Research Purpose

- Assess Oregonians’ opinions and feelings about automated vehicles (AVs)
- Evaluate perceived benefits of AVs
- Gauge public preference in regard to testing of AVs in Oregon
Methodology

- Phone survey of N=602 Oregon residents
- Conducted November 8–12, 2018; 15 minutes to complete
- Quotas and weighting by age, gender, education, ethnicity and area of the state were used to ensure responses are representative of Oregon
- Margin of error ±4.0%
- Due to rounding, some totals may differ by ±1 from the sum of separate responses.
Key Takeaways

- Few Oregonians have experience with automated features or know much about automated vehicles (AVs)—this leads to higher skepticism and negative attitudes.

- Attitudes about AVs are mixed with skepticism, safety concerns, an understanding about benefits, and some openness.

- Experience + knowledge = comfort with AVs
  Widespread use = comfort with AVs
Key Takeaways

- Comfort with AVs will likely increase as more people experience vehicles with driver-assistance features (or AVs become widespread)

- Oregonians are more comfortable with AVs in low-traffic areas and at low speeds—highly controlled environments

- Support is stronger to pilot shuttles on designated routes (versus taxis in certain areas)
Key Takeaways

- Opinions about AV safety are split which is an opportunity to frame messages and educate the public
  - People are skeptical about general AV safety and will likely remain so until their experience or exposure changes

- Skepticism about AV safety seems lower when asked about reducing traffic fatalities and injuries (versus general safety)

- Messages about AV benefits for people (mobility for elderly, disabled people, youth) work better than messages about improvements to traffic and safety
Awareness and comfort with AVs
Most Oregonians have little experience with driver-assistance features beyond adaptive cruise control

Which of the following features have you used while driving a car?

- Adaptive cruise control: 29%
- Lane keeping assist: 16%
- Automatic forward collision braking: 13%
- Steering assist: 11%
- Automatic parking: 7%
- Road sign recognition: 7%
- Advanced driver assistance system: 7%

64% None
Most people in Oregon know little or nothing at all about automated vehicles; this is similar to the rest of the nation.

- **Oregonians**: 64% know little to nothing.
- **Americans**: 60% know little to nothing.

Source: Kelley Blue Book, 2016
Negative impressions reflect safety and technology concerns

24% Don’t like it, against, general negative comment
10% Not safe, dangerous
9% Negative emotions, scary
7% Computer malfunctions
5% Need human control
4% Don’t want to be in one, own one
3% Don’t trust them, the technology
Positive reactions are also fairly general and reflect excitement for future technological developments. 

20%  Like it, for it, general positive

6%  Positive emotions, excited

5%  It is the future

5%  Technology, reliable, cool

3%  Autonomous is a little safer
Men, younger Oregonians, and those from Metro and the Willamette Valley are more likely to be positive about AVs.
A majority of Oregonians are comfortable with AVs on the road if the vehicles travel at low speeds and in light traffic.

<table>
<thead>
<tr>
<th>Location</th>
<th>Very comfortable</th>
<th>Somewhat comfortable</th>
</tr>
</thead>
<tbody>
<tr>
<td>In areas with few vehicles</td>
<td>30%</td>
<td>39%</td>
</tr>
<tr>
<td>In lower speed areas</td>
<td>22%</td>
<td>38%</td>
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<tr>
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<td>11%</td>
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<tr>
<td>On congested roadways</td>
<td>12%</td>
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</tr>
<tr>
<td>In busy downtown areas</td>
<td>11%</td>
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DHM RESEARCH | ODOT AUTONOMOUS VEHICLES SURVEY | NOVEMBER 2018
A majority are not comfortable with AVs on Oregon’s roads traveling in denser traffic or at higher speeds.

- In areas with few vehicles: 20% not at all comfortable, 10% not too comfortable, 30% comfortable.
- In lower speed areas: 26% not at all comfortable, 13% not too comfortable, 40% comfortable.
- In higher speed areas: 48% not at all comfortable, 18% not too comfortable, 66% comfortable.
- On congested roadways: 48% not at all comfortable, 20% not too comfortable, 68% comfortable.
- In busy downtown areas: 47% not at all comfortable, 21% not too comfortable, 68% comfortable.
Over half of Oregonians are comfortable riding in AVs traveling in areas with few vehicles or at low speeds.

- In areas with few vehicles: 26% Very comfortable, 35% Somewhat comfortable (61% total)
- In lower speed areas: 23% Very comfortable, 32% Somewhat comfortable (54% total)
- Sharing a ride with other passengers: 14% Very comfortable, 31% Somewhat comfortable (46% total)
- For most trips you take: 15% Very comfortable, 25% Somewhat comfortable (40% total)
- In higher speed areas: 10% Very comfortable, 21% Somewhat comfortable (30% total)
Comfort with AVs being on the road mirrors comfort riding in AVs

- In areas with few or no vehicles: 61%
- In low speed areas: 54%
Nearly 7 in 10 are not comfortable riding in AVs in higher speed areas

- In areas with few vehicles: 28% not at all comfortable, 10% not too comfortable, 38% comfortable
- In lower speed areas: 31% not at all comfortable, 14% not too comfortable, 45% comfortable
- Sharing a ride with other passengers: 38% not at all comfortable, 15% not too comfortable, 53% comfortable
- For most trips you take: 42% not at all comfortable, 16% not too comfortable, 58% comfortable
- In higher speed areas: 52% not at all comfortable, 17% not too comfortable, 69% comfortable
Oregonians may be more hesitant about riding in AVs when compared to national results

*Very comfortable/Would definitely consider:*

- **In areas with few vehicles**
  - Oregonians: 26%
  - Americans: 39%

- **In lower speed areas**
  - Oregonians: 23%
  - Americans: 31%

- **In higher speed areas**
  - Oregonians: 10%
  - Americans: 17%

*Source: Bloomberg Statefarm, 2016*
People who have used automated features are significantly more comfortable with AVs in several situations

<table>
<thead>
<tr>
<th>Scenario</th>
<th>No experience with automated features</th>
<th>Experience with automated features</th>
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</thead>
<tbody>
<tr>
<td>Comfortable with AVs in low speed areas</td>
<td>54%</td>
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</tr>
<tr>
<td>Riding in AVs in low speed areas</td>
<td>49%</td>
<td>59%</td>
</tr>
<tr>
<td>Riding in AVs with other passengers</td>
<td>42%</td>
<td>49%</td>
</tr>
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<td>Riding in AVs for most trips</td>
<td>34%</td>
<td>46%</td>
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Men are significantly more comfortable with AVs than are women

- Riding in AVs in low speed areas
  - Women: 49%
  - Men: 59%

- Riding in AVs for most trips
  - Women: 34%
  - Men: 46%

- Comfortable with AVs in busy downtown areas
  - Women: 22%
  - Men: 39%

- Comfortable with AVs in higher speed areas
  - Women: 28%
  - Men: 38%

- Riding in AVs in high speed areas
  - Women: 24%
  - Men: 37%
Younger Oregonians are generally more comfortable with AVs

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Safety
Oregonians are split as to whether they think roadways will be safer if cars are automated or driven by people.
Compared to national results, fewer Oregonians think roadways will be safer if automated vehicles are widespread.

Oregonians: 45% think roadways are safer with AVs.

Americans: 63% think roadways are safer with AVs.

Source: Kelley Blue Book, 2016
More men, people of color, and younger Oregonians think roadways will be safer if automated vehicles are widespread.

- **Men**: 51%
- **Women**: 38%
- **People of color**: 58%
- **Whites**: 42%
- **18–34**: 55%
- **35–54**: 45%
- **55+**: 36%
Oregonians who have used automated features and are comfortable with AVs are more likely to believe roadways will be safer if AVs are widespread

- Used at least one automated feature: 52%
- Have not used any automated features: 41%
- Comfortable with AVs in many situations: 74%
- Comfortable with AVs in a few situations: 33%
- Uncomfortable with AVs on the road: 12%
Oregonians are split as to whether they prefer to have a safer roadway if that means they have less control over their vehicle.

- **I prefer to have full control of my vehicle, even if it’s not as safe for other drivers**: 45%
- **I prefer to have a safer roadway for all, even if that means I have less control over my own vehicle**: 50%
- **Don’t know**: 5%
Oregonians align with national attitudes: Americans are split on giving up control

Source: Kelley Blue Book, 2016

50% Safer roadway for all

49% Safer roadway for all
Support for pilot tests
A majority support pilot projects of driverless low-speed shuttles and taxis within designated areas.
About one-quarter strongly support a pilot, with less strong opposition for shuttles on designated routes vs. taxis in a specified area.

### Pilot projects on designated routes

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<tr>
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### Pilot fleet of driverless taxis

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Potential benefits
Oregonians think disabled or elderly people and big business will benefit from AVs

- **31%** Disabled, elderly, can’t drive
- **24%** Manufacturer, automaker, big business
- **11%** Everybody, general public
- **5%** None, no benefits
- **5%** Younger people, teens, comfortable with technology
- **5%** Don’t know
Oregonians believe AVs are likely to have a large positive impact for those who cannot or should not drive

| Mobility for people with physical disabilities  | 62% |
| Driving under the influence                  | 52% |
| Distracted driving                            | 47% |
| Traffic congestion                            | 21% |
| Use of public transit                         | 17% |
| Travel times                                  | 16% |
Oregonians believe AVs are, on balance, more likely to have a positive impact than a negative one.

- Mobility for people with physical disabilities: 80% positive, 8% negative
- Driving under the influence: 70% positive, 17% negative
- Distracted driving: 69% positive, 19% negative
- Traffic congestion: 41% positive, 24% negative
- Use of public transit: 38% positive, 27% negative
- Travel times: 37% positive, 22% negative
Oregonians believe AVs will provide older adults more independence and reduce traffic deaths and injuries.
Next steps

- Be specific—frame messaging and communications to address specific AV benefits, safety measures, and pilots
  - People are skeptical of AVs, so vague messaging feeds into existing negative attitudes.
  - Use specific messaging. Talk more about fewer traffic deaths and less about safe roads.

- Connect AVs to “people” benefits over “things or outcomes” to shift public attitudes
  - Talk more about greater mobility for people and less about improved traffic and travel times.
Key observations from focus group and survey research

- Oregonians expect transparency about AVs. They have general safety concerns and little experience with automated features. If AVs are on the road, they want to know.

- Oregonians lean toward a more cautious deployment of AVs on Oregon roads.
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