Transportation Planning Community Engagement App

Trace DeLange, Co-Founder & CPO, TerraCity, LLC (trace@terracity.ai)

Organization Background

TerraCity LLC was founded in 2022 with the mission to empower cities with technology for sustainable infrastructure planning. Coming into existence at a pivotal moment for both digital technology and climate change, TerraCity has positioned itself to be a leader in sustainable development by developing AI-powered technologies to assist in the sustainability transition. Shortly after being founded, TerraCity won a Phase 1 SBIR grant from the US Department of Energy to develop technology to support these goals.

Project Description

One of the fundamental challenges faced by transportation planners across the country is the difficulty associated with making data-driven decisions that adequately weighs all of the information available to them. Planners deal with data sets that are both large and varied, ranging from traditional traffic counts, engineering reports, and Transportation Demand Models to anecdotal feedback and community concerns. As part of our efforts to integrate qualitative data into our own analysis, we're seeking to develop a web based platform to support the collection and processing of feedback regarding the infrastructure and services most relevant to their day to day experience traveling in their communities. This information is essential for planners to understand how their projects address the concerns of the citizens they serve.
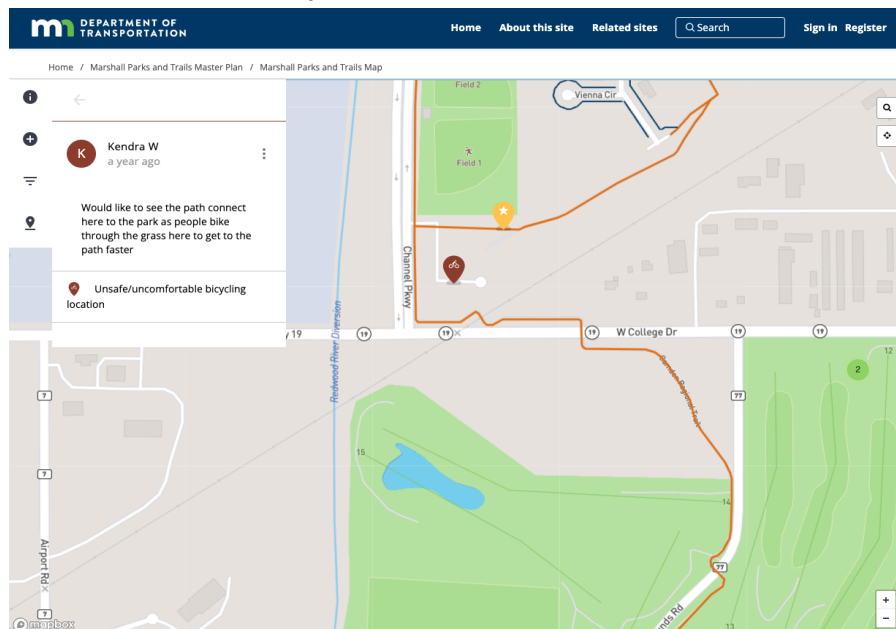
An example of a similar app developed by the Minnesota Department of Transportation in support of the **_Marshall Parks and Trails Master Plan_**

The Community Engagement Platform will act as a standalone web-application applicable to any geographic region. The application should include the following features:

1. Interactive Map Interface - Users should be presented with an interactive map that displays previously reported issues and feedback in a given region.
2. Report Submission form - Users should have the ability to submit their feedback, issues, or suggestions in a feedback form. Submissions should have the ability to be associated with specific infrastructure, routes, or incidents.
3. Reporting - The application should be able to aggregate and generate reports on feedback and feedback metadata regarding a certain region.
4. Abuse Prevention / Authentication - Respondents should be required to provide sufficient baseline information to prevent inappropriate content submission, and users should have the ability to report malicious content.

This project will include recurring meetings every two weeks at minimum, with more frequent meetings upon request. Participating students in this project will be expected to develop a timeline for the project, track, and review progress throughout the duration of the performance period.

Desired Skills

- Experience building and deploying React web applications.
- Experience with a modern backend framework, such as NestJS.
- Experience working with Google Cloud Platform.
- Knowledge of JavaScript, HTML, and CSS.
- Knowledge of RESTful API architecture
- Experience working with geospatial data is a plus but not required.

Team Size

We believe this project is suitable for a team of 3-4 students.

Internship Opportunities

TerraCity is not actively pursuing intern candidates at this time, but may be seeking part-time interns in the fall with potential full time positions in 2025.

Intellectual Property

Any intellectual property developed under this project will be assigned to TerraCity LLC.

Location

This project is fully remote.