July 2020

Grand Rapids Autonomous Initiative

#AVGR
Purpose

- **Feasibility** — Generate research on the impact of mobility on our cities

- **Accessibility** — Understand how AVs affect mobility for the elderly and people with disabilities, and explore design solutions for vehicles and the urban environment

- **Community** — Prepare the local community and neighborhoods for the effects of autonomous mobility
Partners

- $650k Public Private Partnership
- 1/3rd public funding, 2/3rd private funding
- May Mobility, Consumers Energy, Start Garden, Seamless, Faurecia, Gentex, Rockford Construction, Steelcase, City of Grand Rapids
- Year-long pilot (started July 2020)
About May Mobility

- May Mobility develops and deploys electric autonomous shuttles
- The 3-year-old startup is based in Ann Arbor, MI with deployments in Detroit, MI, Columbus, OH, and Providence, RI
- Grand Rapids was May Mobility's third public-facing launch, and the first of its kind in the state of Michigan
COVID-19 Response

- Service was suspended Monday, March 16th by May Mobility to discover methods to maintain safety for customers and fleet attendants

- Launch of revised shuttles is planned to the end of August 2020 and will continue until the end of the year

- A communications plan is in motion to improve customer comfortability with using the updated shuttles
Project Clean MayAV

Integrated UV sanitize the vehicle ride.
Pilot Updates

- New Monday-Friday 7am-7pm service has been added based on customer feedback. Previously

- Launch of wheelchair accessible shuttles

- Customer insight survey
  - Responds to community / public perception
  - Survey ran concurrent with a DASH insight
  - Summary document released on [www.grand](http://www.grand)

- Pre-COVID-19 pandemic, City was in discussion to potentially renew pilot for an additional
Ridership

- Ridership has stabilized at just under 9,000 rides per month

<table>
<thead>
<tr>
<th>Ridership July 2019 – Feb 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 62,667 total</td>
</tr>
<tr>
<td>• 441 daily average</td>
</tr>
<tr>
<td>• 1 WAV ride</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ridership in February 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 10,742 total</td>
</tr>
<tr>
<td>• 506 daily average</td>
</tr>
</tbody>
</table>
Ridership Continued

- Cost per rider averaged $6.88 from July 2019 – February 2020
Impact on Existing Route

Augmenting the DASH West route with AVGR vehicles increased ridership by 51% in September 2019 compared to September 2018.

17% of the increase is attributed to just DASH West service, and an additional 34% is attributed to the AVGR pilot.
Pilot Comparison

May Mobility has conducted pilot projects in three other cities. Below are operating statistics for the equivalent point in time to Grand Rapids’ pilot:

<table>
<thead>
<tr>
<th></th>
<th>Grand Rapids</th>
<th>Detroit</th>
<th>Columbus</th>
<th>Providence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ridership</td>
<td>44,477</td>
<td>20,350</td>
<td>9,751</td>
<td>21,665</td>
</tr>
<tr>
<td>Daily Average</td>
<td>380</td>
<td>207</td>
<td>61</td>
<td>129</td>
</tr>
<tr>
<td>Distance (miles)</td>
<td>3.13</td>
<td>1</td>
<td>1.2</td>
<td>5.3</td>
</tr>
</tbody>
</table>
Autonomy Insights

Red = higher autonomy
Blue = lower autonomy

Issues affecting autonomy

- Construction
- High traffic
- Quick lane changes
- Right turns at red lights
1. How are we doing?

Thank you for taking this brief AVGR Rider Survey! Your responses and feedback will help guide the AVGR pilot project.

2. What is the primary purpose of your trip today?
   - Work
   - Errands
   - School
   - Entertainment
   - Other____________________

3. Which of the following did you use before riding AVGR? Select all that apply.
   - DASH bus
   - Public transit in another city
   - The Rapid
   - Haven’t used public transit before

4. Did riding AVGR cause you to try DASH or other public transit? Select all that apply.
   - DASH bus
   - Public transit in another city
   - The Rapid
   - No

5. How frequently do you use AVGR?
   - First time
   - Daily/Almost daily
   - Weekly
   - Monthly

6. If you’re a regular AVGR rider, do you have a preference?
   - AVGR
   - DASH
   - First to arrive at the stop
   - No preference

7. Before riding, did you know AVGR vehicles were self-driving?
   - Yes
   - No

8. Do you feel safe riding AVGR, knowing that it’s self-driving?
   - Yes
   - No

9. How does the AVGR project impact Grand Rapids?
   - Positively
   - Neither positively nor negatively
   - Negatively

10. What’s your primary mode of transportation?
    - Drive alone
    - Bike
    - Walk
    - Taxi / Lyft / Uber
    - Carpool

11. How long was your wait for a shuttle?
    - Just right
    - Too long
    - Too short

12. Do you have any other feedback or ideas you’d like to consider about the AVGR pilot?

Below are some optional questions. Your answers will help us determine if our services are reaching a representative sample of Grand Rapids. We’ll use this data in ensuring access to public transit is equitable. Responses are confidential.

13. Zip code: _____________
14. Age: _____________

15. What gender do you identify with?
   - Female
   - Male
   - Prefer not to answer
   - Other____________________

16. What race or ethnicity do you identify with?
   - White
   - Hispanic, Latino or Latinx
   - Black or African American
   - Southwest Asian, North African or Middle Eastern
   - American Indian or Alaskan Native
   - Native Hawaiian or Other Pacific Islander
   - Other Race or Ethnicity
   - Prefer not to answer

17. Which best describes your annual income?
   - Less than $10,000
   - $10,000 – $24,999
   - $25,000 – $49,999
   - $50,000 – $74,999
   - $75,000 – $99,999
   - $100,000 or more
   - Prefer not to answer

18. We’d like to keep in touch! If you’d like to receive surveys about the AVGR pilot, please enter your email address below. Your email address will be separated from demographic information.

   Email address: ___________________________
Survey Findings

- 119 responses (AVGR)

- 55% use AVGR for purpose other than work

- 23% had not tried public transit in Grand Rapids before

- 14% had not tried any public transit before
Survey Findings

• 24% said that AVGR caused them to try DASH
• 12% said AVGR caused them to try The Rapid or transit in another city
• 94% of respondents said that they felt safe riding in AVGR
Learning Summary

Autonomy insights
- Opportunity to learn and adapt to live traffic.
- Primary challenges: heavy precipitation and unprotected left-turn movements (unprotected lefts, right turn).

Service insights
- Started with weekday + weekend hours.
- After maintaining a ~200 ride average compared to 450 from Tue-Sat to Mon-Fri.
- After two Mondays, rides averaged 465.
Learning Summary (Continued)

Accessibility insights
- Following accessibility workshop in the Accessible Shuttle in December 2019.
- We have had one rider so far, following installation at stops. The rider reported...

Other insights
- Relationship between emerging autonomous and existing public transit agencies is still...
- Some survey respondents had never tried... Rapids before, and seemed more willing to try transportation options after trying AVGR...
Thank You

For more information, go to:
www.grandrapidsmi.gov/AVGR