

# CAPSTONE REPORT

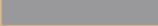
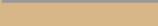
## URBAN DESIGN

**Raisa Baker**  
School of Urban Studies  
June 2025



*"W" on the grand staircase.  
Photo courtesy of Raisa Baker.*

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# STUDENTS' VISION FOR THE UWT CAMPUS

## URBAN DESIGN CAPSTONE

### Manifesto

The University of Washington Tacoma is a public university that brings together a community of diverse students, staff, faculty, businesses, and residents. Using thorough analysis, collaborative discussions, and active participation, our team determined four core values. These key values reflect our vision by emphasizing on a high-quality life for all. By integrating these values into our work, we aim to create urban environments that emphasize the importance of strong, integrated networks that link people to each other, to nature, and to essential services. We will design for accessibility, ensuring that urban spaces are well connected and that are clear pathways for both physical and social interaction. It is a challenge that requires reflection, imagination, and perseverance. These values will be the cornerstone of our proposals, influencing both the overall design direction and the specific elements we introduce. By focusing on these guiding principles, we aim to contribute to the creation of urban spaces that are not only functional, but also meaningful and transformative for the communities we serve.

### Our Values

- Diversity, Equity, and Inclusion
  - Valuing and implementing DEI in all designs and efforts
- Climate Action
  - Prioritizing sustainability and environmental health through best practices
- Community Connections
  - Integrating multi-faceted aspects of the public realm
- Safety
  - Aspiring physical safety in the built environment



Senior cohort values logo. Courtesy of Benjamin Smith.

Analyzing the University of Washington Tacoma through a transportation lens yielded results for safety in the street network in regards to time and space. For pedestrian safety, time needs to be looked at in twofolds from the pedestrian crossing the intersection and the vehicle timing to stop due to signaling or built environment. Additionally, with the partnership of Civil Engineering students challenges to transportation included lack of active transportation options, freeway proximity, and an unhealthy amount of fine particle matter in the air. Therefore, it shows that UWT has opportunities to tackle these challenges. While space is designed and creates barriers through traffic calming, quick builds, traffic signals, daylighting, sight distance, etc. Therefore, it shows that UWT has opportunities to tackle these challenges.



Street network analysis by reviewing the existing right of way (R.O.W), traffic calming, and the City of Tacoma's high risk network.



Key takeaways from overlapping transportation analysis.

**Key Takeaways**

Right of Way Curb to Curb Percentage:

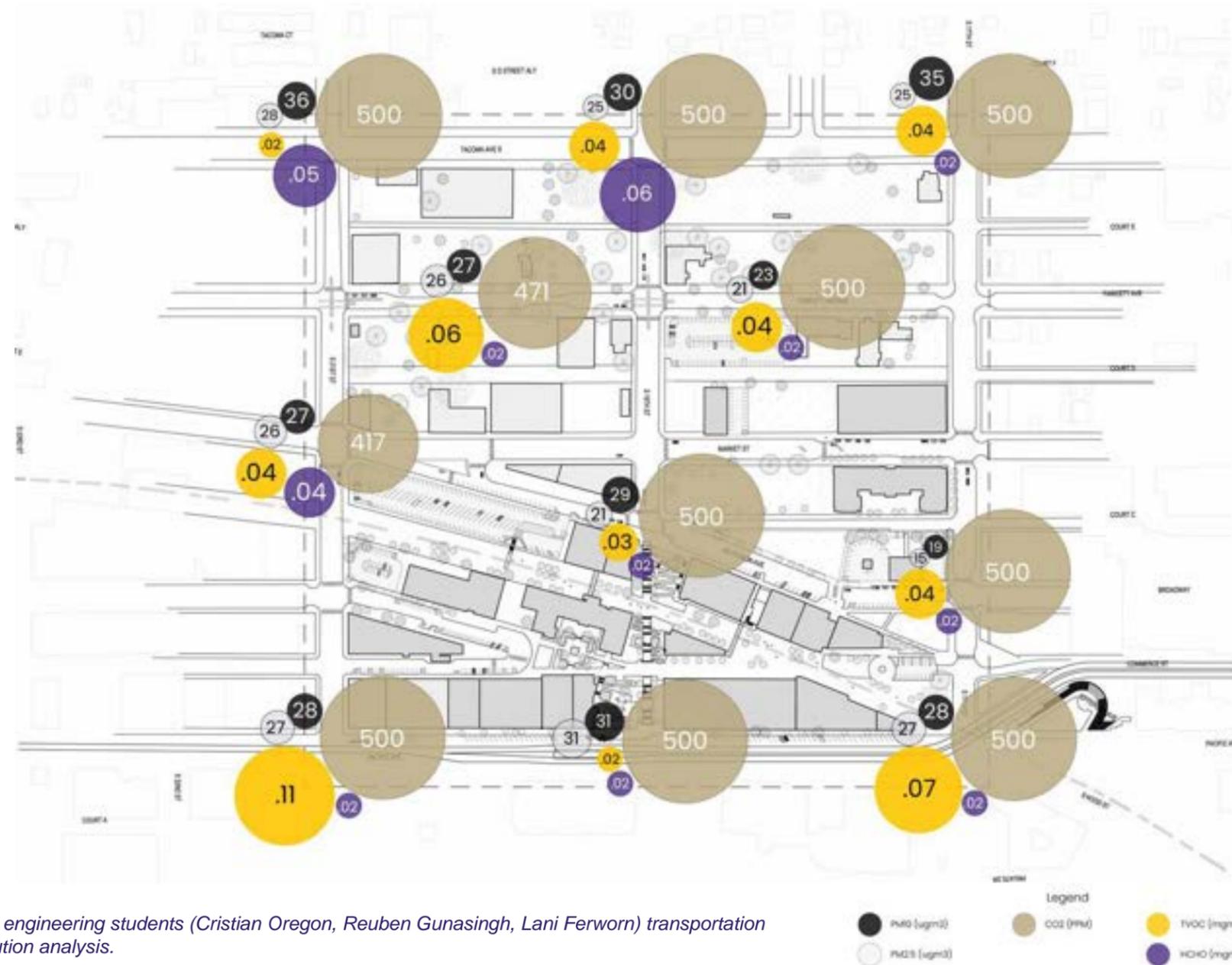
- 40' R.O.W: 70%
- 80' R.O.W: 70%
  - Roads with traffic calming: 46 - 50%
- 100' R.O.W:
  - Pacific Ave: 92%
  - Tacoma Ave: 56%

High Risk Network:

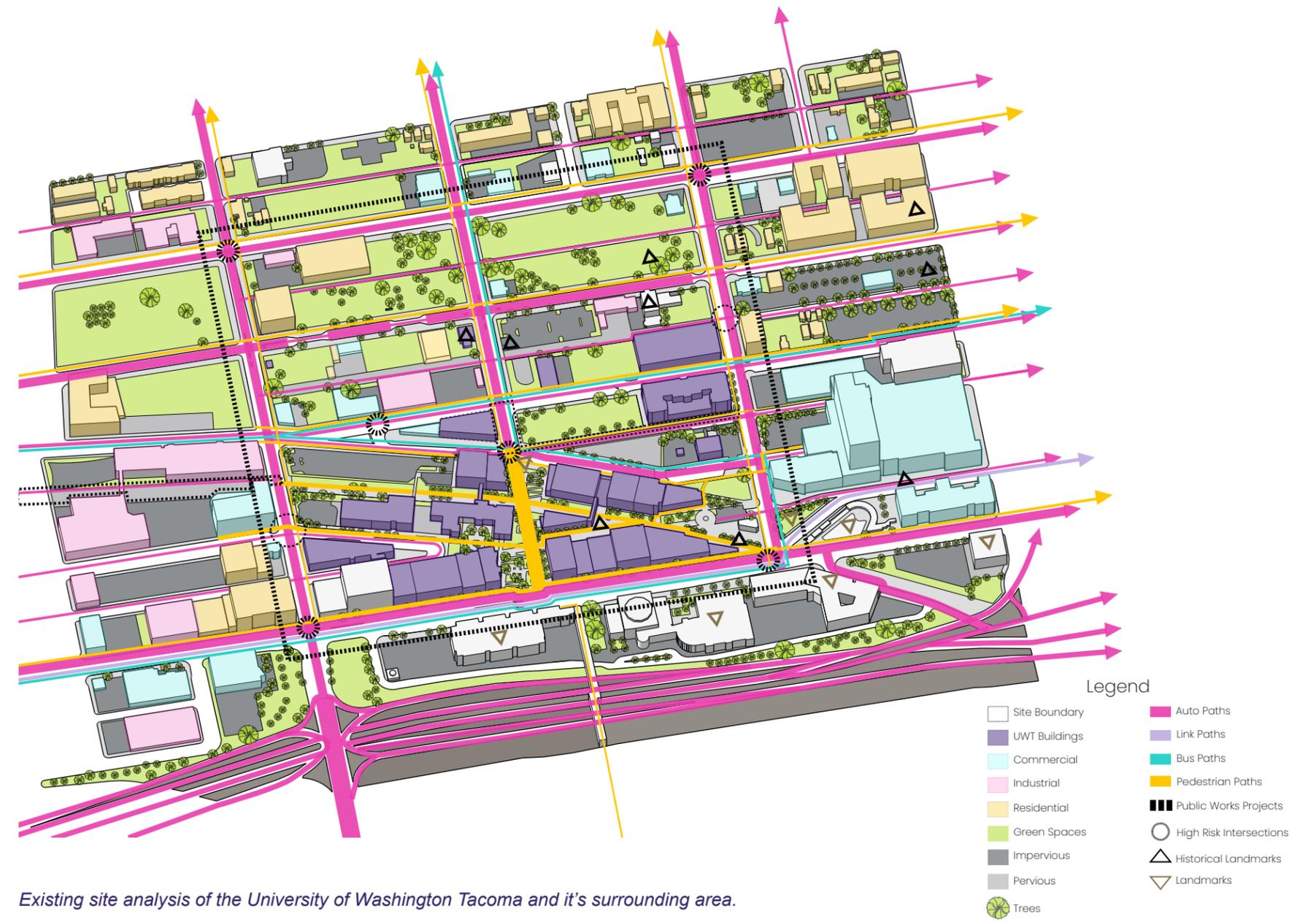
- High-risk arterials are Pacific Ave, Tacoma Ave S, S 19th Street, and S 21st Street
- 6 intersections are identified on the map as dangerous due to collisions resulting in either a fatality or serious injury
  - Large asterisks = 2 collisions
  - Small asterisks = 1 collision

Traffic Calming:

- S 17th Street:
  - Physical built environment slows down speed and traffic
- S 19th Street:
  - Center of campus with minimal traffic calming -> increased danger
- S 21st Street:
  - 3 signalized intersections, 2 rely on human behavior to stop when they are flashing

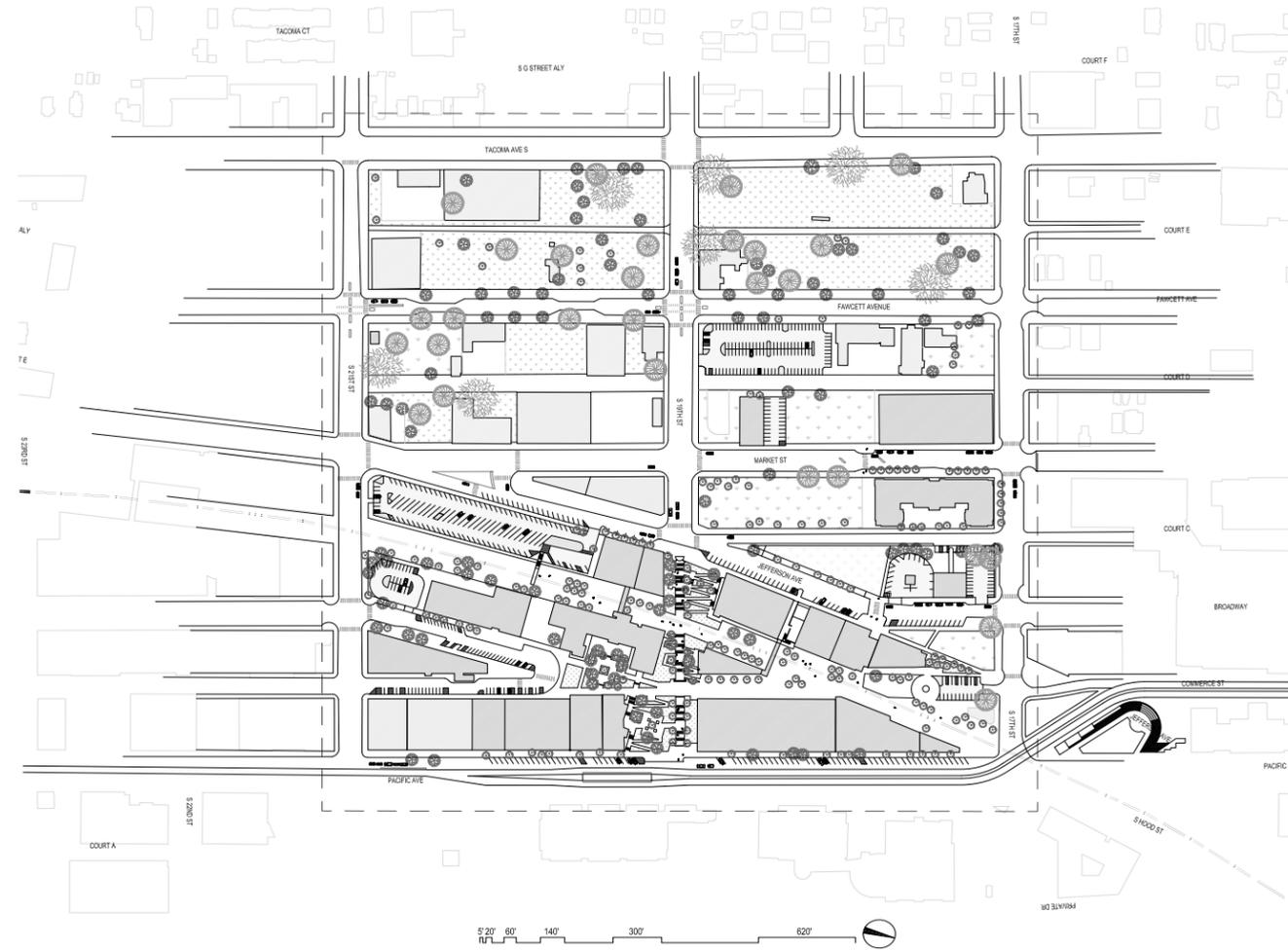


Civil engineering students (Cristian Oregon, Reuben Gunasingh, Lani Ferworn) transportation pollution analysis.



Existing site analysis of the University of Washington Tacoma and it's surrounding area.

Nestled in downtown Tacoma, the University of Washington Tacoma is a great space for an active city hub. The existing 46-acre site of the UW Tacoma sits on elevation difference of about 200 feet which of one its largest challenge. Most of the campus is developed on the western side of the campus and the eastern side is completely underdeveloped. With UWT owning most of the parcels in the site, as the campus grows, it will need to consider both students and the community it serves.



Existing site plan of the University of Washington Tacoma.



S 19th Street, north facing of UWT campus. Rendering courtesy of Christy Gonzalez.

# Engagement Campaign

## Method

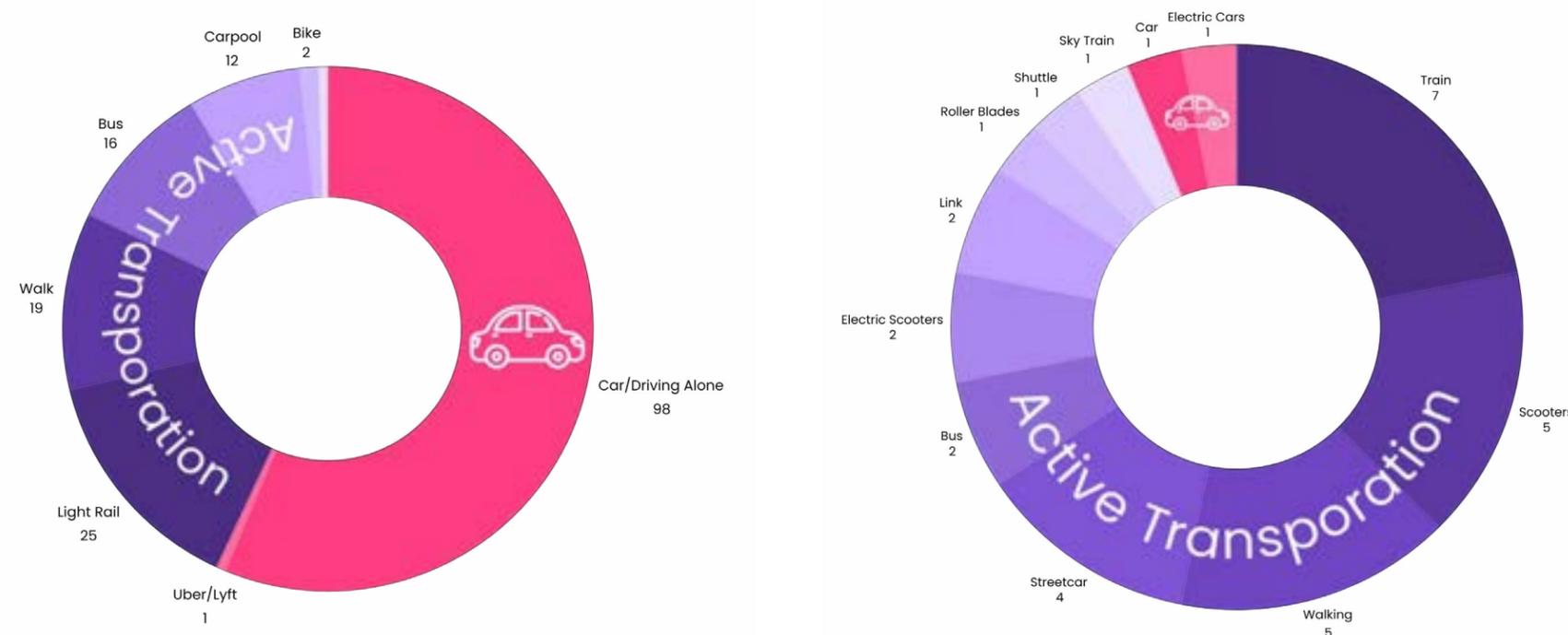
In November of 2024, we created a marketing strategy that included launching a website, flyer distribution, and social media posting. We began the official launch to our community engagement campaign in the beginning of January 2025 and during that time frame, our survey received 126 responses from students. The data collection strategies we used were hosting 3 community engagement events and 2 social gatherings. By the end of January, we closed out our survey, completed our events, and began to analyze our results.



Community engagement flyers. Courtesy of Sabien Adderley and Tu Nguyen.

# Results

Question: By 2050, what do you envision that UW Tacoma's main form of transportation will be?



Students believe that the University of Washington Tacoma's transportation system to access campus will shift from private to public by 2050.

## Results

*Question: If UW Tacoma was completely closed off to cars by 2050 what are the pros and cons of this?*



Students see the value in pedestrianizing campus, but are concerned about accessibility.

## TranspoTalk

### Reflection

At our event, we were able to gather detailed transportation feedback from 25 students. We noticed that students answered honestly and openly with other students. We believed it helped being a student to student feedback session. In our conversations with students, we saw that free parking, elevation, and familiarity of buildings/spaces were a motivator for starting points of path movement. Students also shared that they wished there were more spaces that provided food and drinks with space to hang out, they were searching for a sense of community with being a heavily commuter campus.



*TranspoTalk team: Hieu Nguyen, Raisa Baker, Sabien Adderley.*





RAISA BAKER

### Urban Design Approach

**Design Proposal Focus:** increase pedestrian safety while creating a cultural connection through the historical landscape.

The initial design proposal stemmed from the analysis phase and community engagement feedback. Students stated that they believed in the future main form of transportation for the campus would be active transportation. They also believed by pedestrianizing the campus would increase safety and environmental benefit.

S 19th Street and Court C is currently in the process of a street vacation and this proposal adds Jefferson Ave to that. Jefferson Ave extends the historical brick road of the city of Tacoma while dedicating an art piece to the Puyallup Tribe through the salmon landmark in the center of the design. This allows for the civil engineering students' proposal of reusing metal waste to create adobe bricks. Adobe bricks will line the salmon and create tree frames along Jefferson Ave.

Public transit will run along Market Street which will have specific traffic calming features such as multiple raised crosswalks, marked crosswalks, and lane reduction. This ties to the civil engineering students' redesign of the intersection of S 21st Street and Pacific Ave to increase pedestrian safety especially along high risk corridors and high risk intersections.

In connection with the City of Tacoma's design guidelines and the Downtown Historic District, the design shows the next phase of possibilities at UWT.



### Technical Drawing



- University of Washington Rainier Vista
- Green Boulevard
- Pedestrian Pathway
- Viewpoints

Image Courtesy of University of Washington.



- The Getty Museum
- Public Plaza
- Public Seating
- Native Tree Planting

Image Courtesy of The Getty Museum.



- University of Southern California McCarthy Quad
- Outdoor Seating
- Public Plaza

Image Courtesy of University of Southern California.



- University of Southern California Alumni Park
- Native Garden
- Public Gathering Spaces

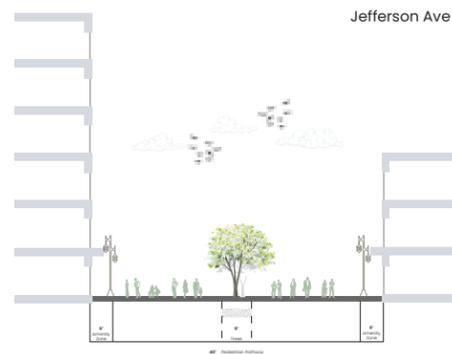
Image Courtesy of University of Southern California.



### Street Sections

#### AA': Jefferson Ave

- Pedestrianized
- Historical Street Connection
- Bioretention Swale



Jefferson Ave

Street photos courtesy of Google Earth.



Jefferson Ave, north facing.

#### BB': Market Street

- Public Transit
- Removed Drive Lane
- Traffic Calming



Market Street



Market Street, north facing.

#### CC': S 19th Street

- Pedestrianized
- Public Plaza
- Street Vacation



S 19th Street



S19th Street, east facing.

### Proposed Site Plan

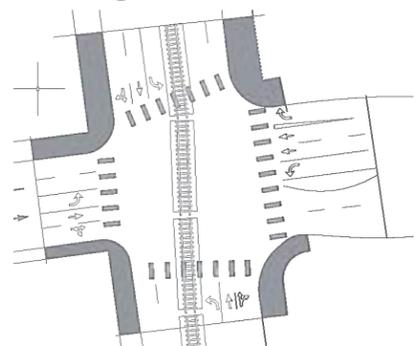


## Civil Engineering I Proposal - S 21st St and Pacific Ave Intersection - Nolan Davidson

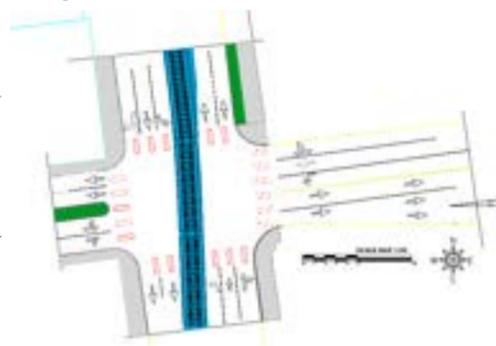
### Problem Statement

- Approximately 206 crashes between 2013 and 2022
- Misaligned crosswalks
- Misaligned lanes
- Crosswalk on east leg is too long
- Pedestrian push buttons and curb ramps do not meet ADA standards

### Existing



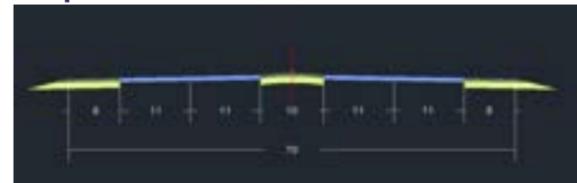
### Proposed



### Intersection Location



### Proposed Assemblies



South 21st Street East Leg Proposed



South 21st Street West Leg Proposed



Pacific Avenue

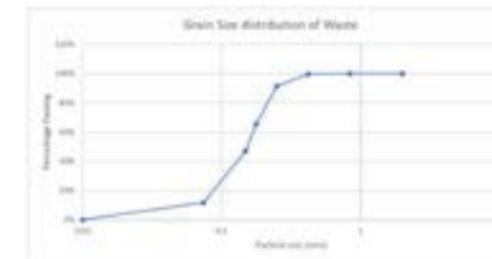
### Next Steps

- Next Steps:
- Widening sidewalks and narrowing the east leg proposes future infrastructure
- Consider an alternative design
- Consider minimum radius in curve design

## Civil Engineering II Proposal - Adobe Bricks - Cristian Oregon

### Problem Statement

- Water Jet Waste - Produce from cutting metal with a water jet
- Made up of abrasive materials and small amount of metal particles
- Has alumina and silica, but too big to replace cement
- In industries one waterjet can produce an average of 200g of waster per minute (200kg per day)
- Reuse the waster to make Sandy Straw Loam Adobe Bricks



### Process

- Mold - 4" x 8" x 16" (10" x 14" x 4" is more standard)
- Recommendation - 14% clay, 22% silt, 62% sand, and 2% gravel (optimal compressive composition)' hand mixing adobe is on average stronger
- Materials - Dirt, Fireclay, Sand, and Water Jet Waste
- Preliminary Tests - Drop test, Consistency test

### Best Composition

- 40% soil, 40% sand, 20% clay



### Brick Drying



### Adobe Bricks Location



### Results

#### Brick Test

- 65 PSI (pounds per square inch)





# EPA Campus Rainworks Challenge

## Abstract:

The 46-acre University of Washington Tacoma (UWT) campus sits on the ancestral lands of the Puyallup Tribe of Indians. Once a 19th-century railroad warehouse district, it was redeveloped in the 1990s as an urban-serving university. Its industrial legacy left widespread soil, surface, and groundwater contamination. Today, pollution remains a significant concern within the region, with stormwater contributing 75% of the pollutants entering the Puget Sound.

Our project reframes the City of Tacoma’s phrase “If it hits the ground, it hits the Sound” into a message of proactive care — protecting the Sound as it hits the ground. As UWT faces unique environmental challenges, our team proposes a set of green stormwater infrastructure (GSI) interventions and remediation strategies to address issues in four distinct locations:

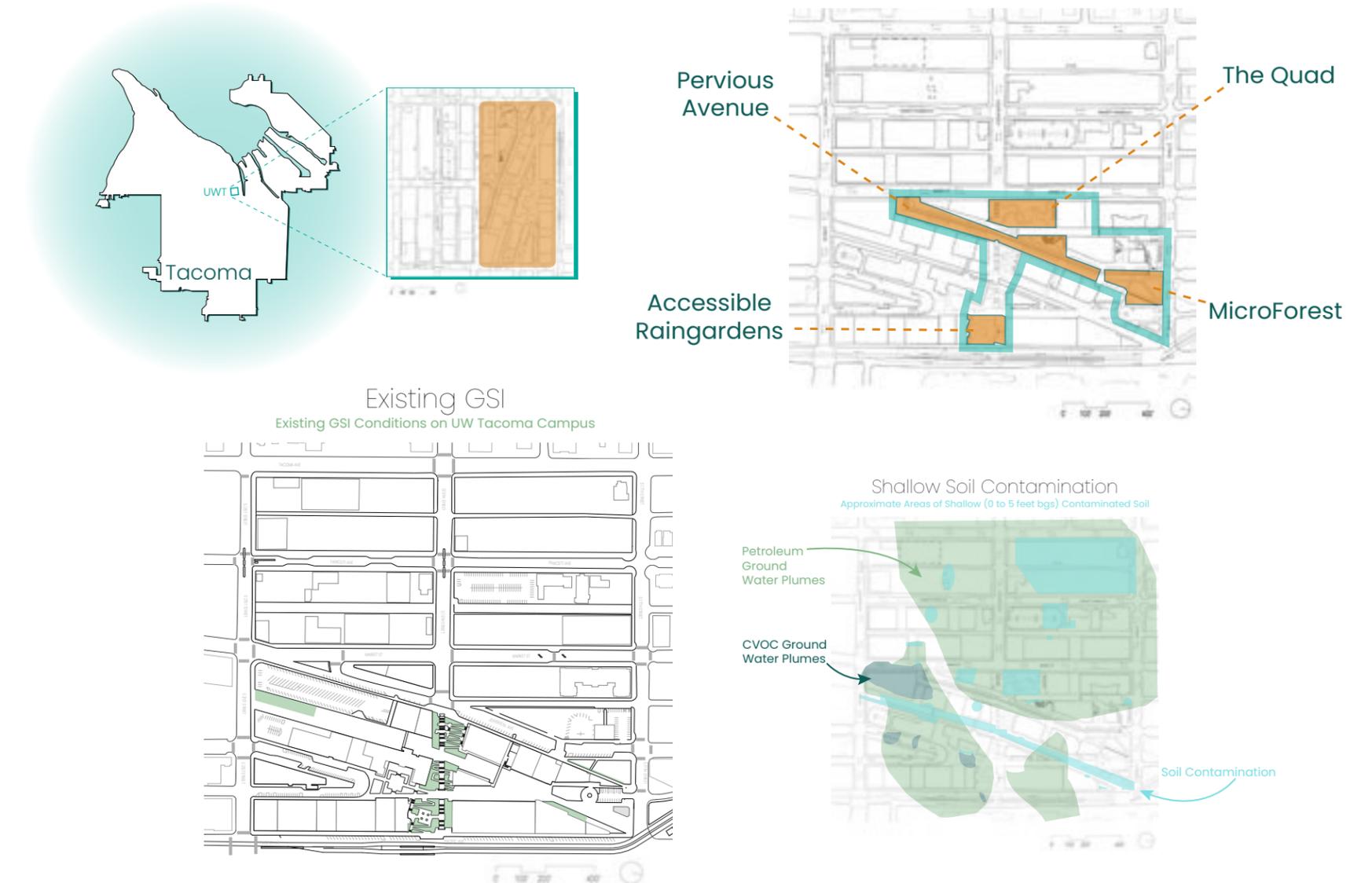
- 1) “The Quad”: polluted ground water, soil + downhill runoff
- 2) “Pervious Avenue”: healthy soil + rain
- 3) “MicroForest”: healthy soil + runoff treatment
- 4) “Accessible Raingardens”: treated soil + rain

By integrating with UWT’s long-term stormwater strategy and supporting the campus master plan’s goals for sustainability and resilience, this project offers scalable, site-specific solutions that improve ecological health, honor Indigenous heritage, and inspire future green infrastructure development in urban university settings.



Senior undergraduate urban design and civil engineering cohorts worked together to compete in EPA Rainworks Campus Challenge.

## EPA Narrative Graphics



Graphics courtesy of Christy Gonzalez.