

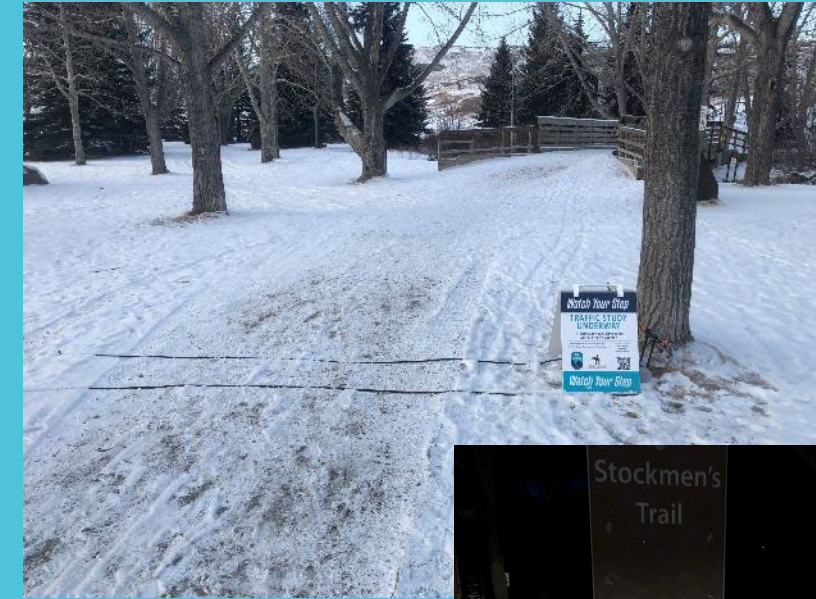


2022 Traffic Study

2022
Trail Counting Program

Background

- In Winter 2020, Bike Cochrane entered into a 'Data Sharing Agreement' with the Town of Cochrane to allow for bike counting on the Town's pathway network
- Piloted at the Ranche park in Jan/Feb 2021 and methodology defined for Metrocount RidePod BT tube counter for bikes (see previous study report), Bike Cochrane manages traffic studies in Cochrane to better understand recreational and 'bike to school' cycling and pedestrian traffic
- Starting in 2022, Bike Cochrane added two optical counters (Eco-Counter Pyro Box) for all-season counting
 - These don't give a 'mode' of transportation but combined with the tube counters, we can determine walkers v bikers
- Month-long studies to align to Strava data gathering period, determine correlation factors to Strava (SUR or Strava User Rate)
 - **This study looks at TRAIL use in Cochrane using the Eco-Counter Pyro Box**



Metrocount RidePod BT with local storage, data retrieved at month end

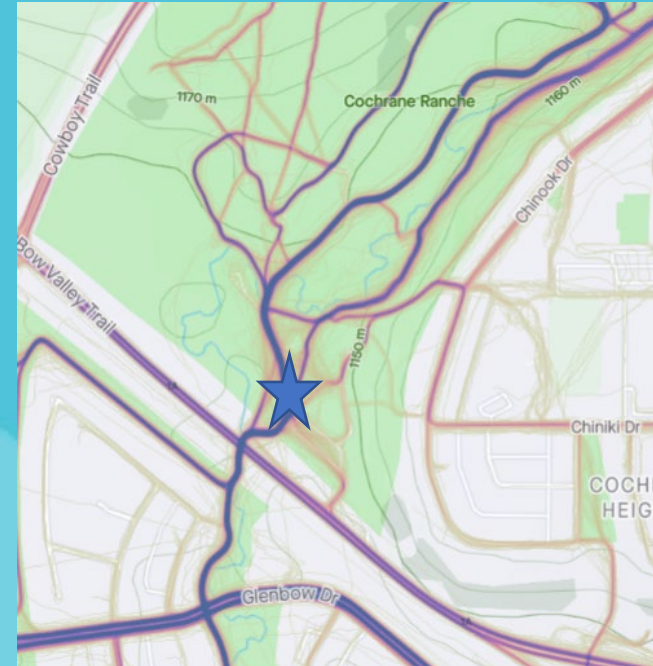


Ped counters on trails

The background of the slide features a stylized mountain range. The mountains are represented by layered, jagged shapes in various shades of blue, ranging from a light, almost white blue for the highest peaks to a darker, teal blue for the lower slopes and foreground. The overall aesthetic is clean and modern.

May – Ranche main trail

- The Cochrane Ranche is one of the most popular parks in Cochrane. This main 'Stockmen's Trail' will eventually be paved and be part of the Sunset to Bow River corridor, but for the time being, it's a gravel pathway
- This is where we did our first tube counts (2021) and is the first time using the Ecocounter optical counter
- Strava heat map on right shows it as a heavily-used walking/biking pathway, and is mostly **recreational**



Counts – May 2022

Average people/day - **284**

Average people/day (weekday) - **236**

Average people/day (weekend) - **412**

Peak people/day – **581** (Tues, 24 May)

Peak people/15 min – **65**

Total monthly – **9684**

Combined SUR - 4.4%, 22.5x

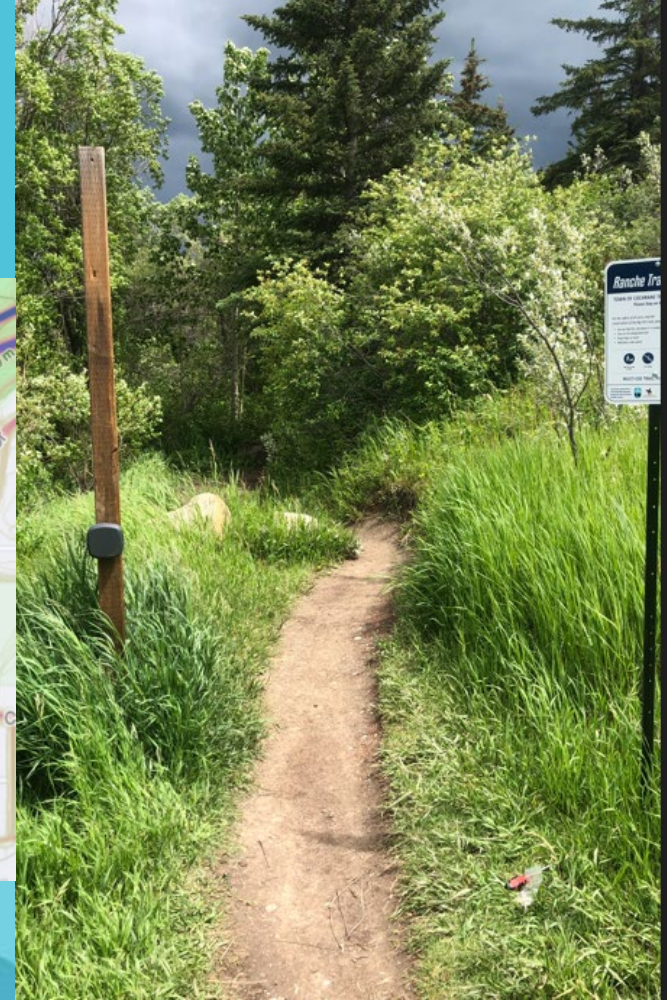
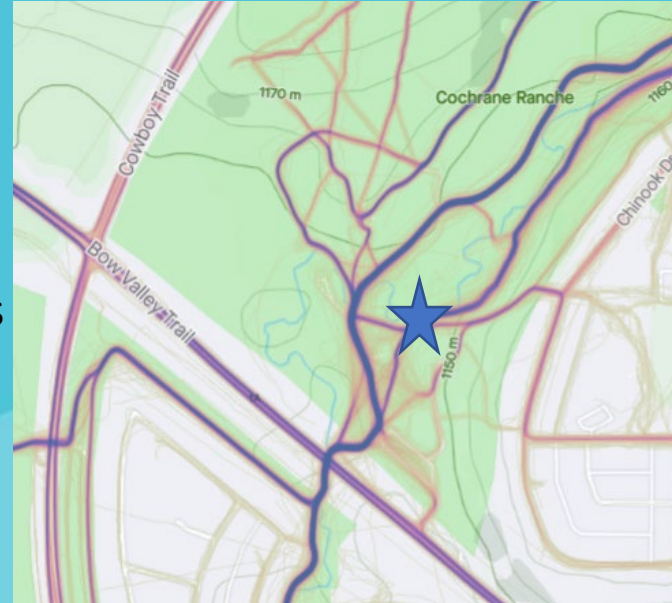
Notes

- Mode of travel is impossible to distinguish in an optical counter
- Even numbers IN/OUT so this is a balanced trail (no 'loop' trails in this area)
- Counter time of day use shows mostly recreational with almost **10,000 people a month using the pathway**



June/July/Aug – Ranche Trail 1

- Ranche Trails are seeing much more use with Bike Cochrane's trail improvements in 2021-2 (boardwalk, retaining wall work, trail tread work)
- Strava heat map on right shows it as a medium-use walking/biking pathway, and is mostly **recreational**
- Optical counter used to pick up users at bottom of stairs from Clubhouse
- Firmware issues with Ecocounter mean data isn't perfect in this time period, but has been reconstructed



Counts – August 2022
Average people/day - **131**
Peak people/day – **203**
Peak people/15 min – **87**
Total monthly – **4123**
Combined SUR – 4.5%, 22x

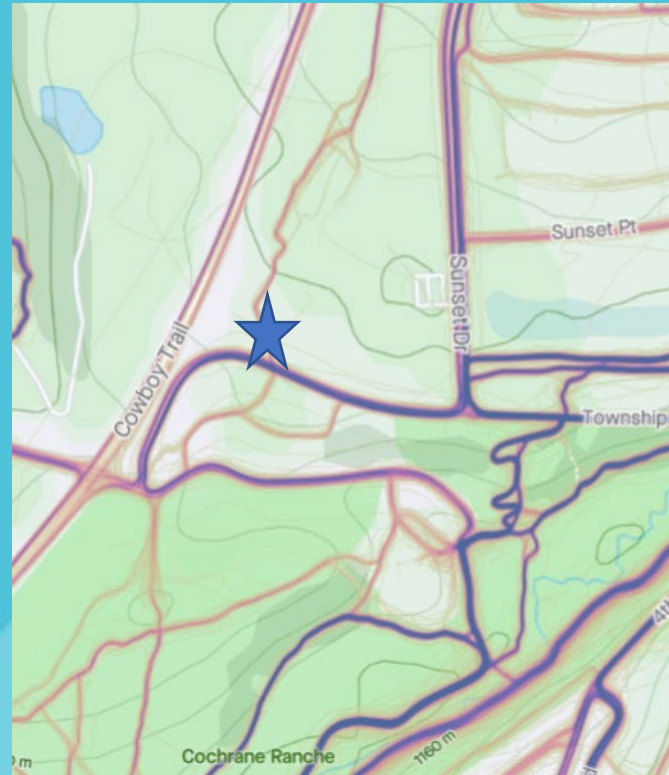
Notes

- Will be interesting to try again in 2023 as the 'Grandfather Tree' trail is seeing extensive use anecdotally
- Counter time of day use shows mostly recreational with **>4000 people/month**



Sept – Sunset Trail 1

- Sunset Trail 1 was formally opened in August 2022 although existing use in and around St Tim's high school was pretty common
- Pleasant recreational corridor is seeing more usage with pruning/trimming and trail clean-up
- High peak values removed prior to data processing
- Strava segment not present yet (only added to OpenMap database in summer 2022)



Counts – Sept 2022
Average people/day - **10**
Peak people/day – **50**
Total monthly – **281**
Combined SUR – %, x

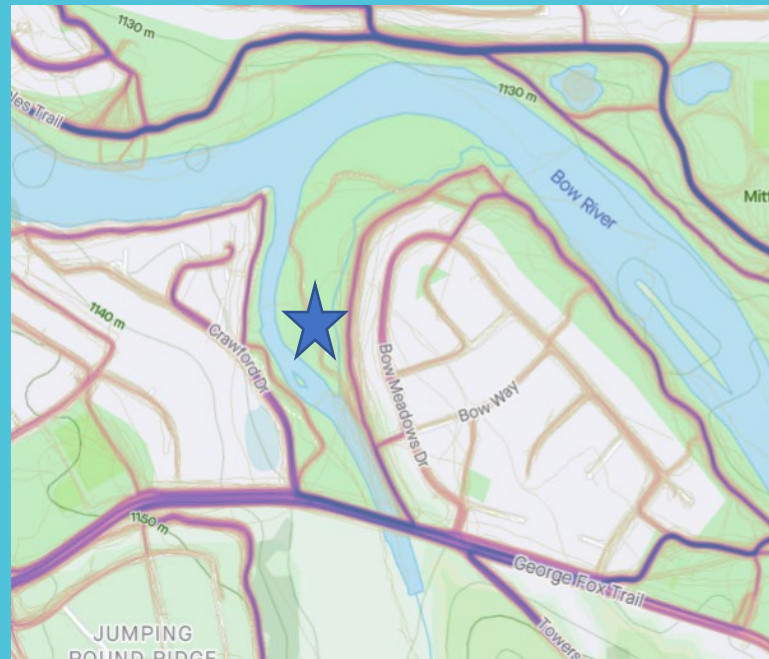
Notes

- Very high single day usage (4000-5000/day) seems artificial and may be results of high school kids affecting the numbers – see raw data
- Counter time of day use shows mostly recreational with **>300 people/month**



Oct-Dec – Bow Meadows Trail 1

- Bow Meadows Trail 1 was a very popular bird-watching and walking trail prior to flooding in 2013. With no bridge in place near Bow Meadows pathway, usage is lower than it could be
- Bow Meadows Community Association is interested in improving this area with major nature appeal along with historical memorial benches, interpretive panels, and water access



Counts – Oct 2022
Average people/day (winter) - 17
Peak people/day – 83
Total monthly – 575
Combined SUR – 3.5%, 29x

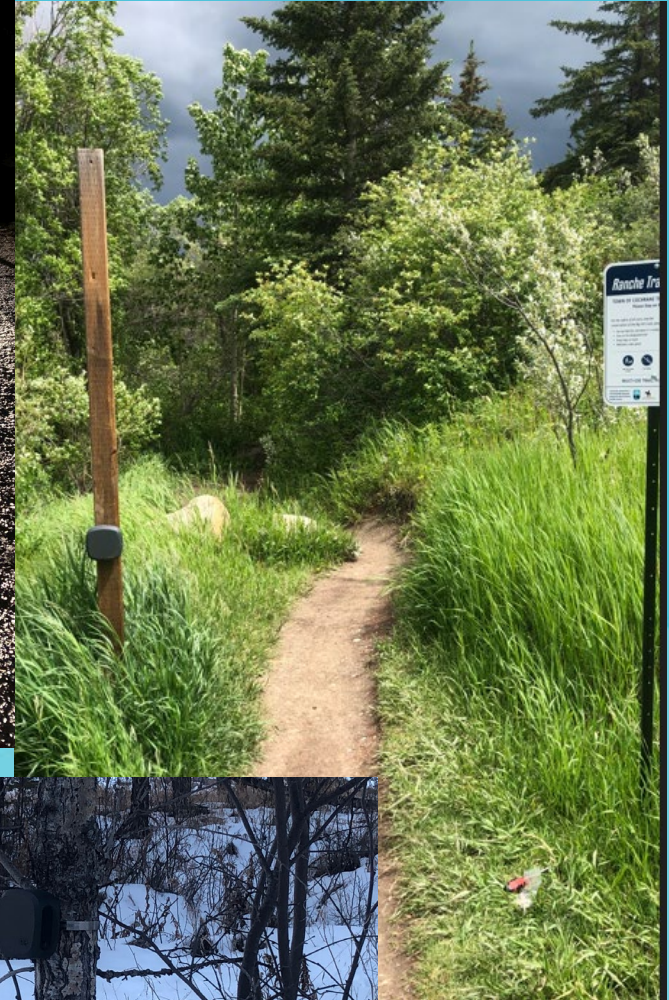
Data Notes

- Strava data shows more people along the fenceline trail than the 'island' trail, especially for bikes
- Good potential for a summer trail count depending on water level of Jumping Pound Creek
- Many months show 0 Strava numbers



Comments/Notes/Thoughts

- Review ped counter methodology with Ecocounter for better data integrity
 - Ensure battery and firmware are solid ahead of 'high value' data collection periods
- **Recreational 'combined' SUR looks to be ~3-5% with multipliers of 20-30x**
- Check Strava segments prior to deploying counter for best data collection
- Plan for Ranche counts again along with other trail counts for 2023
- One benefit of the optical counter is it can be used in winter (tubes can't)



Appendix

Raw data

Methodology for using one counter



Placed over counts to align to Strava Metro's usage terms and conditions

- Take counts for the month from Ecocounter Pyro (or if not a full month, extrapolate to full month)

- Take Strava bike counts (total trips)

- Take Strava foot counts (total trips)

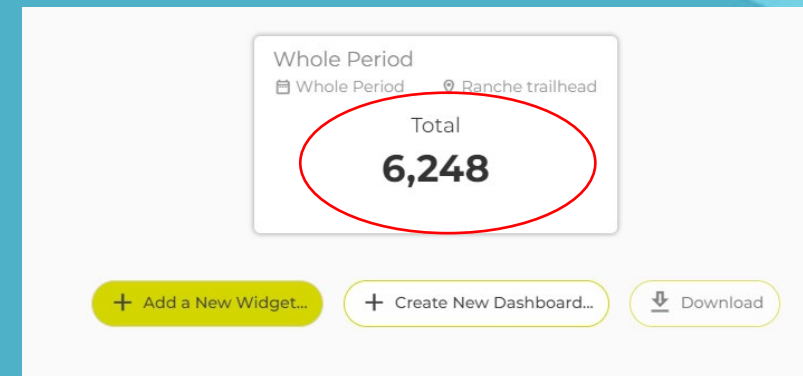
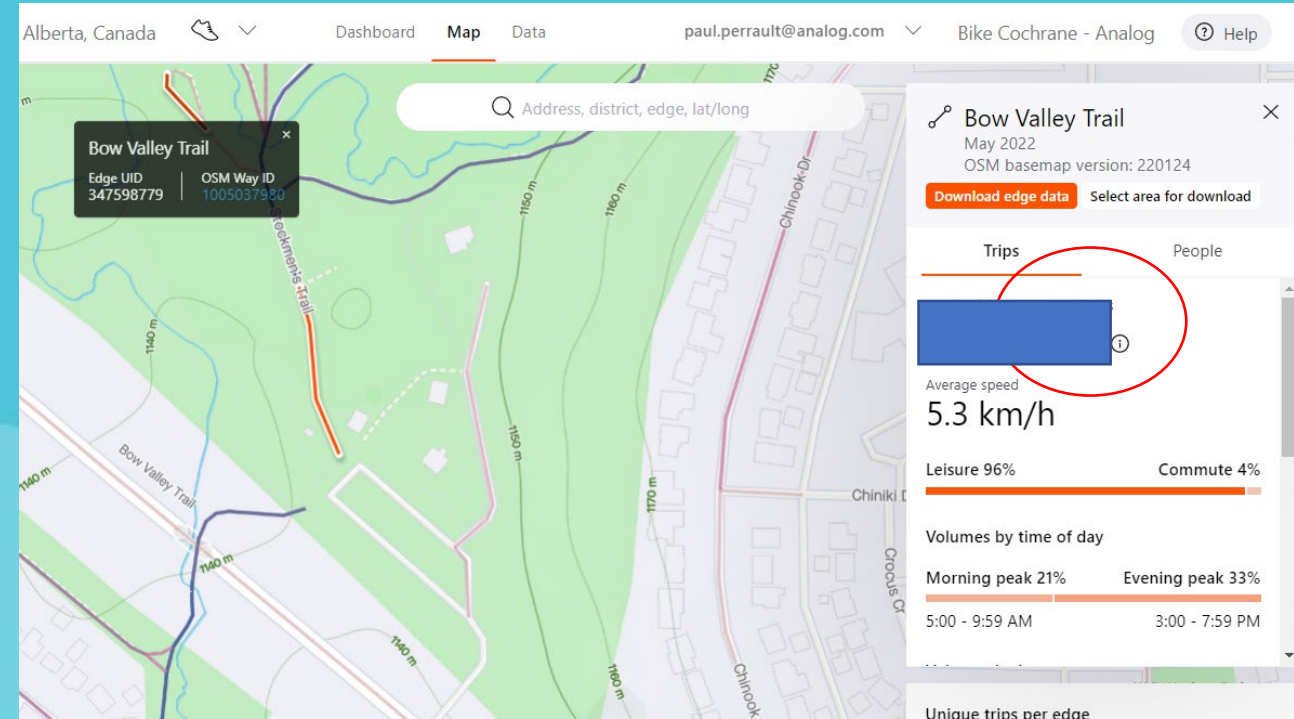
- SUR % =

$$\frac{(\text{Strava_foot} + \text{Strava_bike})}{(\text{Ecocounter_counts})} \%$$

- This yields a 'Total Strava Usage Rate' which can be useful for predicting trail traffic

- '2806 counter used for trails

- '2805 counter used for sidewalks/pathways



May – Ranchehouse Trailhead



Peak - 581 people/day (24 May), Average - 284 people/day, Total – 6248 people in a month (~20 days)

Average – 236 people/day (weekday), 412 people/day (weekend)

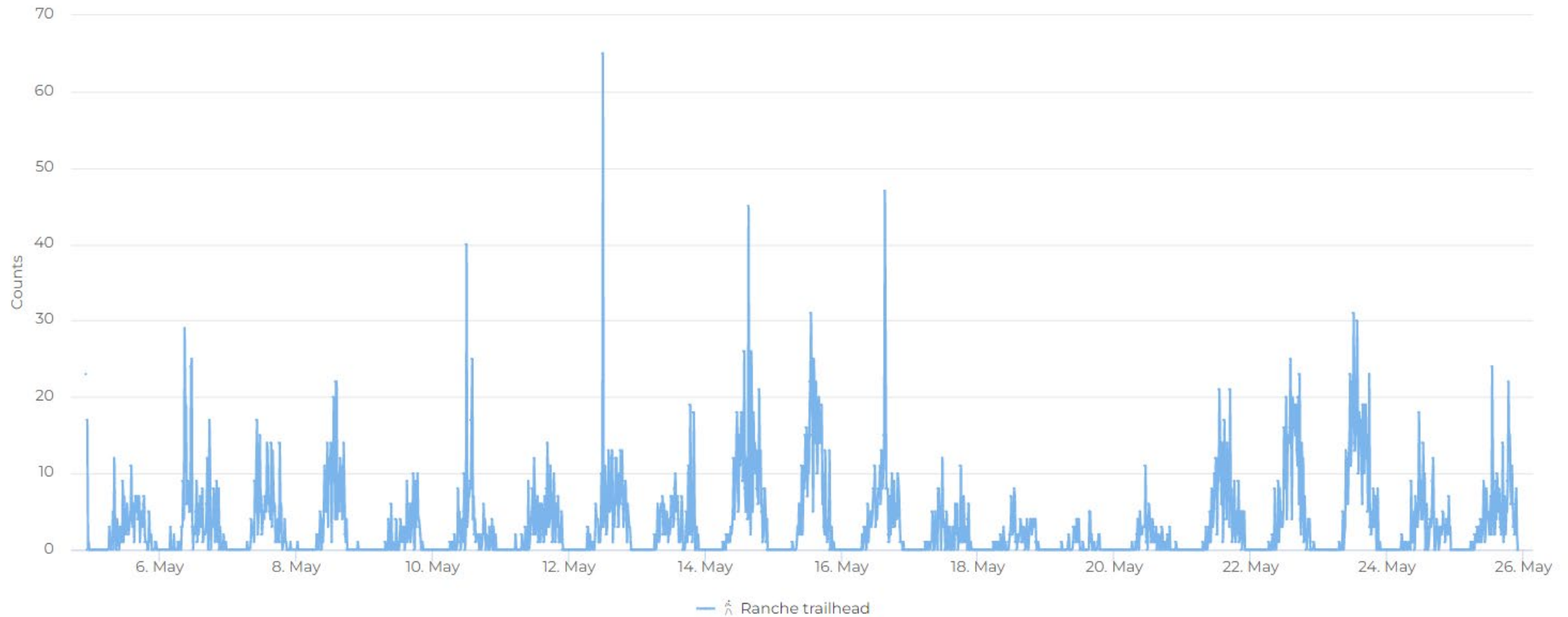


May – Ranchehouse trailhead

15 minutes traffic

Whole Period

Ranche trailhead



Peak – 65 in a 15 minute period

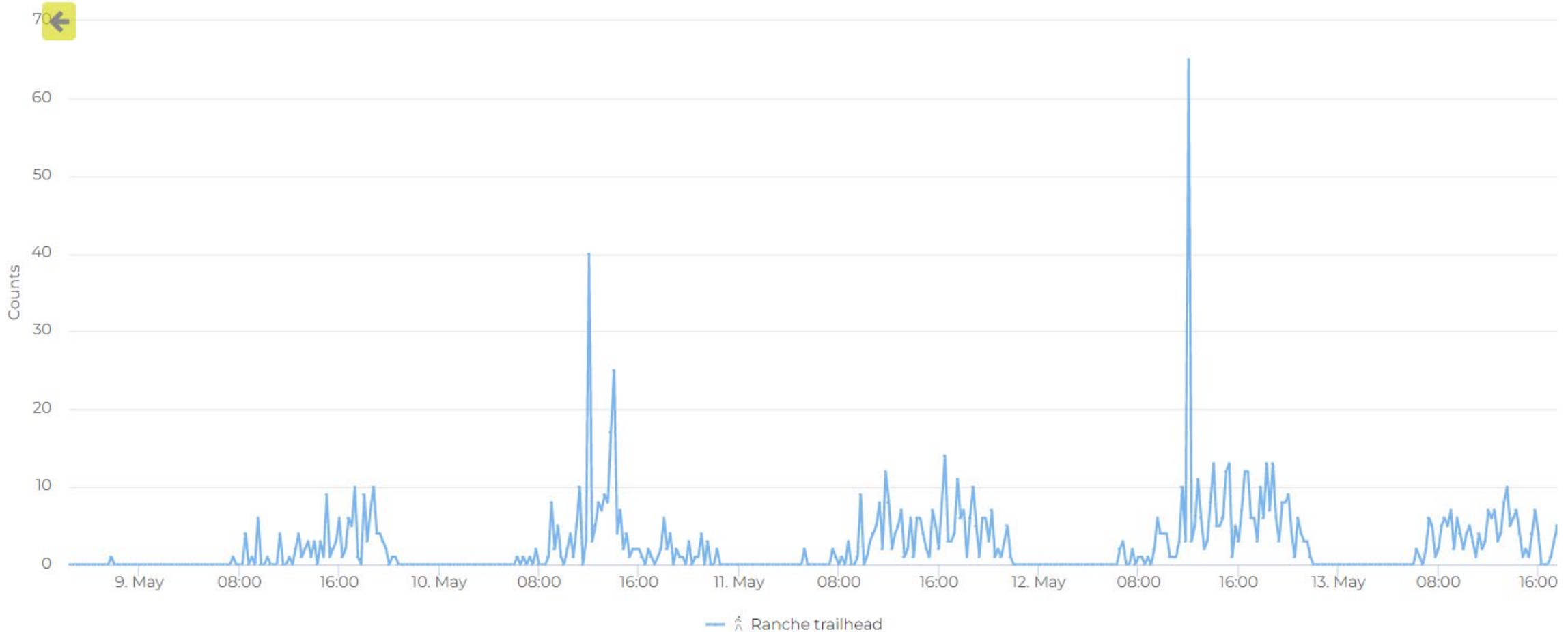


May – Ranchehouse trailhead

15 minutes traffic

Whole Period

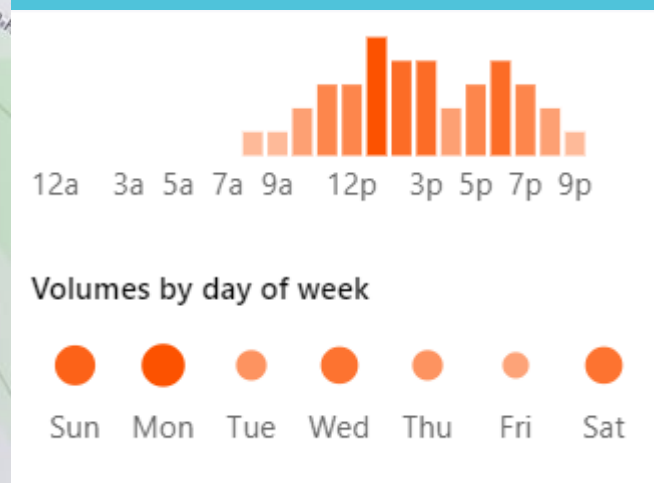
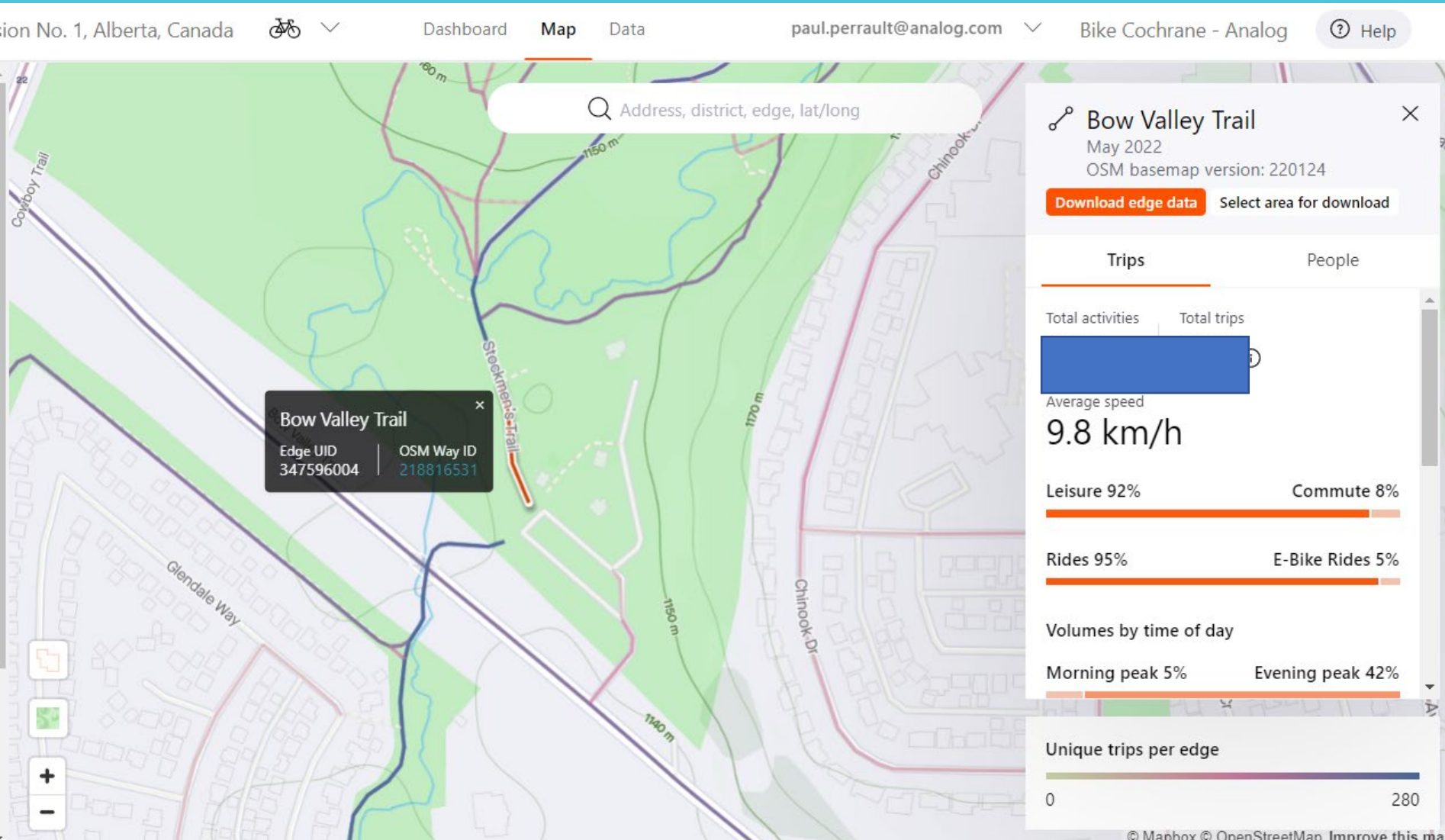
Ranche trailhead



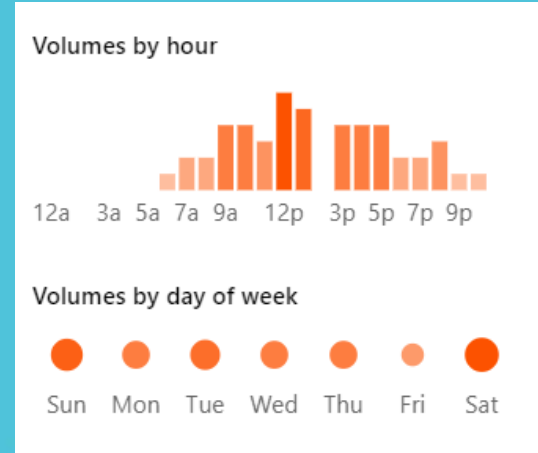
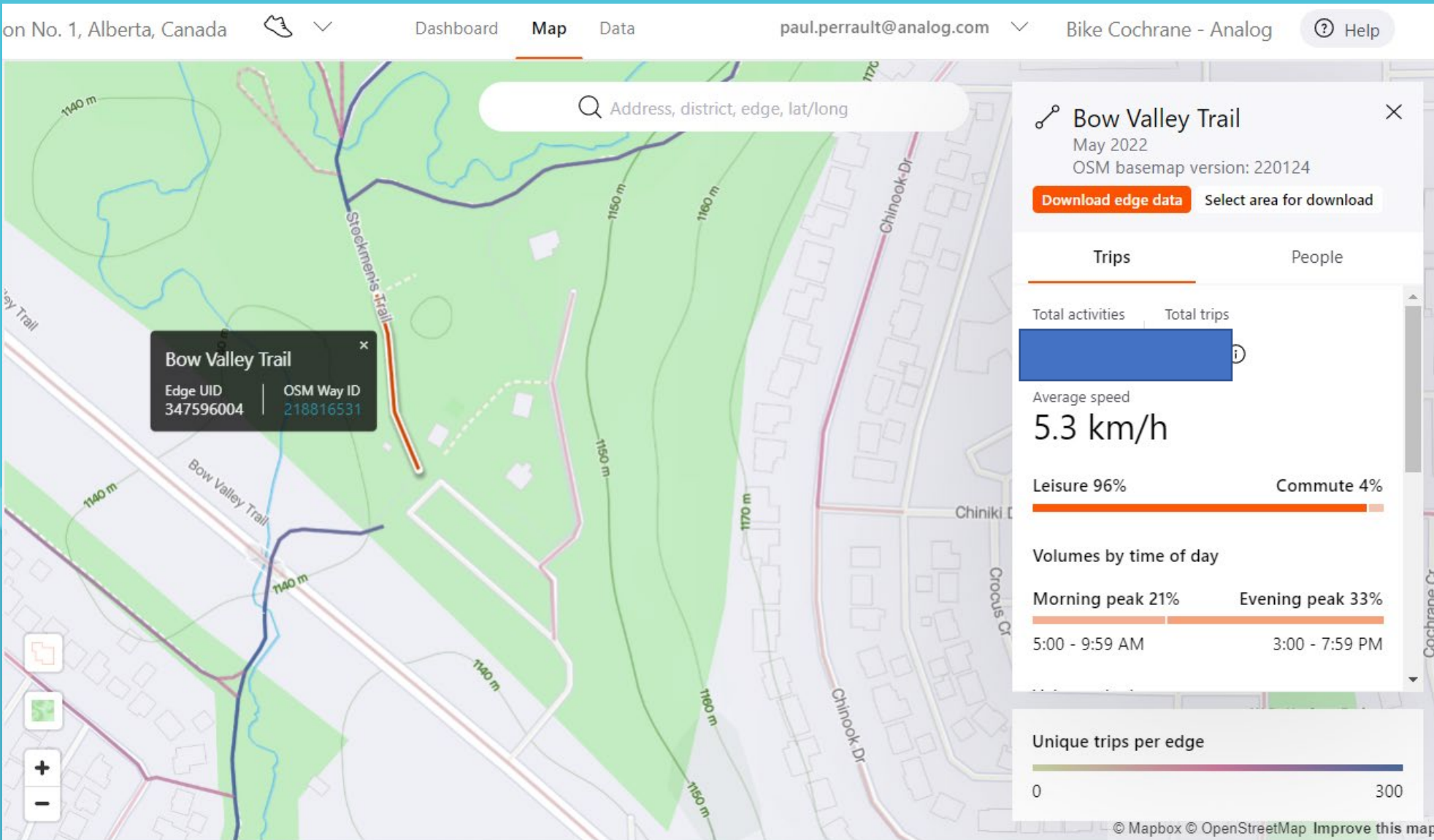
Time of day during weekdays doesn't show commute time peaks -> recreational use dominates



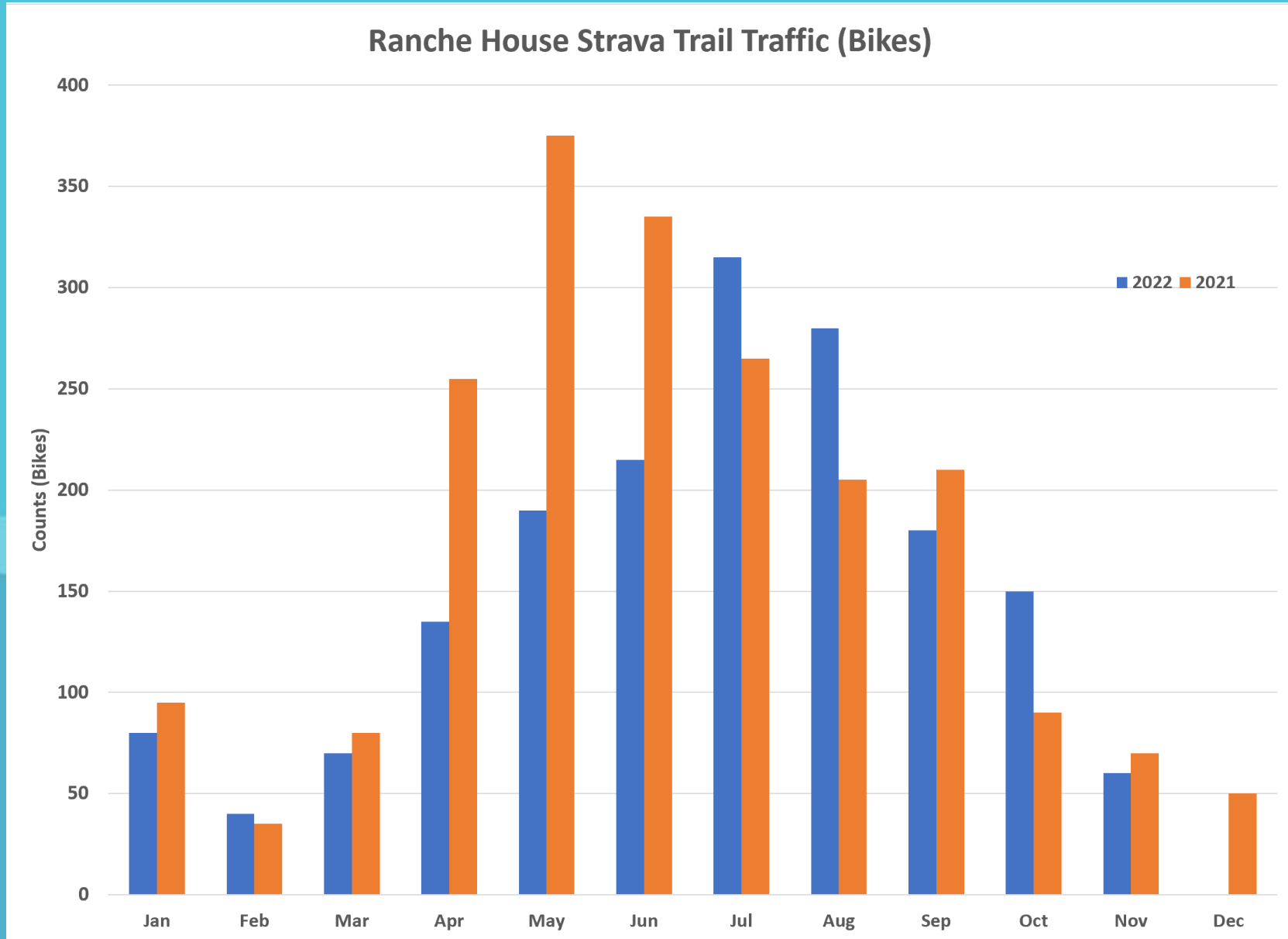
May – Strava data (bikes)



May – Strava data (feet)



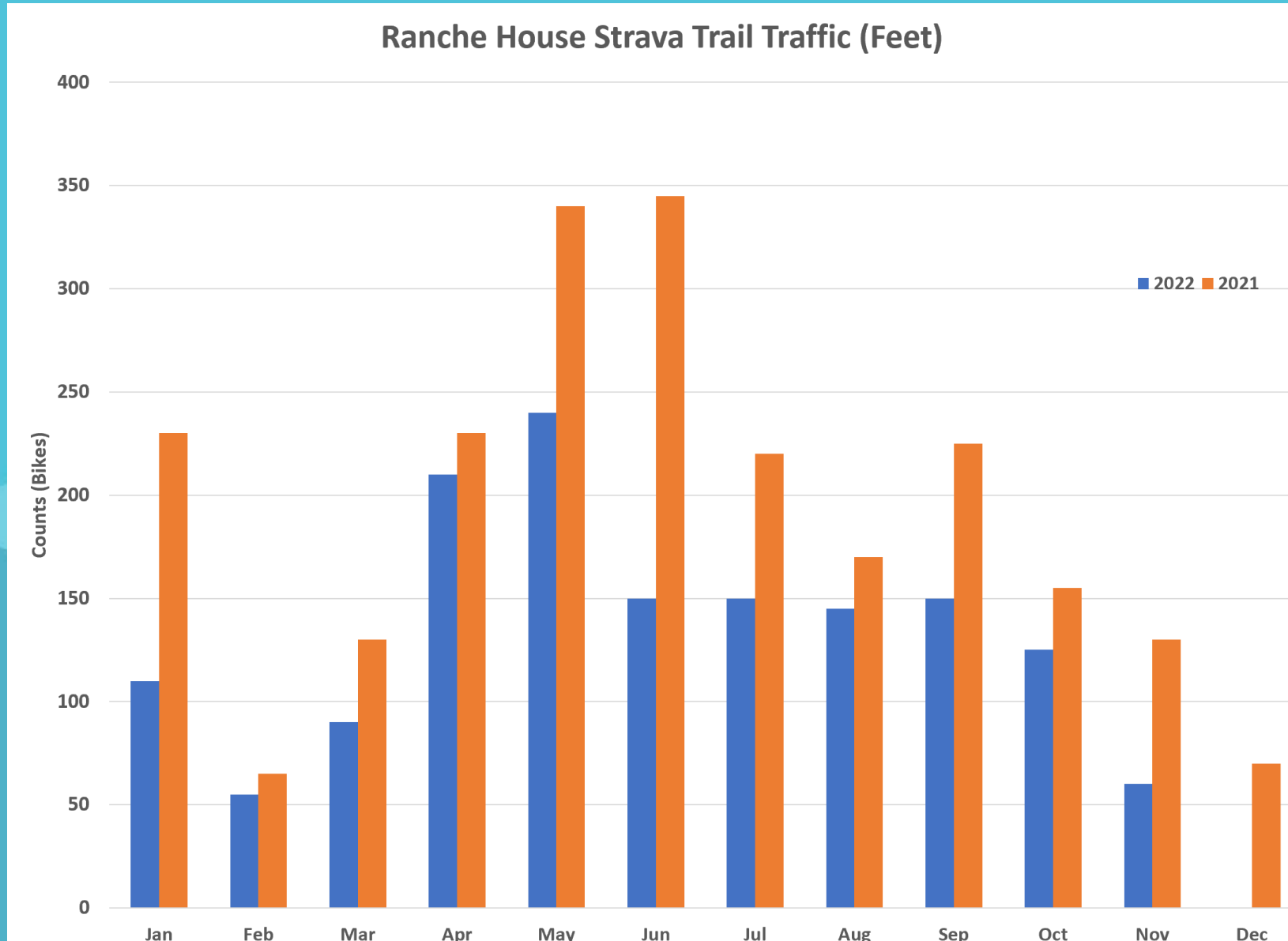
May Strava data (bikes)



Lower numbers in 2022 than 2021, maybe due to construction or 'revenge tourism' as people left Cochrane in 2022?



May Strava data (feet)



Lower numbers in 2022 than 2021, maybe due to construction or 'revenge tourism' as people left Cochrane in 2022?

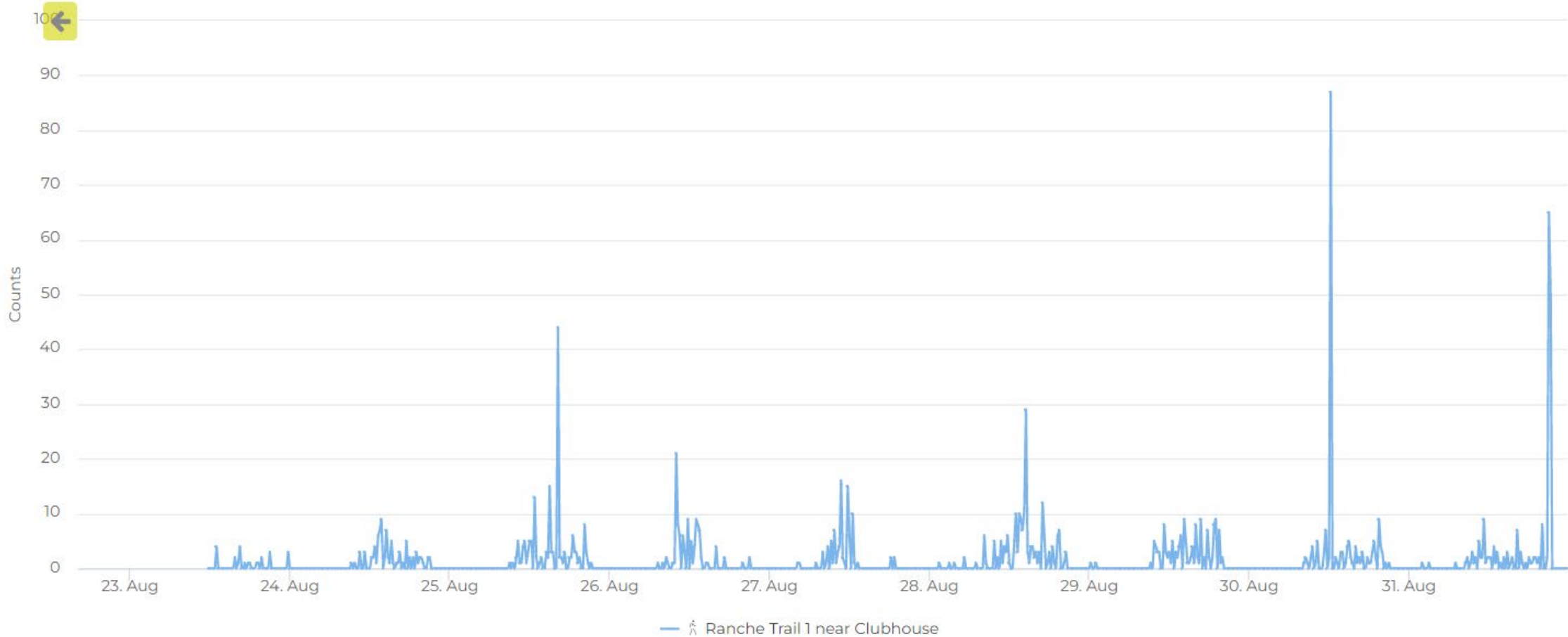


August – Ranche Trail 1

15 minutes traffic

Whole Period

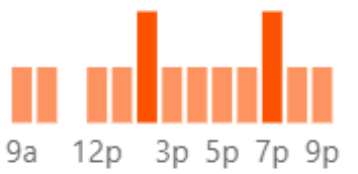
Ranche Trail 1 near Clubhouse



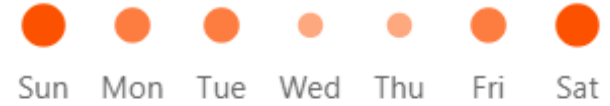
Lost most of the summer data with firmware updates (☹️), peak 87 people/15 minutes



August – Strava data - bikes



Volumes by day of week



on No. 1, Alberta, Canada



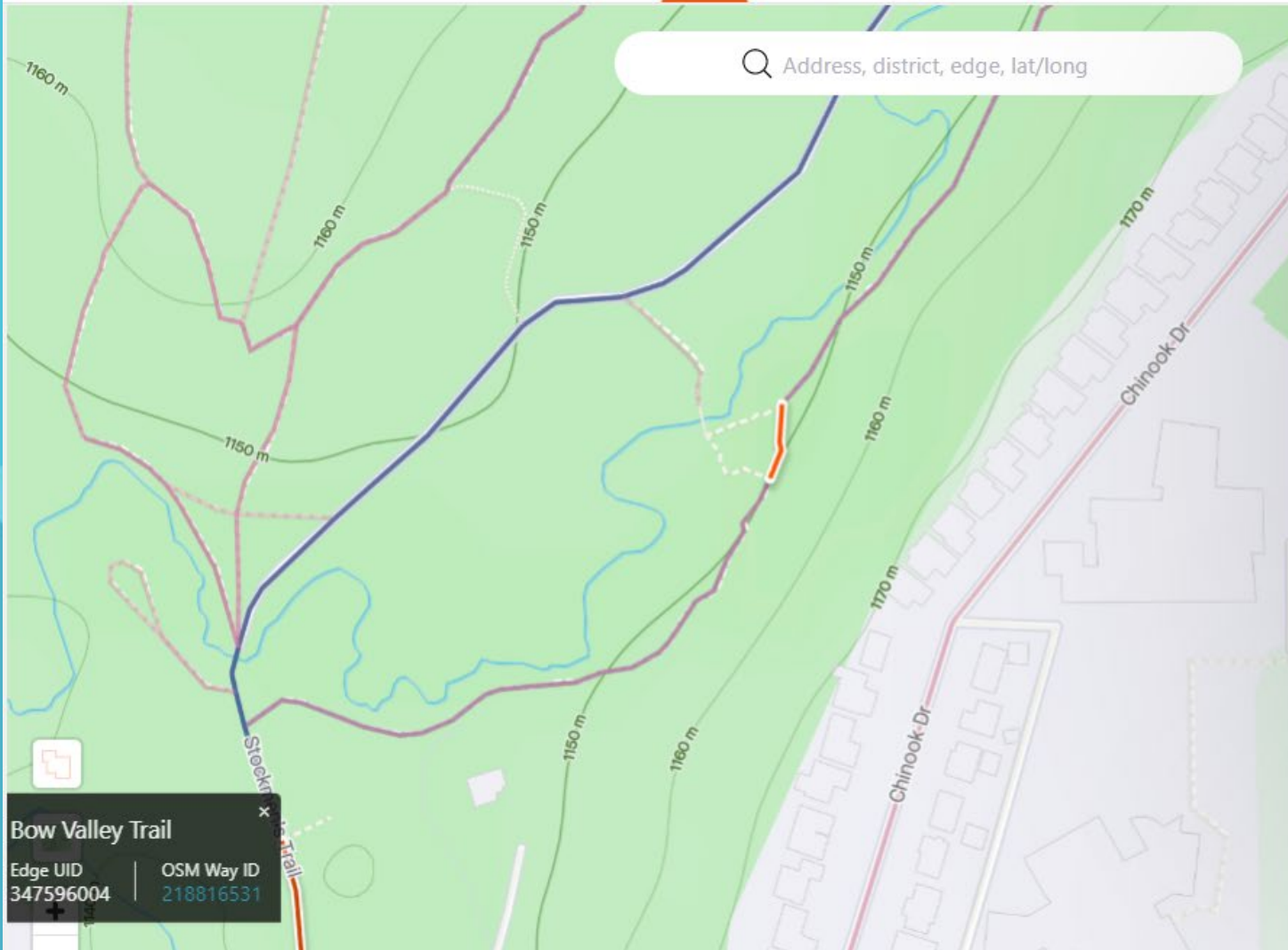
Dashboard

Map

Data

paul.perrault@analog.com

Bike Cochrane - Analog



Chinook Drive

August 2022

OSM basemap version: 220124

Download edge data

Select area for download

Trips

People

Total activities

Total trips

Average speed

14.7 km/h

Leisure 100%

Commute 0%

Rides 100%

E-Bike Rides 0%

Volumes by time of day

Morning peak 7%

Evening peak 43%

Unique trips per edge

0

310

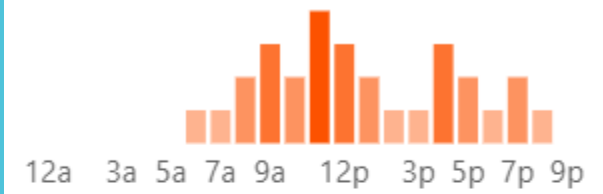
Bow Valley Trail

Edge UID
347596004

OSM Way ID
218816531



August – Strava data - feet



Volumes by day of week



Refresh edges in this area

The Cochrane RancheHouse

Edge UID: 347598945 | OSM Way ID: 993094148

Address, district, edge, lat/long

Chinook Drive

August 2022

OSM basemap version: 220124

Download edge data | Select area for download

Trips | People

Total activities | Total trips

Average speed: 6.7 km/h

Leisure 96% | Commute 4%

Volumes by time of day

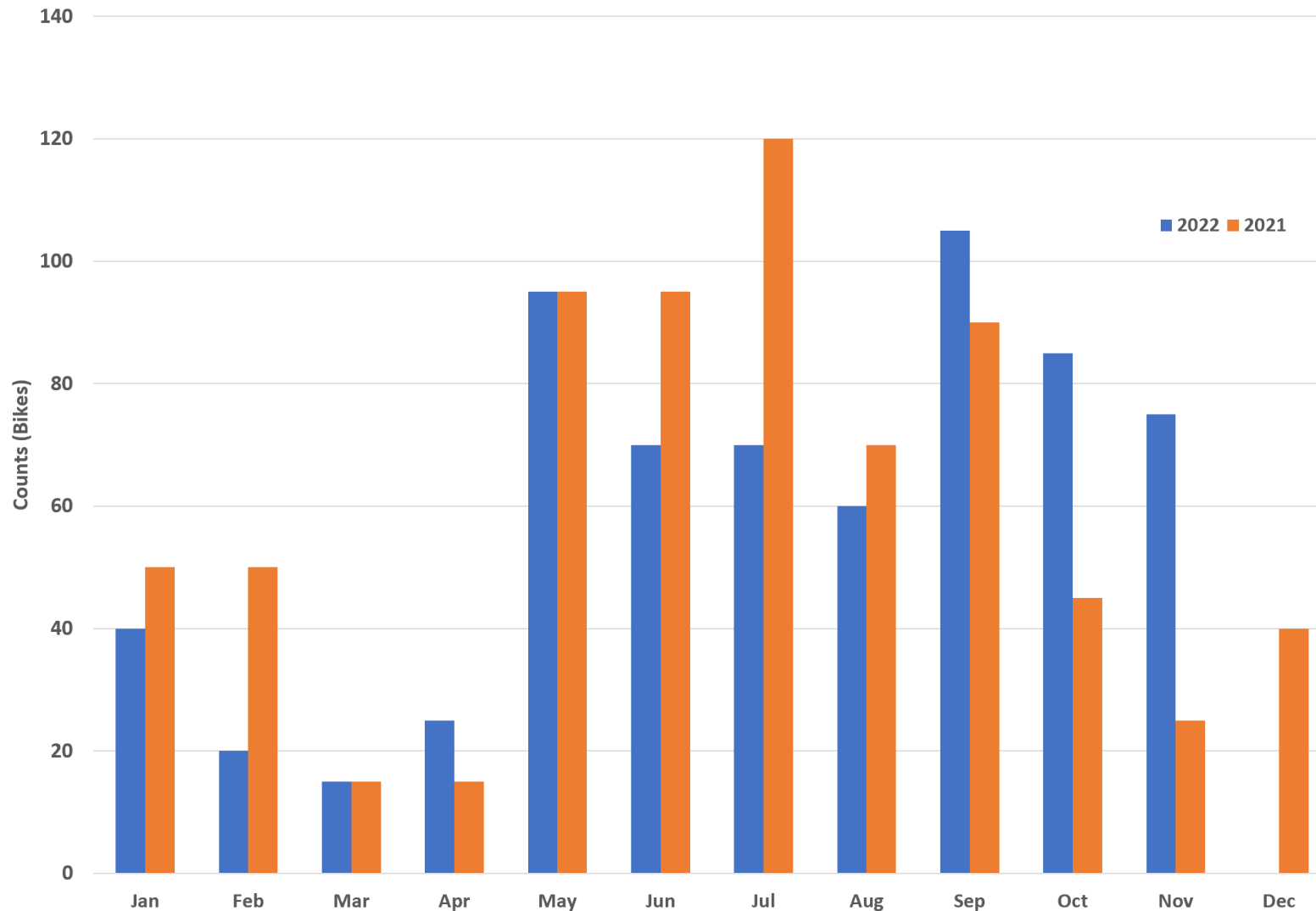
Morning peak 23% (5:00 - 9:59 AM) | Evening peak 35% (3:00 - 7:59 PM)

Unique trips per edge



August – Strava data (bike)

Ranche Trail 1 Strava Trail Traffic (Bikes)

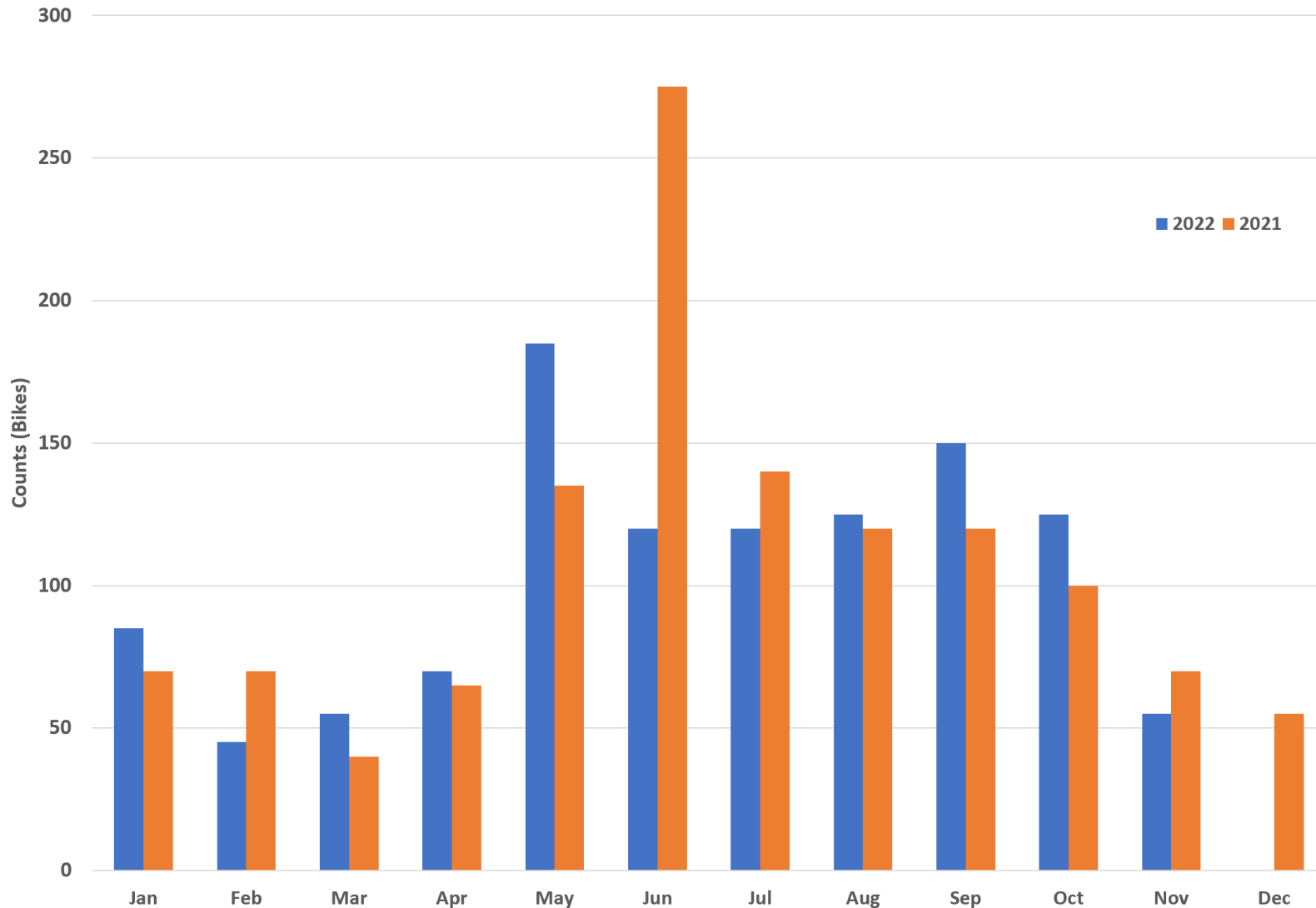


Lower numbers in 2022 than 2021, maybe due to construction or 'revenge tourism' as people left Cochrane in 2022?



August – Strava data (foot)

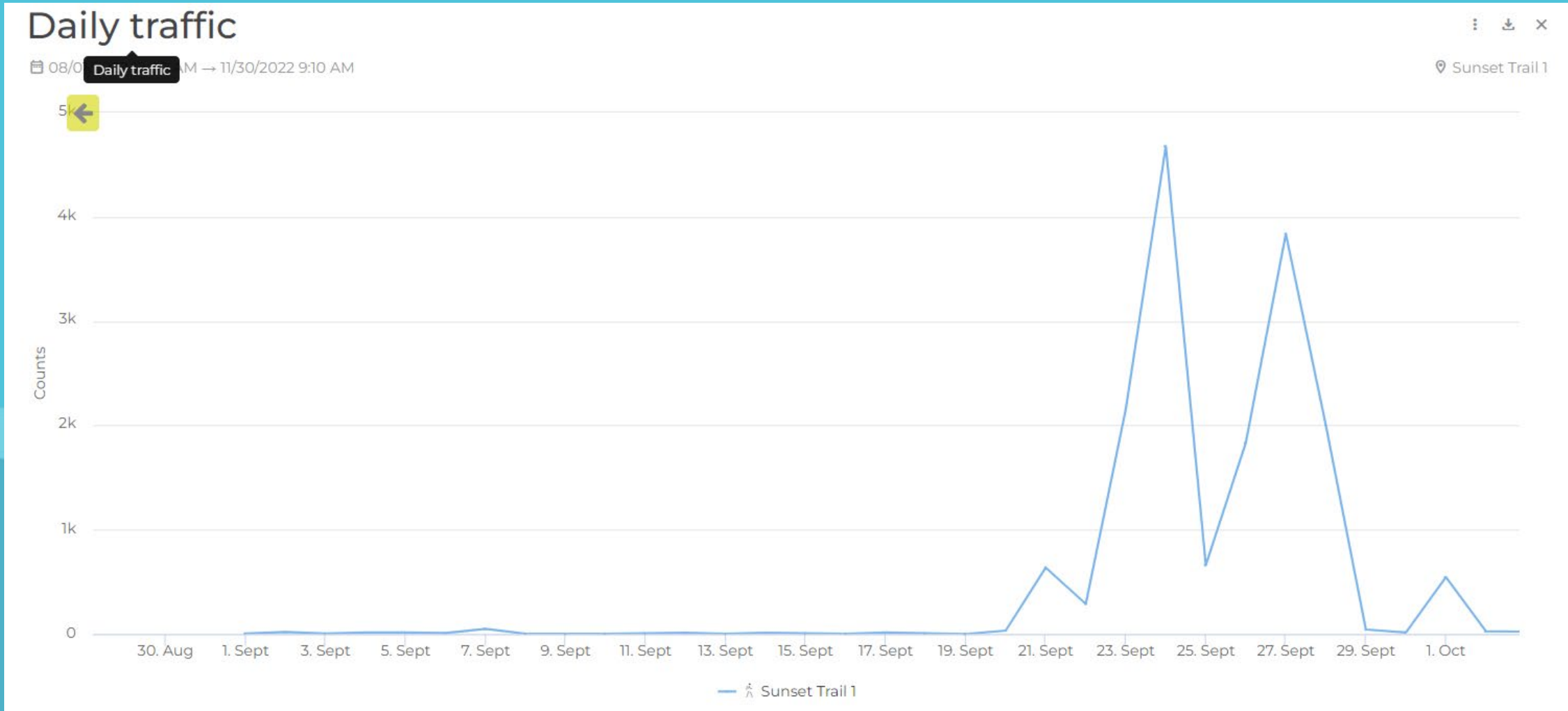
Ranche Trail 1 Strava Trail Traffic (Feet)



Lower numbers in 2022 than 2021, maybe due to construction or 'revenge tourism' as people left Cochrane in 2022?



Sept counter data



Very high numbers in later Sept may be artificially high



Sept counter data

Daily traffic

08/01/2022 12:00 AM → 11/30/2022 9:10 AM

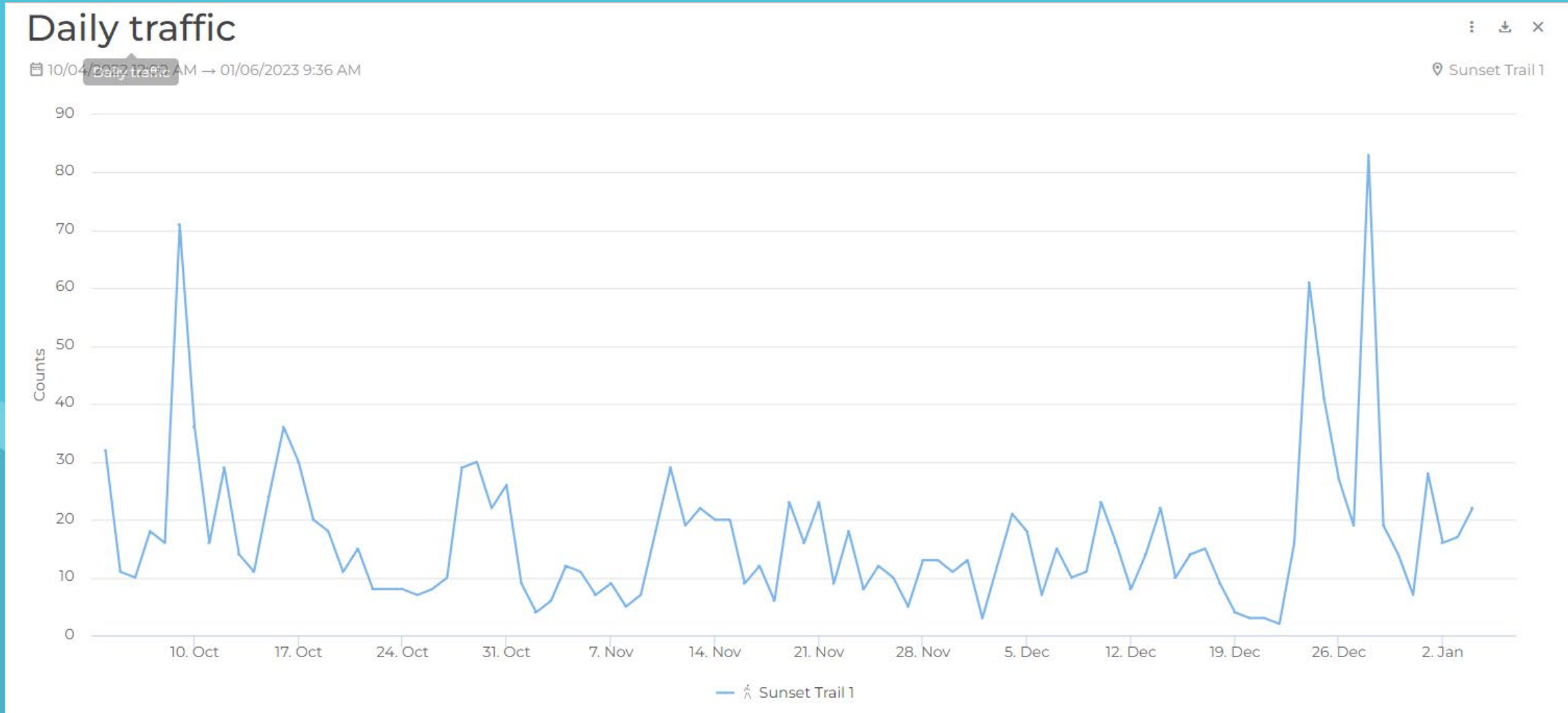
Sunset Trail 1



More typical numbers in Sept make more sense with 50 people/day as a peak



Oct-Dec counter data



Average – 17/day, 1583 total for 3 months, 83 peak/day

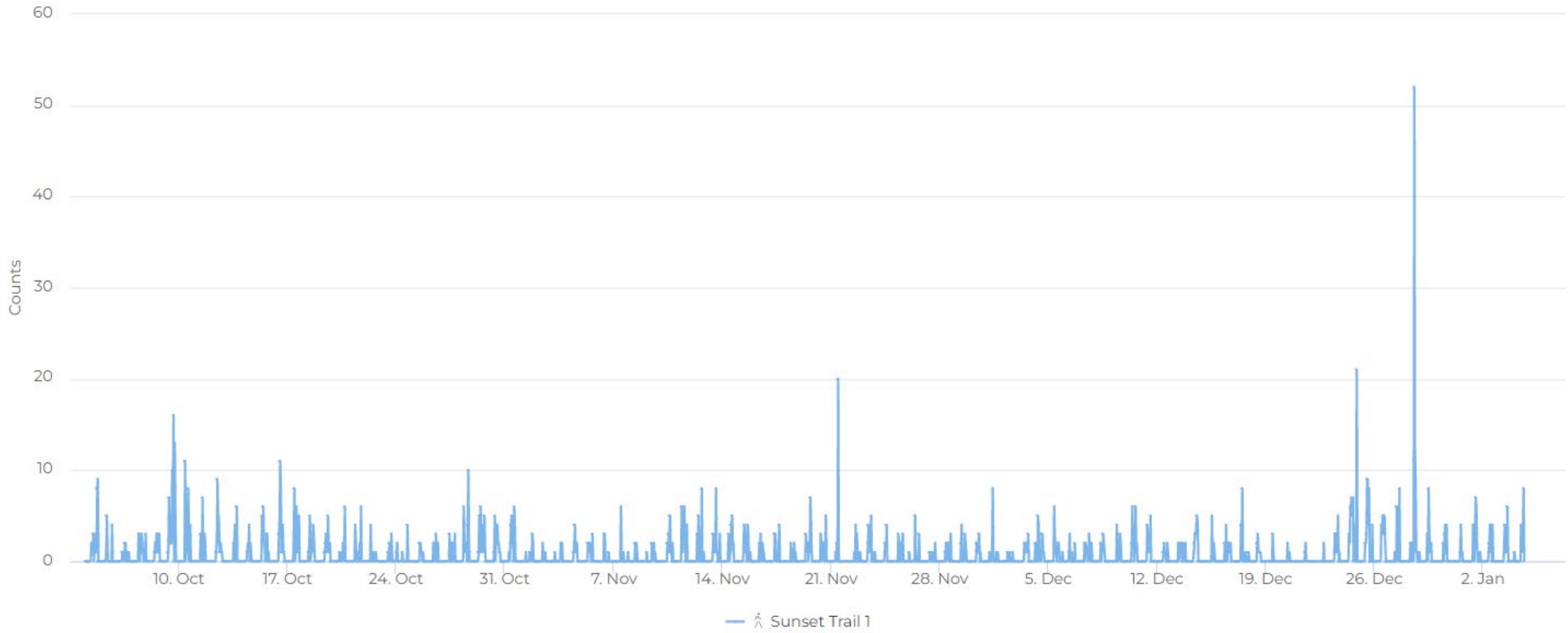


Oct-Dec counter data

Hourly traffic

10/04/2022 12:00 AM → 01/06/2023 9:36 AM

Sunset Trail 1

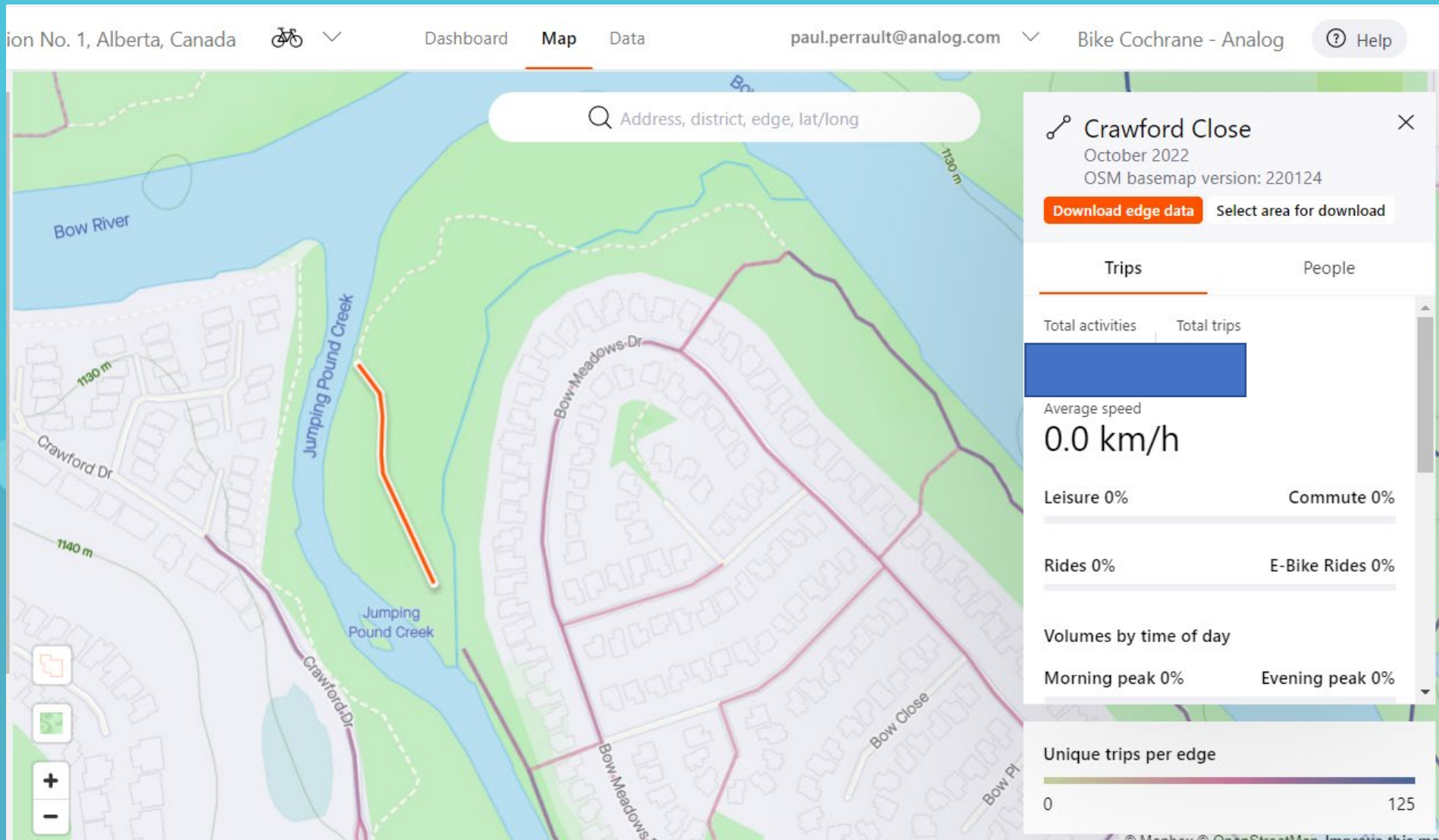


Peak hourly at 52/hour over Christmas break



Strava use - bikes

Virtually no bikes in winter per Strava



Strava use - feet

Volumes by hour



Volumes by day of week



Division No. 1, Alberta, Canada



Dashboard

Map

Data

paul.perrault@analog.com

Bike Cochrane - Analog



Address, district, edge, lat/long

Crawford Close
October 2022
OSM basemap version: 220124

Download edge data Select area for download

Trips People

Total activities Total trips

Average speed
4.1 km/h

Leisure 100% Commute 0%

Volumes by time of day

Morning peak 0% Evening peak 50%

5:00 - 9:59 AM 3:00 - 7:59 PM

