

GRAND RIVER TRANSIT



CHALLENGE OVERVIEW

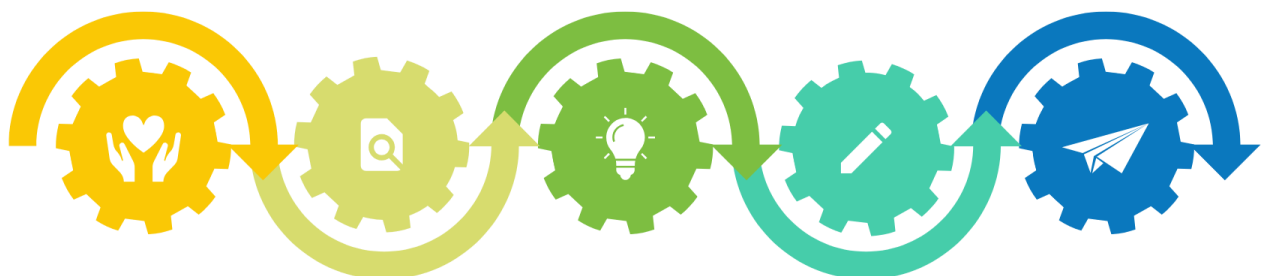
<i>The Problem</i>	How might Grand River Transit (GRT) accommodate e-bike users who want to travel by bus?
<i>Why it mattered</i>	<p>Currently;</p> <ul style="list-style-type: none"> • All buses are equipped with 2-bike racks, all-year • No e-bikes on GRT buses • E-bikes are not permitted on GRT bus bike racks or on-board buses
<i>What they needed</i>	GRT is looking for design, policy, or other ideas that might make the system easier for e-bike users and bus operators.

THE ICE CHALLENGE PROCESS

1) EMPATHIZING

3) IDEATING

5) TESTING



2) DEFINING

4) PROTOTYPING

Empathize

This is where businesses get to present, offer tours, and show what makes their company a great place to work.



Students were given a tour through their site to observe how GRT operates, speak to various employees, and take turns loading a bike onto a bus. Included in this tour was information about the different roles GRT hires for, such as; mechanics, operators, finance, planning, technology, & communications and design.

Students were able to ask questions and learn more about restrictions of e-bikes, reasoning behind decisions, and what GRT has tried already. During the tour and presentation, students wrote down what they heard, saw, and experienced.

Define



Students broke into groups of 5-6 and began sharing the key points they picked up from the tour and presentation. As patterns and themes began to emerge they were instructed on forming an insight statement; such as “Bus users find bike racks intimidating” or “E-bikes weigh too much for current racks”

Students were then assisted in defining new, more specific, and targeted challenge statements;

- How might we create a simple and easy bike rack experience for e-bike users?
- How might we design a rack or policy that would accommodate an e-bike's average weight?

Now, instead of a broad problem, students had a more specific piece of that problem to focus on, making finding a solution more manageable.

Ideate

This is a great opportunity for staff to be available to answer questions and offer feedback on ideas.

To start coming up with solutions, students first spent time brainstorming on their own. When they began to share their ideas with the group they would see similar pathways emerge or find ways to build on each other's ideas. This would help guide them as to which idea to follow.

Examples of ideas from this challenge:

- Remove the seats from the middle of the bus on some routes, between the priority seating and stairs to the back, specifically designated for bikes.
- Reinforce the current racks to support the increased weight of e-bikes.

Prototype



For this specific challenge, a detached bike rack and a bike were provided by GRT to have in the classroom for students to further examine. Each student was also given a foldable cardboard GRT bus they could incorporate into their prototypes as well. Midway through this phase, Kevan Marshall joined the group and was able to answer questions about the current bike racks as they arose during this phase. Having his expertise in the room was an invaluable resource for these students as they worked on their ideas.

Other materials offered to the students included; Lego, pipe cleaners, tin foil, skewer sticks, popsicle sticks, tape, glue, scissors, paper, and markers.

Testing

This is where businesses get to hear student's ideas and offer feedback.



At the end of the challenge, each group presented their prototype to the rest of the room while more representatives from Grand River Transit marked their ideas by the following criteria;

- 1) How well the specific problem is articulated.
- 2) How well does the solution meet the needs of the e-bike users?
- 3) How well does the solution meet the needs of the GRT?
- 4) How innovative is this idea?
- 5) How environmentally sustainable is this idea?
- 6) How effectively does this prototype communicate the student's idea?
- 7) How effective was the presentation?

Students got to receive feedback from the Grand River Transit representatives on what they liked and thought could use more work.

REAL-WORLD IMPACT

Student Outcomes:

"Everyone else was thinking of these big ideas, but I thought, let's go back to basics. After seeing GRT's existing bike rack during the day, I knew which website to look for. We were wondering if they had a new model of rack that might fit e-bikes, and we were right. We found the right model, came up with a rough cost for a set of racks, and found that swapping them out would be a fairly quick and easy process. Everything looked good."

-Winning team member, Trent Otterbein

Trent now works at KW Automotive in Kitchener, where he particularly enjoys working on classic cars. He's looking forward to a career as an automotive mechanic, and enjoys seeing the e-bike racks around the Region on ION buses.

Partner Testimonial:

"I was blown away by the ideas the students gave us that day. I brought the winning idea back to our fleet team immediately, and they said we could make it happen. So we made it happen."

- Kevan Marshall, Project Manager, Climate and Energy Transition

CONCLUSION

Project Outcomes

This ICE Challenge was a successful collaboration that addressed a problem while allowing students to apply design thinking principles in a hands-on workshop.

By working directly with industry leaders like Grand River Transit, students were able to engage in meaningful problem-solving while learning about the complexities of approaching such a large problem.

The winning proposal wound up with GRT's decision-makers, who went ahead with getting the equipment. With the ease of using a new version of the same bus bike rack that GRT uses, the upgrade was simple, and GRT moved ahead with installing and launching the new racks on ION buses in April of 2024.



PARTNERSHIP OPPORTUNITY

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- **Fresh perspectives** on persistent problems
- **Cost-effective** innovation research
- **Workforce development** pipeline
- **Community engagement** opportunities
- **Tangible solutions** that can be implemented

Contact us to explore how an ICE Challenge can benefit your organization:

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This case study demonstrates how ICE Challenge workshops create win-win partnerships between organizations and students, driving meaningful change while inspiring future leaders.