



Lee Center Intersection Road Safety Audit

Jesse Jakubajtys, Calvin Poitras, and Christian Milioto

Sponsored by: NHDOT

Meet the Team

- Jesse Jakubajtys (Project Manager)
- Calvin Poitras
- Christian Milioto



Advisors

- **Bill Lambert – NHDOT Bureau of Traffic**
- **Michael Dugas – NHDOT Highway Safety**
- **Michelle Marshall – NH FHWA**
- **Dr. Kyle Kwiatkowski – Faculty Advisor**



Project Overview

- Evaluate existing conditions at intersection for safety
- Complete Road Safety Audit (RSA) under NHDOT model
- Develop alternatives to improve intersection safety



Road Safety Audit (RSA)

- A Road Safety Audit (RSA) is a formal safety performance examination of an existing or future road or intersection by an independent audit team. The RSA team considers the safety of all road users, qualitatively estimates and reports on road safety issues and opportunities for safety improvement.

FHWA Road Safety Audits Guidelines

FHWA Road Safety Audit Guidelines



RSA
Making Your Roads Safer

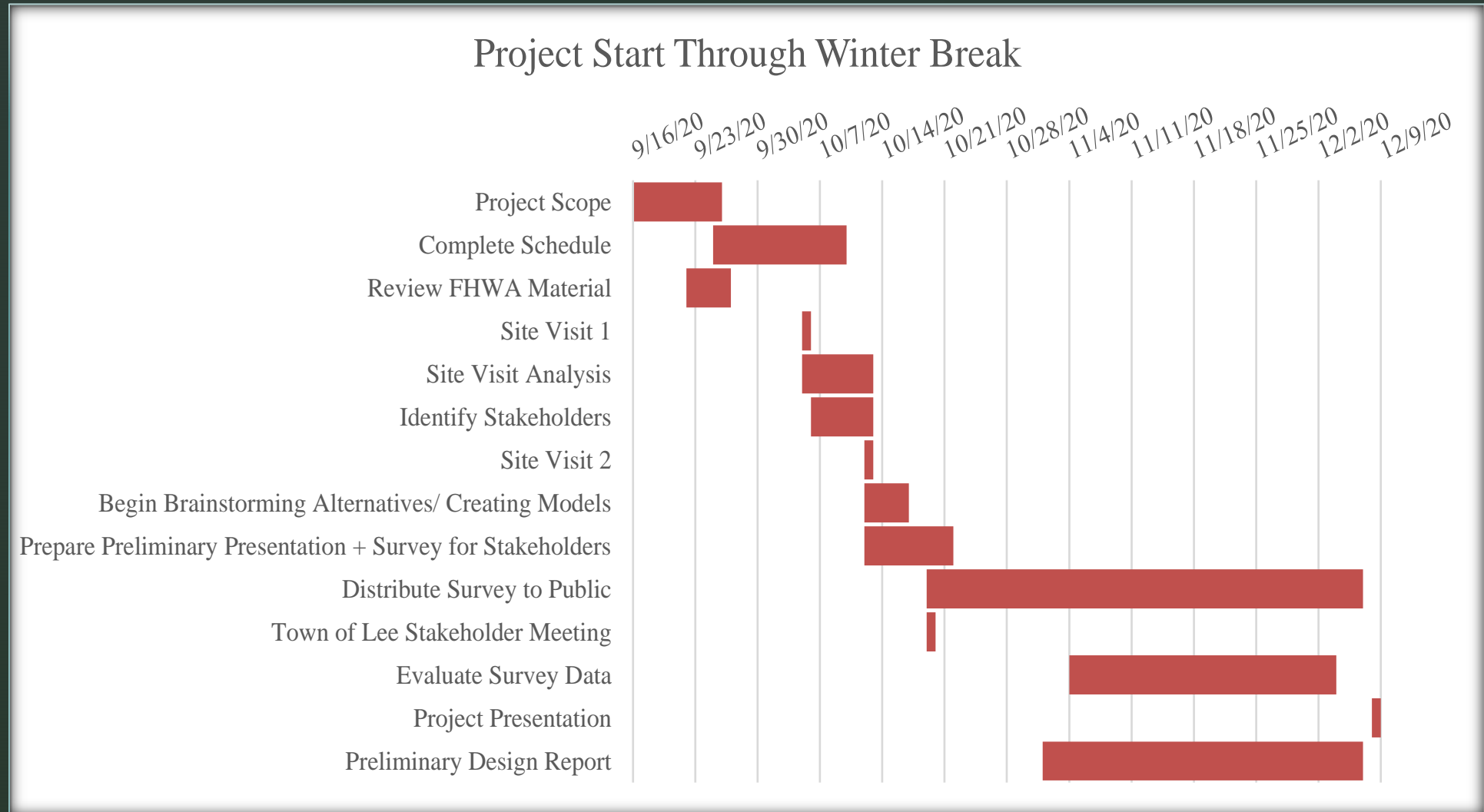
U.S. Department of Transportation
Federal Highway
Administration

Publication No. FHWA-SA-06-06

Objectives

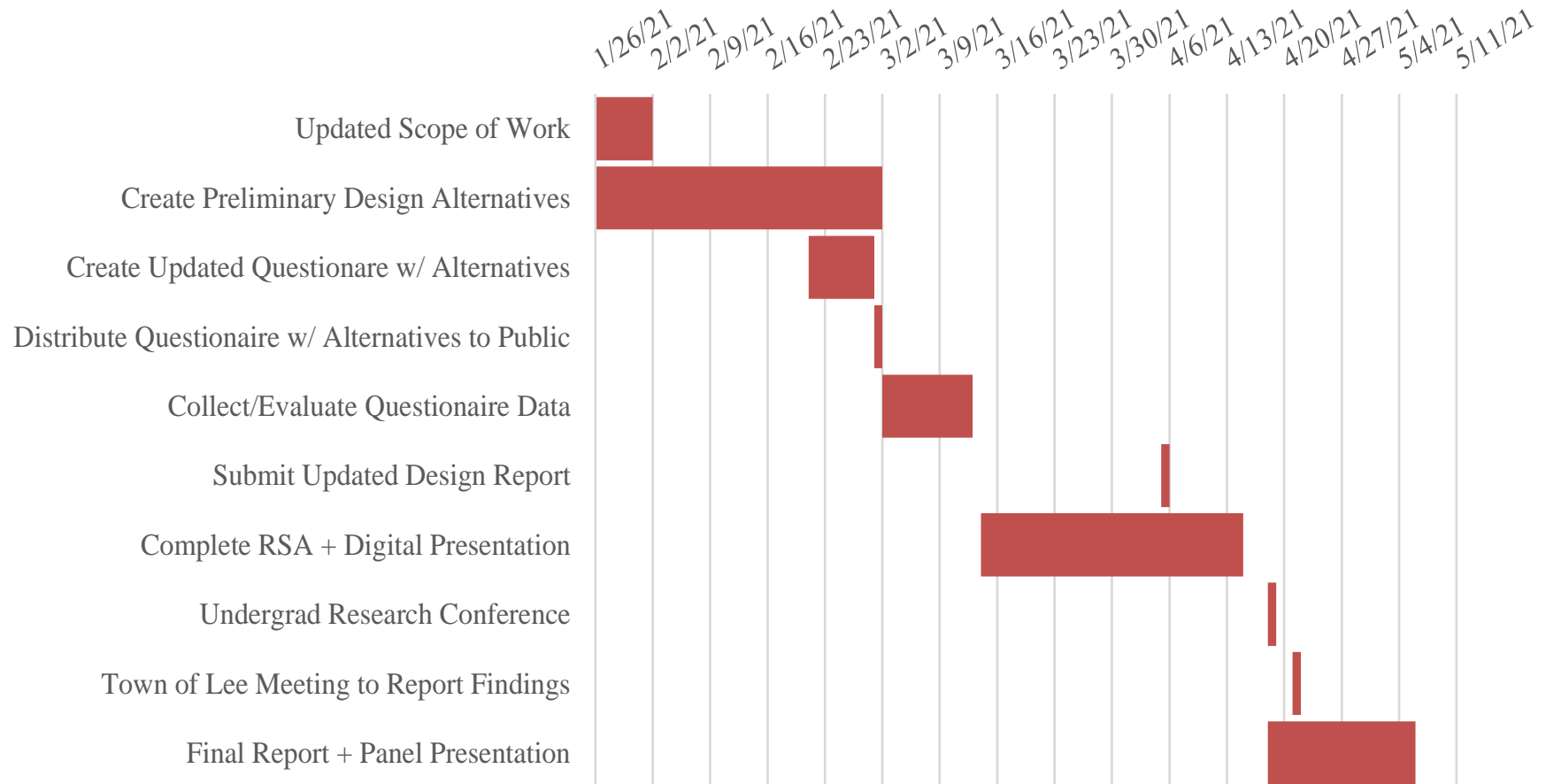
- **Conduct site visits to evaluate initial conditions**
- **Obtain data (traffic counts, crash data etc.)**
- **Meet with town officials and residents to discuss project**
- **Engage with public to gather feedback, distribute surveys**
- **Develop alternatives**

Schedule



Schedule

Winter Break Through Project Completion





Initial Concerns



**Poor geometry and poor lines of sight
(George Bennett Rd. & NH 155)**

Initial Concerns



(L: SB NH 155)



(R: NH 155 & Mast Rd.)

Insufficient road signs

Initial Concerns



**Lack of sidewalks, crosswalks, and bike lanes
(Intersection of NH 155 and Lee Hook Rd.)**

Public Outreach

- **Town Of Lee Board Meeting with Stakeholders**
- **Survey For Public Input**
 - **Town Weekly Newsletter**
 - **Neighbor-Lee Facebook Page**
 - **UNH Civil Engineering Dept.**
- **Over 180 Responses Received**



Lee Center Intersection Survey

Thank you for taking the time to review our survey. We are looking for feedback from the community for our Senior Capstone Project at the University of New Hampshire. Our project is to perform a Road Safety Audit (RSA) on the complex intersection at Lee center.

We want to hear your feedback so we can do our best to evaluate and improve the safety of the intersection. Please fill this quick survey and let us know your thoughts (your answers will be anonymous).

With questions or comments, feel free to reach out to:

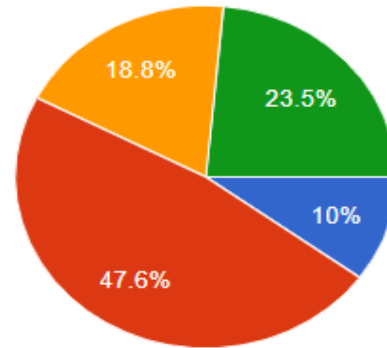
UNH SENIOR PROJECT ROAD SAFETY AUDIT ON THE LEE TRIANGLE INTERSECTION Monday, October 5th

UNH students will be evaluating the intersection by conducting a site visit to collect field notes on Monday, October 5th. They will be equipped with camera/video equipment, and if weather permits, they will utilize aerial photos/footage. There may be further visits in order to conduct more additional data. Please check back here for future dates. Following the site visit, we hope to identify all stakeholders and schedule a meeting with them in order to discuss the intersection. A stakeholder analysis will be part of their Road Safety Audit. We hope the community will engage in discussion and give their input on the intersection. We look forward to working with the Town of Lee on this project and hope to gain insight and potential solutions to be implemented in the future.

Survey Results

How often do you drive through this intersection?

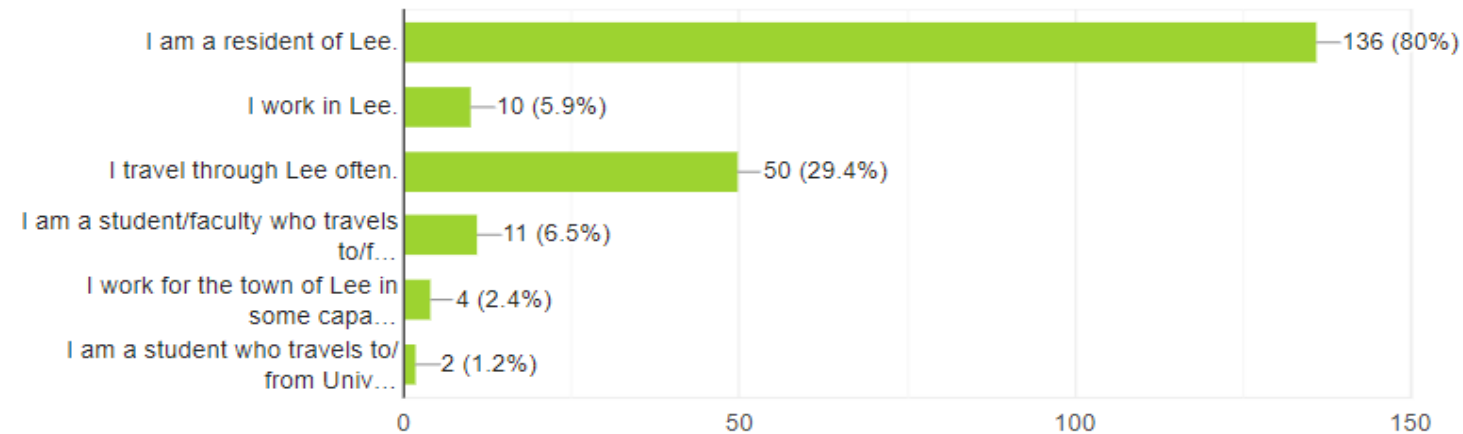
170 responses



- I do not travel through this intersection often.
- I drive through this intersection a few times a week.
- I drive through this intersection during my morning and evening commute.
- I drive through this intersection multiple times a day.

What describes your relationship with the town of Lee? Check all that apply.

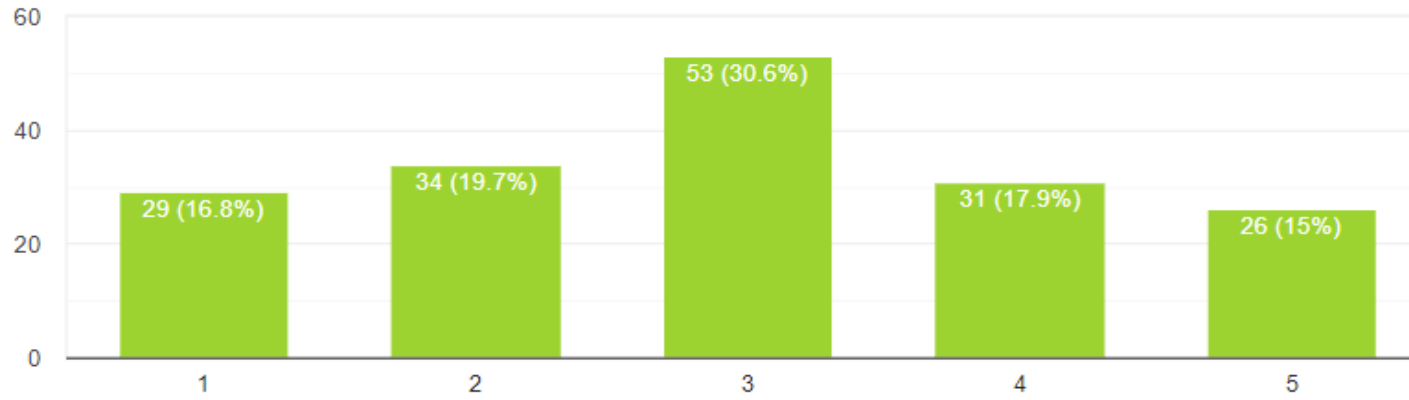
170 responses



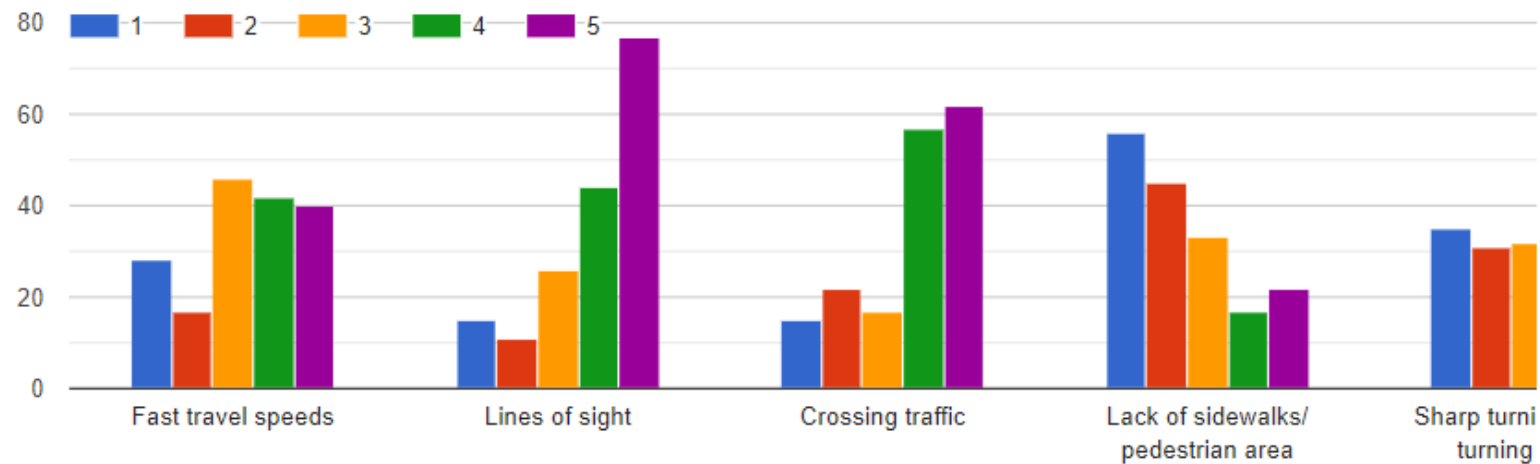
Survey Results

How safe do you feel when traveling through this intersection?

173 responses



What concerns do you have with the intersection?



Survey Results

(Quotes directly from online survey)

“The intersection is poorly designed. Further,, drivers who pass through the intersection frequently fail to signal their intentions, creating confusion and sometimes chaos. If pedestrians are present, it is even worse as one has no idea where they will be going given the lack of crosswalks”

“I am supportive of any measure that would make this intersection safer. I live on lee Hook Road and often avoid it because I do not feel safe.”

Survey Results

(Quotes directly from online survey)

“I am afraid that a car will come around the corner coming south on 155 as I’m trying to get across the road... Very nerve racking, especially with my granddaughters in the back seat.”

“I drive, bike and walk through that intersection often (I live within 100 yards of it). I don't find it to be much of an issue at all for any of those things. Biking is probably the worst and even that isn't too bad.”

Summary: Areas of Concern

- **Poor Geometry**
- **High Speeds on NH 155**
- **No Lighting at Night**
- **Limited Pedestrian Accessibility**
- **Lines of Sight**
- **Signage**
- **Preserving Historical Aesthetic**

Project Challenges

- Covid-19 restrictions
- No survey data/ measurements for design purposes
- Coordinating schedules with advisors
- Difficult to generate efficient designs

Proposed Alternatives

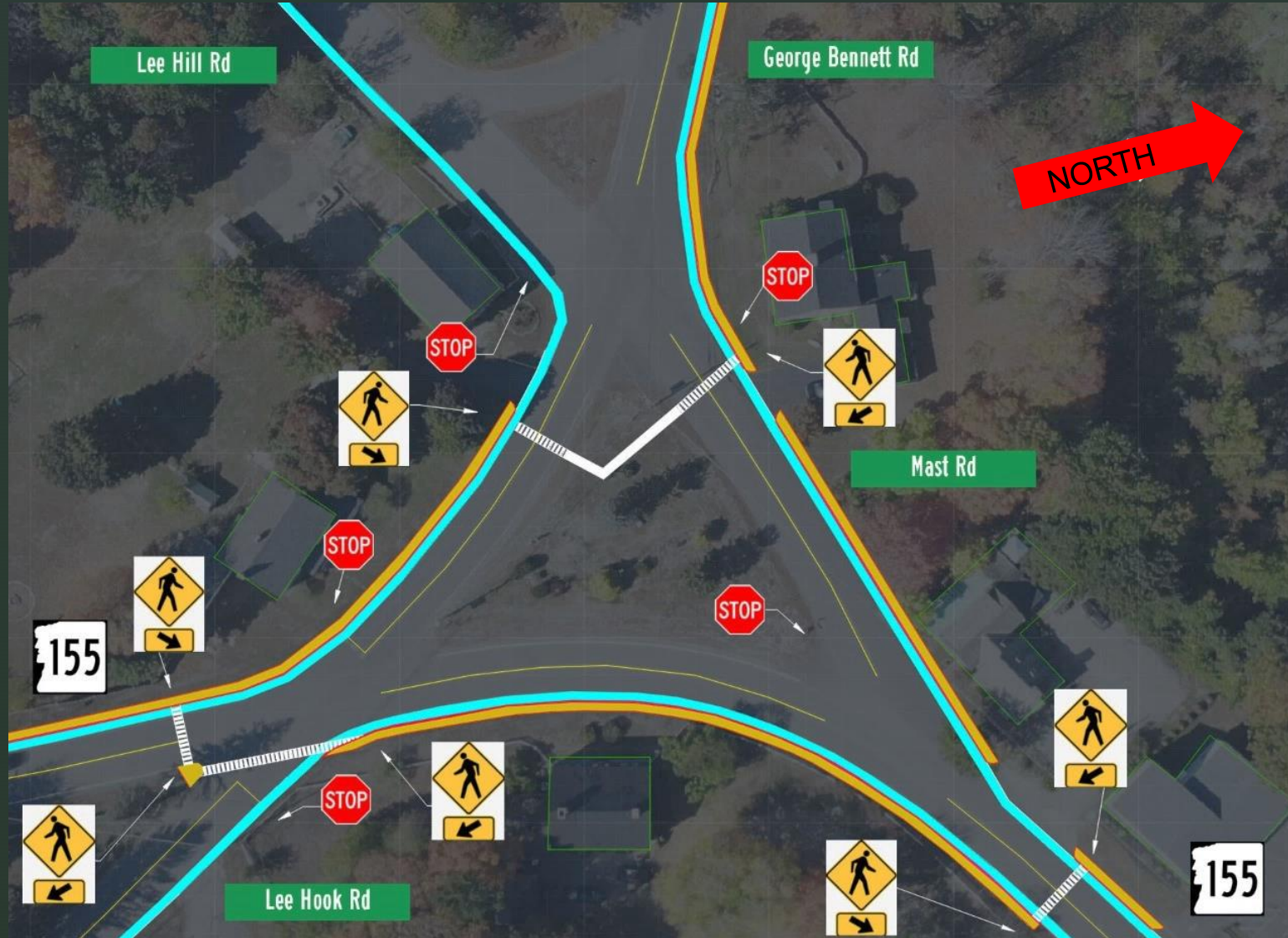
Design Portfolio Format:



Consistent Design Considerations:

- **Added Lighting**
- **Directional Signs**

Proposed Alternatives



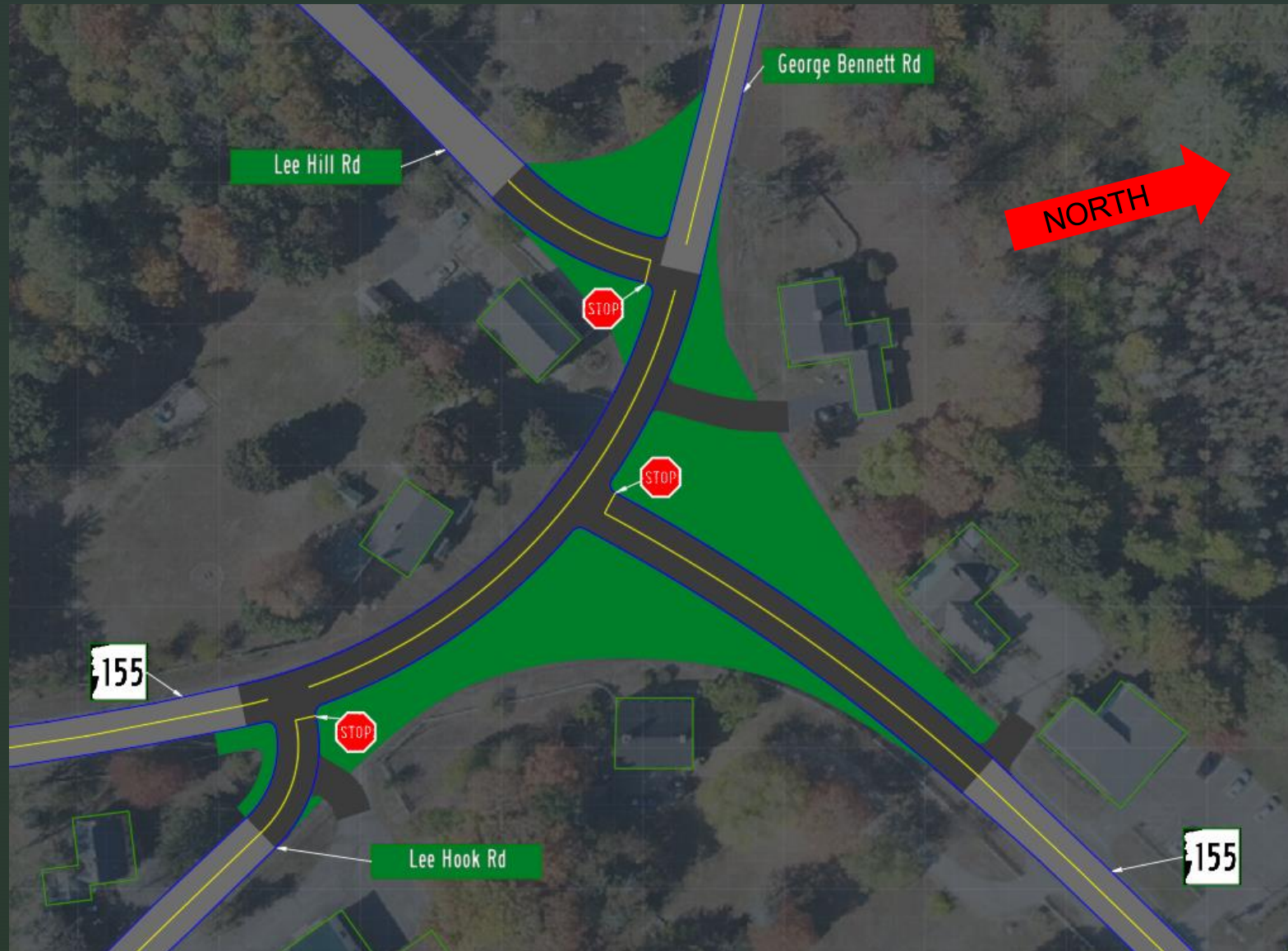
Proposed Alternatives

Existing Intersection with Pedestrian Features

- Cost Estimate: \$1 Million
- Characteristics:
 - 4' Bike Lanes
 - 4' Sidewalks
 - South sidewalk continues to Little River Park
- Addresses pedestrian concerns, not geometry



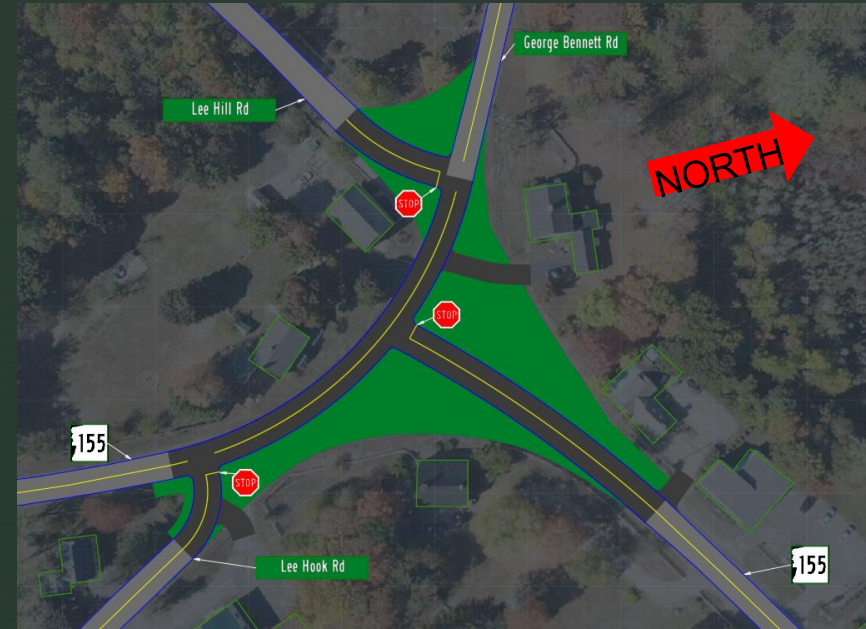
Proposed Alternatives



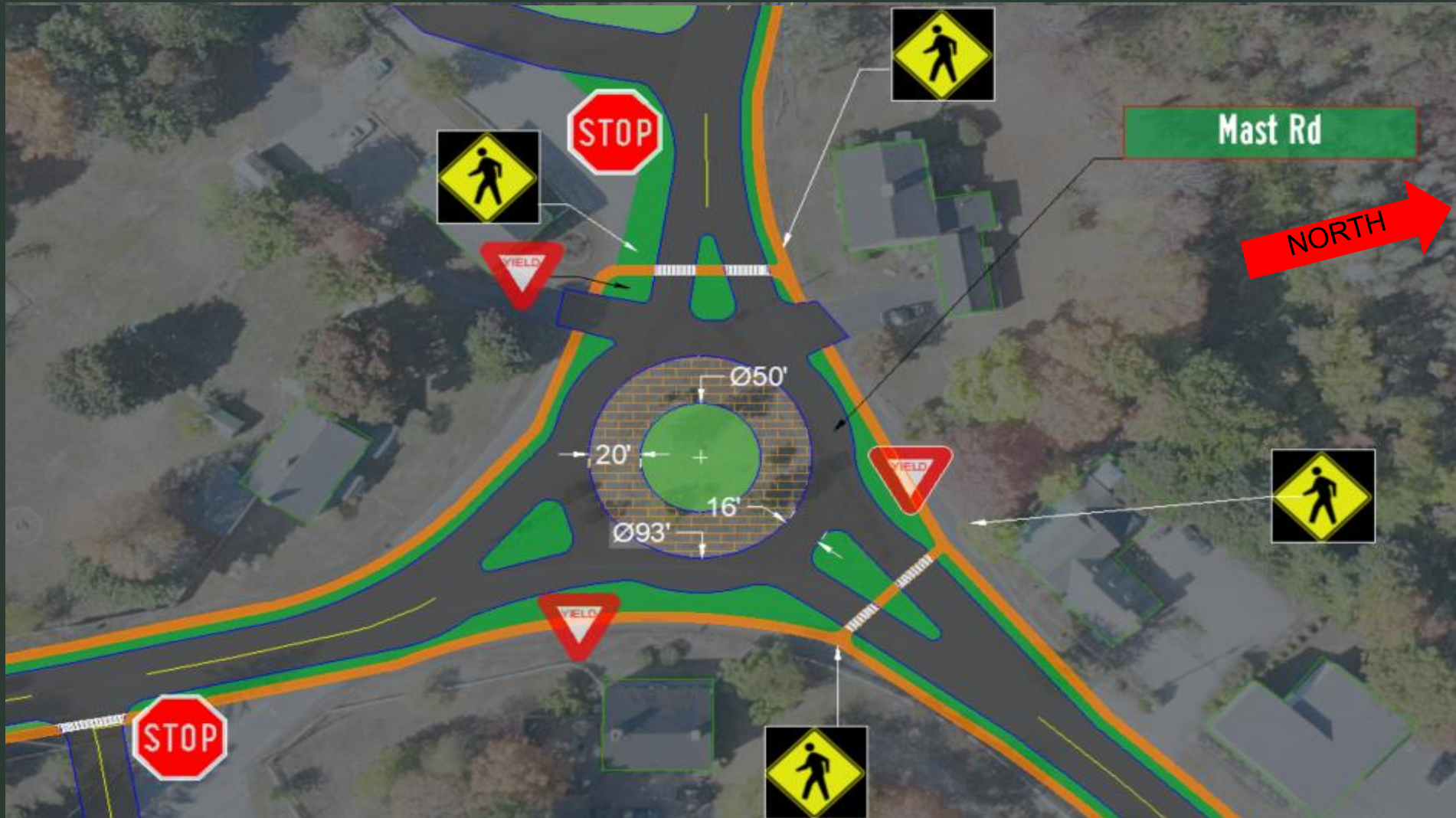
Proposed Alternatives

Proposed “T” Junctions

- **Cost Estimate: \$200,000**
- **Characteristics:**
 - **12' Lane Widths**
 - **~90° Junctions**
 - **George Bennett Rd. to NH 155 = 300' Curve**
- **Addresses poor sight lines and high speeds on NH 155.**



Proposed Alternatives



Proposed Alternatives

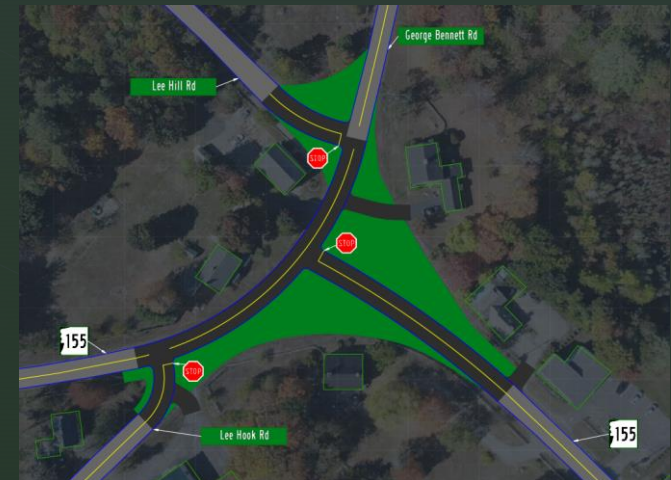
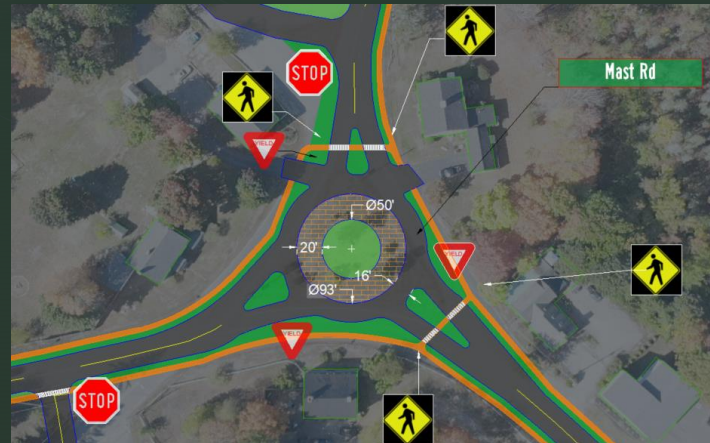
Proposed Roundabouts

- **Cost Estimate: \$1-1.5 Million**
- **Characteristics:**
 - 16' Travel Lanes
 - 50' Dia. Center Greenspace
 - 20' Wide Truck Apron
- **Addresses most concerns including acute junctions, sight lines, and pedestrian features**



Conclusion

Team's final recommendation...





Thank you for your time!

Any Questions?

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