

Carver County CSAH 13-LMRT Crossing



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PROJECT BACKGROUND & DESIGN GOAL:

The Lake Minnetonka Regional Trail crosses County State Aid Highway 13, with traffic of over 11,000 vehicles per day. This creates a dangerous situation for pedestrians and cyclists, especially as the road is being expanded into a divided highway. **The goal of this project is to design a safe, accessible crossing that separates pedestrians from traffic while keeping the trail easy and comfortable to use.**

DESIGN OUTCOMES:

This project evaluated two design options: a pedestrian bridge and an underground culvert. Both alternatives were analyzed for safety, cost, usability, environmental impact, and ease of construction. The results showed that the culvert is the better solution, as it improves safety by separating pedestrians from traffic, provides a smoother and more accessible path, and is more cost-effective and easier to construct. A 10×10 precast concrete culvert running under the road with regraded trail approaches was designed.



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TEAM 10

INDUSTRY REPRESENTATIVE

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DESIGN CONSTRAINTS:

- **Traffic Conditions:** High traffic volume and vehicle speeds
- **Utilities:** Conflicts with underground and overhead utilities
- **Cost:** Budget and construction feasibility
- **Powerlines:** Height limitations affecting bridge design
- **Usability:** Safe and easy for pedestrians and cyclists



Project location