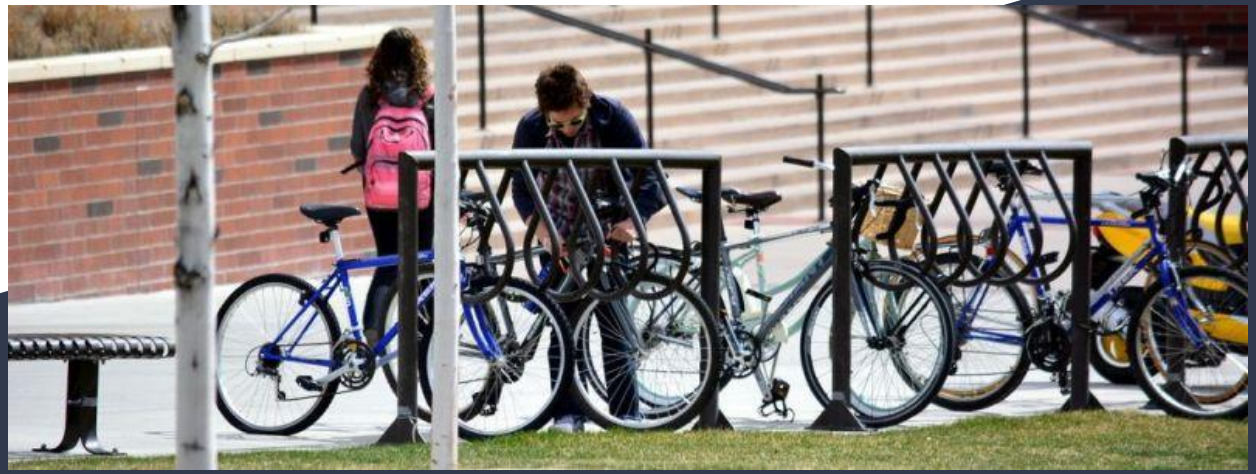
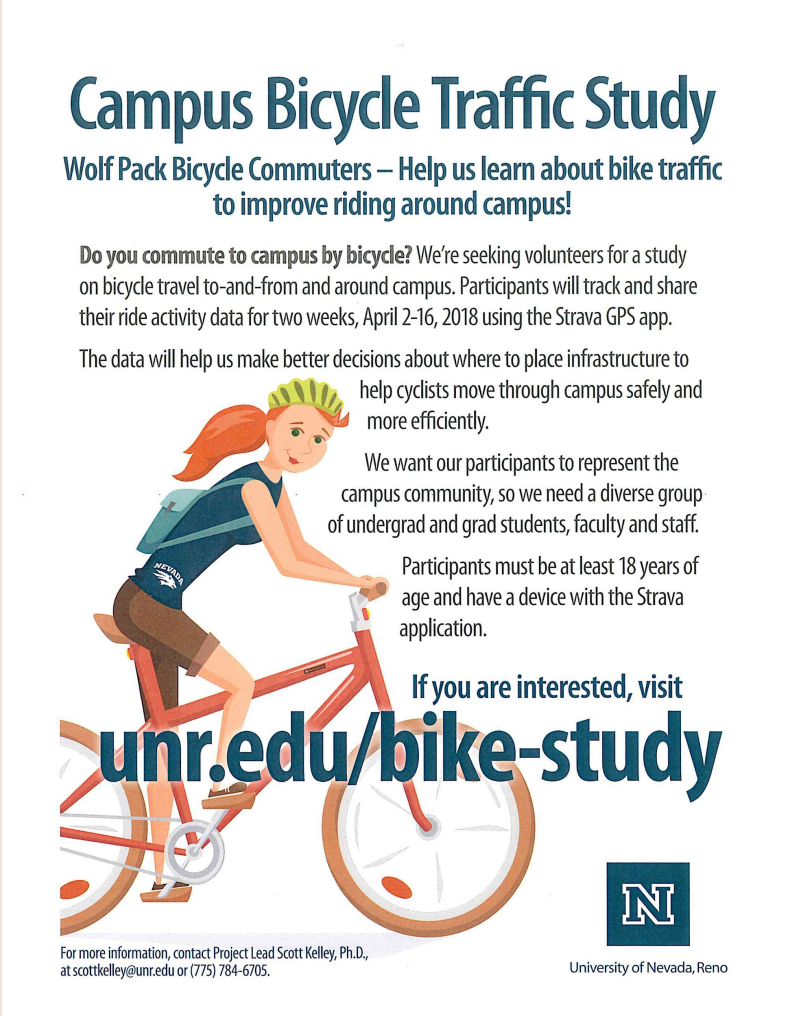
Bicycling on and around Campus

UNR BIKE TRAFFIC STUDY

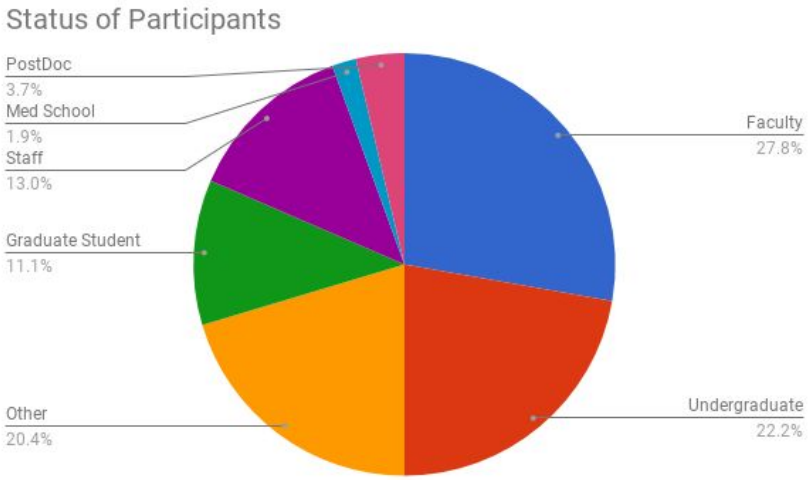


Chrissy Klenke
7/25/2018

Learn about bike traffic to improve bicycle infrastructure on and around campus and the city.



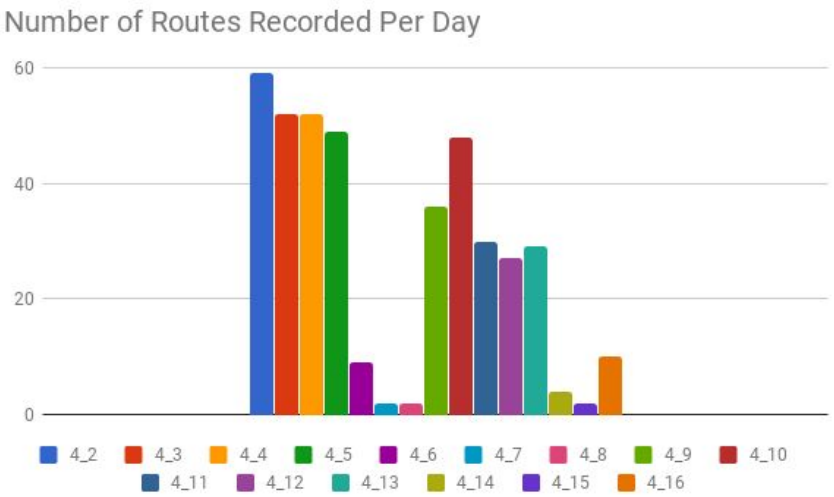
Background



- April 2nd - 16th, 2018 (14 days)
- 500 registered bikes on the UNR campus
  - 54 volunteered
  - 44 participated
  - 10 % represented
    - 405 total lines
- UNR Master Plan
- City of Reno/Sparks Master Plan
- League of American Bicyclists:
  - Reno/Sparks - Silver
  - University of Nevada, Reno - Bronze

Daily outlook

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 Scattered Clouds Actual: 74° | 35° 0.00 in Average: 61° | 35° 0.02 in	2 Partly Cloudy Actual: 67° | 41° 0.00 in Average: 61° | 35° 0.01 in	3 Partly Cloudy Actual: 70° | 32° 0.00 in Average: 61° | 36° 0.02 in	4 Mostly Cloudy Actual: 72° | 46° T in Average: 61° | 36° 0.02 in	5 Mostly Cloudy Actual: 69° | 50° T in Average: 61° | 36° 0.01 in	6 Rain Actual: 59° | 49° 0.26 in Average: 61° | 36° 0.02 in	7 Rain Actual: 61° | 43° 0.11 in Average: 62° | 36° 0.02 in
8 Clear Actual: 67° | 39° 0.00 in Average: 62° | 36° 0.01 in	9 Partly Cloudy Actual: 73° | 39° 0.00 in Average: 62° | 36° 0.02 in	10 Partly Cloudy Actual: 73° | 52° 0.00 in Average: 62° | 37° 0.01 in	11 Snow Actual: 69° | 34° T in Average: 63° | 37° 0.02 in	12 Partly Cloudy Actual: 49° | 32° T in Average: 63° | 37° 0.01 in	13 Scattered Clouds Actual: 61° | 29° 0.00 in Average: 63° | 37° 0.02 in	14 Scattered Clouds Actual: 73° | 36° 0.00 in Average: 63° | 37° 0.01 in
15 Rain Actual: 67° | 36° T in Average: 64° | 37° 0.02 in	16 Snow Actual: 46° | 33° T in Average: 64° | 38° 0.01 in	17 Partly Cloudy Actual: 55° | 33° 0.00 in Average: 64° | 38° 0.02 in	18 Rain Actual: 52° | 37° 0.03 in Average: 64° | 38° 0.02 in	19 Snow Actual: 51° | 34° 0.2 in Average: 65° | 38° 0.01 in	20 Clear Actual: 69° | 33° 0.00 in Average: 65° | 39° 0.02 in	21 Scattered Clouds Actual: 78° | 41° 0.00 in Average: 65° | 39° 0.01 in

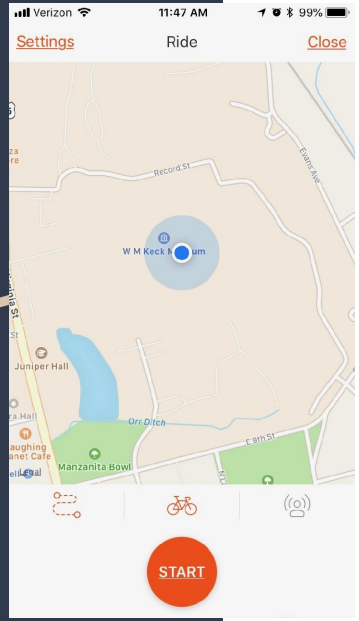


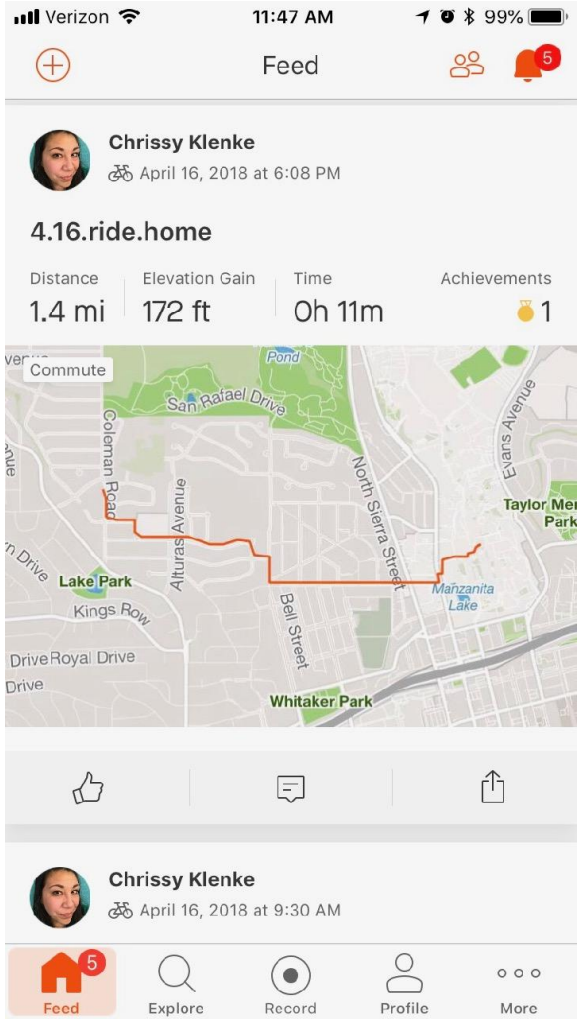
Questions

1. What is the connectivity to - from and around campus?
    a. Are city designated bikes paths in close proximity of the university?
2. How much of the current Reno/Sparks bike infrastructure, campus bike infrastructure, and Google’s recommended shortest paths are used by UNR Bike Commuters?
3. What is the % of bikes route taken based on the elevation of slope?
4. Where are commuters coming from? (N, S, E, or W)

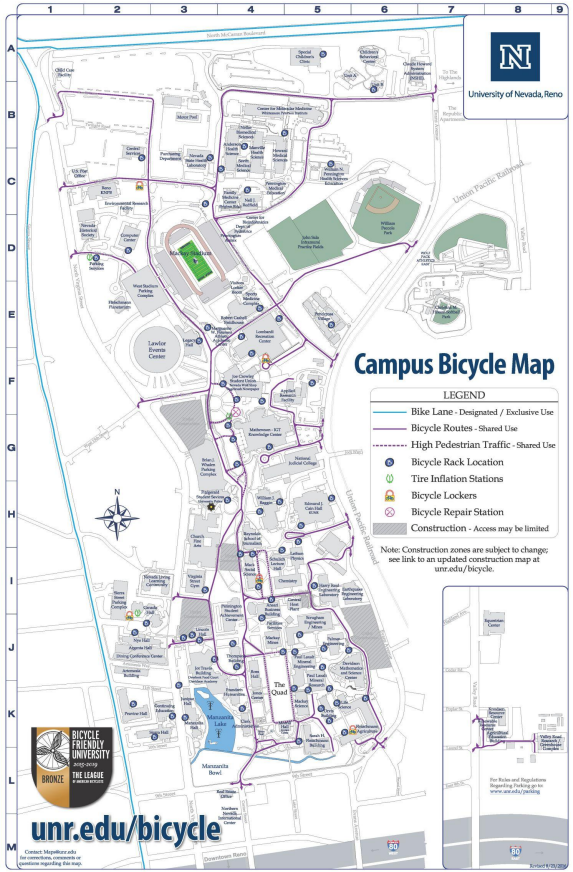
DATA Collection

- Commuters Record their rides
- Downloaded GXP files from STRAVA app to a NevadaBox folder - everyday
- Undergrad team converted:
  - GXP → point
  - Point → lines

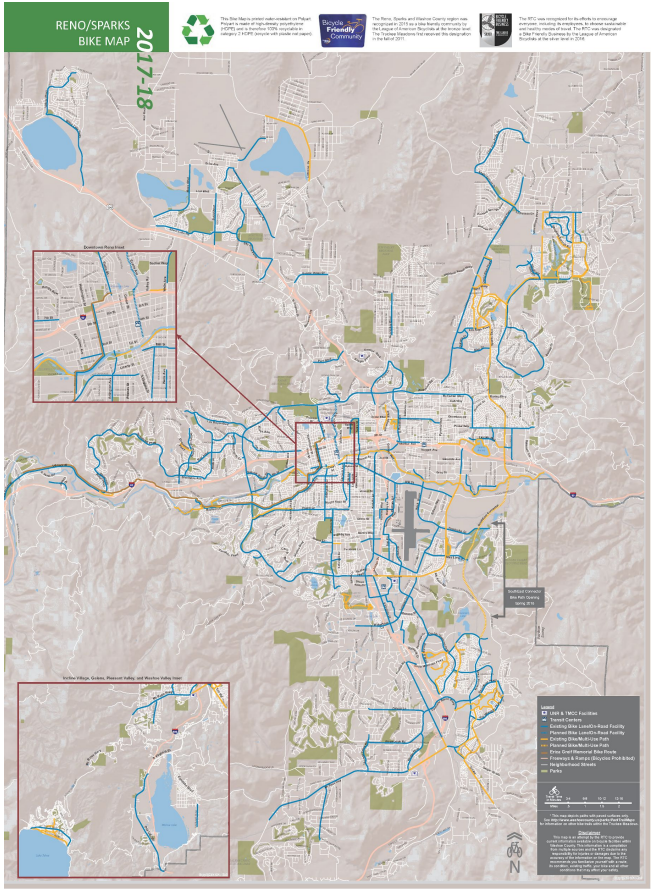




DATA Collection

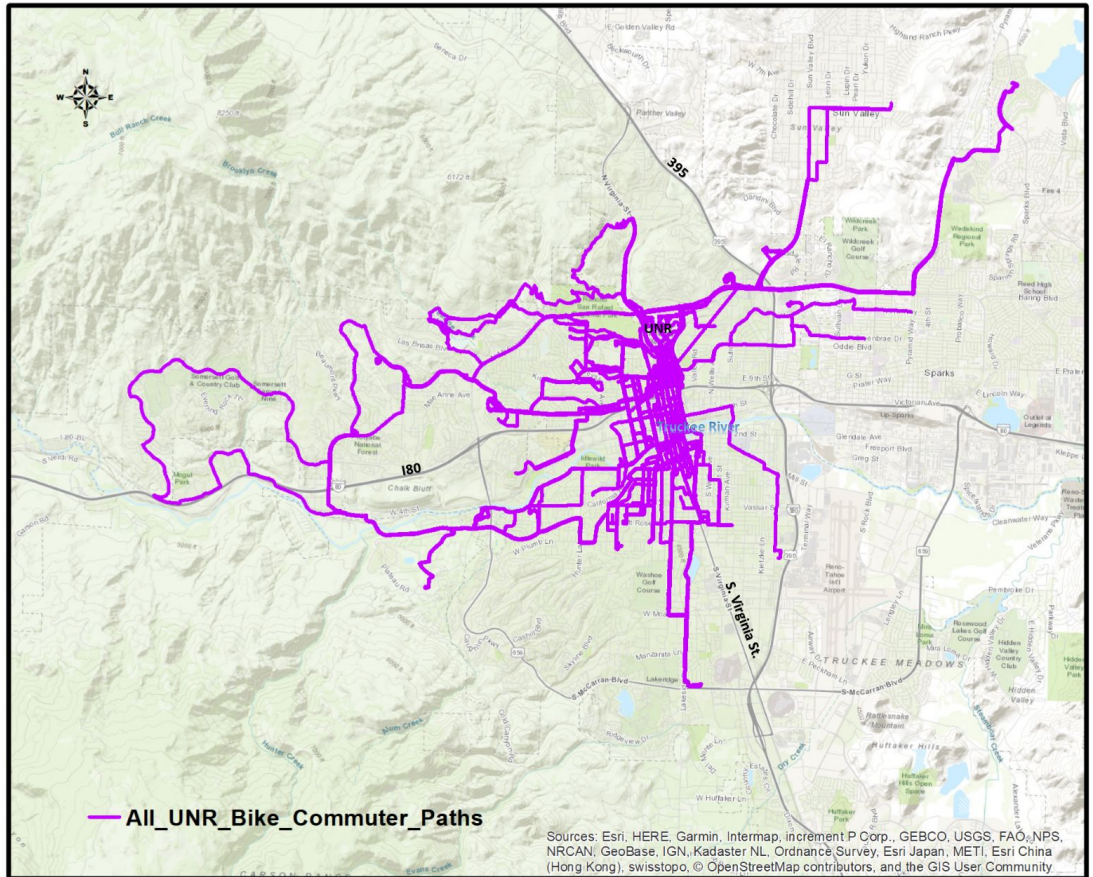


UNR Bike Map 2016

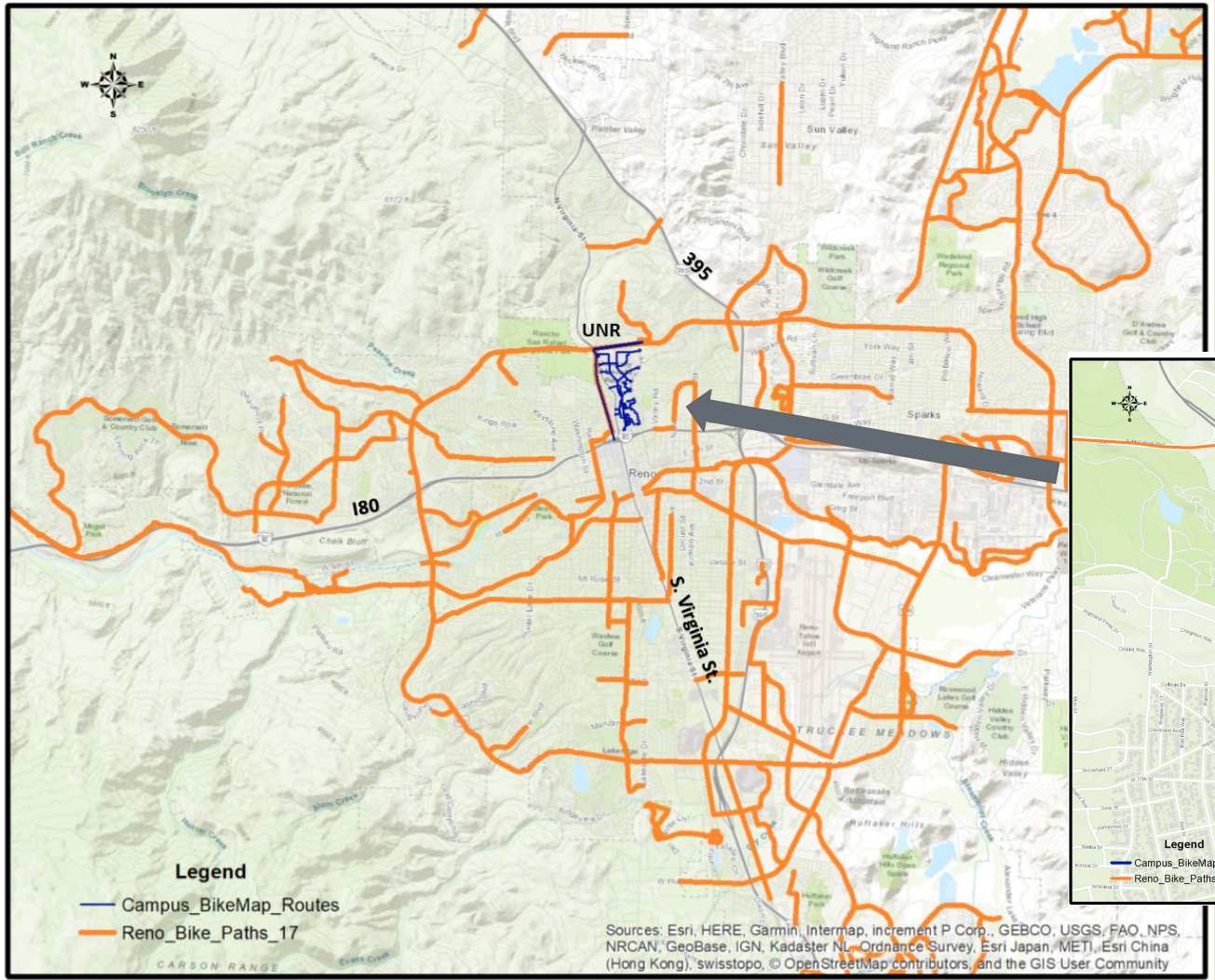


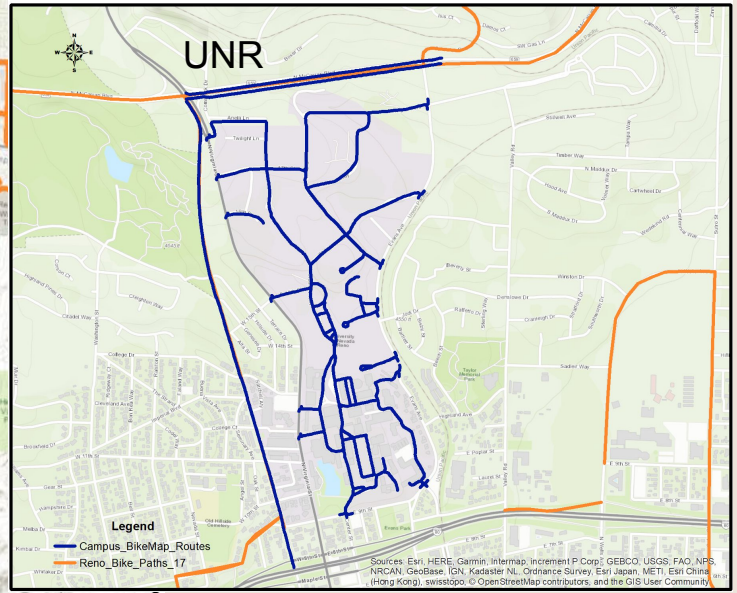
Reno/Sparks RTC 2017/2018 Bike Map

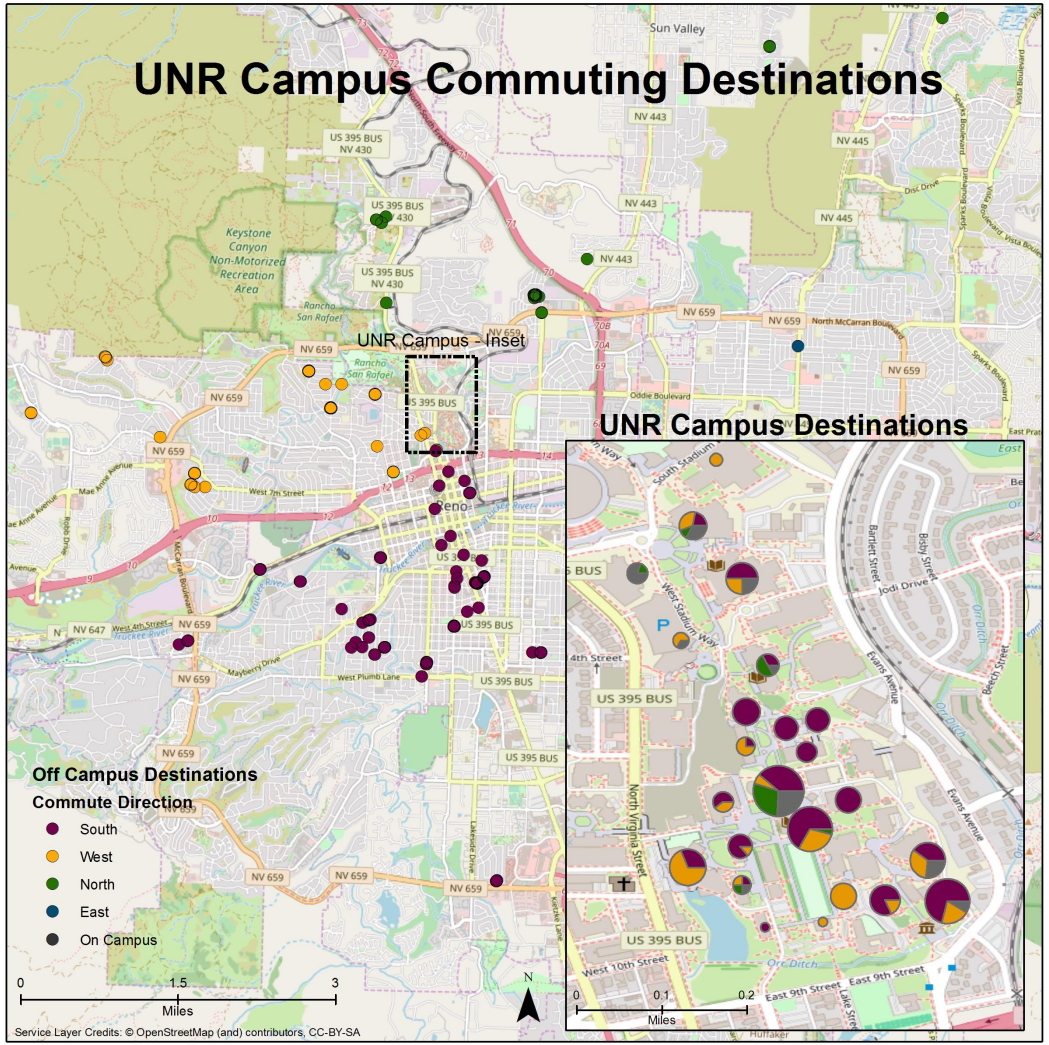
Raw UNR Bike Commuter Data



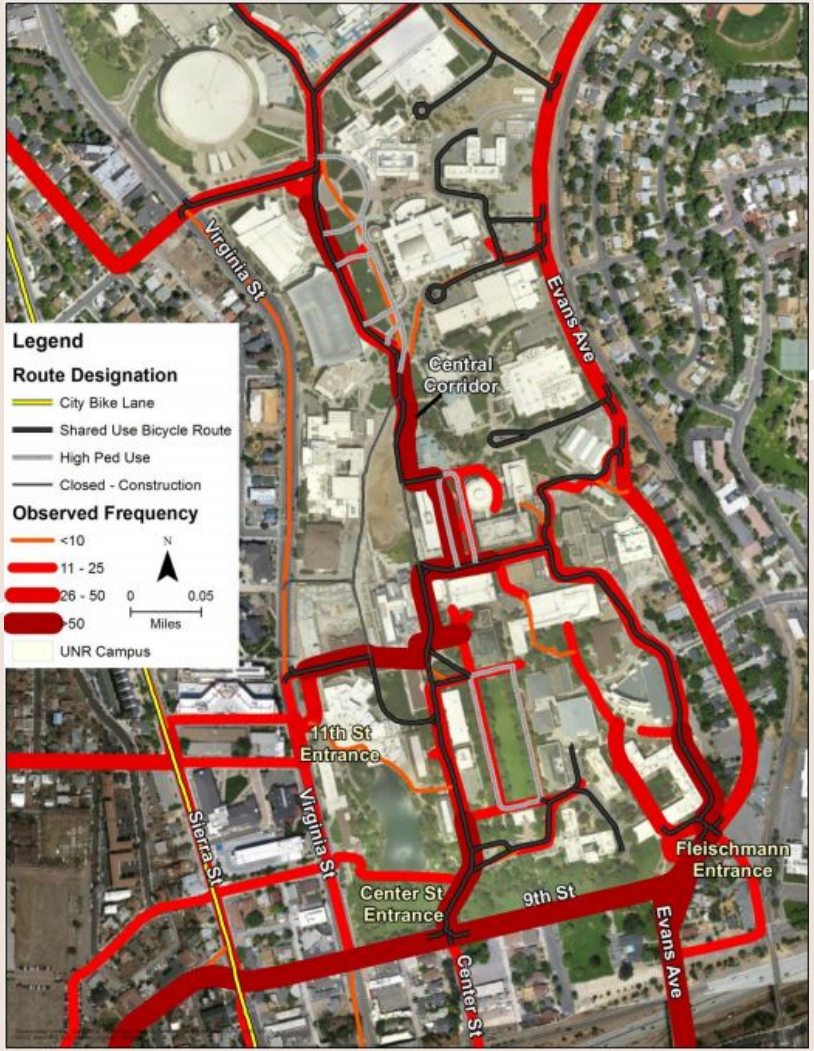
City & Campus Bike Infrastructure



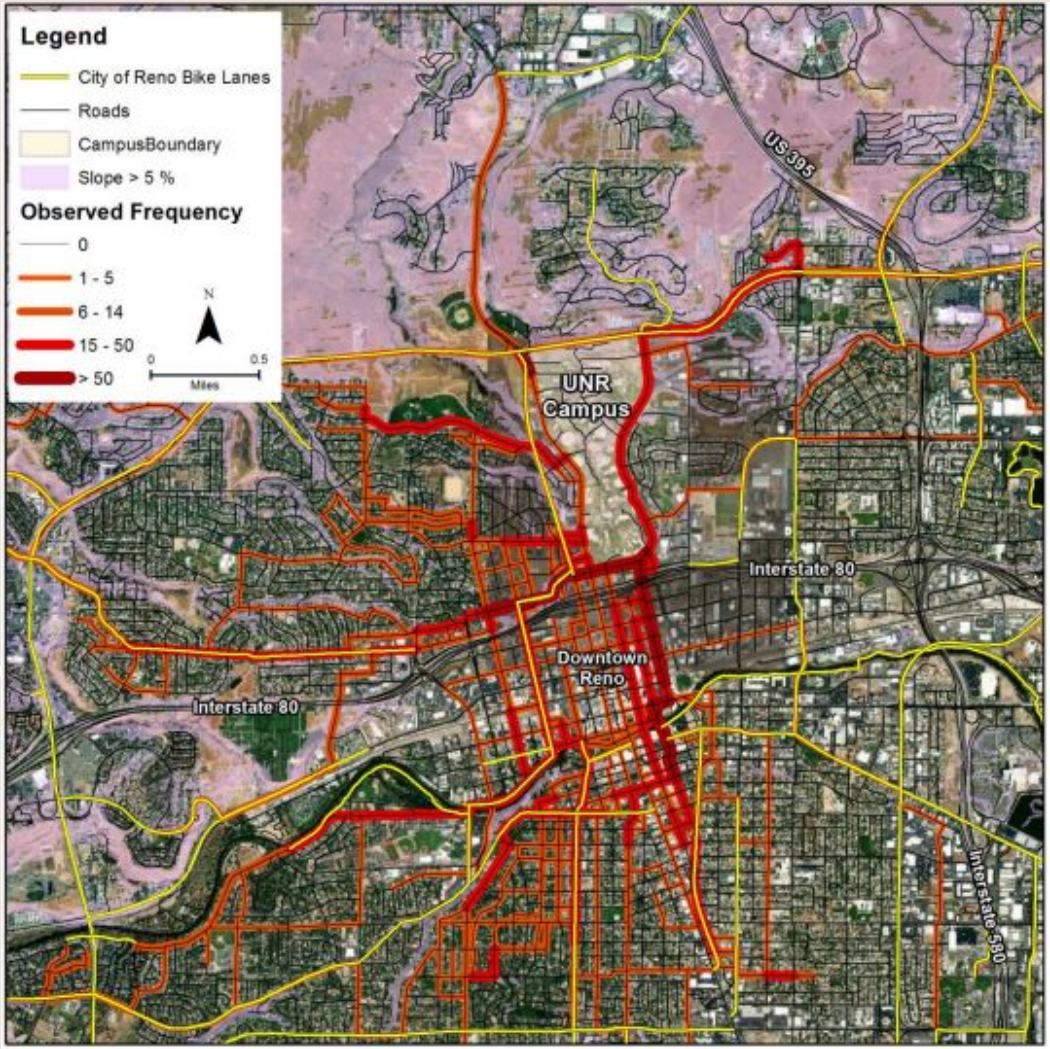



UNR Campus Commuting Destinations
UNR Campus - Inset
UNR Campus Destinations
Off Campus Destinations
Commute Direction
South
West
North
East
On Campus
0
1.5
3
Miles
0
0.1
0.2
Miles
N
Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA
Sun Valley
Keystone Canyon Non-Motorized Recreation Area
Rancho San Rafael
Reno
US 395 BUS
NV 659
NV 443
NV 445
NV 647
West 7th Street
West 4th Street
Maybery Drive
West Plumb Lane
Oddie Boulevard
North McCarran Boulevard
Sparks Boulevard
Vista Boulevard
South Stadium
West Stadium Way
Jodi Drive
Barnett Street
Evans Avenue
North Virginia Street
West 10th Street
East 9th Street
Orr Ditch

Observed correspondence routes on the UNR campus with suggested bicycle routes and high pedestrian traffic routes.



Spatial distribution of off-campus portions of UNR bicycle commuting tripswith origins by chosen route and city bicycle infrastructure



- Worked with Dr. Scott Kelley from the Geography Dept. & Dr. Amy Fitch Chair of the Bike Committee and Lecture in Social and Behavioral studies and a team of undergraduate students
- 78% of all observed UNR Bike Commuters utilized on-campus infrastructure
- 25% of all observed UNR Bike Commuters utilized city infrastructure
  - Very low
- We analysed distance, slope, shortest suggested paths, time, current bike infrastructure on and off campus, etc.
- Submitted as a conference paper to the Transportation Research Board conference in January in Washington, DC and the *Transportation Research Record*, which is their journal.

Conclusion

Questions?

A Special Thank you to:

Volunteer participants
Liam, Miguel, Tyler, Cameron, Alex
Dr. Kelley
Dr. Fitch
Washoe County, etc.