AV Perceptions Among Older People
Exploring Results From TOMNET T4 Survey

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Introduction

65 years and older

16%

84%

understand

their mobility needs to ensure transportation equity
Data Description

- TOMNET – D-STOP University Transportation Centers collaboration to explore transformative technologies in transportation
- T4 Survey (2019) administered in Phoenix, Atlanta, Austin, and Tampa metropolitan areas
- Attitudes, Mobility Behaviors, Ridehailing Usage, and AV Perceptions
- Three age groups
  - young adults (18 to 34 years old)
  - middle-aged adults (35 to 64 years old) and
  - older adults (65 years and older)
- Weighted sample: N = 3,436
Survey Team

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Michael Maness
Nikhil Menon
Felipe Dias
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Chandra Bhat
Giovanni Circella
Yongsung Lee
Patricia Mokhtarian
Frequency of Mode Use for Non-Commute Trips by Age Group

- **Drive alone**
  - 18-34
  - 35-64
  - 65+

- **Drive with passengers**
  - 18-34
  - 35-64
  - 65+

- **Bus**
  - 18-34
  - 35-64
  - 65+

- **Ridehailing**
  - 18-34
  - 35-64
  - 65+

- **Bicycle**
  - 18-34
  - 35-64
  - 65+

- **Walk**
  - 18-34
  - 35-64
  - 65+

Legend:
- 3+ days/ week
- 1-2 days/ week
- 1-2 days/ month
- < monthly
- Never use
- Not available
Attitudes

Agreement with “I like trying things that are new and different”

<table>
<thead>
<tr>
<th>Age Group</th>
<th>18-34 (N=1,064)</th>
<th>35-64 (N=1,553)</th>
<th>65 and older (N=819)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agreement</td>
<td>82%</td>
<td>80%</td>
<td>81%</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>9%</td>
<td>5%</td>
<td>13%</td>
</tr>
<tr>
<td>Somewhat agree</td>
<td>38%</td>
<td>32%</td>
<td>37%</td>
</tr>
<tr>
<td>Neutral</td>
<td>39%</td>
<td>27%</td>
<td>14%</td>
</tr>
<tr>
<td>Somewhat disagree</td>
<td>14%</td>
<td>16%</td>
<td>26%</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>10%</td>
<td>20%</td>
<td>13%</td>
</tr>
</tbody>
</table>

Agreement with “My daily travel routine is generally satisfactory”

<table>
<thead>
<tr>
<th>Age Group</th>
<th>18-34 (N=1,062)</th>
<th>35-64 (N=1,551)</th>
<th>65 and older (N=818)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agreement</td>
<td>58%</td>
<td>62%</td>
<td>76%</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>9%</td>
<td>5%</td>
<td>13%</td>
</tr>
<tr>
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<td>20%</td>
<td>13%</td>
</tr>
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</table>
Adoption of AVs

Familiarity with AVs

- Have taken a ride in an AV
  - Very familiar: 12% (18-34), 34% (35-64), 36% (65 and older)
  - Somewhat familiar: 34% (18-34), 34% (35-64), 34% (65 and older)
  - Never heard of AVs: 16% (18-34), 17% (35-64), 8% (65 and older)

- Have heard of AVs
  - One of the first people to buy: 7% (18-34), 6% (35-64), 4% (65 and older)
  - After they are in common use: 68% (18-34), 55% (35-64), 56% (65 and older)
  - Will never buy: 25% (18-34), 40% (35-64), 43% (65 and older)

Expectancy of purchase

- One of the first people to buy
- After they are in common use
- Will never buy

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1/3 are likely to use human-driven vehicles less once AVs are widely accessible.
Concerns Regarding AVs

Concerns about AV technology failure do not vary across age groups

30% would never ride in an AV (vs 20% of middle-aged and 14% of young adults)

“AVs will eliminate my joy of driving” (N=3,422)

- Strongly agree: 8%, 14%, 16%
- Somewhat agree: 18%, 21%, 29%
- Neutral: 34%, 30%, 30%
- Somewhat disagree: 21%, 19%, 15%
- Strongly disagree: 18%, 17%, 11%

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**Benefits**

"I would send an AV to pick-up groceries/laundry/food orders by itself"  
(N=3,416)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Strongly Agree</th>
<th>Somewhat Agree</th>
<th>Neutral</th>
<th>Somewhat Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-34</td>
<td>20%</td>
<td>37%</td>
<td>20%</td>
<td>16%</td>
<td>6%</td>
</tr>
<tr>
<td>35-64</td>
<td>17%</td>
<td>32%</td>
<td>23%</td>
<td>16%</td>
<td>14%</td>
</tr>
<tr>
<td>65 and older</td>
<td>6%</td>
<td>28%</td>
<td>26%</td>
<td>15%</td>
<td>14%</td>
</tr>
</tbody>
</table>

"Likelihood of making additional trips when AVs are widely accessible"  
(N=3,436)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Very Likely</th>
<th>Somewhat Likely</th>
<th>Neutral</th>
<th>Somewhat Unlikely</th>
<th>Very Unlikely</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-34</td>
<td>12%</td>
<td>25%</td>
<td>29%</td>
<td>18%</td>
<td>16%</td>
</tr>
<tr>
<td>35-64</td>
<td>7%</td>
<td>21%</td>
<td>27%</td>
<td>30%</td>
<td>37%</td>
</tr>
<tr>
<td>65 and older</td>
<td>1%</td>
<td>15%</td>
<td>27%</td>
<td>25%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Likelihood of tolerating congestion better  
18-34  
35-64  
65 and older

51%  
41%  
31%

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Shared Mobility

70% have no reasonable alternative to driving (vs 65% of middle-aged and 53% of young adults)

Agreement with “I will use AV ridehailing services...”

- 55% for 18-34 (N=1,051)
- 44% for 35-64 (N=1,543)
- 37% for 65 and older (N=814)

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First-hand experiences

59% were taking more trips after they started riding Waymo.

Shift in travel modes

transit, ridehailing rides → Waymo

After trying Waymo...

- Riders became more comfortable with riding with friends or relatives and riding with strangers
- Willingness to ride alone remained rather unchanged
- Participants felt that AVs would improve safety and mobility for all
- Participants were eager to see more AVs on streets

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Conclusions

- older people are as aware of AVs as younger age groups
- appear to be more attached to driving
- although they seem to be open to new experiences, they have more skepticism regarding AVs
- do not believe in the potential benefits from AVs as much as younger age groups
- likely to be late adopters of AVs

FUTURE

- investigate how first-hand experiences change behaviors and perception of AVs
- explore how tech-savviness may be related to older adults’ willingness to ride in an AV
Thank you!

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