seattle Department of Transportation (SDOT) has made a series of improvements in the corridor since 2010, allowing two-way traffic on Mercer Street, improving pedestrian and bicycle access, and enhancing signal timing. Most recently, SDOT implemented the city's first Adaptive Signal System on the Mercer Corridor. Launched in April 2017, early data indicate promising travel time savings and increased reliability. For example, initial results show that eastbound afternoon peak period travel times are 2.7 minutes shorter and 38 percent more reliable on average. 16

#### 3. EQUITY

### Accessibility and Affordability for All

Our goal is a system that is both accessible and affordable to all people in our region. To assess affordability, we look at how much Seattle households are spending each year on transportation-related costs.

In 2015, the average Seattle household spent \$9,767 on transportation-related costs—approximately 11 percent of annual household income. <sup>17</sup> By comparison, the average U.S. household spends 13.6 percent of income on transportation. <sup>18</sup> In fact, Seattle ranks third lowest among major metropolitan areas in terms of the share of household income going towards transportation costs. <sup>19</sup>

Perhaps not surprisingly, the bulk of transportation spending is on private vehicles. Eighty-six percent of Seattle area households' transportation dollars go toward the purchase of new and used vehicles, fuel, insurance, financing, and maintenance.

However, the Seattle region is a leader in household spending on public and other transportation. While nationwide, only 6.7 percent of household transportation spending is on public transit, households in Seattle spent nearly double that rate at 13.2 percent in 2015. Moreover, these figures do not include the additional spending recently approved by voters in ST3 for transit and light rail expansion.

Across the nation, low-income households spend a greater proportion of their income on transportation related costs. In 2015, the lowest earning 20 percent of households spent three times as much as a percentage of their income on mobility costs compared to the highest-income households. The same trend holds true in the Seattle region according to an analysis by the Boston Consulting Group.

We can also measure equity by examining access to public transportation. According to the latest numbers from King County Metro, 72 percent of all low-income households in King County are within a ½ mile of frequent service compared with 43 percent of all households throughout the county.<sup>21</sup>

#### ORCA LIFT

An innovative program to assist low-income riders.<sup>22</sup>

Transit fares in the Seattle region have risen over the last decade, with King County Metro bus fares increasing 6 times since 2008. In order to mitigate the impact of these fare increases on low-income riders, King County launched an innovative program called ORCA Lift in Spring 2015 to provide discounted fares to low-income riders. Sound Transit has since extended ORCA Lift to light rail and its regional buses.

Using the smart chip technology found in ORCA cards (the region's integrated smart card transit payment system), all riders who make less than 200 percent of the federal poverty rate are eligible to qualify for a fare of \$1.50—an up-to 50 percent discount on regular fares.

While other cities throughout the U.S. have tried similar programs, none has been as successful to date in reaching as many low-income households. As of January 2017, more than 40,000 ORCA Lift cards have been issued and 5 million trips have been taken through the program.

A few key innovations have helped its success:

- The program leverages community networks established during the county's Affordable Care Act enrollment drive, providing over 35 locations for people to sign up for the ORCA Lift card at the same time that they receive other public benefits.
- The card is easy to use, good for 2 years without additional income verification, and looks like a regular ORCA card, reducing administrative burden and social stigma.

# 4. ENVIRONMENTAL SUSTAINABILITY Reduce Carbon Emissions from Transportation

To ensure that we are building a transportation system for the future that is environmentally sustainable, we track carbon emissions attributable to transportation.

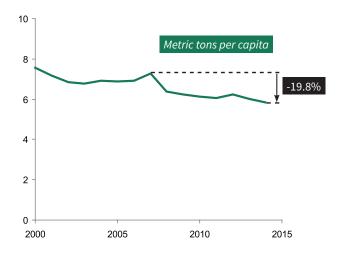
In Washington State—due largely to our state's reliance on hydropower and other clean energy—the transportation sector is the leading contributor to greenhouse gas emissions.

While not available at the county level, transportation-related carbon dioxide emissions have declined statewide. From a peak of nearly 47.4 million metric tons (MMT) in 2007, statewide transportation emissions decreased 14.3 percent by 2014, reaching the lowest levels since 1989.<sup>23</sup>

Despite a population increase of 6.8 percent since 2007, transportation emissions have also declined on a per capita basis—dropping 19.8 percent to 5.8 tons per person in 2014. Likewise, WSDOT estimates that weekday annual greenhouse gas emissions from vehicles on the state's urban commute corridors decreased 2.9 percent between 2013 and 2015.24

More fuel-efficient vehicles and an increased usage of alternative forms of transportation have contributed to these lower emission rates. In King County, the rate of single occupancy driving among commuters has declined from 57 percent to 51 percent in the last decade. Additionally, King County Metro and Sound Transit have seen record ridership rates in recent years, with Sound Transit ridership increasing 23.1 percent year-over-year in 2016 as new light rail services came online.

#### WA STATE CO2 EMISSIONS FROM TRANSPORTATION



# REAL ESTATE OWNERS AND MANAGERS COMMITTED TO REDUCING TRANSPORTATION CO2

The non-profit Seattle 2030 District is bringing together real estate owners, managers, developers, industry professionals, and community stakeholders to reduce the environmental impacts of buildings in downtown Seattle and surrounding neighborhoods. In addition to increasing energy efficiency and reducing storm water runoff, 2030 District members are committed to cutting CO<sup>2</sup> emissions from transportation by 50 percent by 2030.

Specifically, the 2030 District supports the creation of a network of electric vehicle charging stations in Seattle buildings. With Washington State leading the nation (ranked 3rd) in electric vehicle ownership, these private investments make sense. For example, one downtown condo building member installed 60 EV chargers in its two garages—becoming one of the largest residential installations on the West Coast. The 2030 District also collaborates with Commute Seattle to encourage residents and workers to get out of their cars, promoting building amenities such as bike facilities, on-site storage, showers and changing rooms.





Challenge Seattle's "Call to Action" identified six strategies for improving our transportation system to create a more integrated, efficient, user-centric model. These strategies are directly tied to our key goals—Safety, Reliability, Equity, and Environmental Sustainability.

Public and private sector actors must work collaboratively to put these strategies into practice. The examples in this section highlight recent efforts across the region to advance the strategies and make progress against our goals.



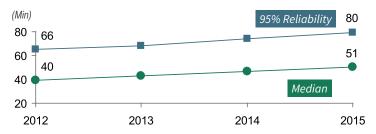
### 1 INTERSTATE 5

Create an I-5 corridor for the 21st Century

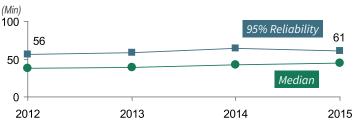
Transform I-5 into an efficiently functioning corridor by improving physical infrastructure and deploying new technologies and practices. Lack of commute reliability on I-5 continues to be a challenge.

#### PEAK COMMUTE TRAVEL TIMES ON 1-5<sup>27</sup>

#### **Everett to/from Seattle**



#### Federal Way to/from Seattle



#### **EXAMPLE OF EFFORTS UNDERWAY**

- Improved Incident Response Four new WSDOT Incident Response Teams were deployed in 2016 to improve incident clearance on I-5 in the Seattle region.
- New WSDOT Traffic Management Center Opened in 2015, this state-of-the art "nerve" center has improved traffic management in the Puget Sound region, replacing a cramped facility that was prone to system overheating and computer failure.
- I-5 Incident Response project at the Mobility Innovation
   Center This project brings together a multi-jurisdictional
   team of transportation experts and first responders to
   improve incident clearance and traffic mitigation during
   major incidents affecting I-5.

## **2** TRANSPORATION SYSTEM

Integrate operations and planning

Optimize the performance of our transportation system by integrating the management of all modes using comprehensive data and analytics.

#### **EXAMPLE OF EFFORTS UNDERWAY**

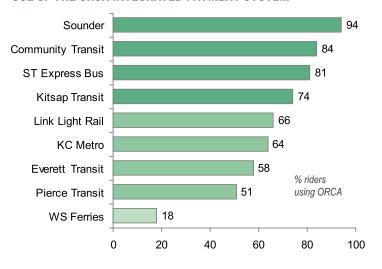
- Corridor Sketch Initiative In 2015, WSDOT began working jointly with local, regional, tribal, state and federal partners on an integrated, multimodal planning approach for the state's major transportation corridors.
- Virtual Command Center project at the Mobility
   Innovation Center This project will create a shared transportation data system to allow robust coordination and real-time data sharing between transportation agencies, private sector mobility providers, and the public to improve mobility throughout the region.

### **3** USER FOCUSED

Manage the system with all users in mind

Create a system that puts users first, focusing on improving the customer experience, increasing information, and ensuring accessibility for all.

#### USE OF THE ORCA INTEGRATED PAYMENT SYSTEM<sup>28</sup>



#### **EXAMPLE OF EFFORTS UNDERWAY**

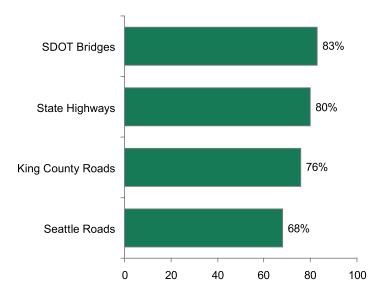
- Autonomous Vehicle report at the Mobility Innovation
   Center The report provides guidance to help cities prepare for the public impacts of autonomous vehicle technology.
- ORCA Lift Discounted transit pass that allows low-income residents to easily access transit throughout the region.

# TRANSPORTATION ASSETS

Proactively maintain

Maintain existing assets to keep travelers safe and limit system disruptions by prioritizing and systematizing maintenance investments across the system.

# PERCENT OF TRANSPORTATION INFRASTRUCTURE IN KING COUNTY IN FAIR OR BETTER CONDITION<sup>29</sup>



#### **EXAMPLE OF EFFORTS UNDERWAY**

- Connecting Washington Act In 2015, the
  Washington State legislature passed the Connecting
  Washington Act—a comprehensive transportation
  funding package. The 2015 package included
  \$1.4 billion for preservation, maintenance, and
  operations over the next 16 years—representing a
  significant increase in spending in these areas.
- Move Seattle Levy In November 2015, Seattle
  voters approved a \$930 million 9-year property tax
  to fund transportation. Over 45 percent, or \$420
  million, was set aside for maintenance to repave
  streets and repair bridges throughout the city.

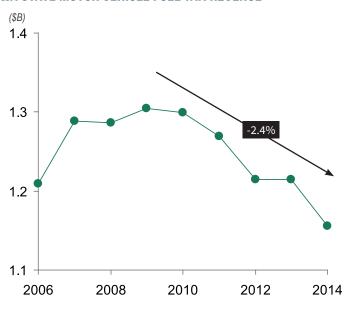


### 5 FUNDING

#### Establish a Sustainable Funding Model

A predictable and consistent funding stream is needed to maintain and operate existing infrastructure and enable planning and investments for the future.

#### WA STATE MOTOR VEHICLE FUEL TAX REVENUE<sup>30</sup>



#### **EXAMPLE OF EFFORTS UNDERWAY**

- Road Usage Charge Pilot In 2016, the Washington State Transportation Commission was awarded a \$3.9 million Federal Highway Administration grant to conduct a pilot project of a Road Usage Charge—a potential alternative to the gas tax that would assess a tax on vehicles based on mileage driven. The one-year pilot will begin in early 2018.
- Sound Transit 3 Ballot Measure In November 2016, local voters passed a \$54 billion tax increase to fund the construction and operation of 62 miles of new light rail, additional bus rapid transit, and other public transit improvements throughout the region over the next 25 years.

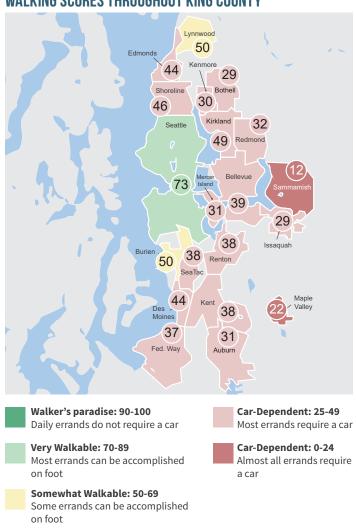


## **6** INTEGRATION

# Integrate Land-Use and Transportation Planning

Take an intentional approach to land-use and transportation planning to provide mobility throughout the region and easy access for people of all income levels to reach employment, education, and other life activities.

#### WALKING SCORES THROUGHOUT KING COUNTY<sup>31</sup>



#### **EXAMPLE OF EFFORTS UNDERWAY**

- Vision 2040 The Puget Sound Regional Council, the comprehensive planning agency for four counties in the Puget Sound, is working to integrate land use and transportation planning at the local and regional level to enable the region to absorb another 1 million people in the coming decades.
- Focus on Transit Oriented Development Following the
  passage of ST3 for transit expansion throughout the region,
  Sound Transit is putting together a plan that will prioritize
  and promote transit oriented development and better link
  transit with affordable housing.

# Sources

<sup>1</sup>"INRIX Global Traffic Scorecard." Inrix, February 2017, <a href="http://inrix.com/scorecard/">http://inrix.com/scorecard/</a>.

<sup>2</sup> Seattle 2035: Comprehensive Plan." City of Seattle, Adopted October 2016. <a href="http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web\_informational/p2580891.pdf">http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web\_informational/p2580891.pdf</a>.

<sup>3</sup>Commute Trip Reduction Survey Data. Washington State Department of Transportation, 2015-2016.

4"2016 Mode Split Survey Infograph." Commute Seattle, 2016. <a href="https://commuteseattle.com/wp-content/uploads/2015/05/2016Commute">https://commuteseattle.com/wp-content/uploads/2015/05/2016Commute</a> Seattle modesplit Infograph-2.pdf.

<sup>5</sup>"Your Neighborhood, Your CTR Goals." City of Seattle, ccessed February 2016. http://www.seattle.gov/waytogo/goals.htm.

<sup>6</sup>"Quarterly Target Zero Data for All Washington State and King County." Washington Traffic Safety Commission, 2015 Data, http://wtsc.wa.gov/research-data/quarterly-target-zero-data/.

<sup>7</sup>2015 Population data from "Quick Facts, King County, Washington" and "Quick Facts, Washington State." U.S. Census Bureau, <a href="https://www.census.gov/quickfacts">https://www.census.gov/quickfacts</a>.

<sup>8</sup>"NCSA Data Resource Website, Fatality Analysis Reporting System." National Highway Traffic Safety Administration, accessed February 2017, <a href="https://www-fars.nhtsa.dot.gov/Main/index.aspx">https://www-fars.nhtsa.dot.gov/Main/index.aspx</a>.

<sup>9</sup>Percentages add to more than 100 percent as crashes may have more than one factor involved. "Quarterly Target Zero Data for All Washington State and King County." Washington Traffic Safety Commission, 2015 Data, <a href="http://wtsc.wa.gov/research-data/quarterly-target-zero-data/">http://wtsc.wa.gov/research-data/quarterly-target-zero-data/</a>.

<sup>10</sup>"NE 75th Street Redesign. Before and After Study: 15th Ave NE to 35th Ave NE." The Seattle Department of Transportation, City of Seattle, 2015, <a href="http://www.seattle.gov/transportation/docs/NE75thRechannelizationReportFINAL.pdf">http://www.seattle.gov/transportation/docs/NE75thRechannelizationReportFINAL.pdf</a>.

<sup>11</sup>"G2: 3.2.a - Travel and freight reliability." Results Washington, Washington State, accessed February 2017, <a href="https://data.results.wa.gov/Goal-2-Prosperous-Economy/G2-3-2-a-Travel-and-freight-reliability/rr7y-zuxc/data">https://data.results.wa.gov/Goal-2-Prosperous-Economy/G2-3-2-a-Travel-and-freight-reliability/rr7y-zuxc/data</a>. "2016 WSDOT Corridor Capacity Study." Washington State Department of Transportation, November 2016, <a href="http://wsdot.wa.gov/publications/fulltext/graynotebook/CCR16.pdf">http://wsdot.wa.gov/publications/fulltext/graynotebook/CCR16.pdf</a>.

<sup>12</sup>"2016 WSDOT Corridor Capacity Study: Appendix." Washington State Department of Transportation, November 2016, <a href="http://wsdot.wa.gov/publications/fulltext/graynotebook/CCR16">http://wsdot.wa.gov/publications/fulltext/graynotebook/CCR16</a> appendix.pdf.

<sup>13</sup>"Los Angeles Tops INRIX Global Congestion Ranking." News release, Inrix, February 16, 2017. http://inrix.com/press-releases/los-angeles-tops-inrix-global-congestion-ranking/.

<sup>14</sup>"2016 WSDOT Corridor Capacity Study." Washington State Department of Transportation, November 2016, <a href="http://wsdot.wa.gov/publications/fulltext/graynotebook/CCR16.pdf">http://wsdot.wa.gov/publications/fulltext/graynotebook/CCR16.pdf</a>.

<sup>15</sup>Information provided by Washington State Department of Transportation, 2017.

<sup>16</sup>Information provided by Seattle Department of Transportation, 2017.

<sup>17</sup>"Table 3032. Selected western metropolitan statistical areas: Average annual expenditures and characteristics, Consumer Expenditure Survey, 2014-2015." Consumer Expenditure Survey, U.S. Bureau of Labor Statistics, https://www.bls.gov/cex/2015/msas/west.pdf.

# Sources

<sup>18</sup>"Table 1800. Region of residence: Average annual expenditures and characteristics, Consumer Expenditure Survey, 2014-2015." Consumer Expenditure Survey, U.S. Bureau of Labor Statistics, <a href="https://www.bls.gov/cex/2015/region/region.pdf">https://www.bls.gov/cex/2015/region/region.pdf</a>.

<sup>19</sup>"Metropolitan Statistical Areas Tables." Consumer Expenditure Survey, U.S. Bureau of Labor Statistics, https://www.bls.gov/cex/tables.htm#MSA.

<sup>20</sup>"Table 1110. Deciles of income before taxes: Annual expenditure means, shares, standard errors, and coefficients of variation, Consumer Expenditure Survey, 2015." Consumer Expenditure Survey, U.S. Bureau of Labor Statistics, <a href="https://www.bls.gov/cex/2015/combined/decile.pdf">https://www.bls.gov/cex/2015/combined/decile.pdf</a>.

<sup>21</sup>"Metro Connects: Long-Range Plan 2016." King County Metro Transit, January 2017, https://issuu.com/metro-transit/docs/metro-connects-jan2017/1?e=2675565/43536973.

<sup>22</sup>"Nearly 5 million Metro Transit trips in 2016 were taken with ORCA LIFT cards, the latest milestone for the nation's leading reduced-fare program." News Release, King County Executive, February 2, 2017, <a href="http://www.kingcounty.gov/elected/executive/constantine/news/release/2017/February/02-orca-lift-milestones.aspx">http://www.kingcounty.gov/elected/executive/constantine/news/release/2017/February/02-orca-lift-milestones.aspx</a>.

<sup>23</sup>"State Carbon Dioxide Emissions Data Tables, 2014." U.S. Energy Information Administration, released November 3, 2016, <a href="https://www.eia.gov/environment/emissions/state/">https://www.eia.gov/environment/emissions/state/</a>.

<sup>24</sup>"2016 WSDOT Corridor Capacity Study." Washington State Department of Transportation, November 2016, <a href="http://wsdot.wa.gov/publications/fulltext/graynotebook/CCR16.pdf">http://wsdot.wa.gov/publications/fulltext/graynotebook/CCR16.pdf</a>.

<sup>25</sup>Commute Trip Reduction Survey Data. Washington State Department of Transportation, 2015-2016.

<sup>26</sup>"Service Delivery Quarterly Performance Report, Q4 2016." Sound Transit, 2016, <a href="http://www.soundtransit.org/sites/default/files/2016-Q4%20Service%20Delivery%20Performance%20Report.pdf">http://www.soundtransit.org/sites/default/files/2016-Q4%20Service%20Delivery%20Performance%20Report.pdf</a>.

<sup>27</sup>"2016 WSDOT Corridor Capacity Study." Washington State Department of Transportation, November 2016, <a href="http://wsdot.wa.gov/publications/fulltext/graynotebook/CCR16.pdf">http://wsdot.wa.gov/publications/fulltext/graynotebook/CCR16.pdf</a>; "2015 WSDOT Corridor Capacity Study." Washington State Department of Transportation, October 2015, <a href="http://wsdot.wa.gov/publications/fulltext/graynotebook/CCR15.pdf">http://wsdot.wa.gov/publications/fulltext/graynotebook/CCR15.pdf</a>.

<sup>28</sup>"Joint Board Program Management Report, 2<sup>nd</sup> Quarter 2016." King County Metro Transit, 2016, <a href="http://metro.kingcounty.gov/am/reports/2016/orca/orca-joint-board-program-management-report-2nd-quarter.pdf">http://metro.kingcounty.gov/am/reports/2016/orca/orca-joint-board-program-management-report-2nd-quarter.pdf</a>.

<sup>29</sup>Data from 2013-2015. "SDOT Asset Management: Status and Condition Report." Seattle Department of Transportation, 2015, <a href="http://www.seattle.gov/transportation/docs/SDOT2015SCReportFinal12-7-2015.pdf">http://www.seattle.gov/transportation/docs/SDOT2015SCReportFinal12-7-2015.pdf</a>; Data provided by the Washington State Department of Transportation, Pavement Management System; "Comprehensive Annual Financial Report, 2014." Finance and Business Operations Division, King County, December 2014, <a href="http://www.kingcounty.gov/~/media/depts/finance/financial-management-services/CAFR-2014/2014-King-County-CAFR.ashx?la=en">http://www.kingcounty.gov/~/media/depts/finance/financial-management-services/CAFR-2014/2014-King-County-CAFR.ashx?la=en</a>.

<sup>30</sup>Adjusted for inflation. "State Gas Tax Revenue Data." Governing, accessed February 2017, http://www.governing.com/gov-data/transportation-infrastructure/gas-tax-revenue-data-by-state-inflation-adjusted.html.

<sup>31</sup>Walk Scores for King County jurisdictions available at <a href="https://www.walkscore.com">https://www.walkscore.com</a>.

# CHALLENGE

Challenge Seattle is a private sector initiative led by many of the region's CEOs working to address the issues that will determine the future of our region—for our economy and our families. Challenge Seattle is led by former Governor Chris Gregoire and comprised of several of the region's most prominent businesses including Alaska Airlines, Amazon, Bill & Melinda Gates Foundation, Boeing, Chateau Ste. Michelle, Costco, Expedia, JP Morgan Chase, Madrona Venture Partners, Microsoft, Nordstrom, PATH, Puget Sound Energy, REI, Starbucks, Weyerhaeuser and Zillow.

Challenge Seattle was formed to ensure that greater Seattle continues to thrive as one of the most vibrant, innovative and globally competitive regions in the world by recognizing the uniqueness of our people, our culture and our pioneering companies.

#### WE ARE FOCUSED ON FOUR GOALS:

- 1. Provide our children the opportunity through education to compete for future jobs here in Washington State.
- 2. Develop world leading infrastructure that drives our future growth and vitality and improves quality of life.
- Create and maintain good jobs while preserving our values.
- 4. Tell the Seattle story here and around the world.



# BOSTON CONSULTING GROUP

The Boston Consulting Group (BCG) is a global management consulting firm and the world's leading advisor on business strategy. We partner with clients from the private, public, and not-for-profit sectors in all regions to identify their highest-value opportunities, address their most critical challenges, and transform their enterprises. Our customized approach combines deep insight into the dynamics of companies and markets with close collaboration at all levels of the client organization. This ensures that our clients achieve sustainable competitive advantage, build more capable organizations, and secure lasting results. Founded in 1963, BCG is a private company with 85 offices in 48 countries. For more information, please visit bcg.com.