

Automated Transport Assessment

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Company Description



Project Background

In recent years, autonomous technologies have advanced quickly, and while impressive, they have not been made with consideration to people with disabilities. Disabled individuals are often mentioned amongst those most likely to be positively impacted by these technologies. The current vehicles that showcase automation are generally not designed to serve the special needs of disabled users. VTTI has acquired one of these vehicles to support this research and other related initiatives.

Americans With Disabilities Act



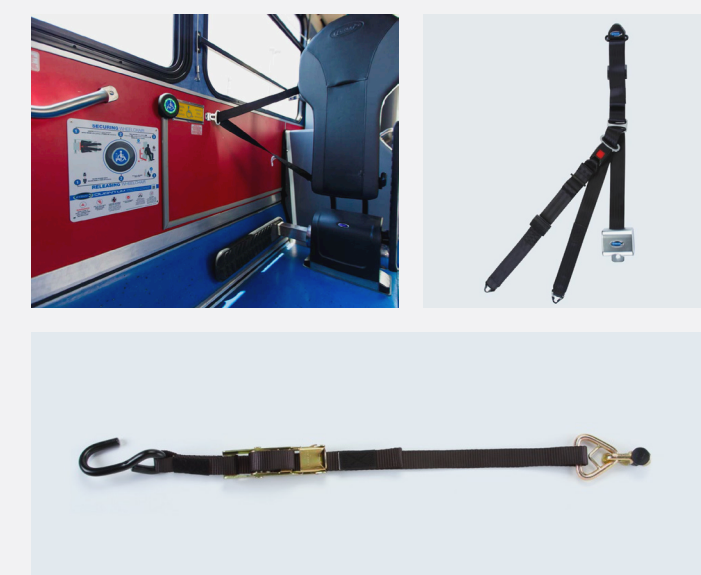
Objectives

- Compile research on ADA laws/ guidelines, autonomous vehicles, and public transportation use
- Inspect EZ10 shuttle and discover shortcomings with ADA compliance and usability standards
- Improve usability of the EZ10 shuttle and provide VTTI with a proposal document for ADA compliance



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Results



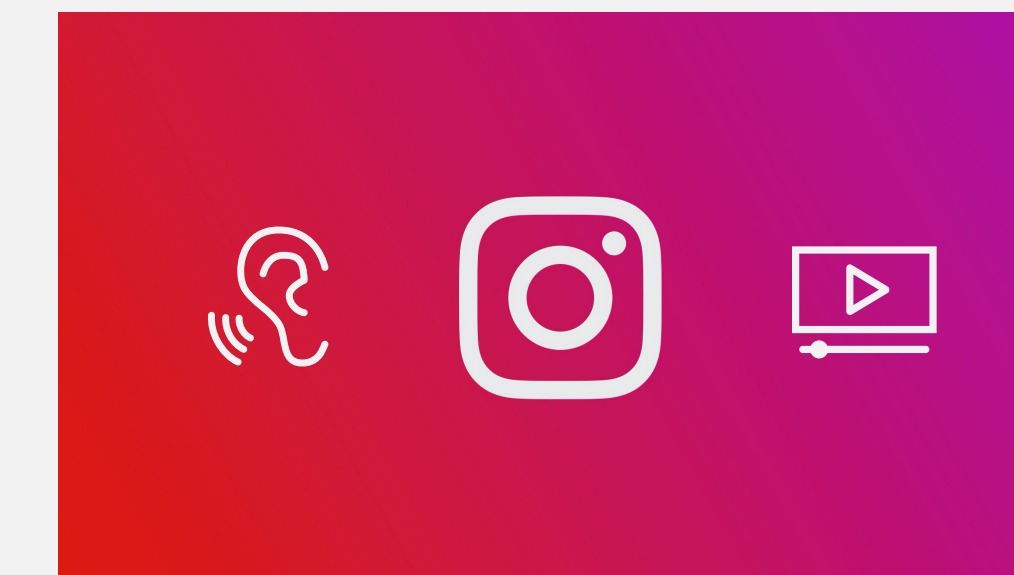
Wheelchair Securement Alternatives



Accessibility Ramp Alternatives



Priority Seating & Route Signage



Social Media Presence & Sensory Cues

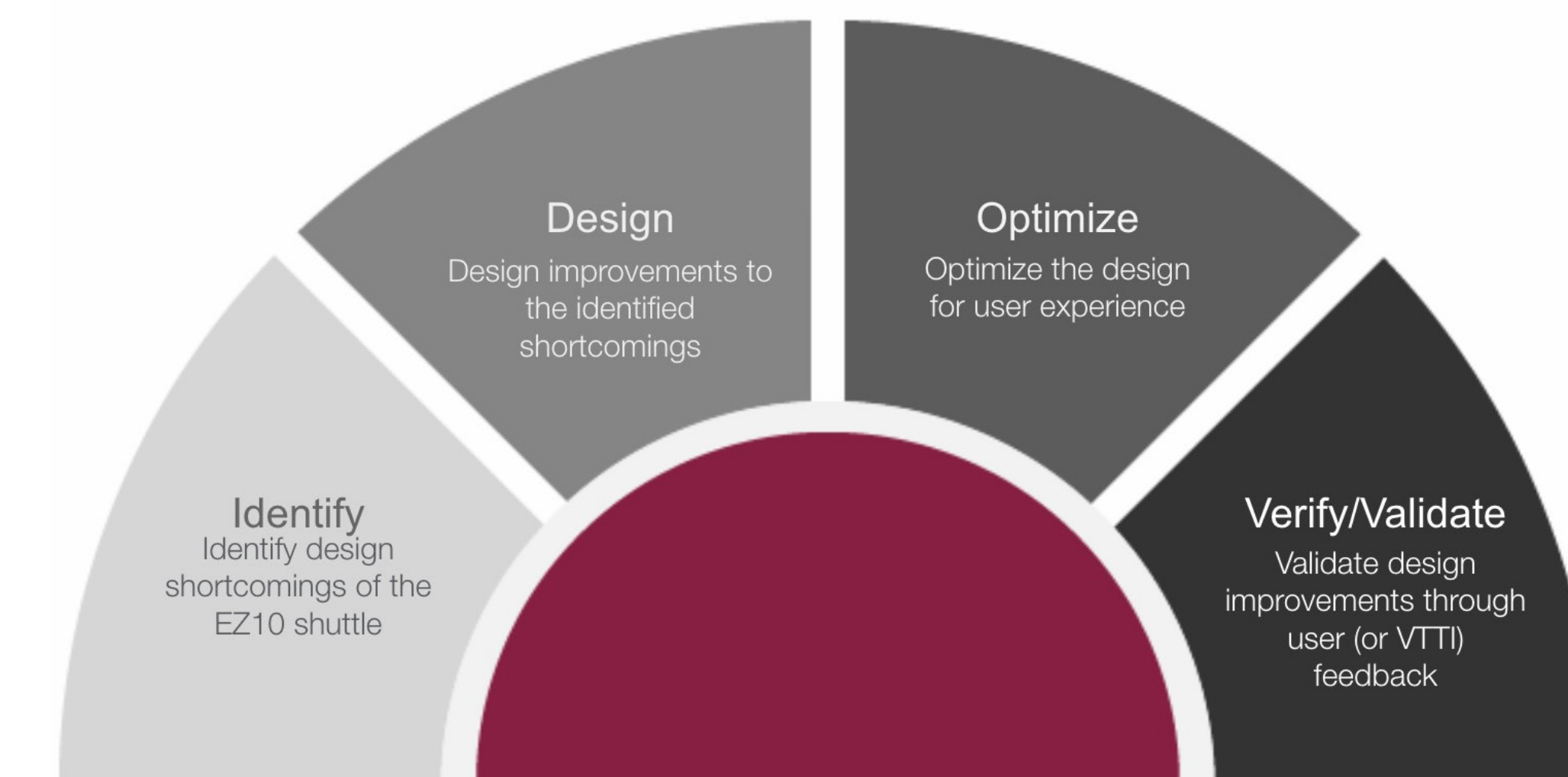
Impact

1. ADA Compliant Standard for EZMile Vehicles
2. New Perspective on Autonomous Vehicle Safety
3. Projected Savings of ~\$45,000/year in operator wages for autonomous shuttle systems
4. Projected research expansion of ~\$50,000/year



Solution Approach

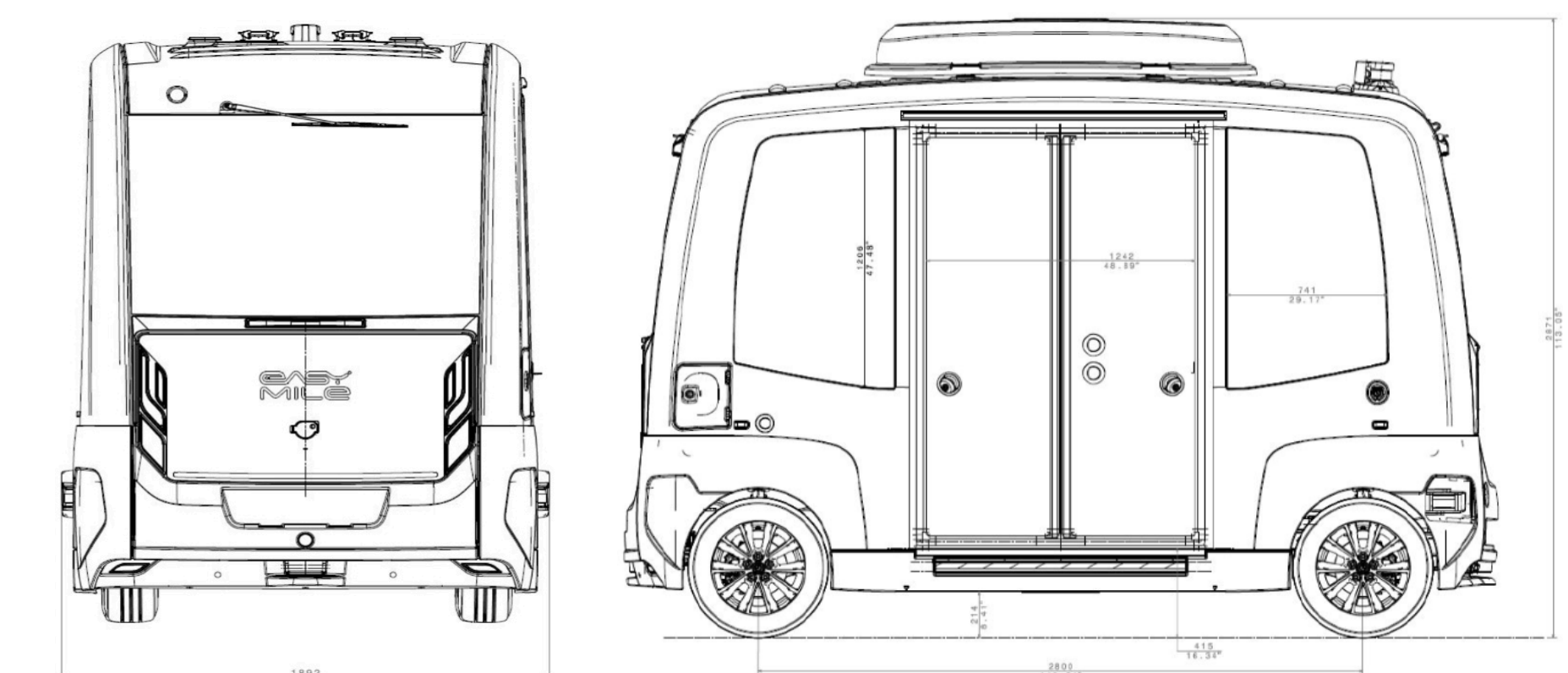
Design Methodology



Literature Review

1. ADA Rules and Regulations
2. Autonomous Vehicle User Studies
3. Public Transportation and
4. EZMile Competitors

Inspection and Measurement of VTTI's EZ10 Autonomous Shuttle



Shortcomings Identified

ADA Compliance	Usability
Insufficient Cues for Riders	Social Media Presence
Ramp Incline	Public's Need for Safety and Security
Handicap Seating	Slow Down Warnings
Destination Information on the Vehicle	
Securement System	
COVID-19 Update	Could not receive and analyze data from the Warm Hearth experiment.
	Could not implement Video and Audio Cues for Passengers
	Could not physically implement Priority Seating Signage/Route Signage