



# OSS by the Numbers

Analytics and their use on the One-Stop-Shop for Rural Traveler Information

Measuring Use Across Corridors and Between Communities During Winter Weather Events

Western States Forum  
June 2024

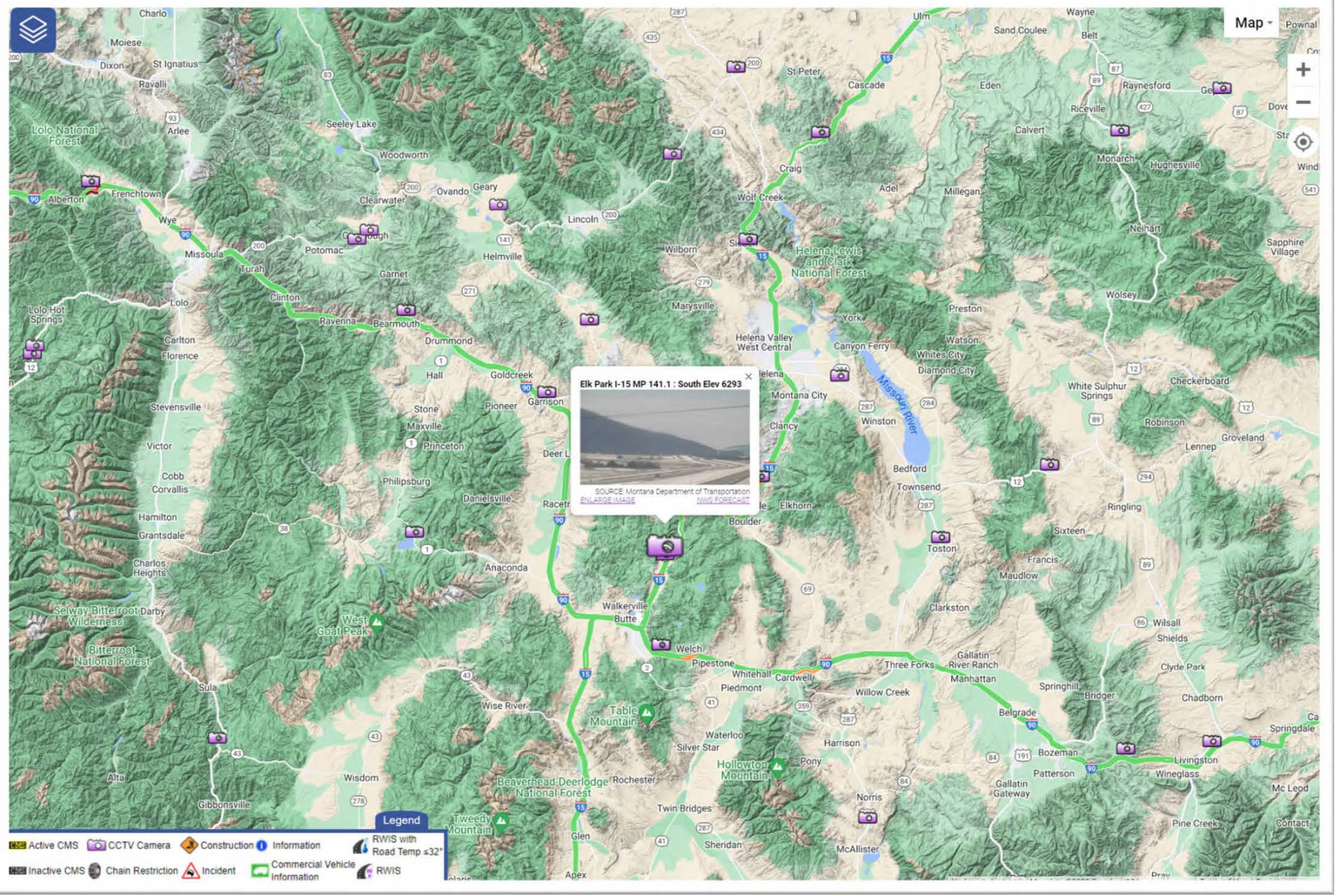
Doug Galarus, PhD  
Associate Professor, Computer Science Department,  
Montana Tech

# Disclaimer

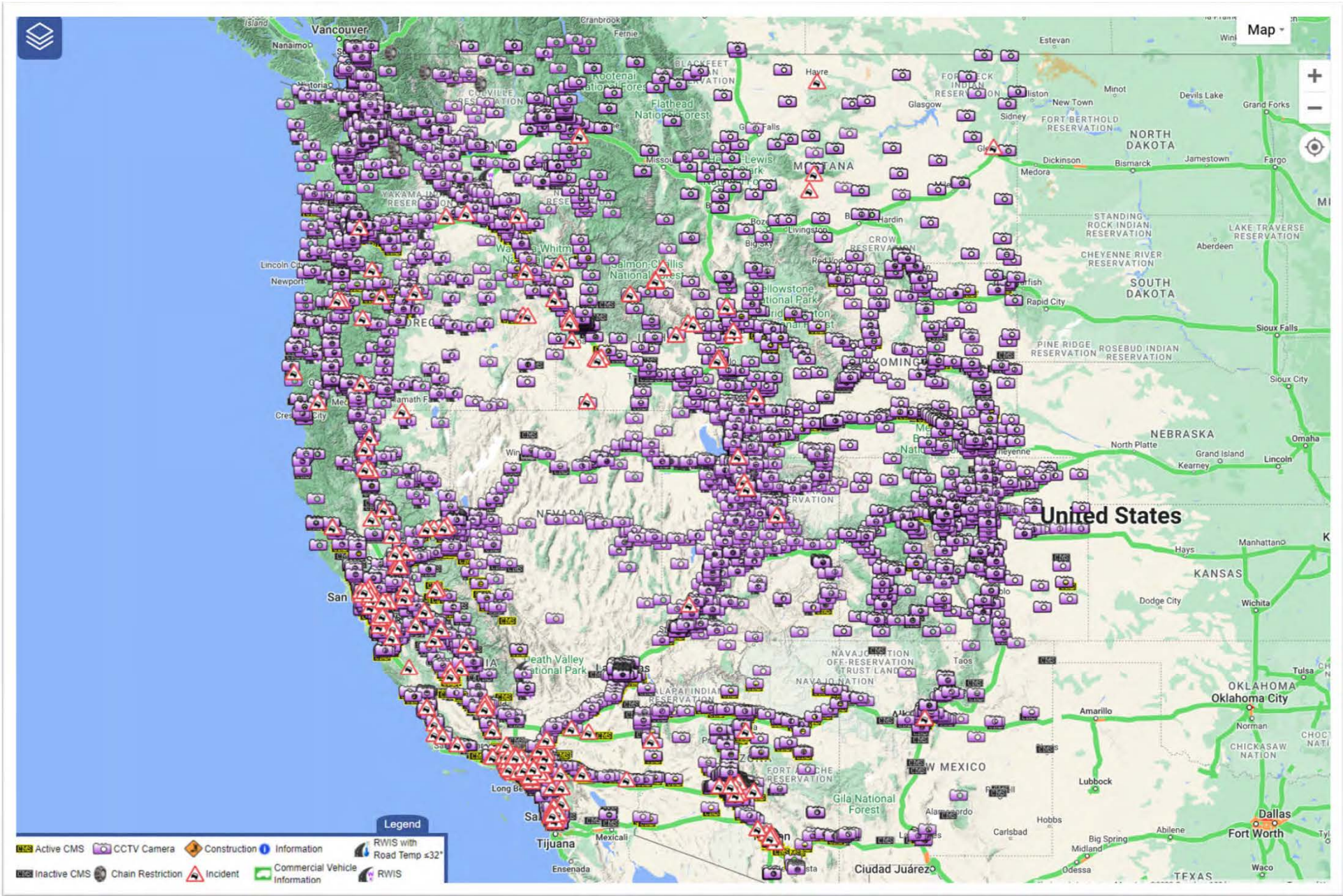
*The opinions, findings and conclusions expressed in this presentation are those of the authors and not necessarily those of the California Department of Transportation, The Western States Rural Transportation Consortium, or Montana Technological University.*

# Abstract

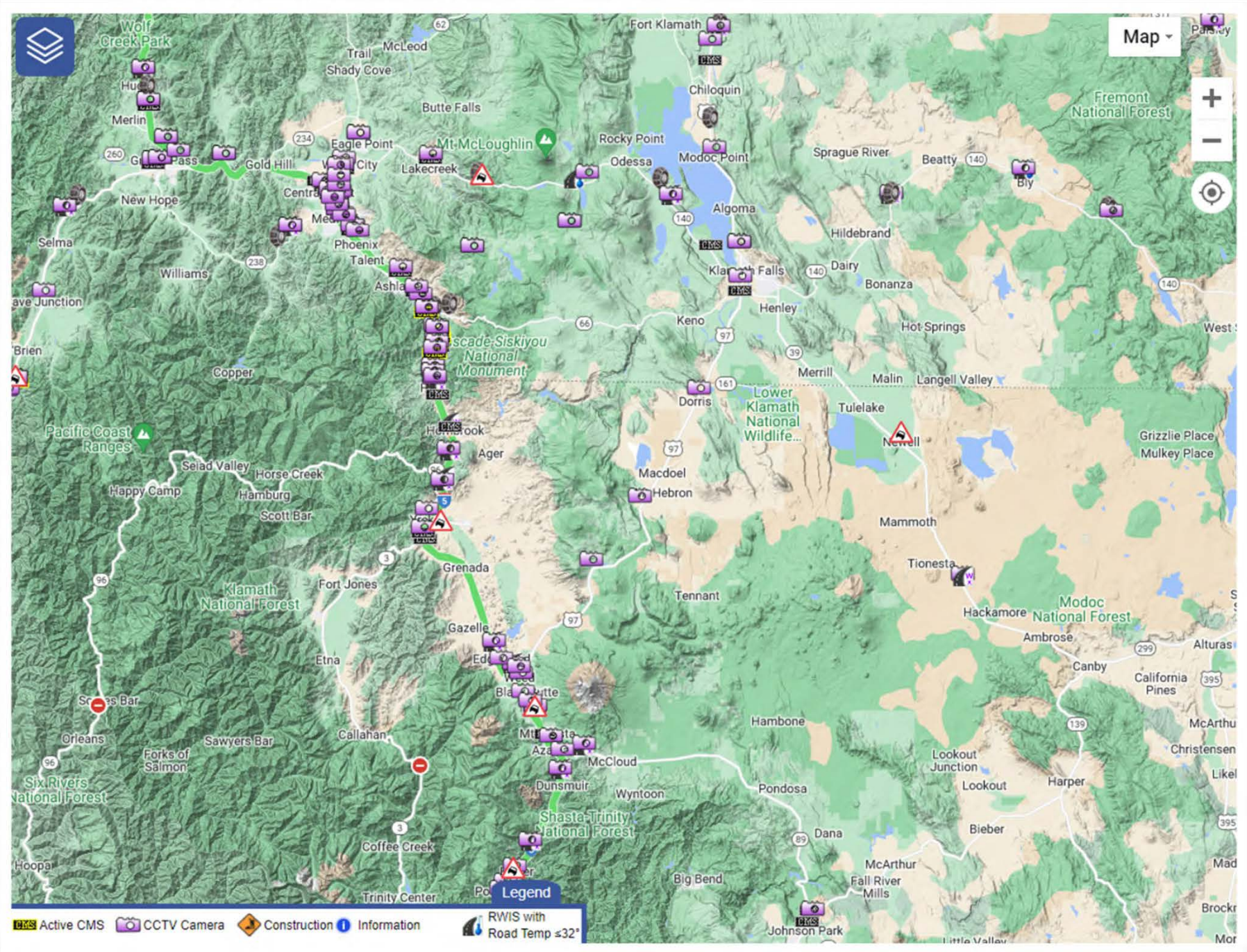
The One-Stop-Shop for Rural Traveler Information (OSS) provides real-time, highway-based rural traveler information and a global view of conditions for the entire mainland western United States including California, Oregon, Washington, Nevada, Arizona, New Mexico, Utah, Colorado, Idaho, Montana and Wyoming. OSS was developed through a multi-phased research and development effort by Caltrans and the Western States Rural Transportation Consortium (WSRTC) to better serve multi-state, long distance travel, particularly during bad weather events. During bad weather events, OSS serves tens of thousands of user sessions and delivers millions of camera images, along with incident reports, sign messages, chain control alerts, etc. OSS supports surface transportation goals of enhancing safety and mobility in a manner that directly affects the traveling public. Collection and analysis of usage data and associated analytics for OSS plays a significant role in the operation and maintenance of OSS to assess how well it achieves these goals. This presentation will cover the various mechanisms and architecture used to collect and analyze usage data in OSS, detailed examples, and current and future status of analytics on the project.



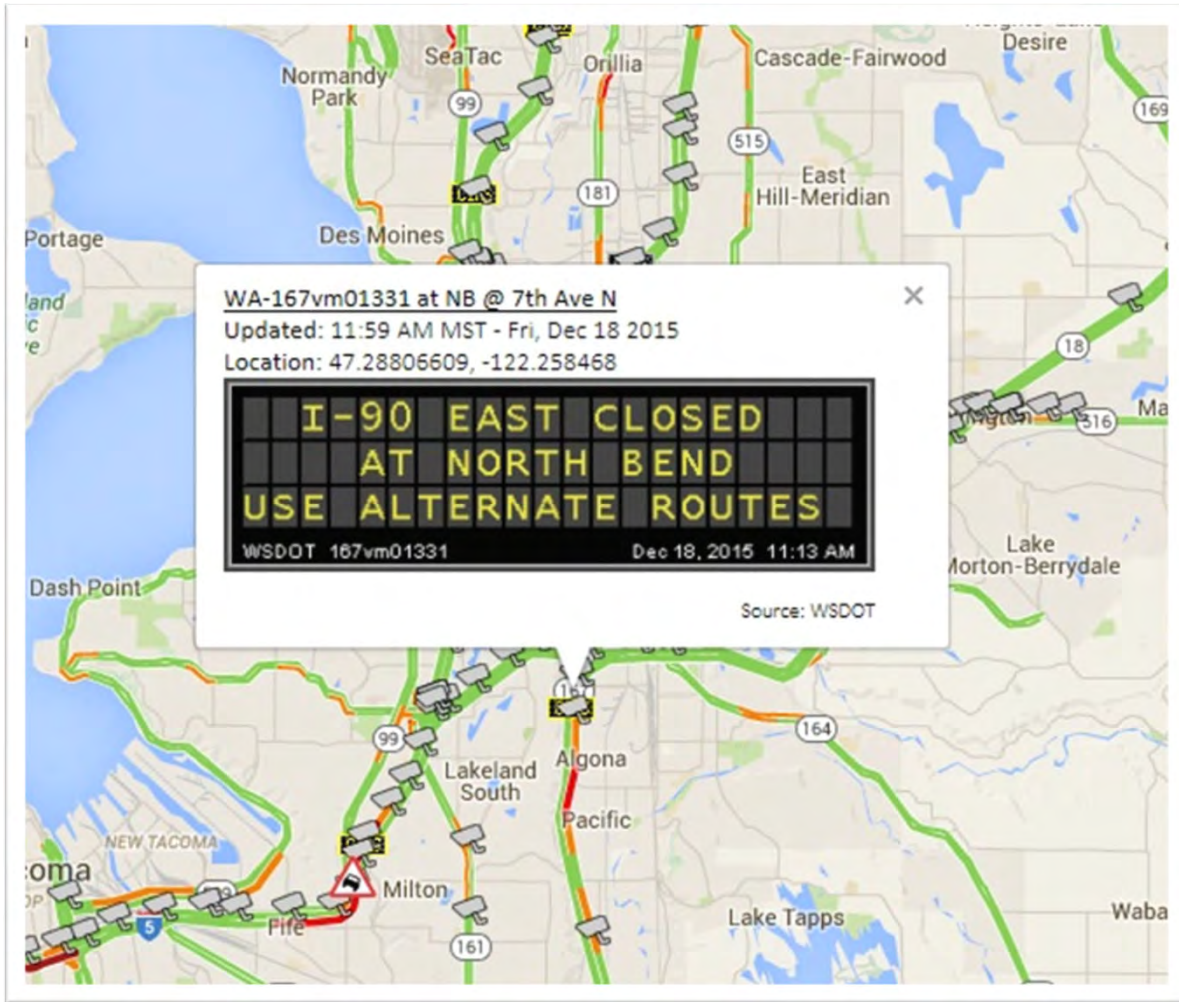
<https://oss.weathershare.org/>



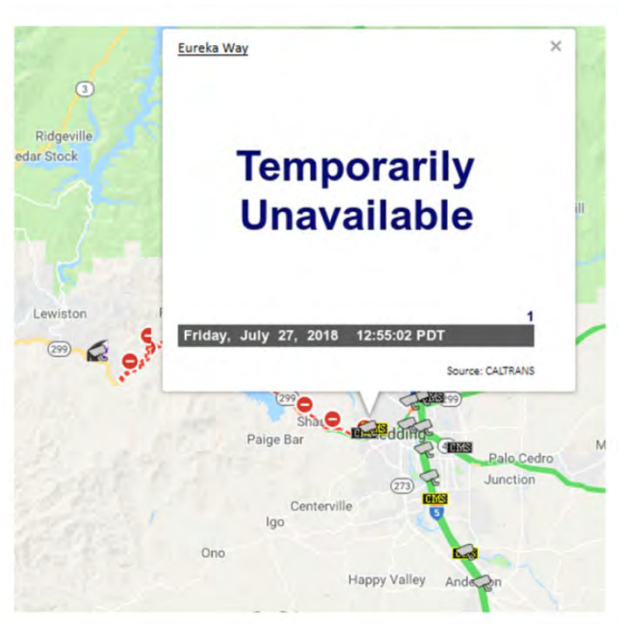
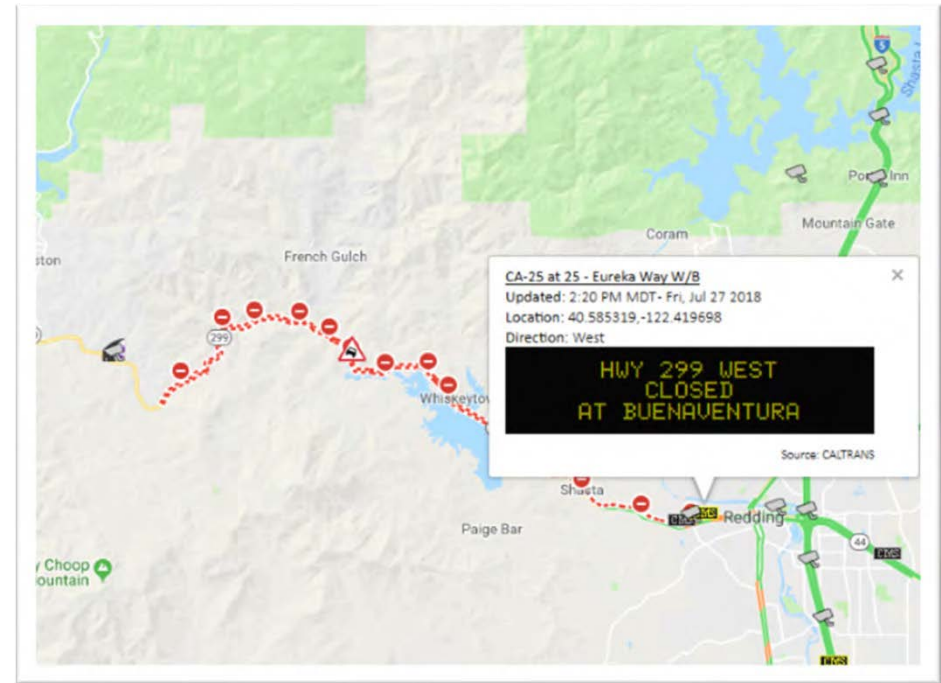
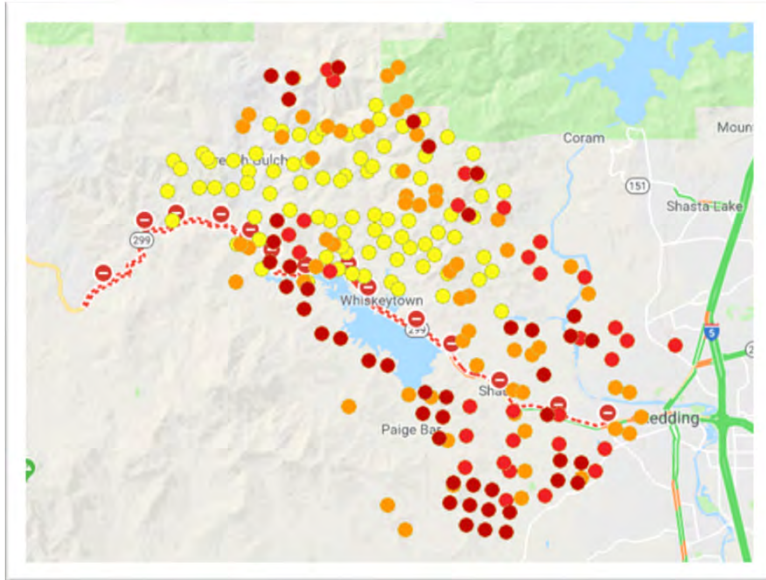
<https://oss.weathershare.org/>



# Washington Snow

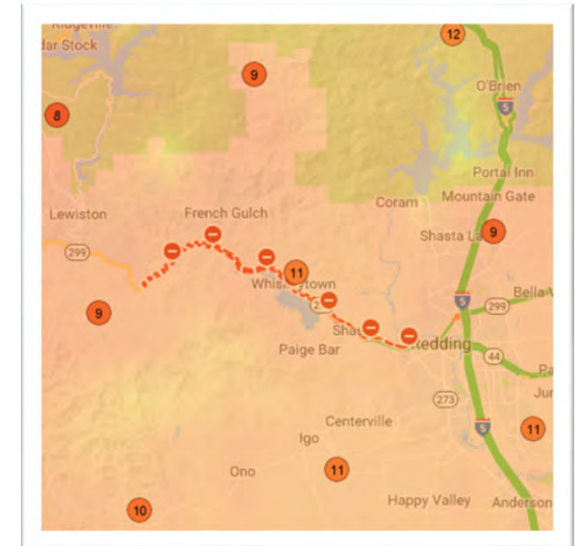
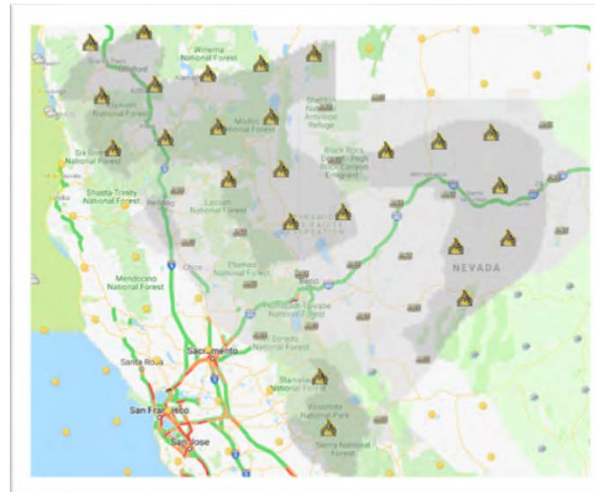
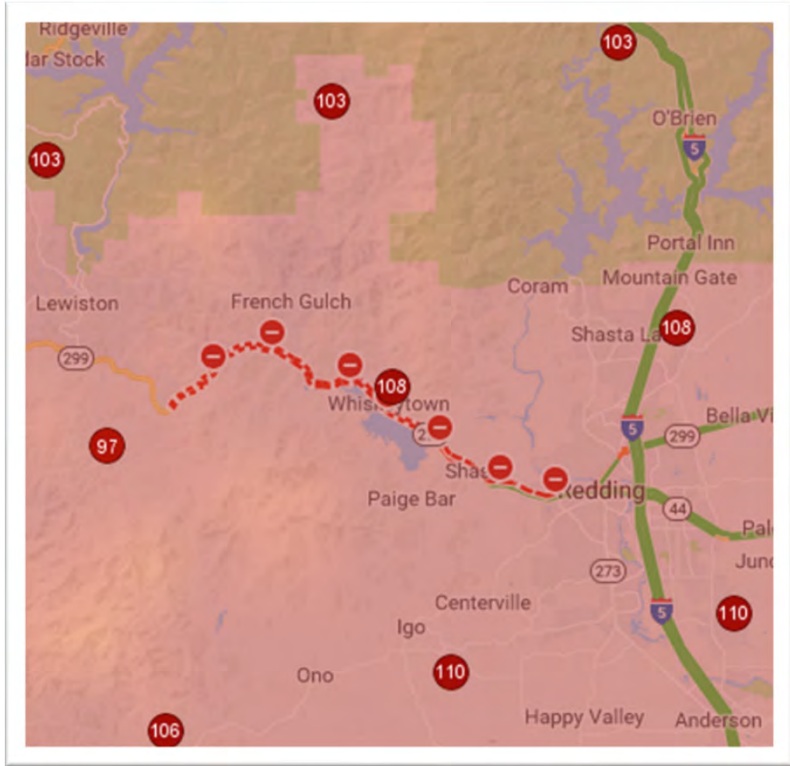


# Redding Fires

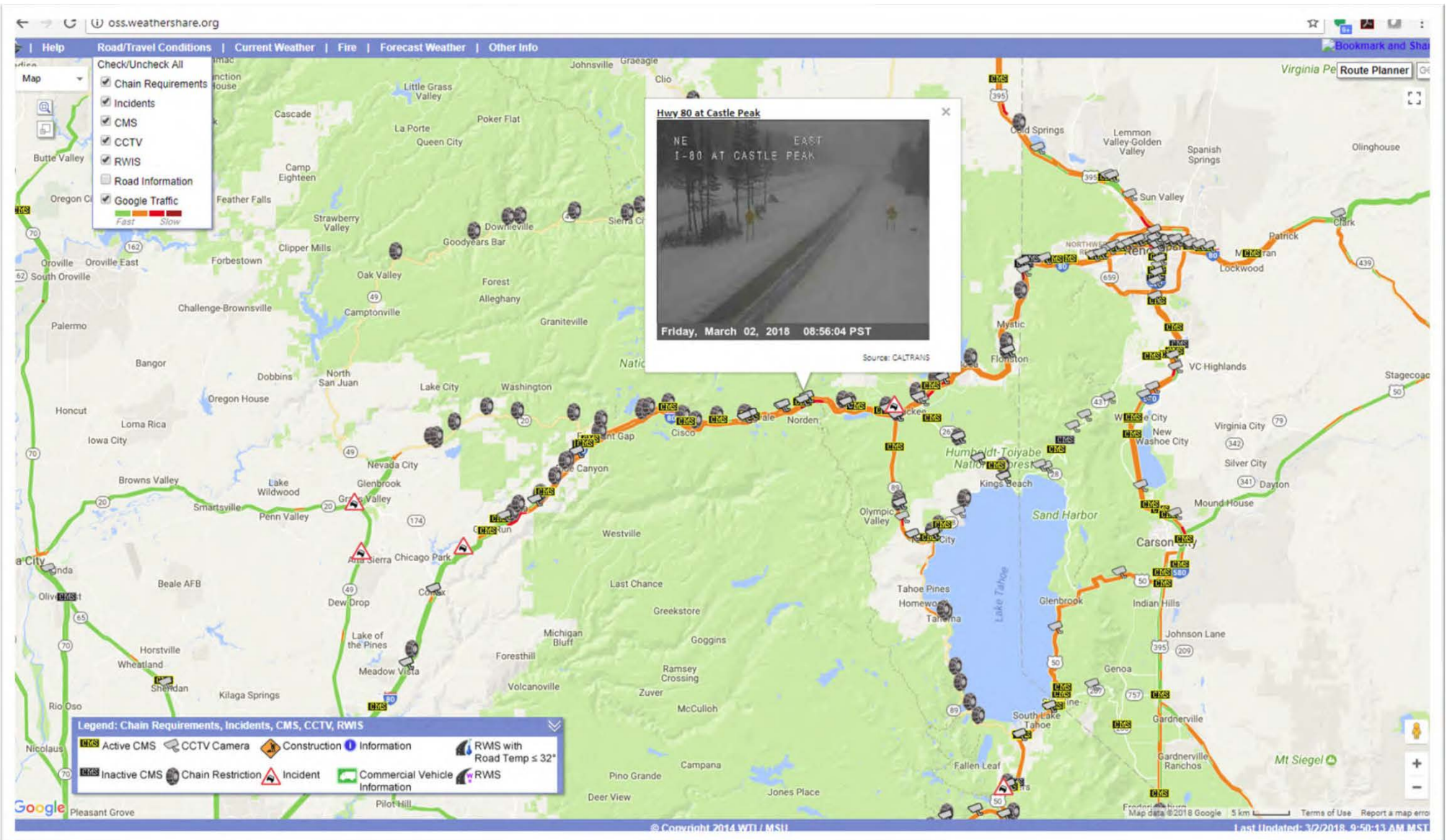




# Redding Fires



# Donner Pass Snow



# Elk Park Cold

Elk Park I-15 Frontage MP 141.1 Butte  
Elevation: 6293 ft  
2:07 PM MST, Feb 23 2022

Atmospheric Data:

Air Temperature	6.08° F
Max Air Temperature	6.08° F
Min Air Temperature	-40.9° F
Wet Bulb Temperature	4.28° F
Wind Speed	0.62 mph
Wind Gust	1.86 mph
Wind Direction	275°
Max Wind Direction	275°
Dewpoint	-10.48° F
Humidity	45.0%
Precipitation	None

SOURCE: MDT  
[NWS FORECAST](#)

# Elk Park Cold



NWS Great Falls   
@NWSGreatFalls

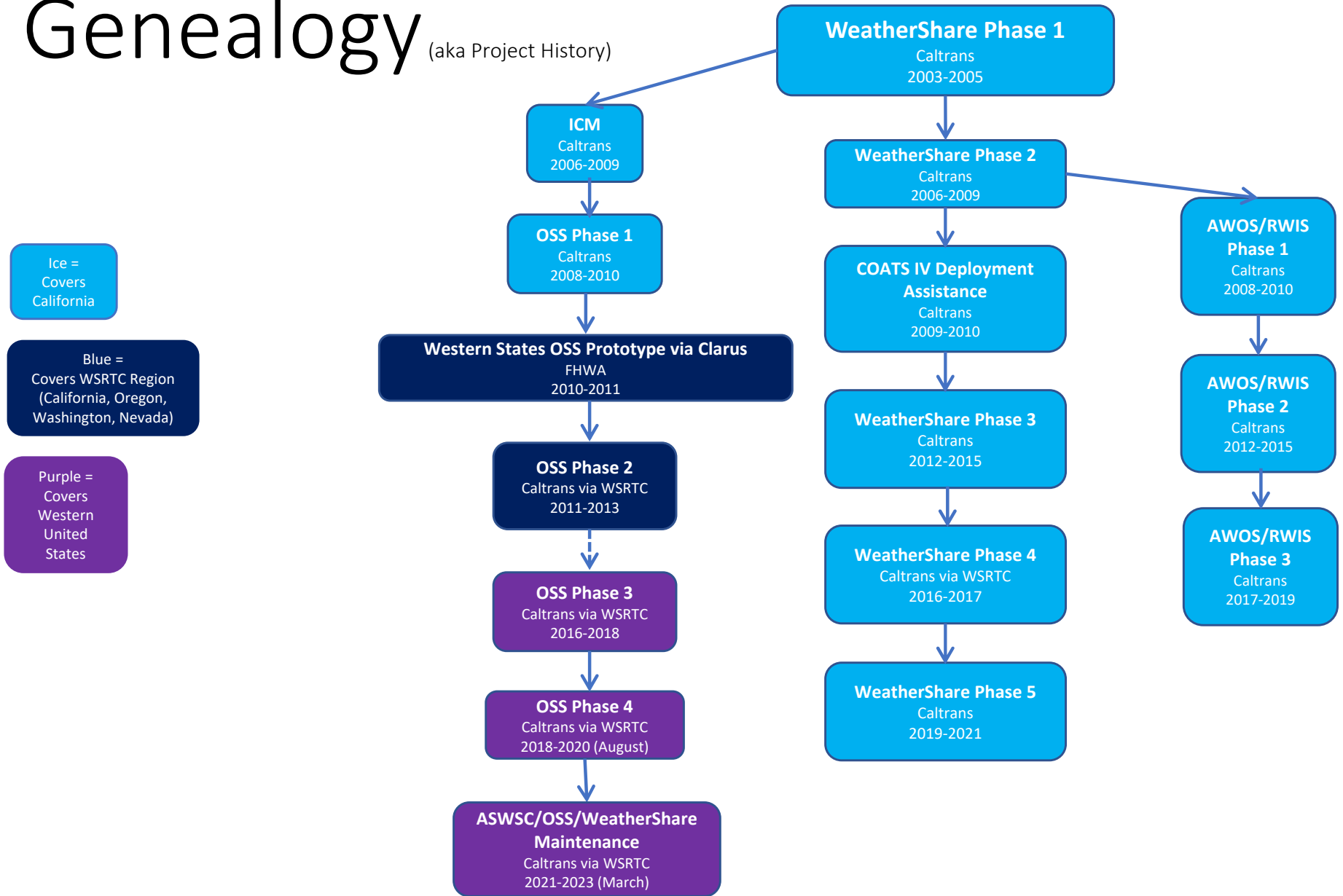


8:15am. Here's a picture of -50 °F, I-15, Elk Park, MT, between Butte and Helena. We note the temperature sensor has stopped reporting, so likely at it's minimum operating value. Webcam image courtesy [@mdtroadreport](#) #mtwx

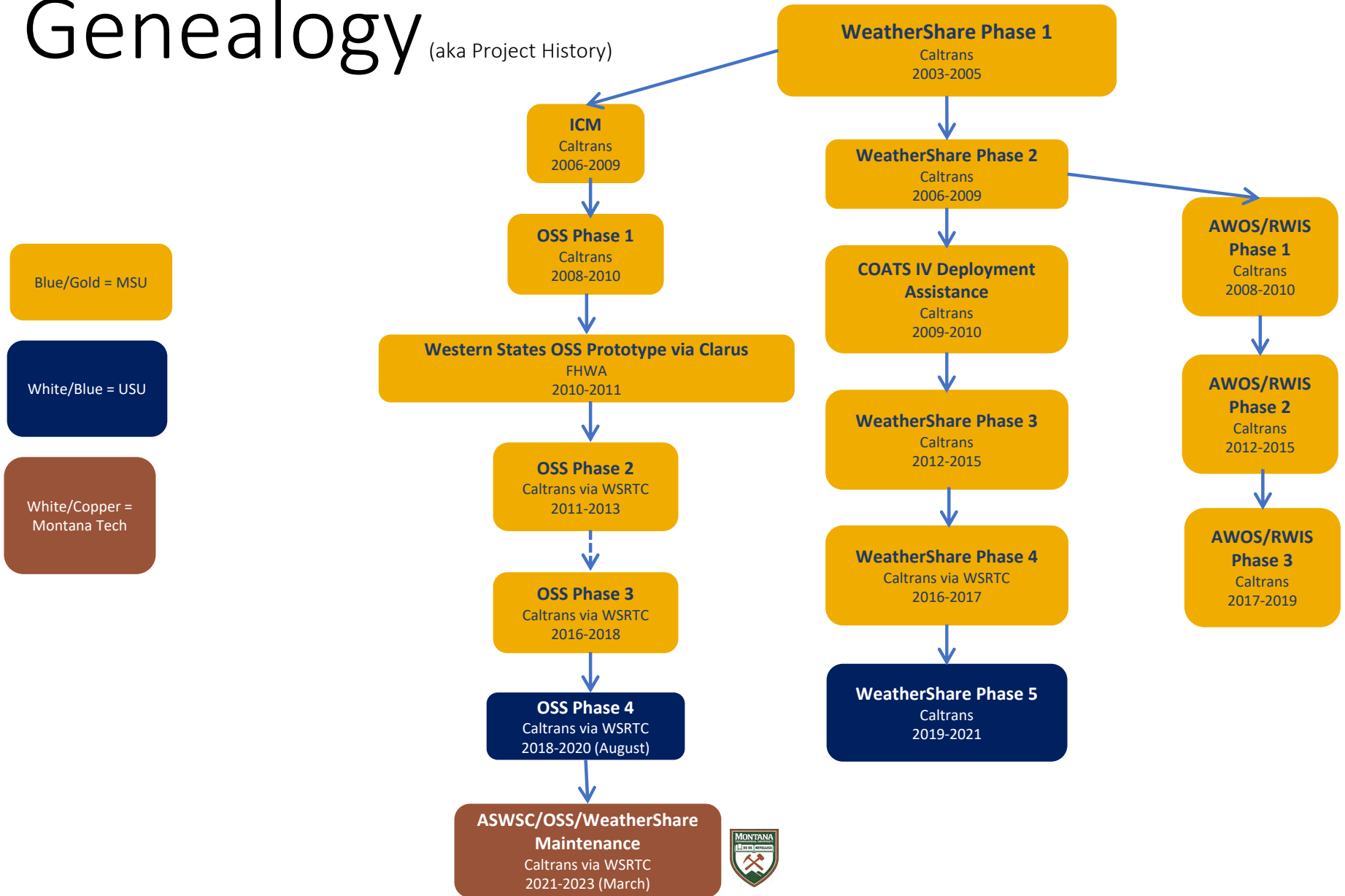


8:19 AM · Dec 22, 2022

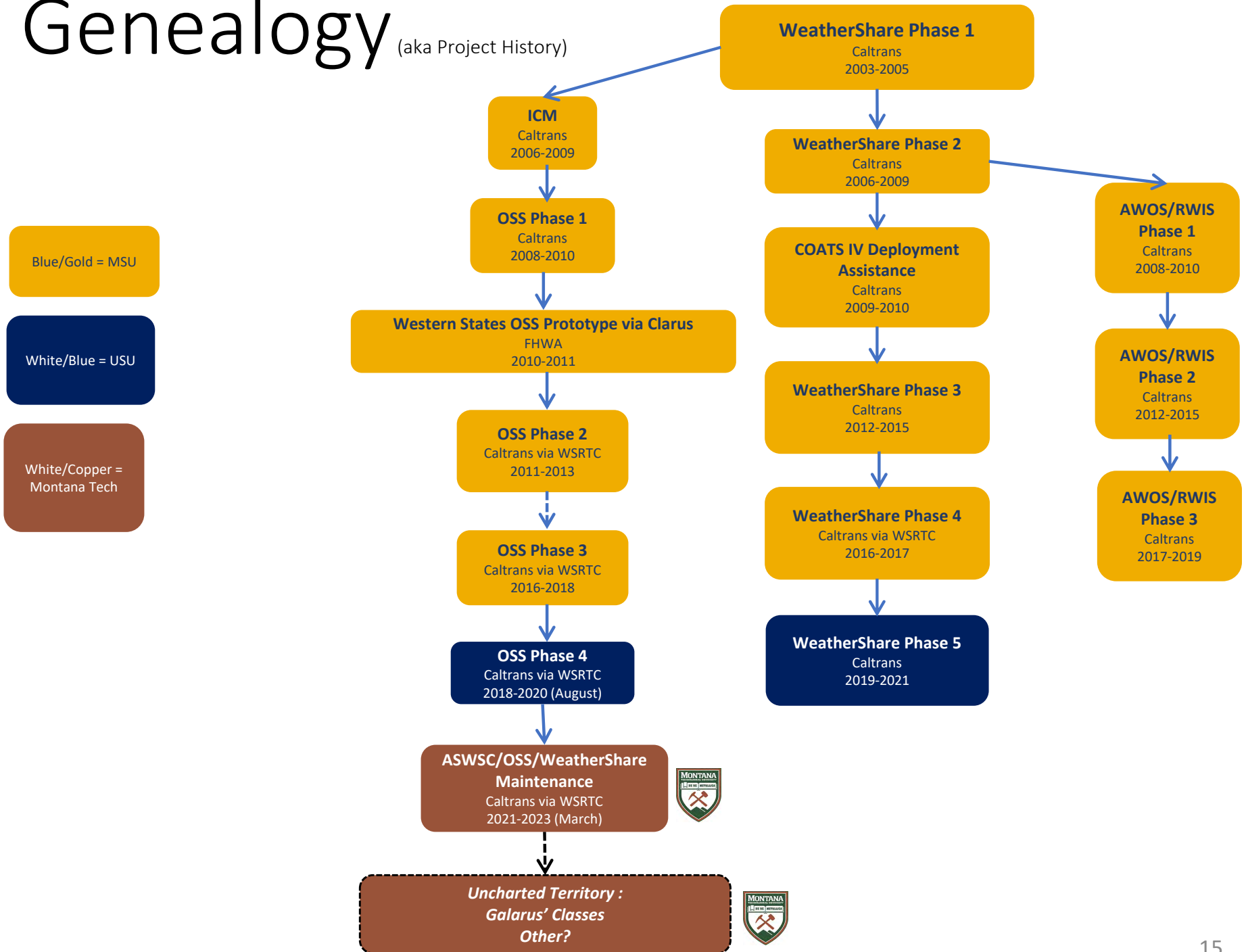
# Genealogy (aka Project History)



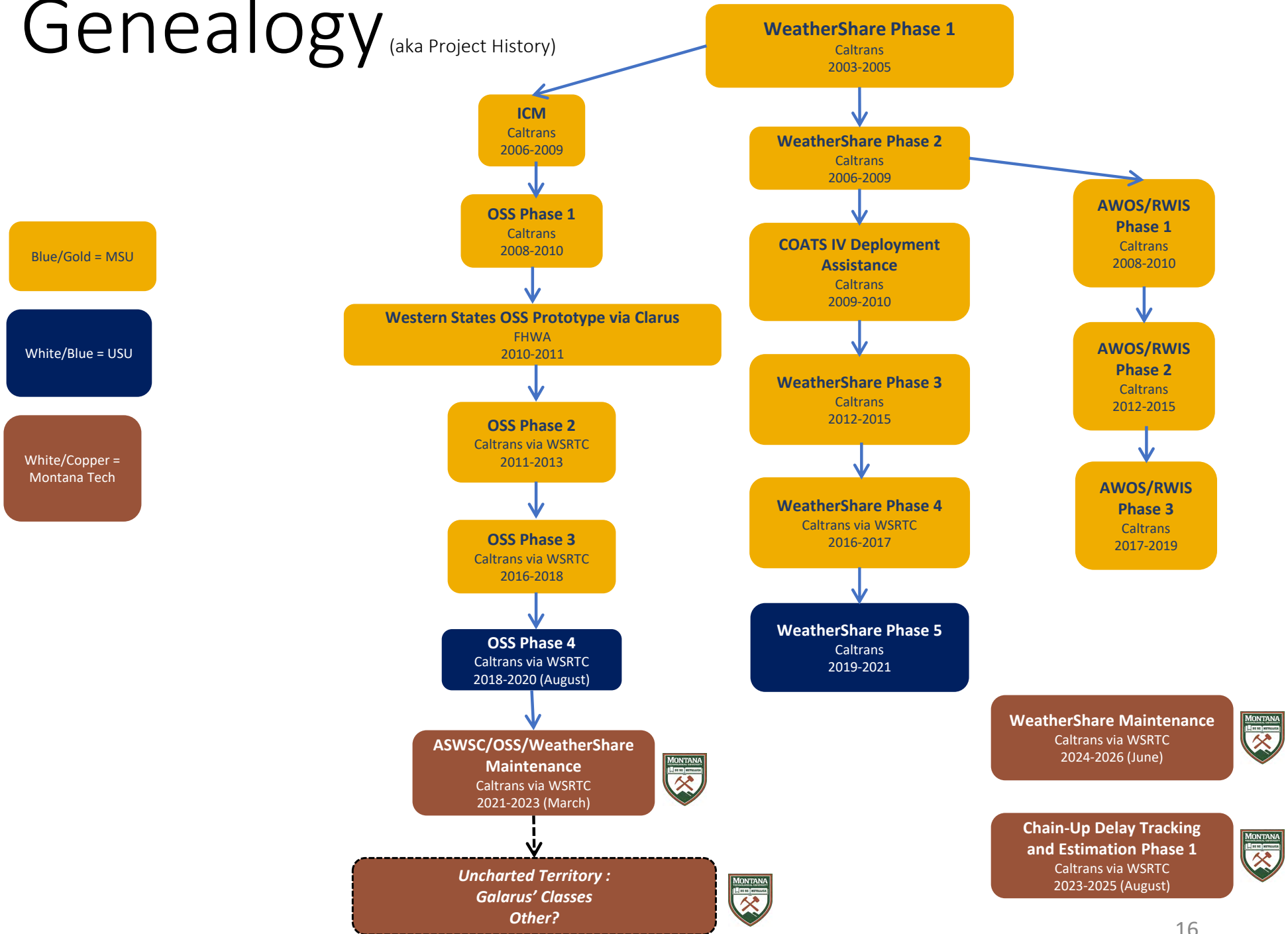
# Genealogy (aka Project History)



# Genealogy (aka Project History)

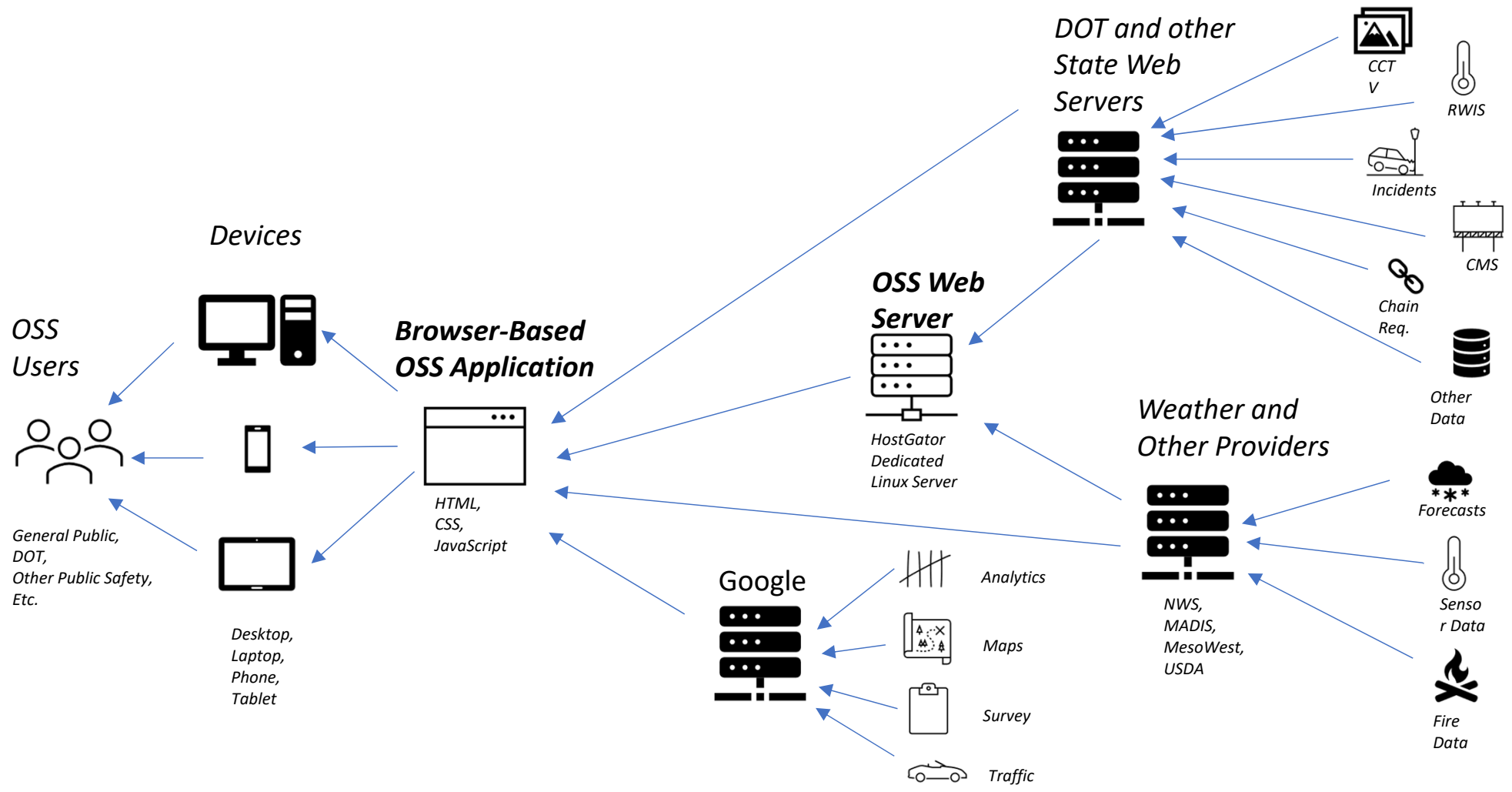


# Genealogy (aka Project History)

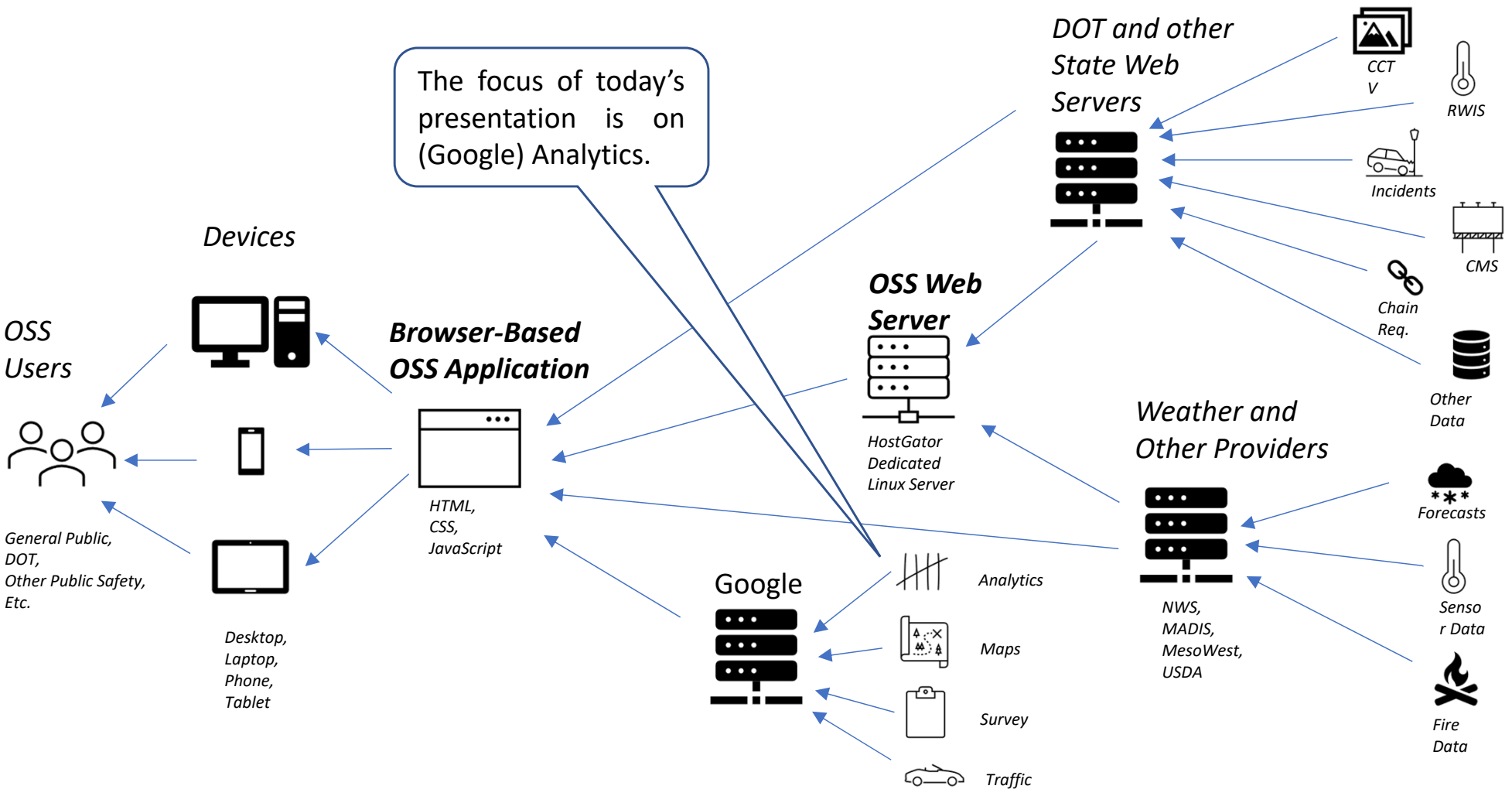




# System Architecture



# System Architecture



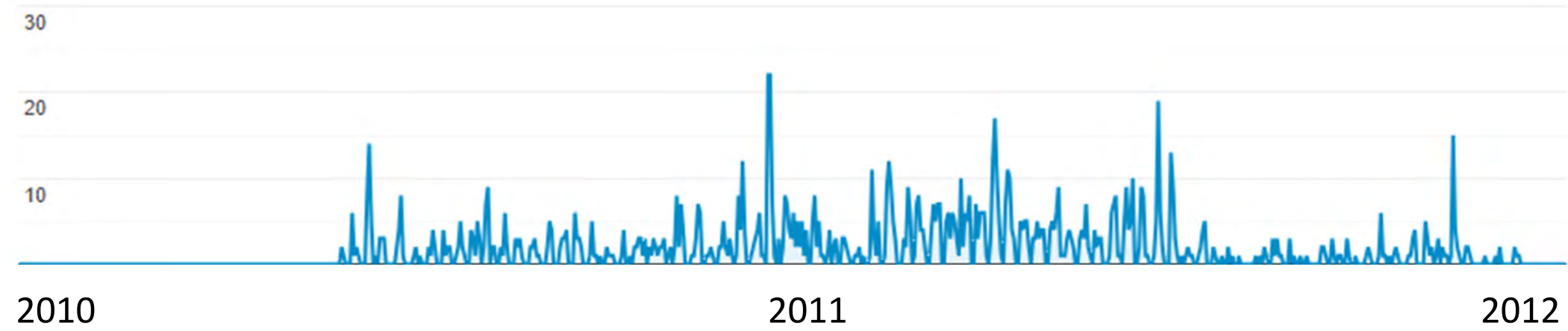
# Analytics

(via Google Analytics)

Pre 2012 One-Stop-Shop V1  
(and known by several other names)

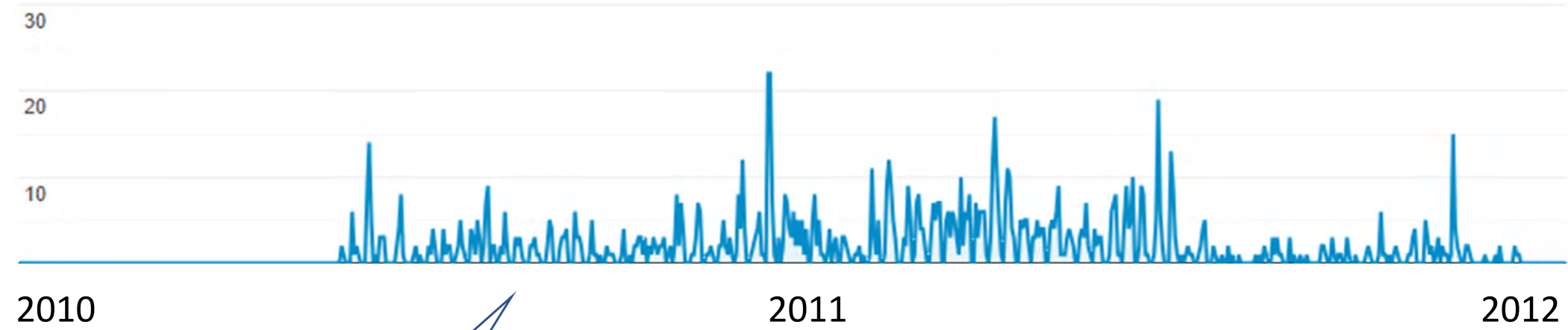
# Sessions

One Stop Shop V1: Jan 1, 2010 – Dec 31, 2011



# Sessions

One Stop Shop V1: Jan 1, 2010 – Dec 31, 2011



Things started a little slow ...

Users

0



New Users

459



We need to discuss the terminology.

Sessions

1,221



Number of Sessions per User

0.00



Pageviews

1,559



Pages / Session

1.28



Avg. Session Duration

00:01:54



Bounce Rate

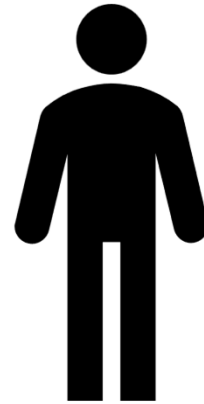
81.00%



# Users vs. Sessions

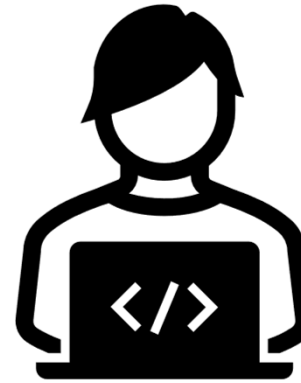
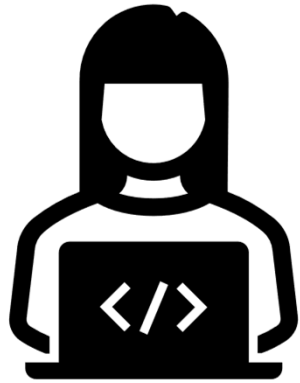


# User



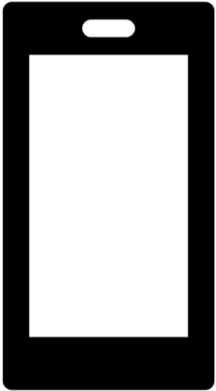
We might think of  
this as a user of OSS.

# User

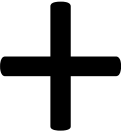


We should think of users more like this, although it still isn't an accurate depiction.

# User



Device

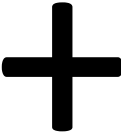


Browser

This is a more accurate depiction of a user.

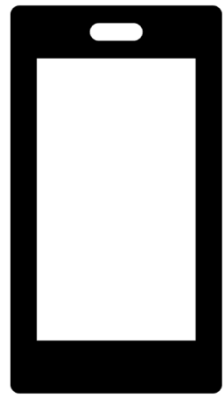


Device

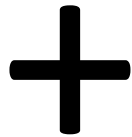


Browser

# Session



Device

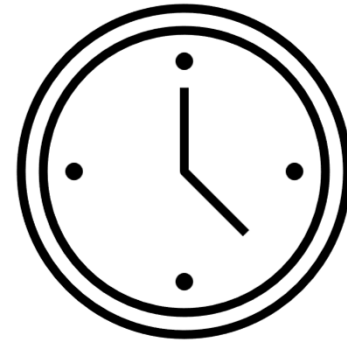
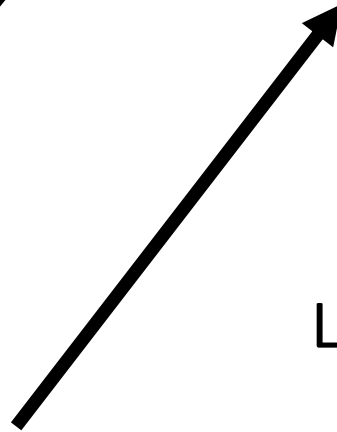


Browser

Return



Leave



Inactive

# Clarus OSS

[clarusoss.weathershare.org](http://clarusoss.weathershare.org)

# Sessions

Clarus OSS: Jan 1, 2010 – Dec 31, 2015



Users

570



New Users

545



Sessions

1,405



Number of Sessions per User

2.46



Pageviews

0



Pages / Session

0.00



Avg. Session Duration

00:14:26



Bounce Rate

0.00%

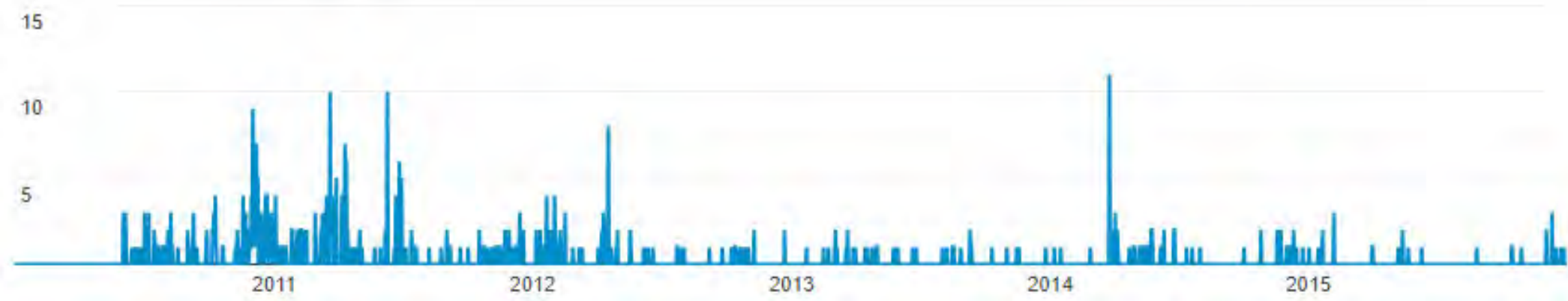


# ICM (Integrated Corridor Management)

[icm.weathershare.org](http://icm.weathershare.org)

# Sessions

ICM: Jan 1, 2010 – Dec 31, 2015



Users

**379**



New Users

**365**



Sessions

**576**



Number of Sessions per User

**1.52**



Pageviews

**734**



Pages / Session

**1.27**



Avg. Session Duration

**00:01:51**




Bounce Rate

**87.50%**





One-Stop-Shop V2  
2011-2014  
[oss.weathershare.org](http://oss.weathershare.org)



New and Improved

Sessions



Progress

Users

10,758



New Users

10,666



Sessions

25,822



Number of Sessions per User

2.40



Pageviews

0



Pages / Session

0.00



Avg. Session Duration

00:07:33



Bounce Rate

0.00%





What are users doing?

# Events

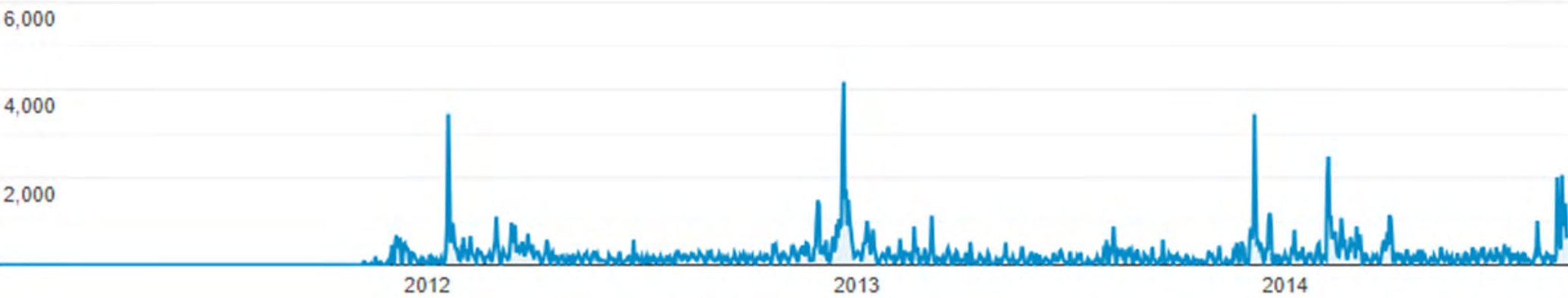
(User Interface Events / Interactions)



Application-Defined

# 254,880 (UI) Events

OSS V2: Jan 1, 2011 – Aug 31, 2014



Total Events

254,880



Unique Events

204,944



Sessions with Event

25,822



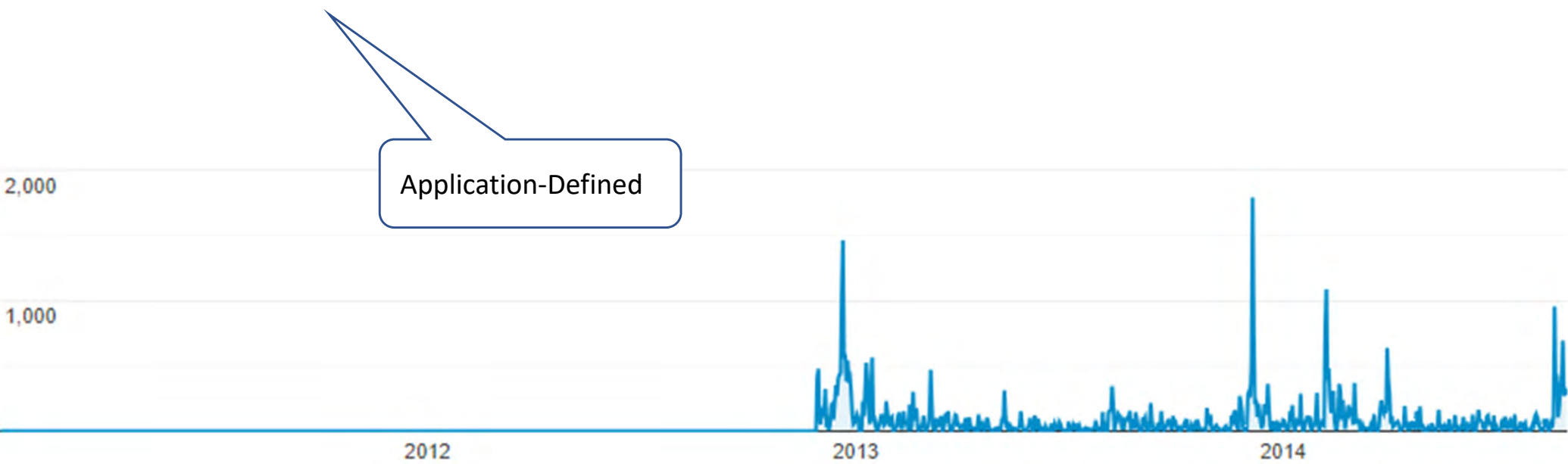
Events / Session with Event

9.87



# 59,763 CCTV (Camera) Views

OSS V2: Jan 1, 2011 – Aug 31, 2014



Application-Defined

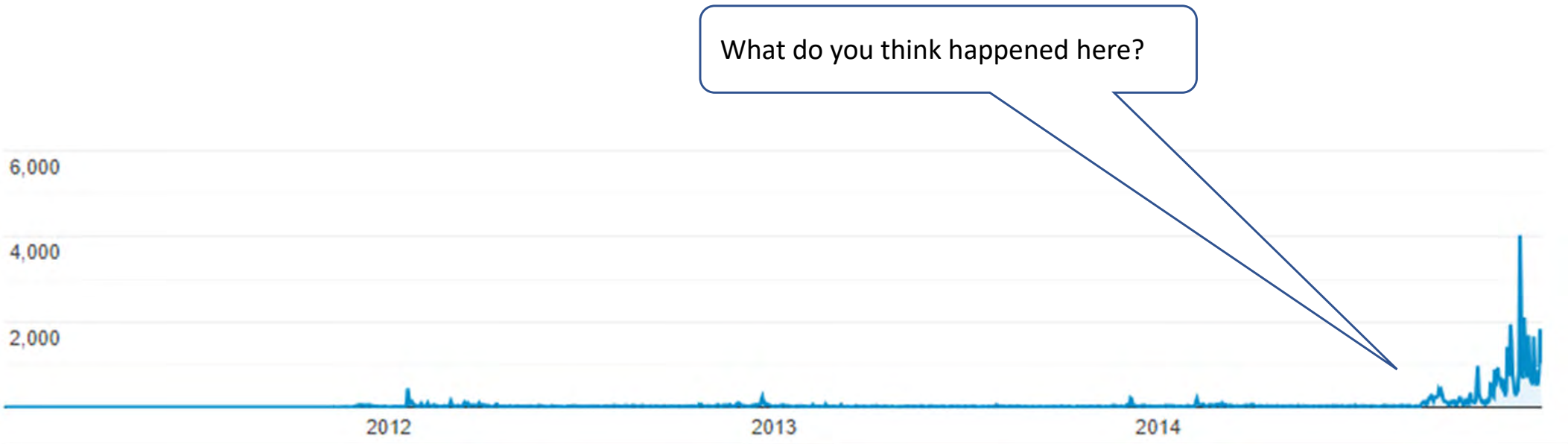
# One-Stop-Shop V2 Takes Off 2014 [oss.weathershare.org](http://oss.weathershare.org)

# Sessions

OSS V2: Jan 1, 2011 – Dec 31, 2014



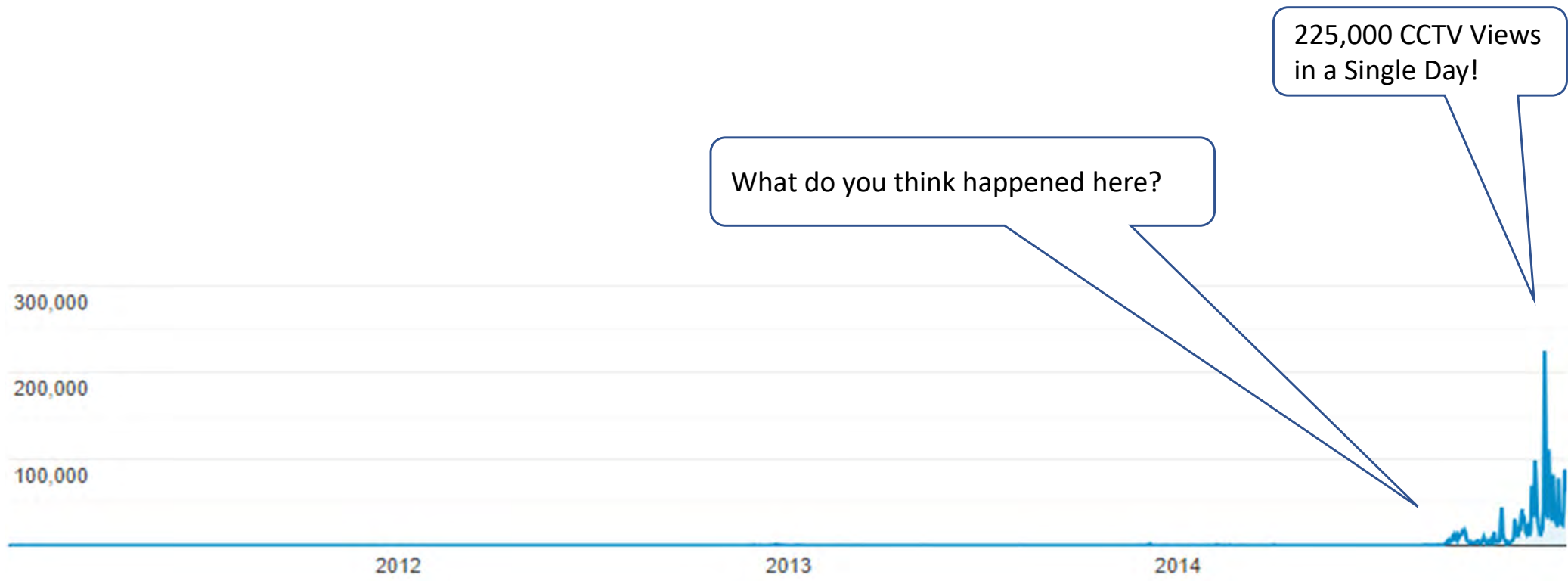
The prior plots stopped here.



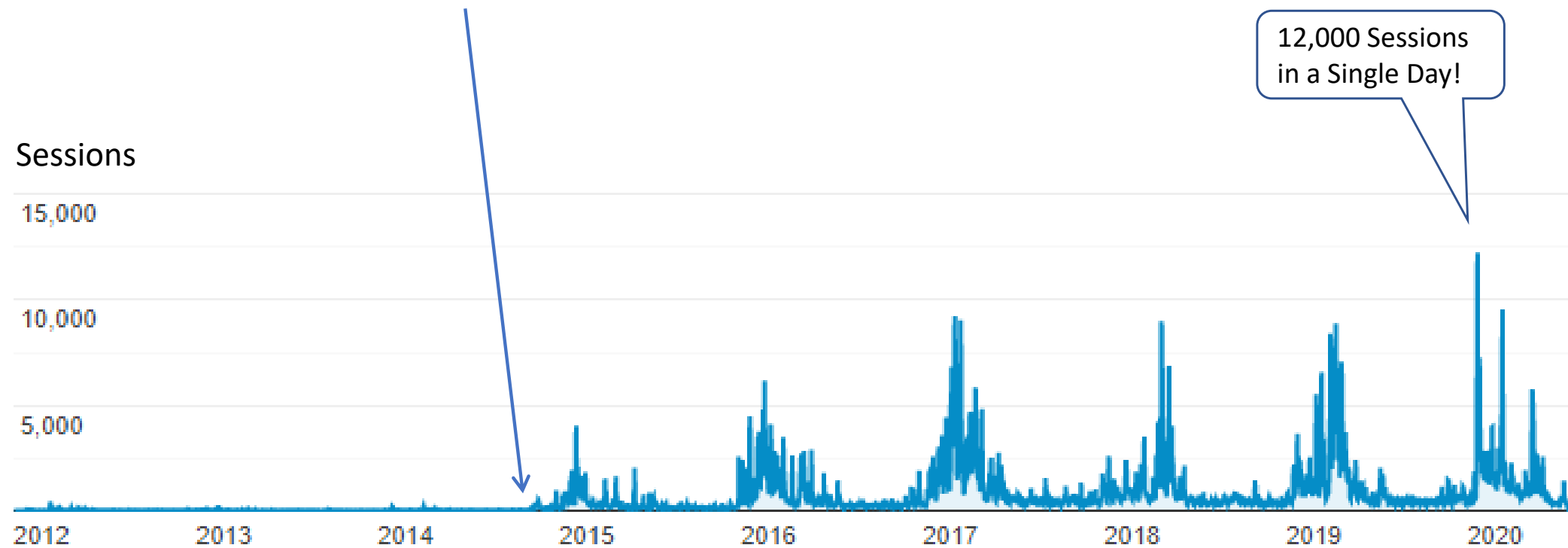


# CCTV (Camera) Views

OSS V2: Jan 1, 2011 – Dec 31, 2014



# OSS Usage Took Off in September 2014 and kept going



(Usage is generally seasonal, peaking during bad weather events.)

# OSS Usage Took Off in September 2014

Why?

# OSS Usage Took Off in September 2014

## Reasons:

- Increased Coverage (Expanded to cover 11 Western States)
- More prominent links from Caltrans (Sean Campbell's Camera Page)
- Subtle (but big) changes in the User Interface (Mouse-over vs. Mouse-click to show detail)
- ITSA Award and Other Publicity (See subsequent slides)

# OSS Usage Took Off in September 2014

Big Reason:

- **MOTIVATION!**

# OSS Usage Took Off in September 2014

Big Reason:

- MOTIVATION!
- *There is a story behind this ...*

# OSS Usage Took Off in September 2014

Big Reason:

- MOTIVATION!
- *There is a story behind this ...*



# ITS America Award



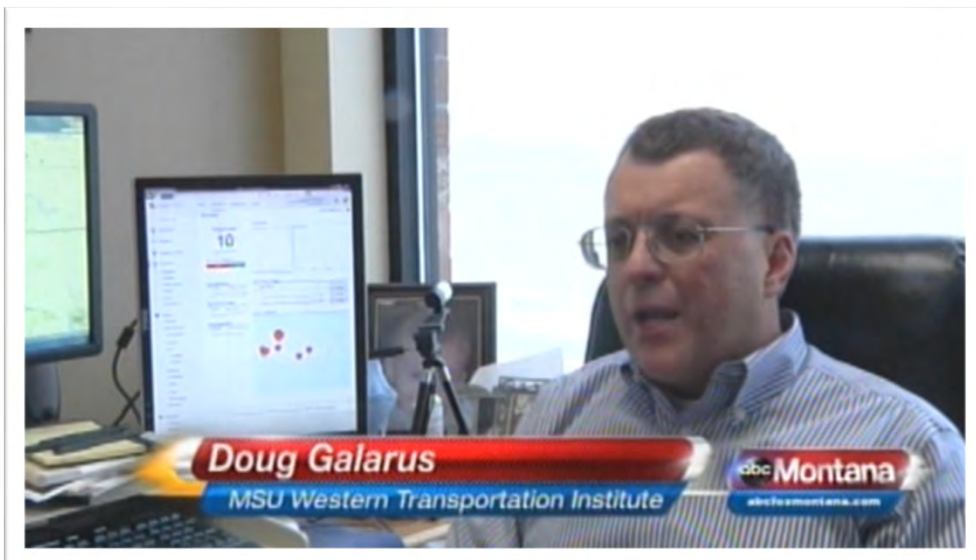
At the 2014 ITS World Congress in Detroit, Michigan, the One-Stop Shop was announced as the winner of ITS America's Best of ITS Award for Best New Innovative Practice – Research Design and Innovation.

ITS America presents these awards to “the most prominent and innovative transportation technology leaders in the Americas” whose projects exemplify innovation and demonstrate specific and measurable outcomes.

The OSS project is sponsored by the California Department of Transportation (Caltrans), who nominated it for the annual award.



# Other Publicity



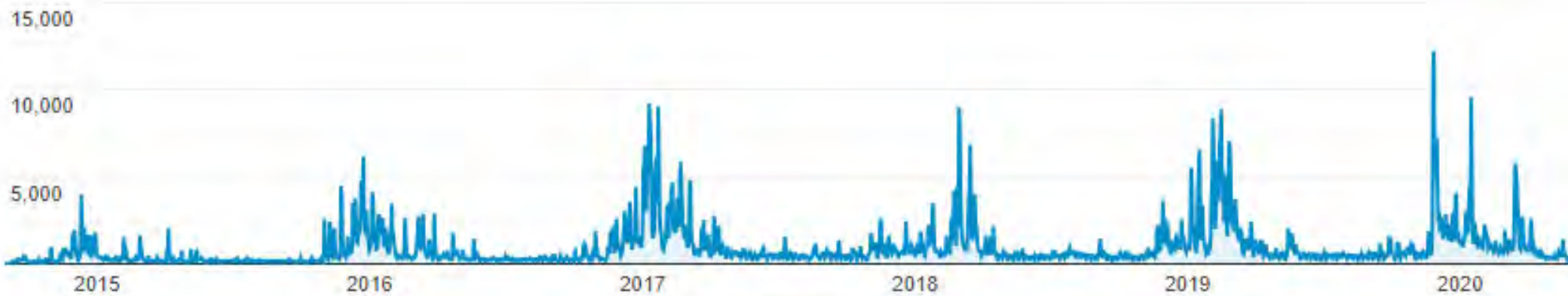
# One-Stop-Shop V2

Sep 1, 2014 – May 31, 2020

[oss.weathershare.org](http://oss.weathershare.org)

# Sessions

OSS V2: Sep 1, 2014 – May 31, 2020



Users  
**547,585**

New Users  
**544,791**

Sessions  
**1,907,081**

Number of Sessions per User  
**3.48**

Pageviews  
**8,073**

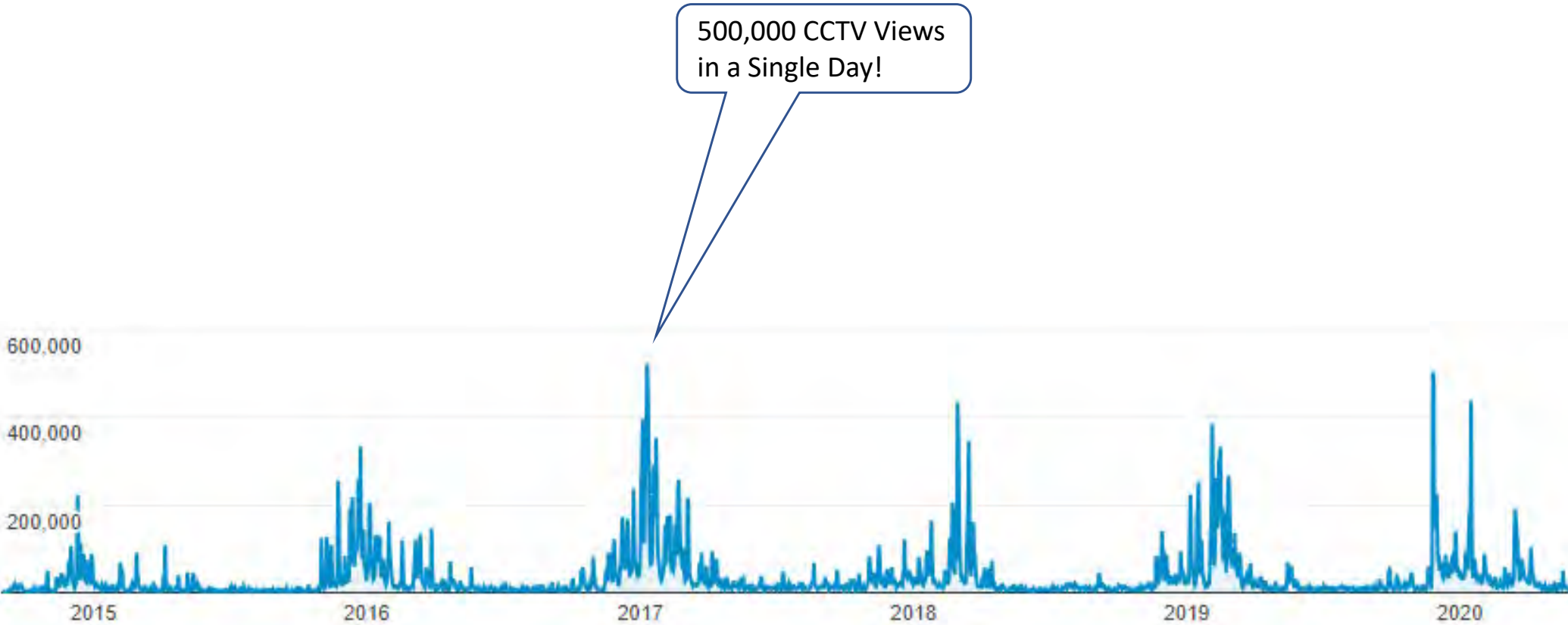
Pages / Session  
**<0.01**

Avg. Session Duration  
**00:05:46**

Bounce Rate  
**0.22%**

# 68,552,475 CCTV (Camera) Views

OSS V2: Sep 1, 2014 – May 31, 2020



We (finally) decided to address mobile use.

One-Stop-Shop Mobile  
Nov 1, 2016 – May 31, 2020  
[oss.weathershare.org/m](https://oss.weathershare.org/m)

We developed a separate mobile web version.

# Sessions

OSS Mobile: Nov 1, 2016 – May 31, 2020



Users

64,633



New Users

65,004



Sessions

182,386



Number of Sessions per User

2.82



Pageviews

333,519



Pages / Session

1.83



Avg. Session Duration

00:21:26



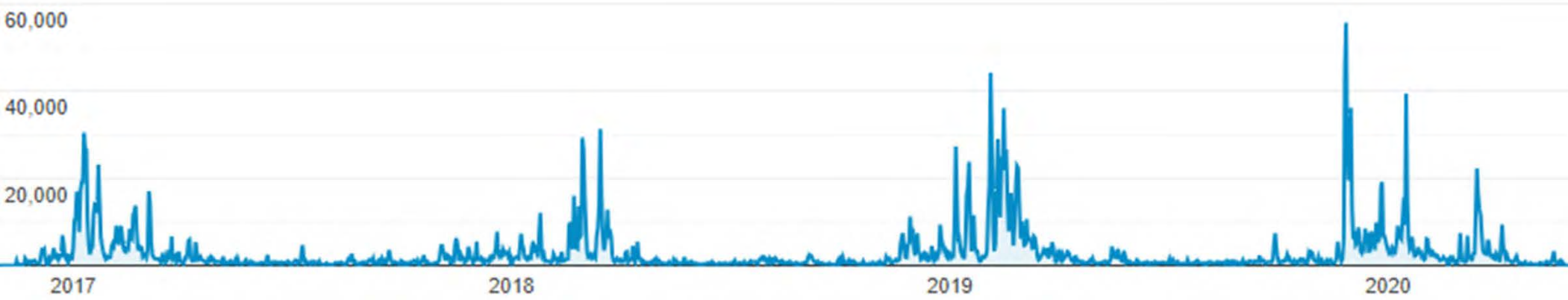
Bounce Rate

0.98%



# 3,769,002 CCTV (Camera) Views

OSS Mobile: Nov 1, 2016 – May 31, 2020



We decided we should have a “unified” interface that works on desktop and mobile.

# One-Stop-Shop Unified

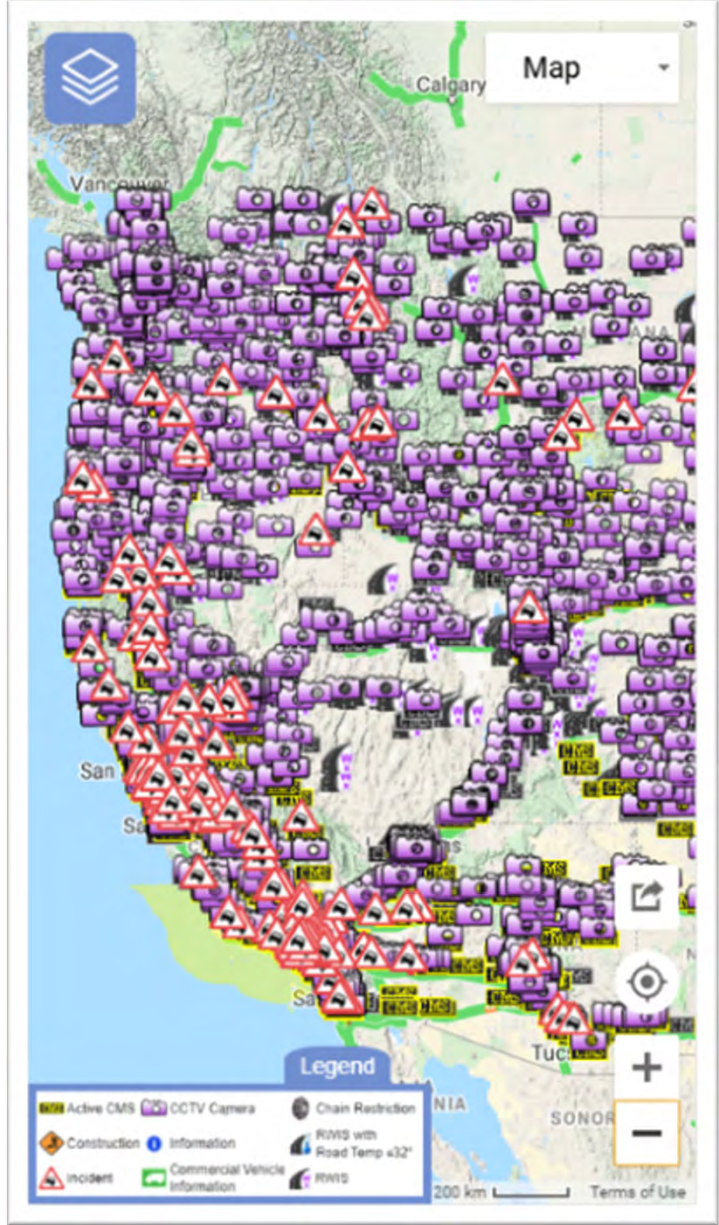
May 27, 2020 – Forward  
[oss.weathershare.org](https://oss.weathershare.org)



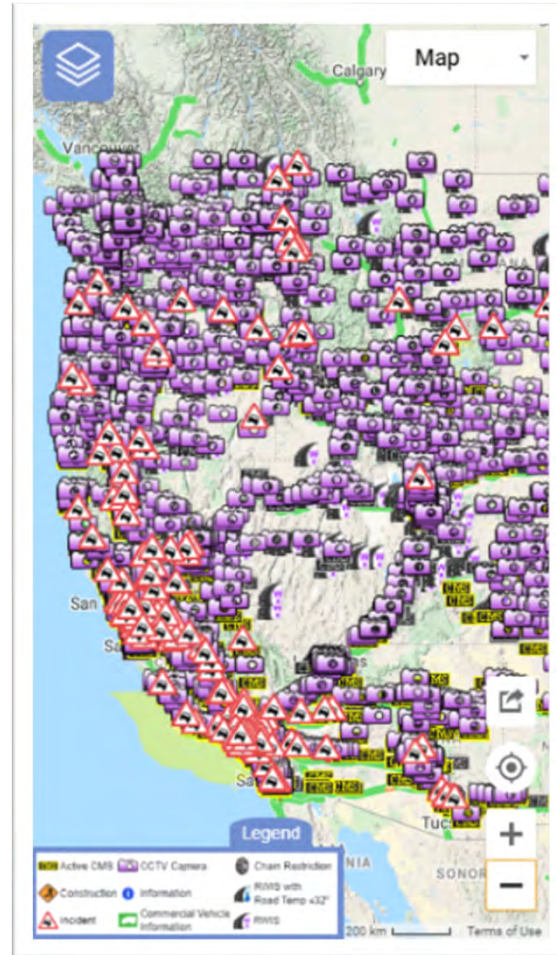
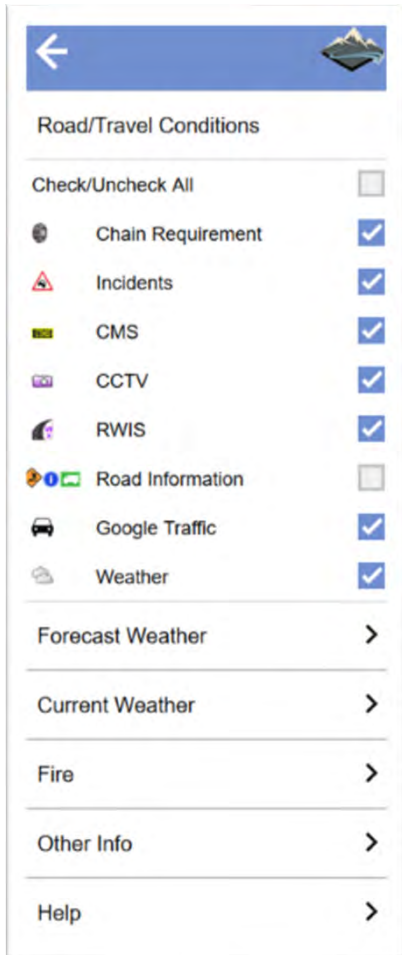
# Unified Interface for OSS

Mobile and Desktop all in One

Debuted in late May 2020

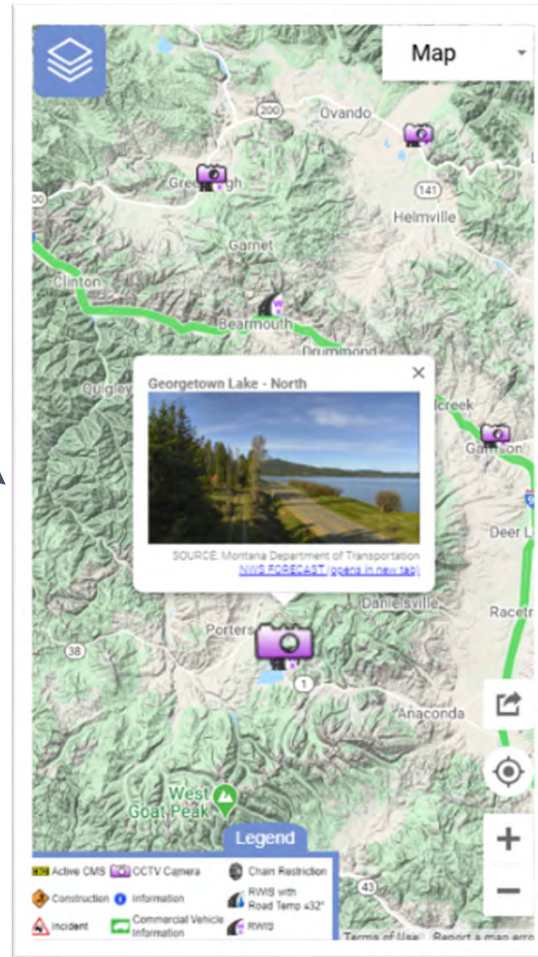
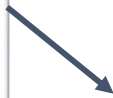
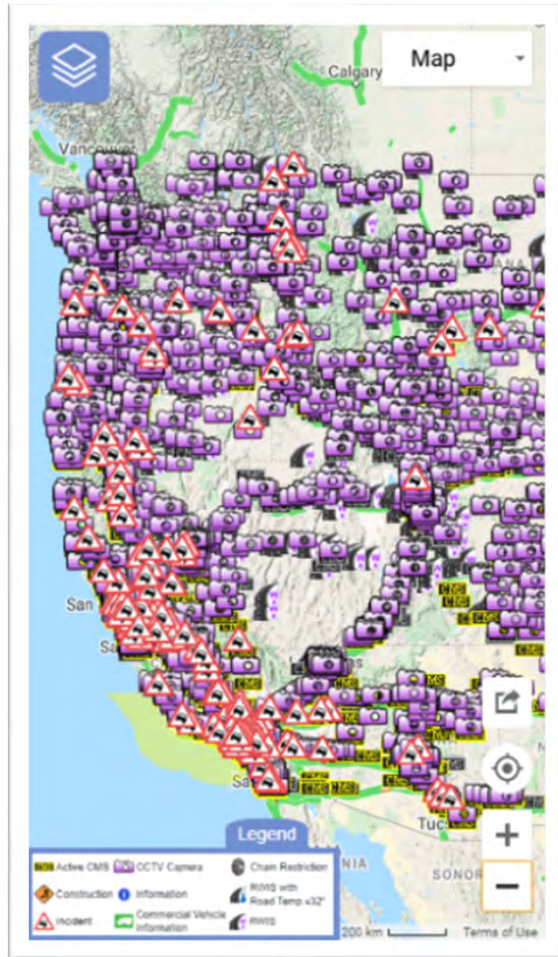


# Unified Interface for OSS



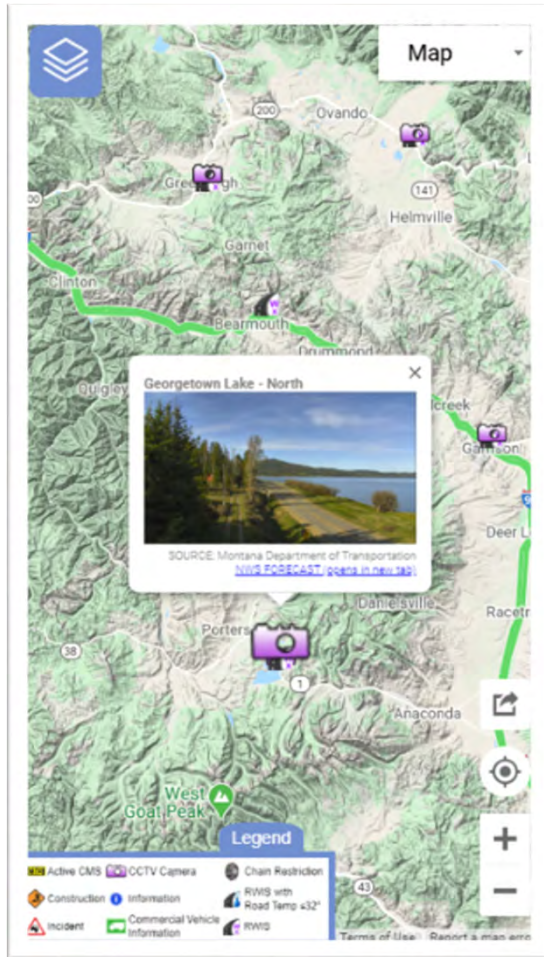
New menu, legend and controls

# Unified Interface for OSS



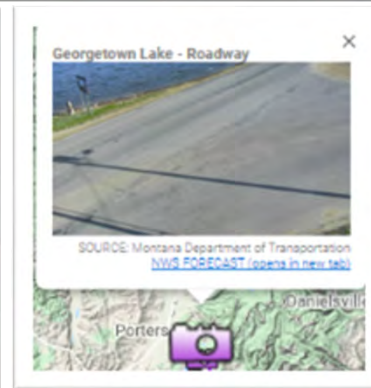
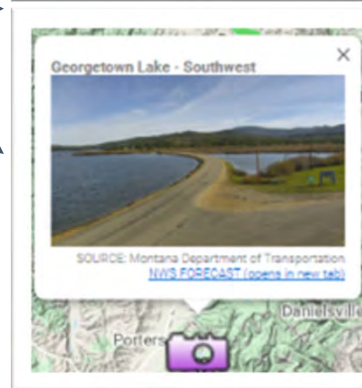
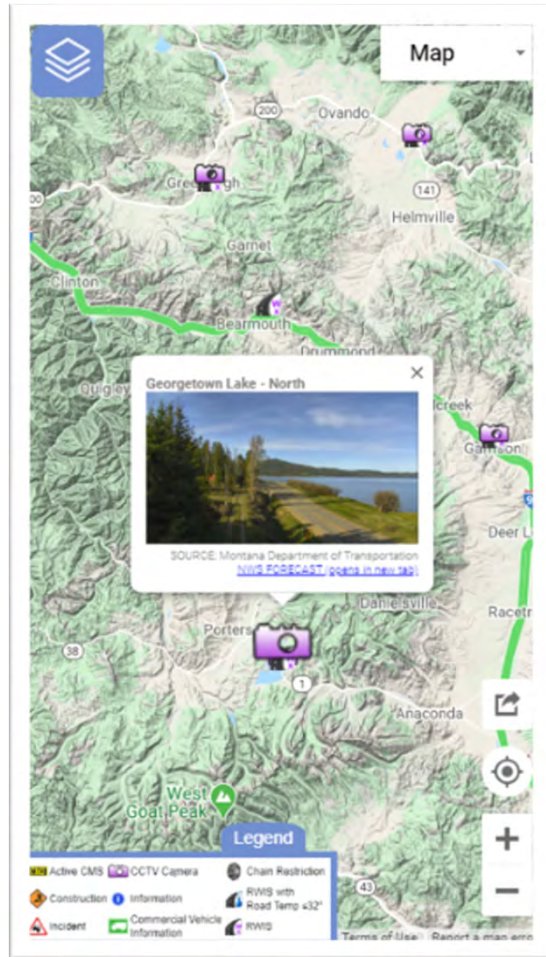
Select a marker to see detail and zoom to location of marker.

# Unified Interface for OSS



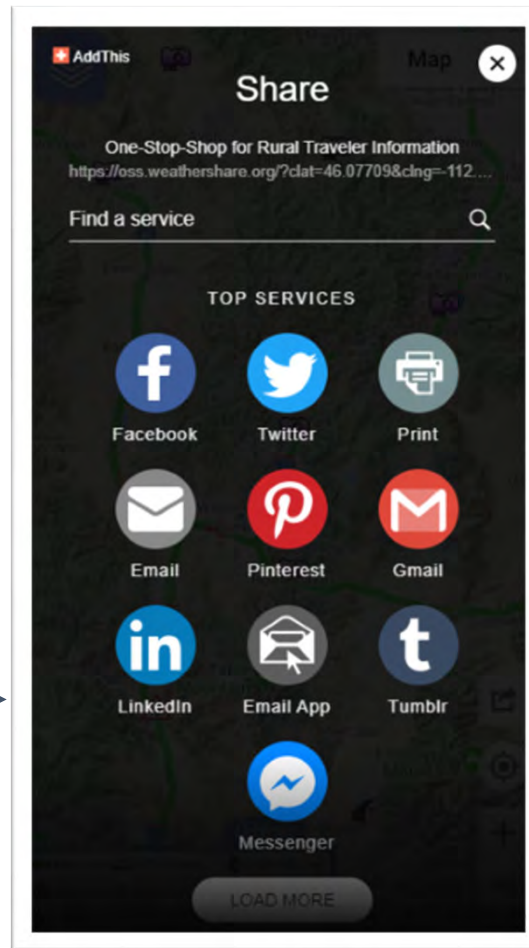
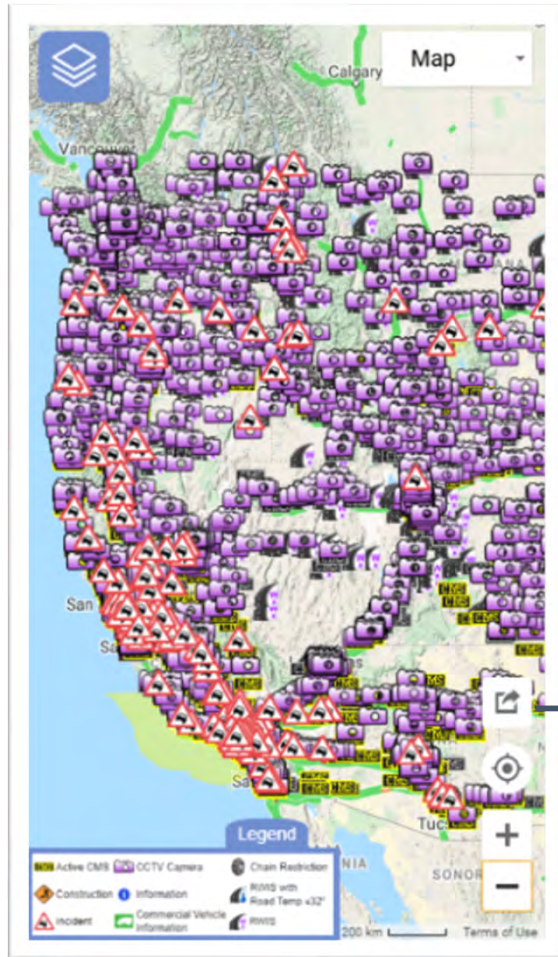
Click on images to see enlarged image.

# Unified Interface for OSS



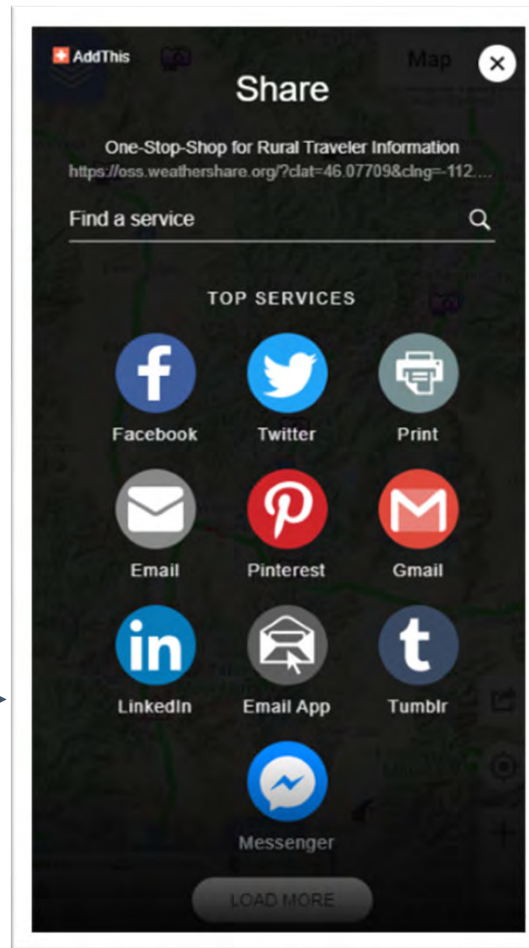
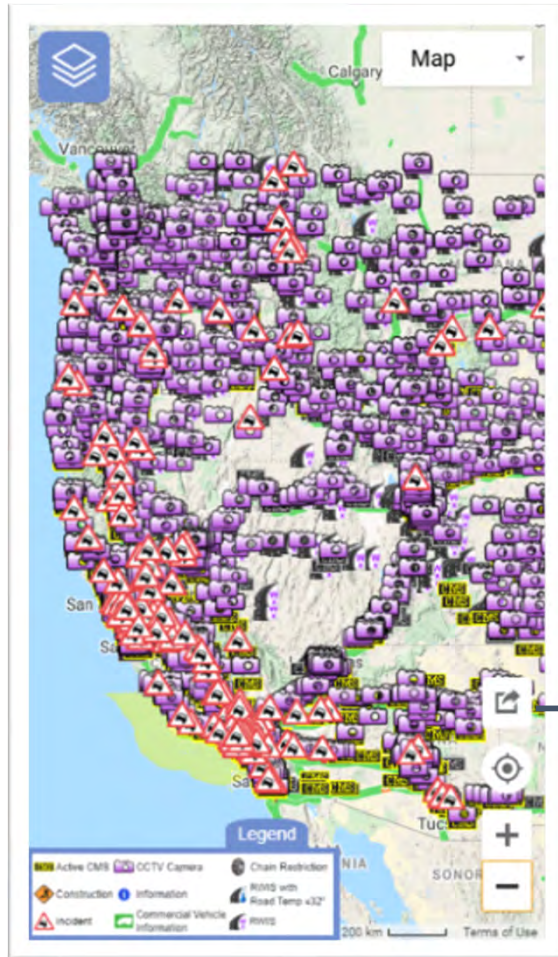
See multiple images where available.

# Unified Interface for OSS



Sharing via  
Social Networks  
and Email

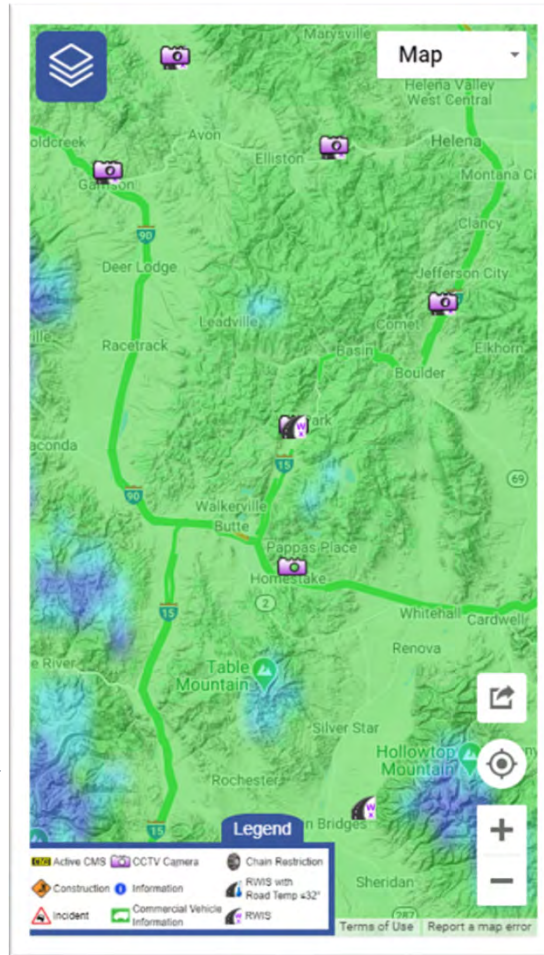
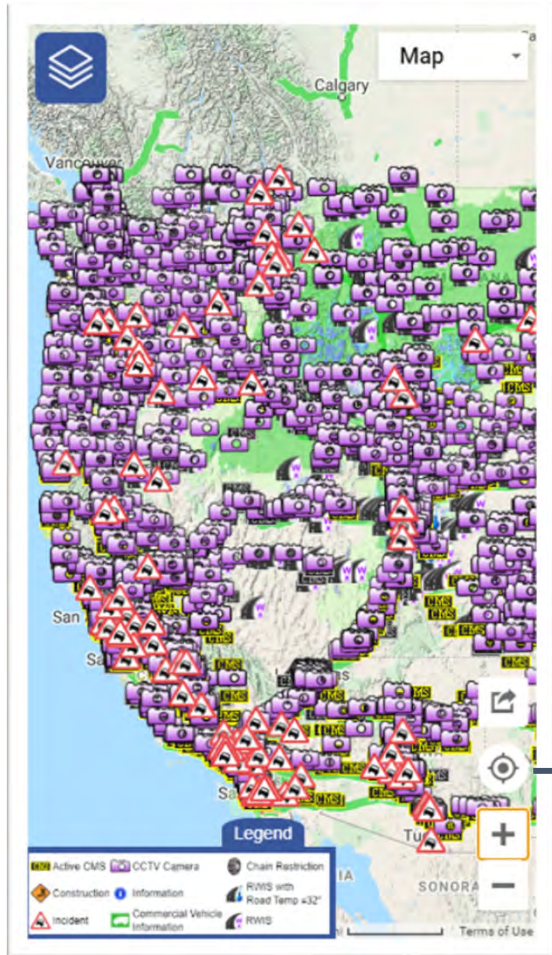
# Unified Interface for OSS



Sharing via  
Social Networks  
and Email

This went away ...

# Unified Interface for OSS



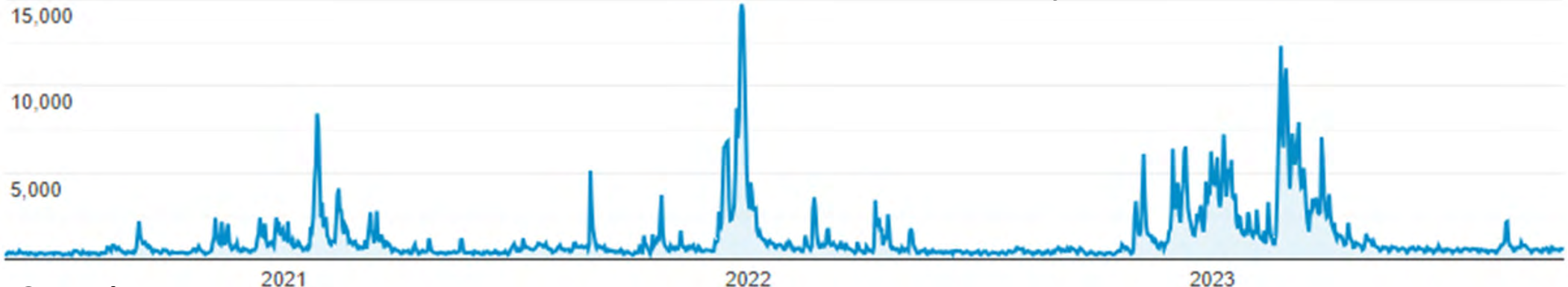
Zoom to current location



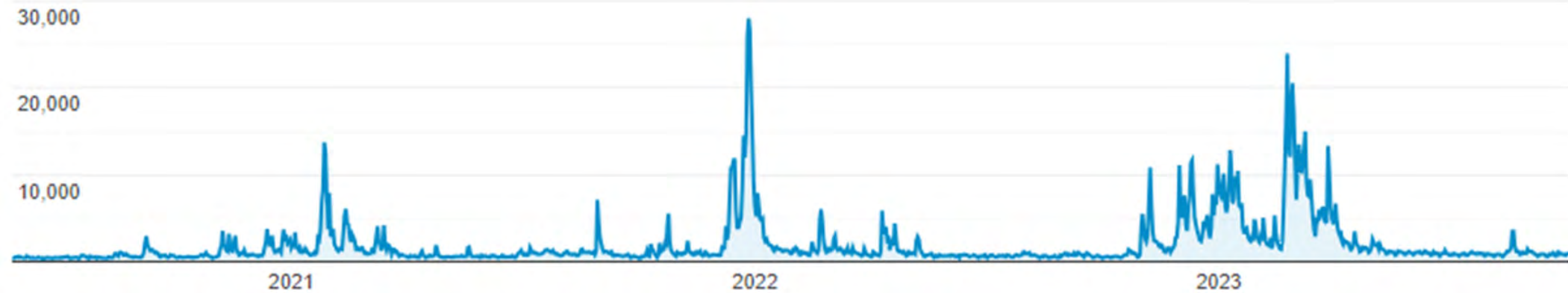
One-Stop-Shop Unified  
In-Depth Analytics  
May 27, 2020 – October 4, 2023  
[oss.weathershare.org](http://oss.weathershare.org)

# OSS Unified: May 27, 2020 – Oct 4, 2023

## Users



## Sessions



Users  
**625,786**



New Users  
**633,453**



Pageviews  
**5,695,306**



Pages / Session  
**2.39**



Sessions  
**2,383,627**



Number of Sessions per User  
**3.81**



Avg. Session Duration  
**00:38:35**



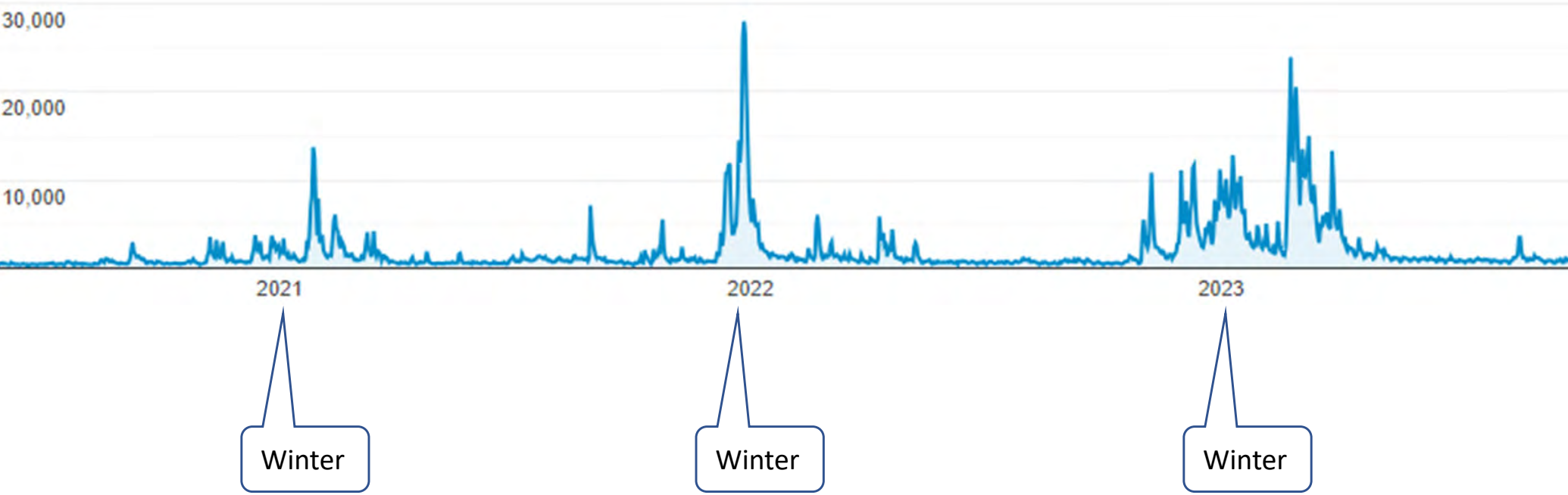
Bounce Rate  
**0.82%**



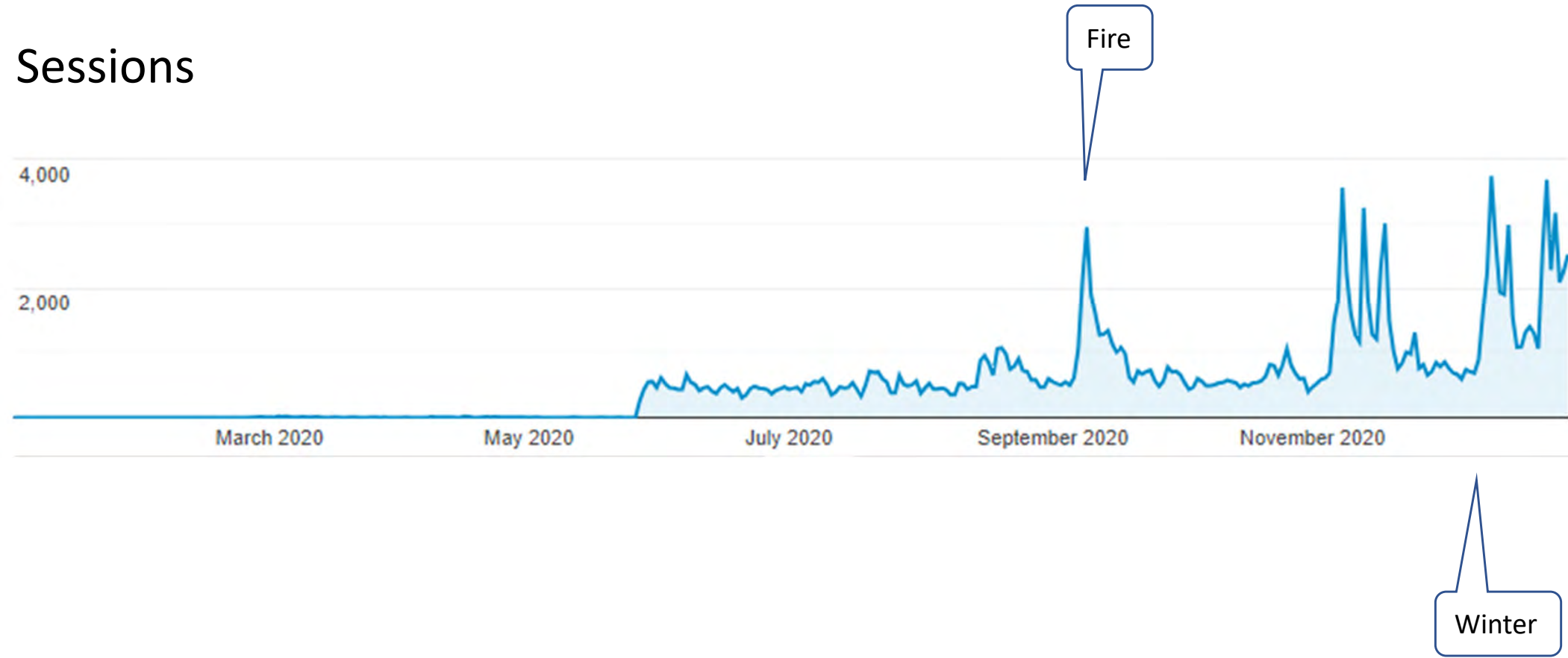
When do you think  
it gets used?

When does it get used?

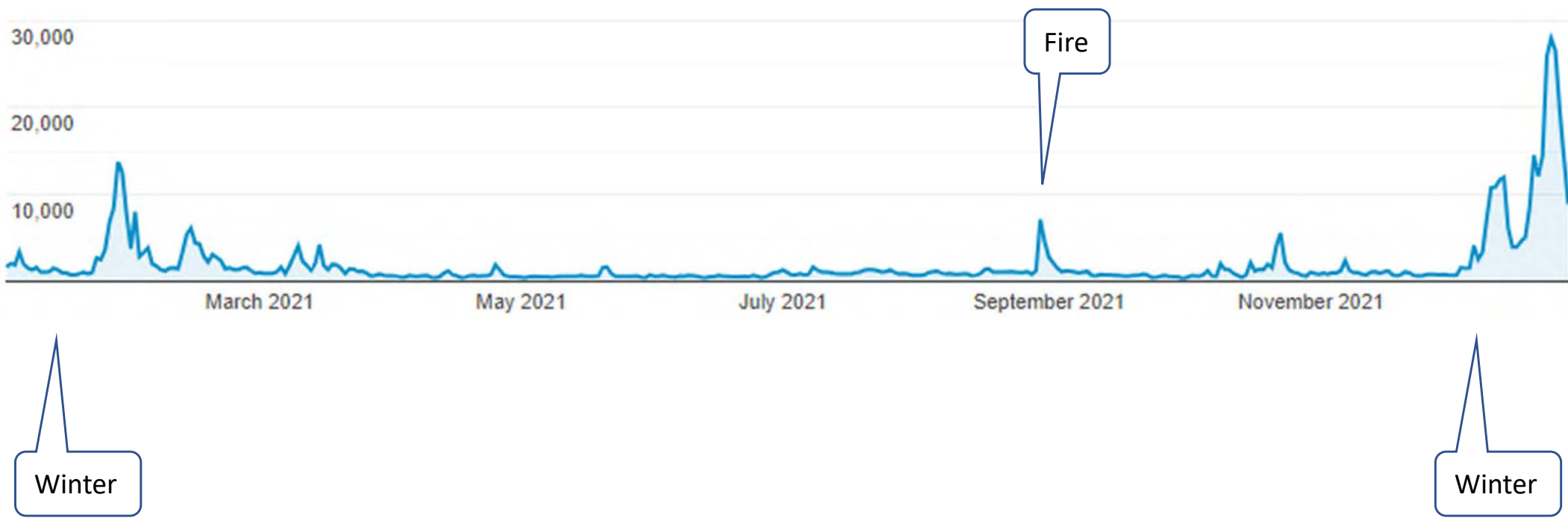
# Sessions



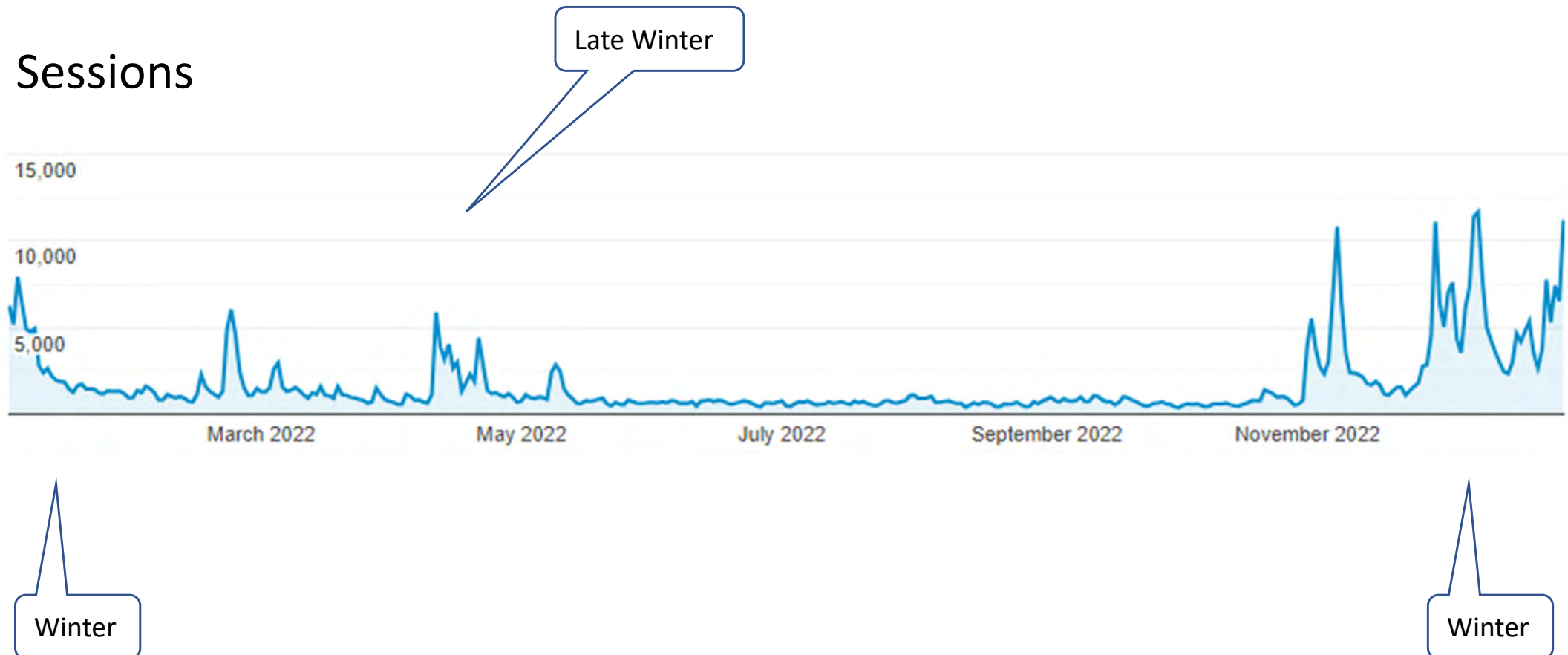
# OSS Unified: Jan 1, 2020 – Dec 31, 2020



# Sessions

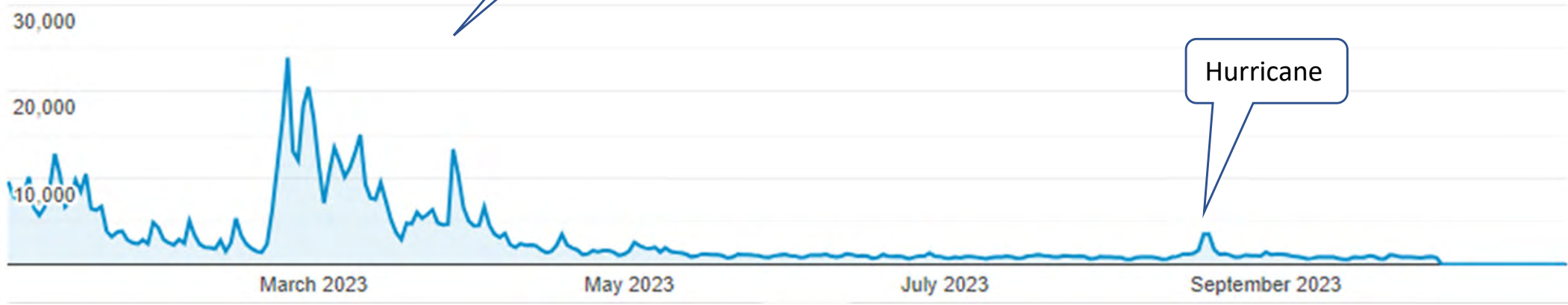


# OSS Unified: Jan 1, 2022 – Dec 31, 2022



# OSS Unified: Jan 1, 2023 – Oct 4, 2023

## Sessions



Big Winter

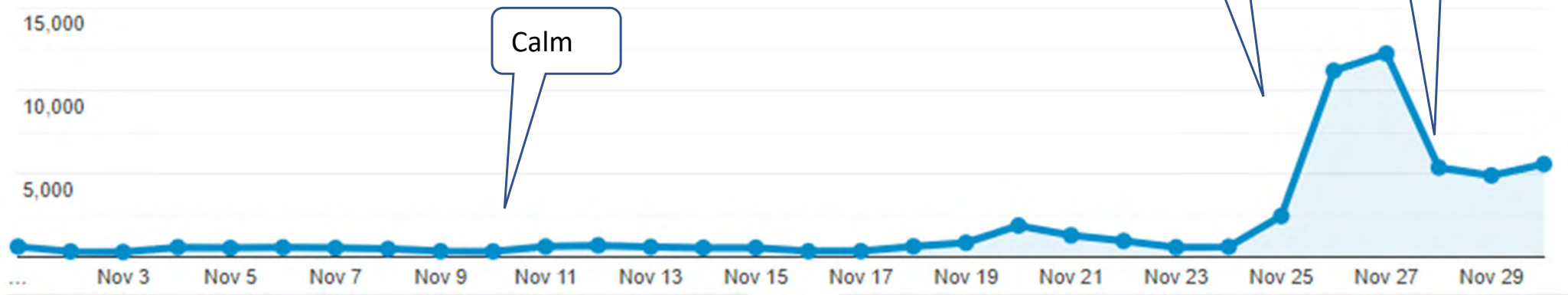
Hurricane

Winter



# OSS Unified: Nov 1, 2019 – Nov 30, 2019

Sessions (per Day)

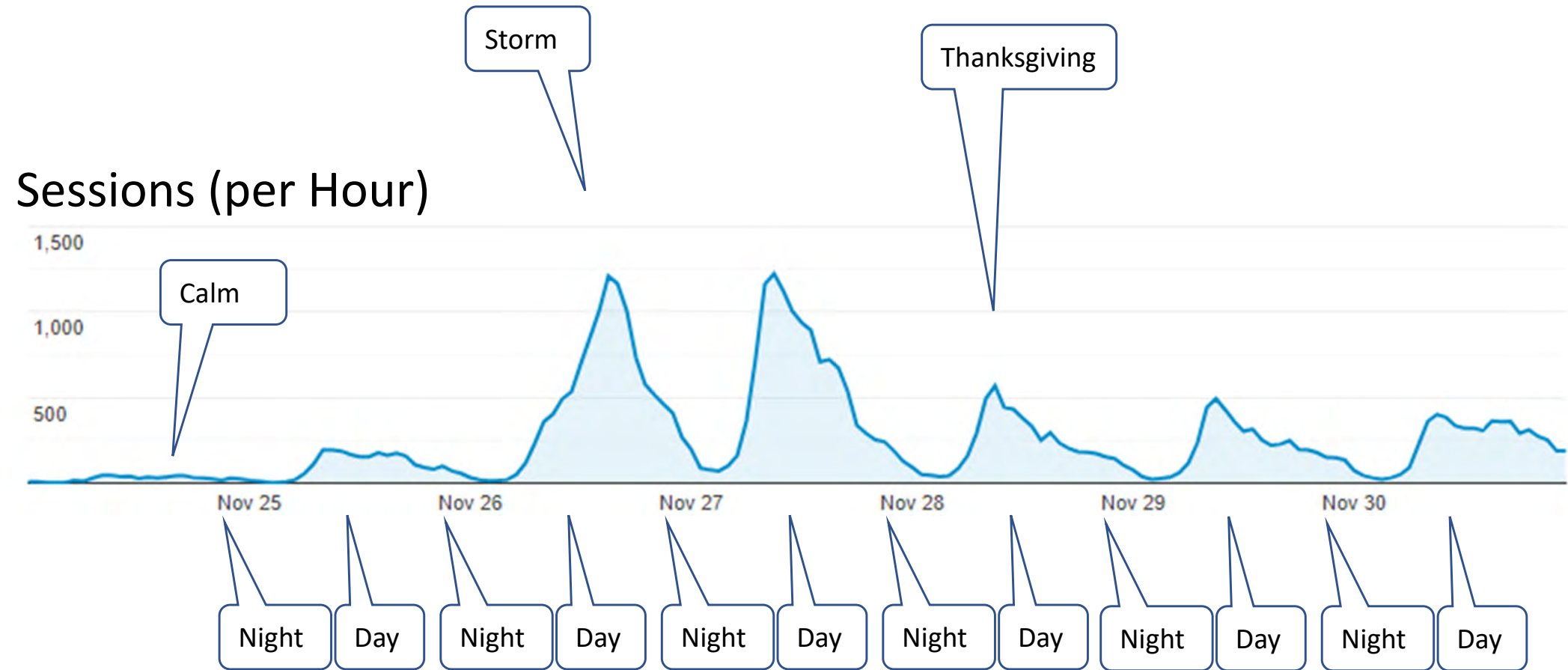


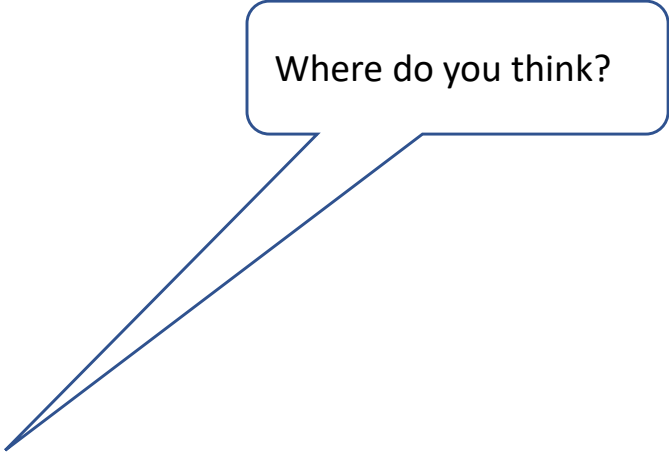
# OSS Unified: Nov 1, 2019 – Nov 30, 2019

Sessions (per Hour)



# OSS Unified: Nov 24, 2019 – Nov 30, 2019



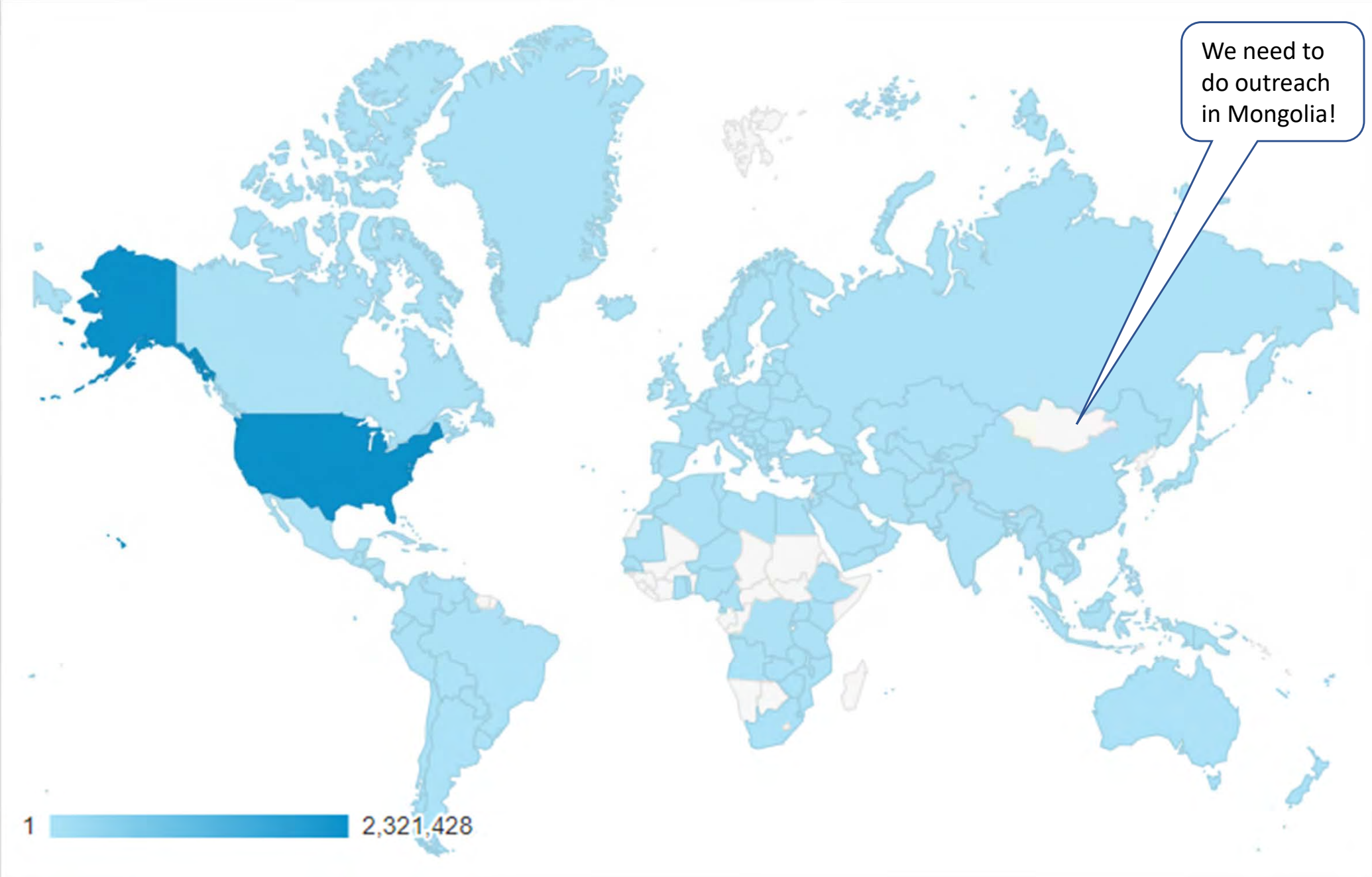


Where do you think?

# From Where in the World?

160 Countries










OSS Unified: May 27, 2020 – Oct 4, 2023






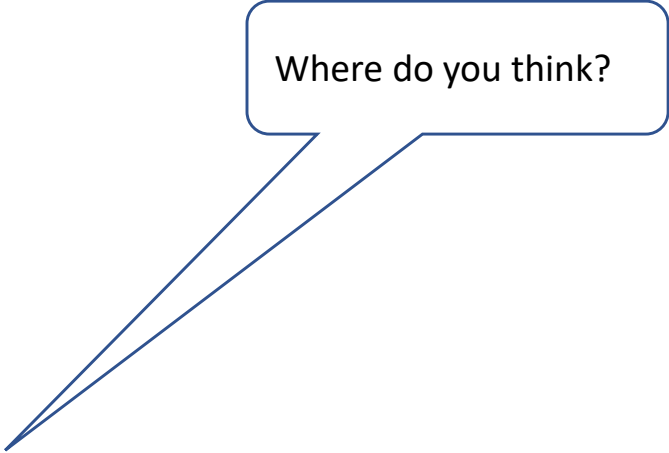
We need to do outreach in Mongolia!

Users

Sessions

	Users	Sessions
	<b>625,786</b> % of Total: 100.00% (625,786)	<b>2,383,627</b> % of Total: 100.00% (2,383,627)
1.  United States	<b>606,520</b> (96.77%)	2,321,428 (97.39%)
2.  Canada	<b>8,387</b> (1.34%)	25,187 (1.06%)
3.  Mexico	<b>1,347</b> (0.21%)	2,548 (0.11%)
4. (not set)	<b>951</b> (0.15%)	2,672 (0.11%)
5.  Netherlands	<b>933</b> (0.15%)	1,809 (0.08%)
6.  Germany	<b>922</b> (0.15%)	2,093 (0.09%)
7.  Brazil	<b>715</b> (0.11%)	1,895 (0.08%)
8.  United Kingdom	<b>698</b> (0.11%)	1,816 (0.08%)
9.  India	<b>572</b> (0.09%)	4,118 (0.17%)
10.  China	<b>530</b> (0.08%)	1,013 (0.04%)

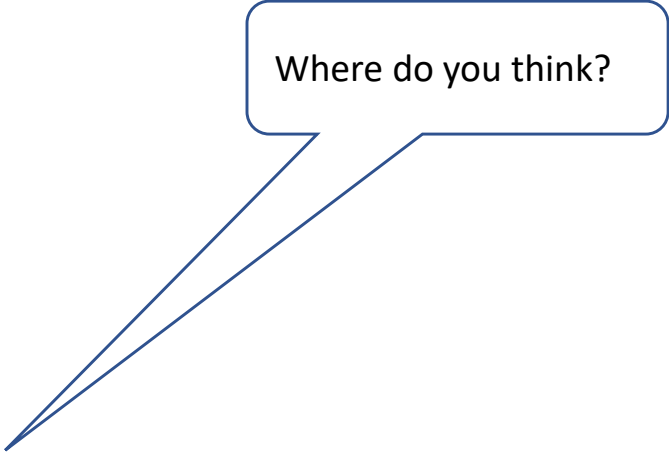
	Users	Sessions
11.  France	506 (0.08%)	1,159 (0.05%)
12.  Ukraine	381 (0.06%)	4,676 (0.20%)
13.  Ireland	235 (0.04%)	295 (0.01%)
14.  Indonesia	210 (0.03%)	566 (0.02%)
15.  Australia	187 (0.03%)	656 (0.03%)
16.  Puerto Rico	170 (0.03%)	294 (0.01%)
17.  Uzbekistan	170 (0.03%)	861 (0.04%)
18.  Sweden	146 (0.02%)	168 (0.01%)
19.  Poland	145 (0.02%)	1,632 (0.07%)
20.  Japan	136 (0.02%)	293 (0.01%)



Where do you think?

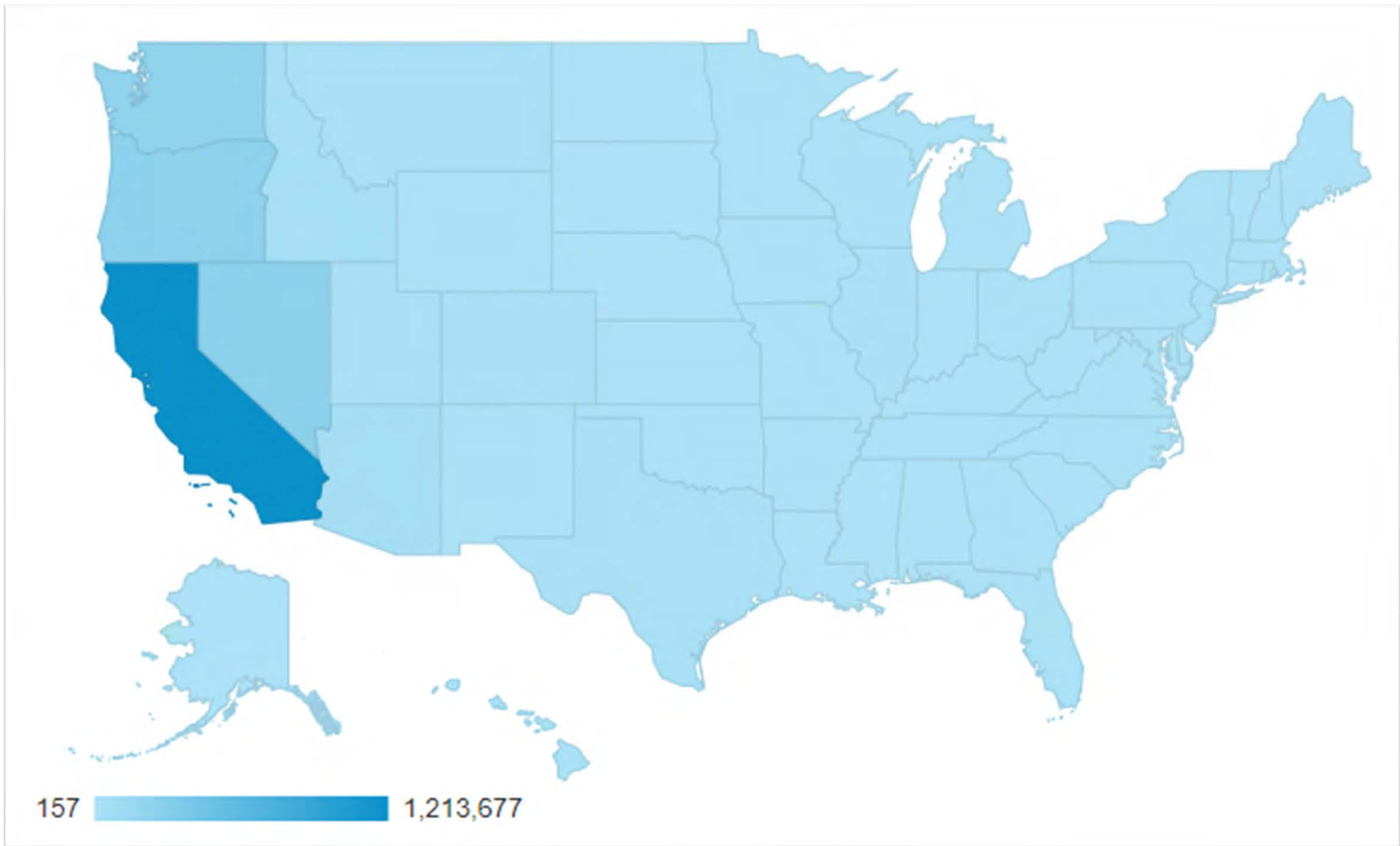
From Where in the US?





Where do you think?

# From Which States?



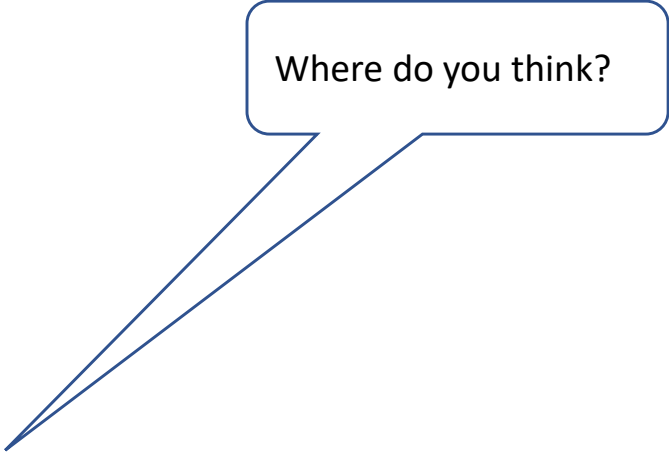
	Users	Sessions
	<b>606,520</b> % of Total: 96.92% (625,786)	<b>2,321,428</b> % of Total: 97.39% (2,383,627)
1. California	<b>342,935</b> (48.14%)	<b>1,213,677</b> (52.28%)
2. Oregon	<b>76,961</b> (10.80%)	<b>245,045</b> (10.56%)
3. Washington	<b>76,605</b> (10.75%)	<b>220,705</b> (9.51%)
4. Nevada	<b>75,350</b> (10.58%)	<b>251,056</b> (10.81%)
5. Arizona	<b>17,653</b> (2.48%)	<b>55,630</b> (2.40%)
6. Idaho	<b>15,952</b> (2.24%)	<b>47,992</b> (2.07%)
7. Montana	<b>11,343</b> (1.59%)	<b>32,644</b> (1.41%)
8. Colorado	<b>10,564</b> (1.48%)	<b>29,039</b> (1.25%)
9. Utah	<b>10,063</b> (1.41%)	<b>34,887</b> (1.50%)
10. Texas	<b>9,945</b> (1.40%)	<b>24,403</b> (1.05%)

	Users	Sessions
11. Florida	4,278 (0.60%)	11,873 (0.51%)
12. Illinois	4,138 (0.58%)	16,340 (0.70%)
13. Virginia	4,104 (0.58%)	7,524 (0.32%)
14. New Mexico	3,072 (0.43%)	7,040 (0.30%)
15. Wyoming	2,896 (0.41%)	6,086 (0.26%)
16. Georgia	2,854 (0.40%)	6,294 (0.27%)
17. New York	2,686 (0.38%)	5,158 (0.22%)
18. Wisconsin	2,679 (0.38%)	7,129 (0.31%)
19. North Carolina	2,606 (0.37%)	5,643 (0.24%)
20. Tennessee	2,576 (0.36%)	8,224 (0.35%)

	Users	Sessions
21. (not set)	2,562 (0.36%)	5,085 (0.22%)
22. Ohio	2,157 (0.30%)	6,606 (0.28%)
23. Michigan	1,918 (0.27%)	4,462 (0.19%)
24. Minnesota	1,884 (0.26%)	4,970 (0.21%)
25. Missouri	1,872 (0.26%)	5,134 (0.22%)
26. Pennsylvania	1,831 (0.26%)	4,603 (0.20%)
27. Iowa	1,691 (0.24%)	3,934 (0.17%)
28. Oklahoma	1,611 (0.23%)	5,418 (0.23%)
29. Nebraska	1,476 (0.21%)	3,468 (0.15%)
30. Arkansas	1,471 (0.21%)	6,968 (0.30%)

	Users	Sessions
31. Kansas	1,399 (0.20%)	4,931 (0.21%)
32. Hawaii	1,320 (0.19%)	3,921 (0.17%)
33. South Dakota	1,264 (0.18%)	2,367 (0.10%)
34. Indiana	1,259 (0.18%)	3,035 (0.13%)
35. Massachusetts	1,247 (0.18%)	2,574 (0.11%)
36. Kentucky	886 (0.12%)	1,543 (0.07%)
37. New Jersey	772 (0.11%)	2,231 (0.10%)
38. Alabama	722 (0.10%)	1,914 (0.08%)
39. Alaska	720 (0.10%)	1,496 (0.06%)
40. Maryland	717 (0.10%)	1,491 (0.06%)

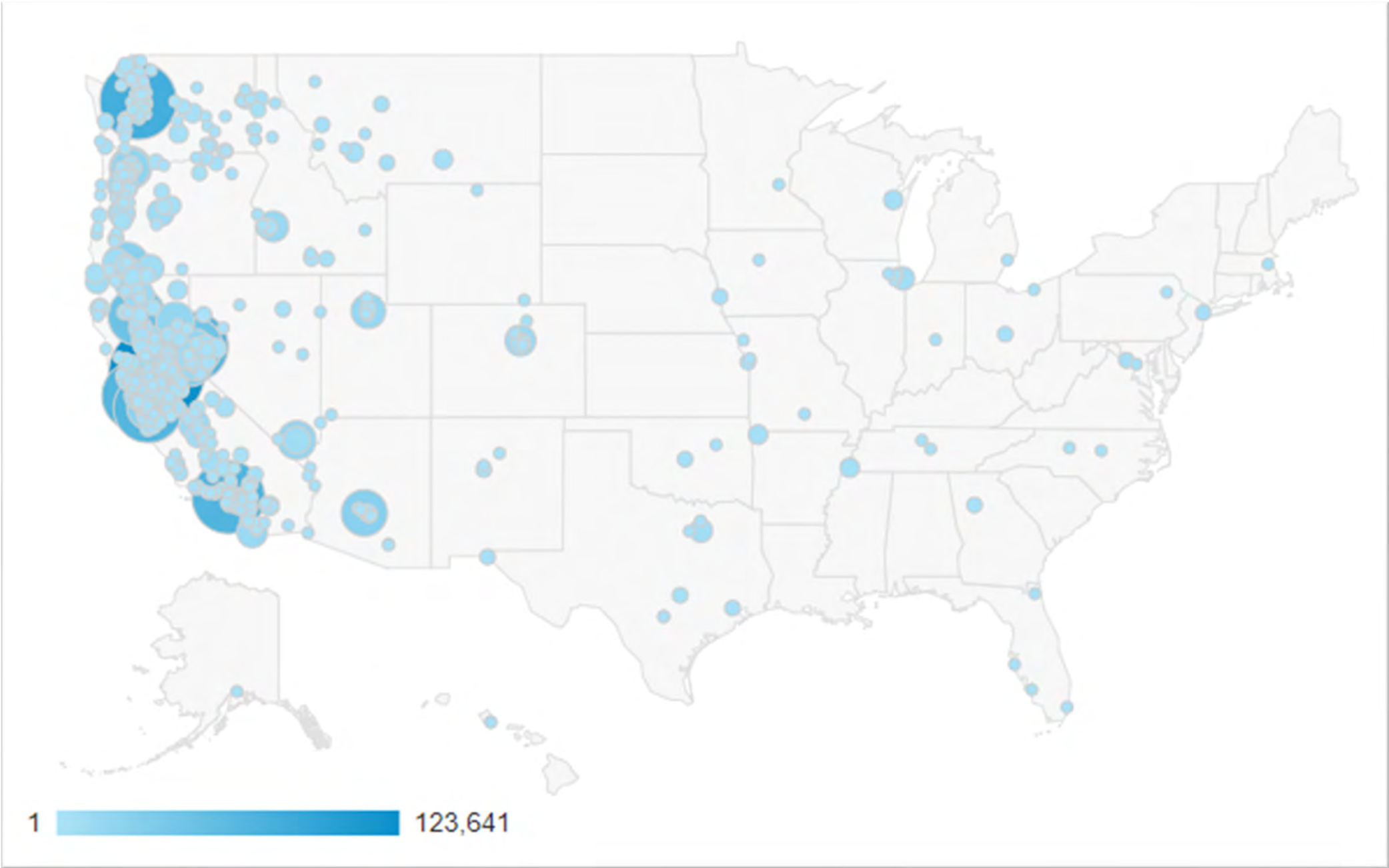
	Users	Sessions
41. District of Columbia	615 (0.09%)	1,252 (0.05%)
42. South Carolina	551 (0.08%)	1,308 (0.06%)
43. North Dakota	542 (0.08%)	1,190 (0.05%)
44. Louisiana	512 (0.07%)	784 (0.03%)
45. Mississippi	452 (0.06%)	1,010 (0.04%)
46. Connecticut	424 (0.06%)	791 (0.03%)
47. West Virginia	324 (0.05%)	511 (0.02%)
48. New Hampshire	286 (0.04%)	420 (0.02%)
49. Maine	249 (0.03%)	370 (0.02%)
50. Vermont	166 (0.02%)	468 (0.02%)
51. Delaware	150 (0.02%)	627 (0.03%)
52. Rhode Island	85 (0.01%)	157 (0.01%)



Where do you think?

# From Which Cities and Towns?





Users

Sessions

	Users	Sessions
1. (not set)	40,706 (4.68%)	111,690 (4.81%)
2. Sacramento	39,047 (4.49%)	123,641 (5.33%)
3. San Jose	35,401 (4.07%)	88,573 (3.82%)
4. Los Angeles	29,248 (3.36%)	68,588 (2.95%)
5. Reno	29,017 (3.33%)	107,606 (4.64%)
6. Seattle	28,958 (3.33%)	78,774 (3.39%)
7. San Francisco	26,067 (3.00%)	66,303 (2.86%)
8. Portland	16,770 (1.93%)	45,116 (1.94%)
9. Redding	11,022 (1.27%)	46,623 (2.01%)
10. Las Vegas	10,028 (1.15%)	26,774 (1.15%)

	Users	Sessions
11. South Lake Tahoe	8,539 (0.98%)	27,481 (1.18%)
12. Roseville	8,480 (0.97%)	22,008 (0.95%)
13. Phoenix	8,390 (0.96%)	26,448 (1.14%)
14. Medford	7,991 (0.92%)	25,623 (1.10%)
15. Sparks	7,008 (0.81%)	16,892 (0.73%)
16. San Diego	5,813 (0.67%)	13,101 (0.56%)
17. Carson City	5,725 (0.66%)	20,987 (0.90%)
18. Yreka	4,830 (0.56%)	14,304 (0.62%)
19. Susanville	4,720 (0.54%)	18,534 (0.80%)
20. Salt Lake City	4,585 (0.53%)	14,863 (0.64%)

Users Sessions

	Users	Sessions
21. Fresno	4,253 (0.49%)	10,865 (0.47%)
22. Chico	4,243 (0.49%)	12,244 (0.53%)
23. Truckee	3,837 (0.44%)	21,021 (0.91%)
24. Denver	3,815 (0.44%)	10,953 (0.47%)
25. Oakland	3,617 (0.42%)	13,043 (0.56%)
26. Santa Rosa	3,609 (0.41%)	8,118 (0.35%)
27. Yuba City	3,459 (0.40%)	13,944 (0.60%)
28. Eugene	3,305 (0.38%)	10,335 (0.45%)
29. Gardnerville Ranchos	3,229 (0.37%)	12,522 (0.54%)
30. Folsom	3,074 (0.35%)	9,823 (0.42%)
31. Arcata	2,993 (0.34%)	4,878 (0.21%)
32. Mount Shasta	2,962 (0.34%)	10,552 (0.45%)
33. Grants Pass	2,897 (0.33%)	8,556 (0.37%)
34. Salem	2,861 (0.33%)	11,312 (0.49%)
35. Crescent City	2,799 (0.32%)	7,230 (0.31%)
36. Dallas	2,792 (0.32%)	5,680 (0.24%)
37. Bend	2,652 (0.30%)	8,900 (0.38%)
38. San Luis Obispo	2,542 (0.29%)	4,930 (0.21%)
39. Turlock	2,490 (0.29%)	4,817 (0.21%)
40. Stockton	2,474 (0.28%)	9,199 (0.40%)

# 7945 Cities and Towns

OSS Unified: May 27, 2020 – Oct 4, 2023

## Users Sessions

	Users	Sessions
41. Chicago	2,469 (0.28%)	6,205 (0.27%)
42. Visalia	2,460 (0.28%)	3,548 (0.15%)
43. Quincy	2,421 (0.28%)	3,296 (0.14%)
44. Fremont	2,405 (0.28%)	6,146 (0.26%)
45. Boise	2,361 (0.27%)	13,262 (0.57%)
46. Incline Village	2,355 (0.27%)	10,472 (0.45%)
47. Bellingham	2,350 (0.27%)	3,146 (0.14%)
48. Brookings	2,326 (0.27%)	3,452 (0.15%)
49. Quincy	2,269 (0.26%)	3,114 (0.13%)
50. Elk Grove	2,249 (0.26%)	6,359 (0.27%)
51. Springfield	2,210 (0.25%)	5,952 (0.26%)
52. Modesto	2,204 (0.25%)	6,423 (0.28%)
53. Barstow	2,199 (0.25%)	2,705 (0.12%)
54. Klamath Falls	2,194 (0.25%)	7,902 (0.34%)
55. Fairfield	2,183 (0.25%)	3,938 (0.17%)
56. Citrus Heights	2,179 (0.25%)	6,275 (0.27%)
57. Kirkland	2,169 (0.25%)	3,916 (0.17%)
58. Bakersfield	2,129 (0.24%)	6,874 (0.30%)
59. Oceanside	2,091 (0.24%)	2,736 (0.12%)
60. Riverside	2,056 (0.24%)	4,974 (0.21%)

# 7945 Cities and Towns

OSS Unified: May 27, 2020 – Oct 4, 2023

## Users Sessions

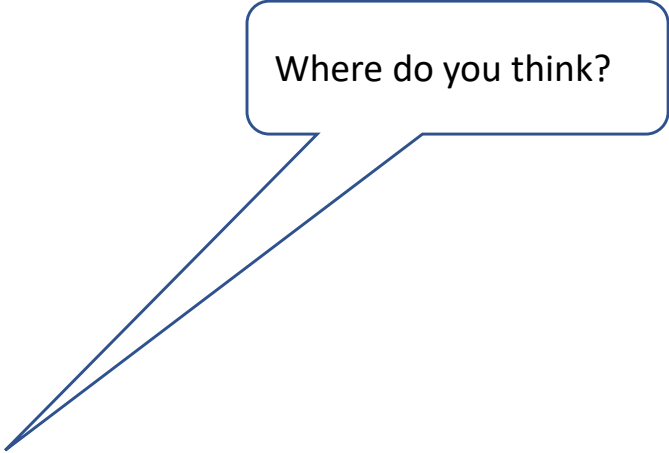
	Users	Sessions
61. Tehachapi	2,023 (0.23%)	2,420 (0.10%)
62. Atwater	2,019 (0.23%)	2,680 (0.12%)
63. Central Point	2,018 (0.23%)	4,373 (0.19%)
64. Ashburn	1,996 (0.23%)	2,911 (0.13%)
65. Centralia	1,993 (0.23%)	2,310 (0.10%)
66. Rancho Cordova	1,978 (0.23%)	10,066 (0.43%)
67. Astoria	1,953 (0.22%)	2,300 (0.10%)
68. Heppner	1,950 (0.22%)	2,178 (0.09%)
69. Friday Harbor	1,937 (0.22%)	2,218 (0.10%)
70. Vancouver	1,920 (0.22%)	6,221 (0.27%)
71. Warm Springs	1,901 (0.22%)	2,129 (0.09%)
72. Portola	1,883 (0.22%)	2,929 (0.13%)
73. Gustine	1,877 (0.22%)	2,109 (0.09%)
74. Sunnyvale	1,873 (0.22%)	4,771 (0.21%)
75. Dorris	1,868 (0.21%)	2,180 (0.09%)
76. Coeur d'Alene	1,842 (0.21%)	2,789 (0.12%)
77. El Dorado Hills	1,801 (0.21%)	6,753 (0.29%)
78. Auburn	1,798 (0.21%)	4,199 (0.18%)
79. Plummer	1,787 (0.21%)	1,991 (0.09%)
80. Clearlake	1,776 (0.20%)	3,035 (0.13%)



# 7945 Cities and Towns

OSS Unified: May 27, 2020 – Oct 4, 2023

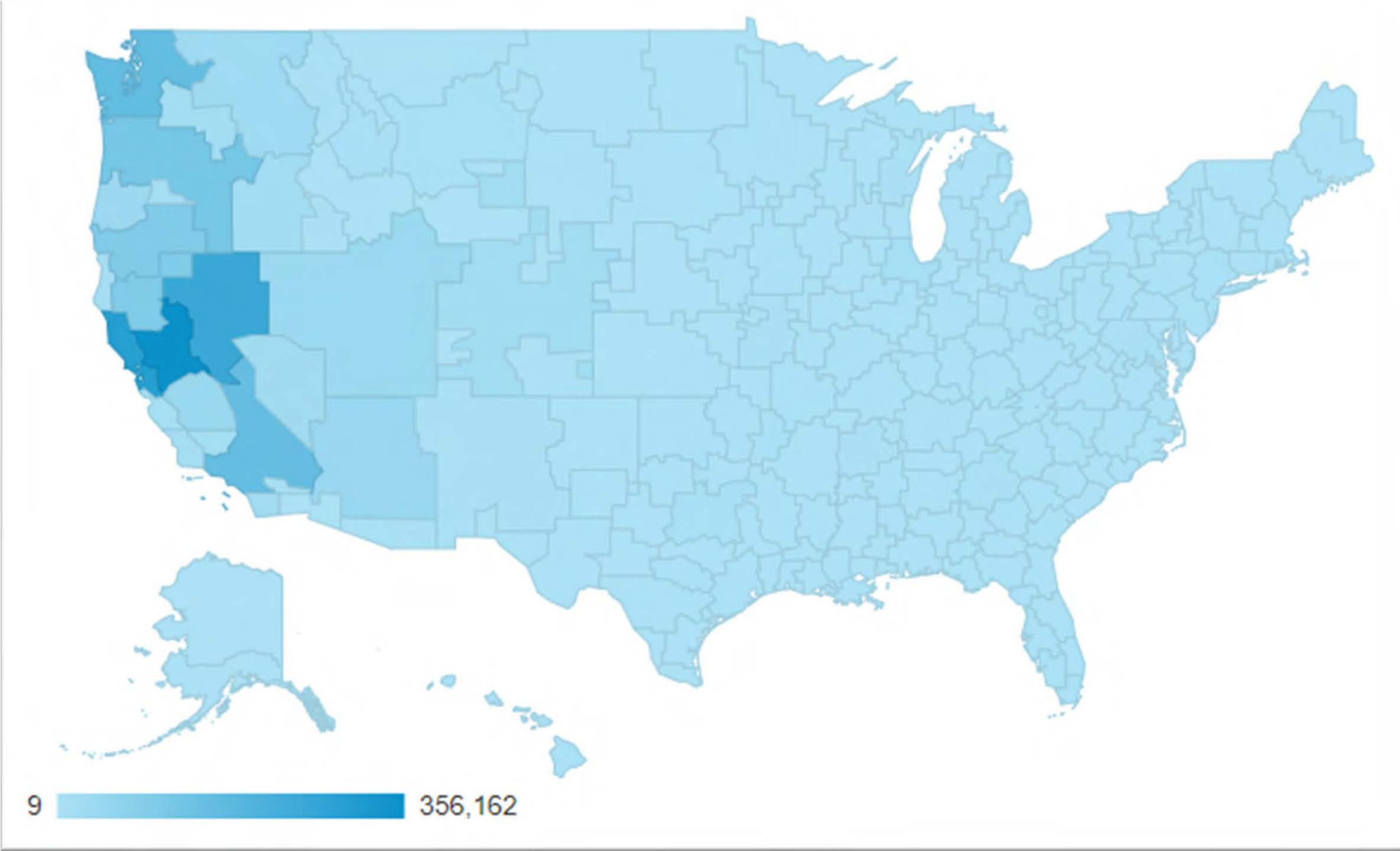
	Users	Sessions
80. Clearlake	1,776 (0.20%)	3,035 (0.13%)
81. Edmonds	1,773 (0.20%)	2,100 (0.09%)
82. Red Bluff	1,756 (0.20%)	5,453 (0.23%)
83. Mount Vernon	1,735 (0.20%)	2,203 (0.09%)
84. Long Beach	1,720 (0.20%)	2,874 (0.12%)
85. Merced	1,699 (0.20%)	3,023 (0.13%)
86. Santa Clara	1,684 (0.19%)	5,353 (0.23%)
87. Aberdeen	1,684 (0.19%)	2,036 (0.09%)
88. Gerlach	1,663 (0.19%)	1,835 (0.08%)
89. Vacaville	1,660 (0.19%)	7,037 (0.30%)
90. Kent	1,655 (0.19%)	2,726 (0.12%)
91. New York	1,653 (0.19%)	3,024 (0.13%)
92. Cottage Grove	1,645 (0.19%)	4,699 (0.20%)
93. Englewood	1,640 (0.19%)	3,387 (0.15%)
94. Copperopolis	1,636 (0.19%)	1,874 (0.08%)
95. Gilroy	1,611 (0.19%)	2,224 (0.10%)
96. Ashland	1,589 (0.18%)	5,319 (0.23%)
97. Coos Bay	1,552 (0.18%)	2,903 (0.13%)
98. Willows	1,551 (0.18%)	2,309 (0.10%)
99. Eastsound	1,530 (0.18%)	1,677 (0.07%)
100. Oakhurst	1,514 (0.17%)	2,003 (0.09%)



Where do you think?

# From Which Metro Areas?





	Users	Sessions
1. Sacramento-Stockton-Modesto CA	102,797 (13.00%)	356,162 (15.34%)
2. San Francisco-Oakland-San Jose CA	101,564 (12.84%)	295,479 (12.73%)
3. Reno NV	71,805 (9.08%)	253,266 (10.91%)
4. Los Angeles CA	59,568 (7.53%)	157,082 (6.77%)
5. Seattle-Tacoma WA	59,564 (7.53%)	161,621 (6.96%)
6. (not set)	46,938 (5.93%)	133,140 (5.74%)
7. Portland OR	40,998 (5.18%)	120,398 (5.19%)
8. Medford-Klamath Falls OR	32,234 (4.08%)	97,949 (4.22%)
9. Chico-Redding CA	27,009 (3.41%)	101,944 (4.39%)
10. Fresno-Visalia CA	17,900 (2.26%)	42,694 (1.84%)

	Users	Sessions
11. Spokane WA	15,923 (2.01%)	34,646 (1.49%)
12. Phoenix AZ	15,110 (1.91%)	47,294 (2.04%)
13. Salt Lake City UT	14,055 (1.78%)	40,026 (1.72%)
14. Eugene OR	13,162 (1.66%)	38,584 (1.66%)
15. San Diego CA	11,911 (1.51%)	24,639 (1.06%)
16. Las Vegas NV	11,870 (1.50%)	30,463 (1.31%)
17. Yakima-Pasco-Richland-Kennewick WA	10,180 (1.29%)	21,368 (0.92%)
18. Bakersfield CA	9,888 (1.25%)	18,449 (0.79%)
19. Denver CO	9,375 (1.19%)	25,784 (1.11%)
20. Eureka CA	8,107 (1.02%)	17,941 (0.77%)

# All 216 Metro Areas

OSS Unified: May 27, 2020 – Oct 4, 2023

## Users Sessions

Rank	Metro Area	Users	Sessions
21.	Santa Barbara-Santa Maria-San Luis Obispo CA	6,640 (0.84%)	17,388 (0.75%)
22.	Boise ID	5,486 (0.69%)	24,807 (1.07%)
23.	Bend OR	5,062 (0.64%)	16,849 (0.73%)
24.	Monterey-Salinas CA	4,928 (0.62%)	14,758 (0.64%)
25.	Dallas-Ft. Worth TX	4,489 (0.57%)	10,207 (0.44%)
26.	Washington DC (Hagerstown MD)	3,836 (0.48%)	7,128 (0.31%)
27.	Chicago IL	3,569 (0.45%)	15,447 (0.67%)
28.	Albuquerque-Santa Fe NM	2,866 (0.36%)	6,869 (0.30%)
29.	Butte-Bozeman MT	2,779 (0.35%)	9,049 (0.39%)
30.	Missoula MT	2,711 (0.34%)	7,345 (0.32%)
31.	Billings, MT	2,607 (0.33%)	5,492 (0.24%)
32.	New York, NY	2,576 (0.33%)	5,614 (0.24%)
33.	Palm Springs CA	2,188 (0.28%)	8,800 (0.38%)
34.	Atlanta GA	2,124 (0.27%)	4,723 (0.20%)
35.	Yuma AZ-El Centro CA	1,876 (0.24%)	3,096 (0.13%)
36.	Tucson (Sierra Vista) AZ	1,614 (0.20%)	4,159 (0.18%)
37.	Minneapolis-St. Paul MN	1,583 (0.20%)	3,884 (0.17%)
38.	Houston TX	1,493 (0.19%)	3,064 (0.13%)
39.	Tampa-St. Petersburg (Sarasota) FL	1,469 (0.19%)	3,534 (0.15%)
40.	Green Bay-Appleton WI	1,423 (0.18%)	4,499 (0.19%)

Montana!

# All 216 Metro Areas

OSS Unified: May 27, 2020 – Oct 4, 2023

## Users Sessions

Montana!

	Users	Sessions
41. Boston MA-Manchester NH	1,308 (0.17%)	2,592 (0.11%)
42. Great Falls MT	1,303 (0.16%)	3,408 (0.15%)
43. Memphis TN	1,301 (0.16%)	5,178 (0.22%)
44. Honolulu HI	1,281 (0.16%)	3,877 (0.17%)
45. Austin TX	1,214 (0.15%)	2,586 (0.11%)
46. Twin Falls ID	1,152 (0.15%)	5,304 (0.23%)
47. Kansas City MO	1,146 (0.14%)	4,318 (0.19%)
48. Oklahoma City OK	1,101 (0.14%)	3,347 (0.14%)
49. Rapid City SD	1,075 (0.14%)	2,925 (0.13%)
50. San Antonio TX	1,074 (0.14%)	2,001 (0.09%)
51. Idaho Falls-Pocatello ID	1,038 (0.13%)	2,663 (0.11%)
52. Ft. Smith-Fayetteville-Springdale-Rogers AR	911 (0.12%)	5,827 (0.25%)
53. Greensboro-High Point-Winston Salem NC	882 (0.11%)	1,427 (0.06%)
54. Des Moines-Ames IA	873 (0.11%)	1,777 (0.08%)
55. Cheyenne WY-Scottsbluff NE	845 (0.11%)	986 (0.04%)
56. Philadelphia PA	840 (0.11%)	1,766 (0.08%)
57. Orlando-Daytona Beach-Melbourne FL	804 (0.10%)	1,586 (0.07%)
58. Columbus OH	803 (0.10%)	2,554 (0.11%)
59. Miami-Ft. Lauderdale FL	787 (0.10%)	2,276 (0.10%)
60. Nashville TN	755 (0.10%)	2,005 (0.09%)

# All 216 Metro Areas

OSS Unified: May 27, 2020 – Oct 4, 2023

## Users Sessions

Montana!

Rank	Metro Area	Users	Sessions
61.	Helena MT	715 (0.09%)	1,148 (0.05%)
62.	Colorado Springs-Pueblo CO	707 (0.09%)	1,134 (0.05%)
63.	Omaha NE	694 (0.09%)	2,263 (0.10%)
64.	JP_OTHER	685 (0.09%)	2,582 (0.11%)
65.	St. Louis MO	671 (0.08%)	1,448 (0.06%)
66.	Raleigh-Durham (Fayetteville) NC	652 (0.08%)	1,436 (0.06%)
67.	Indianapolis IN	633 (0.08%)	1,388 (0.06%)
68.	Detroit MI	593 (0.07%)	1,842 (0.08%)
69.	Cleveland-Akron (Canton) OH	583 (0.07%)	2,483 (0.11%)
70.	Amarillo TX	565 (0.07%)	708 (0.03%)
71.	Anchorage AK	554 (0.07%)	1,121 (0.05%)
72.	Casper-Riverton WY	524 (0.07%)	832 (0.04%)
73.	Tulsa OK	514 (0.06%)	1,945 (0.08%)
74.	Greenville-Spartanburg-Asheville-Anderson	499 (0.06%)	1,203 (0.05%)
75.	Charlotte NC	494 (0.06%)	1,360 (0.06%)
76.	Minot-Bismarck-Dickinson(Williston) ND	491 (0.06%)	817 (0.04%)
77.	El Paso TX	476 (0.06%)	2,103 (0.09%)
78.	Milwaukee WI	453 (0.06%)	785 (0.03%)
79.	Ft. Myers-Naples FL	416 (0.05%)	1,342 (0.06%)
80.	Wichita-Hutchinson KS	413 (0.05%)	631 (0.03%)

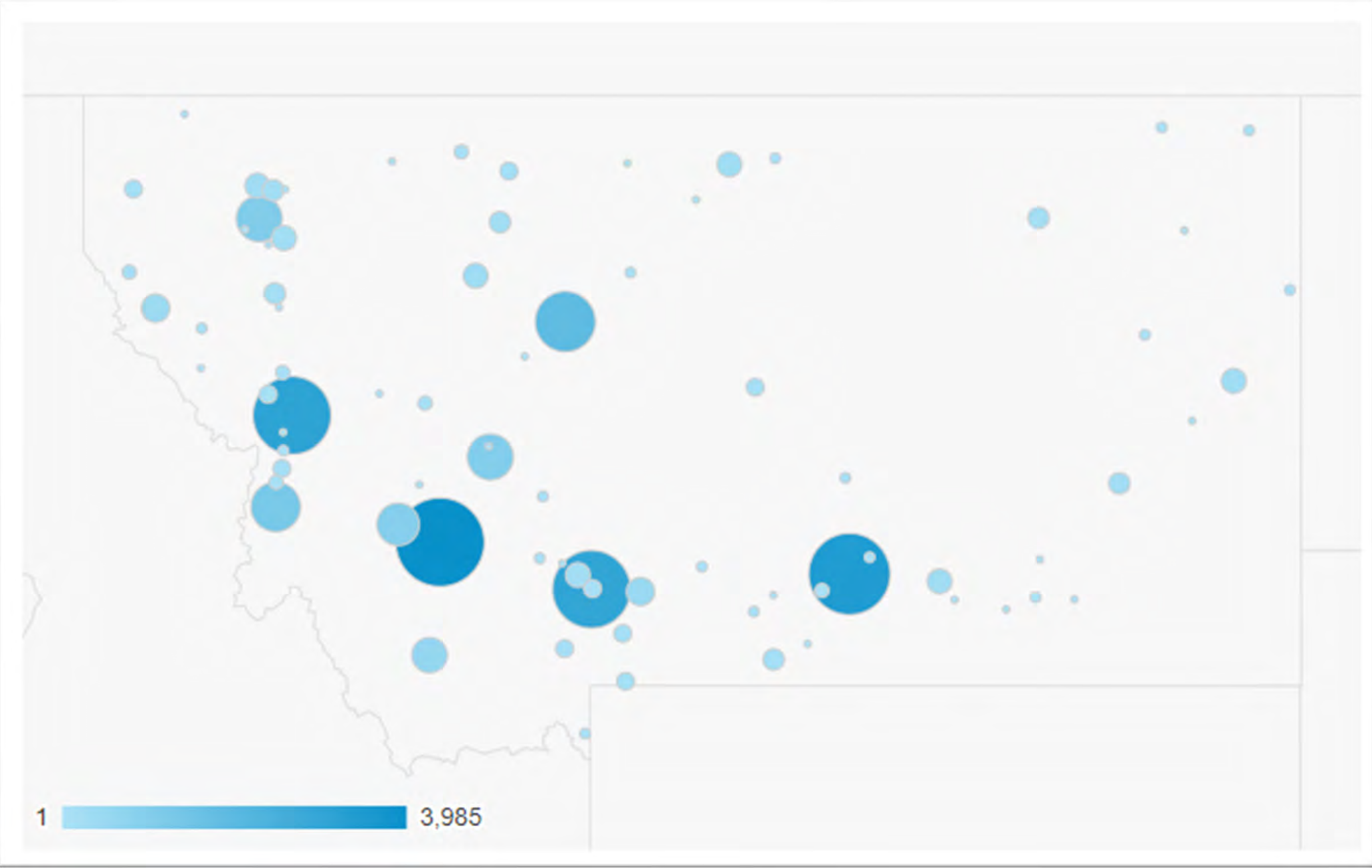
## Users Sessions

81. Cincinnati OH	409 (0.05%)	1,233 (0.05%)
82. Springfield MO	407 (0.05%)	1,769 (0.08%)
83. Grand Junction-Montrose CO	407 (0.05%)	744 (0.03%)
84. Grand Rapids-Kalamazoo-Battle Creek MI	394 (0.05%)	669 (0.03%)
85. Marquette MI	385 (0.05%)	573 (0.02%)
86. Little Rock-Pine Bluff AR	373 (0.05%)	655 (0.03%)
87. Pittsburgh PA	372 (0.05%)	821 (0.04%)
88. Richmond-Petersburg VA	346 (0.04%)	633 (0.03%)
89. Madison WI	346 (0.04%)	591 (0.03%)
90. Lincoln & Hastings-Kearney NE	335 (0.04%)	652 (0.03%)
91. Sioux Falls(Mitchell) SD	335 (0.04%)	992 (0.04%)
92. Louisville KY	311 (0.04%)	461 (0.02%)
93. Jacksonville FL	309 (0.04%)	923 (0.04%)
94. Cedar Rapids-Waterloo-Iowa City & Dubuque IA	287 (0.04%)	726 (0.03%)
95. Baltimore MD	282 (0.04%)	533 (0.02%)
96. Lexington KY	276 (0.03%)	517 (0.02%)
97. Birmingham (Ann and Tusc) AL	274 (0.03%)	534 (0.02%)
98. Roanoke-Lynchburg VA	269 (0.03%)	797 (0.03%)
99. Norfolk-Portsmouth-Newport News VA	236 (0.03%)	417 (0.02%)
100. Harrisburg-Lancaster-Lebanon-York PA	236 (0.03%)	410 (0.02%)

From Which Cities/Towns in Montana?



# 125 Montana Cities and Towns OSS Unified: May 27, 2020 – Oct 4, 2023



# 125 Montana Cities and Towns OSS Unified: May 27, 2020 – Oct 4, 2023

	Users	Sessions
1. (not set)	<b>1,590</b> (12.57%)	3,901 (11.95%)
2. Billings	<b>1,367</b> (10.81%)	3,448 (10.56%)
3. Bozeman	<b>1,258</b> (9.95%)	3,094 (9.48%)
4. Missoula	<b>1,078</b> (8.52%)	3,090 (9.47%)
5. Butte	<b>901</b> (7.12%)	3,985 (12.21%)
6. Great Falls	<b>639</b> (5.05%)	1,916 (5.87%)
7. Helena	<b>621</b> (4.91%)	1,031 (3.16%)
8. Kalispell	<b>535</b> (4.23%)	1,047 (3.21%)
9. Livingston	<b>314</b> (2.48%)	433 (1.33%)
10. Dillon	<b>302</b> (2.39%)	563 (1.72%)

# 125 Montana Cities and Towns OSS Unified: May 27, 2020 – Oct 4, 2023

	Users	Sessions
11. Hardin	227 (1.80%)	286 (0.88%)
12. Bigfork	217 (1.72%)	250 (0.77%)
13. Havre	212 (1.68%)	295 (0.90%)
14. Glendive	201 (1.59%)	268 (0.82%)
15. Thompson Falls	159 (1.26%)	411 (1.26%)
16. Columbia Falls	158 (1.25%)	194 (0.59%)
17. Whitefish	156 (1.23%)	292 (0.89%)
18. Belgrade	145 (1.15%)	250 (0.77%)
19. Stevensville	140 (1.11%)	151 (0.46%)
20. Red Lodge	139 (1.10%)	170 (0.52%)

# 125 Montana Cities and Towns OSS Unified: May 27, 2020 – Oct 4, 2023

## Users Sessions

21. Gardiner	137 (1.08%)	152 (0.47%)
22. (not set)	129 (1.02%)	433 (1.33%)
23. Anaconda	121 (0.96%)	968 (2.97%)
24. Hamilton	116 (0.92%)	1,284 (3.93%)
25. Shelby	107 (0.85%)	160 (0.49%)
26. Emigrant	101 (0.80%)	116 (0.36%)
27. Libby	97 (0.77%)	139 (0.43%)
28. Cut Bank	91 (0.72%)	97 (0.30%)
29. Glasgow	83 (0.66%)	186 (0.57%)
30. Lincoln	75 (0.59%)	84 (0.26%)
31. Lewistown	74 (0.59%)	113 (0.35%)
32. Polson	71 (0.56%)	179 (0.55%)
33. Victor	63 (0.50%)	71 (0.22%)
34. Big Sky	54 (0.43%)	122 (0.37%)
35. Conrad	49 (0.39%)	246 (0.75%)
36. Arlee	48 (0.38%)	60 (0.18%)
37. Miles City	48 (0.38%)	196 (0.60%)
38. Laurel	43 (0.34%)	78 (0.24%)
39. Sidney	38 (0.30%)	40 (0.12%)
40. (not set)	36 (0.28%)	107 (0.33%)

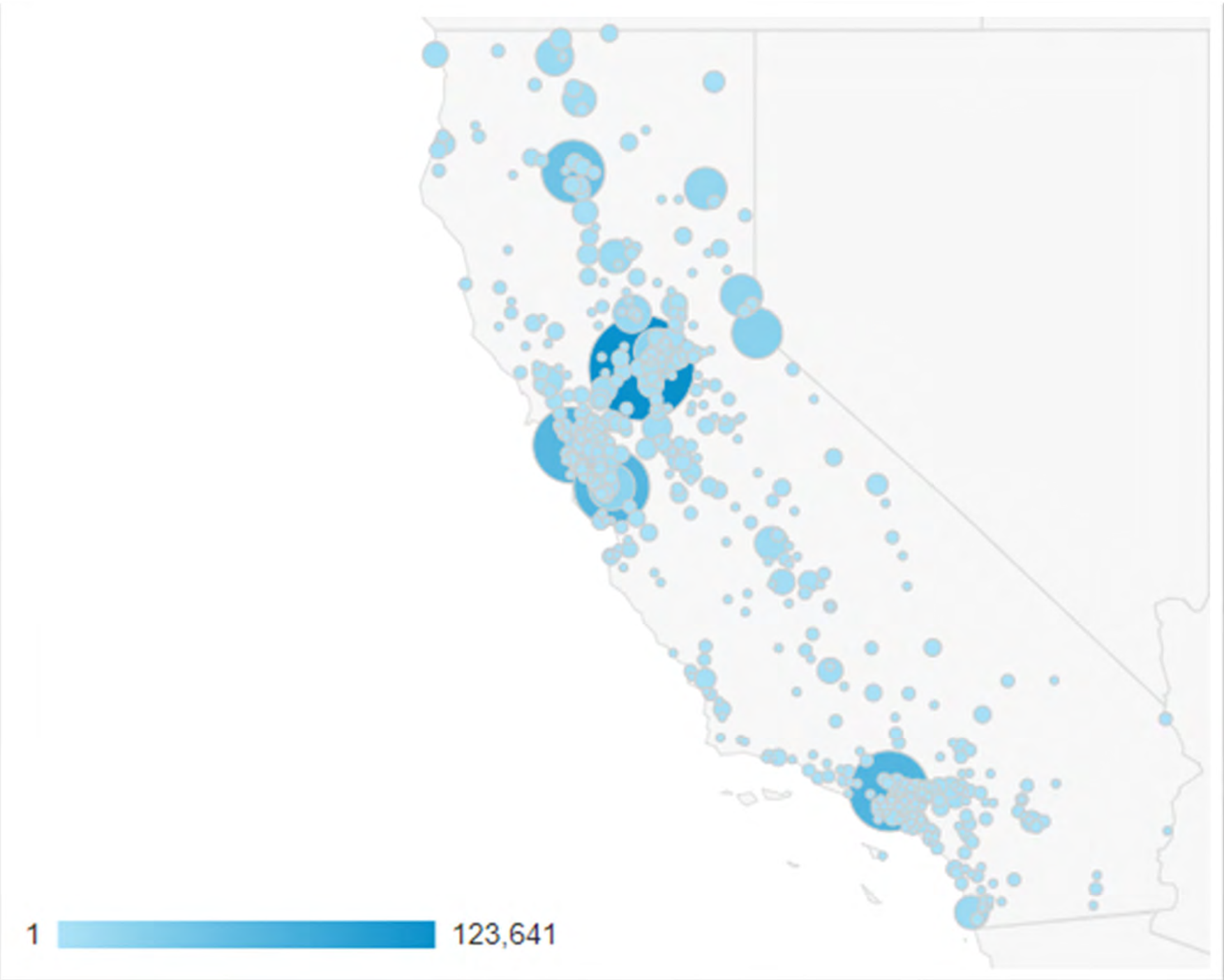
# 125 Montana Cities and Towns OSS Unified: May 27, 2020 – Oct 4, 2023

## Users Sessions

41. Choteau	29 (0.23%)	313 (0.96%)
42. Fort Benton	29 (0.23%)	35 (0.11%)
43. Trout Creek	29 (0.23%)	93 (0.28%)
44. Big Timber	25 (0.20%)	27 (0.08%)
45. Plains	25 (0.20%)	25 (0.08%)
46. Roundup	24 (0.19%)	32 (0.10%)
47. Chinook	23 (0.18%)	23 (0.07%)
48. Townsend	23 (0.18%)	33 (0.10%)
49. 709-3901	23 (0.18%)	863 (2.64%)
50. Frenchtown	22 (0.17%)	149 (0.46%)
51. Lame Deer	21 (0.17%)	22 (0.07%)
52. Scobey	21 (0.17%)	21 (0.06%)
53. 861-3452	21 (0.17%)	32 (0.10%)
54. Circle	20 (0.16%)	21 (0.06%)
55. 246471	19 (0.15%)	63 (0.19%)
56. (not set)	19 (0.15%)	30 (0.09%)
57. (not set)	18 (0.14%)	36 (0.11%)
58. West Yellowstone	17 (0.13%)	18 (0.06%)
59. 990-2303	17 (0.13%)	183 (0.56%)
60. Three Forks	16 (0.13%)	18 (0.06%)

From Which Cities/Towns in California?

# 932 California Cities and Towns OSS Unified: May 27, 2020 – Oct 4, 2023



# 932 California Cities and Towns OSS Unified: May 27, 2020 – Oct 4, 2023

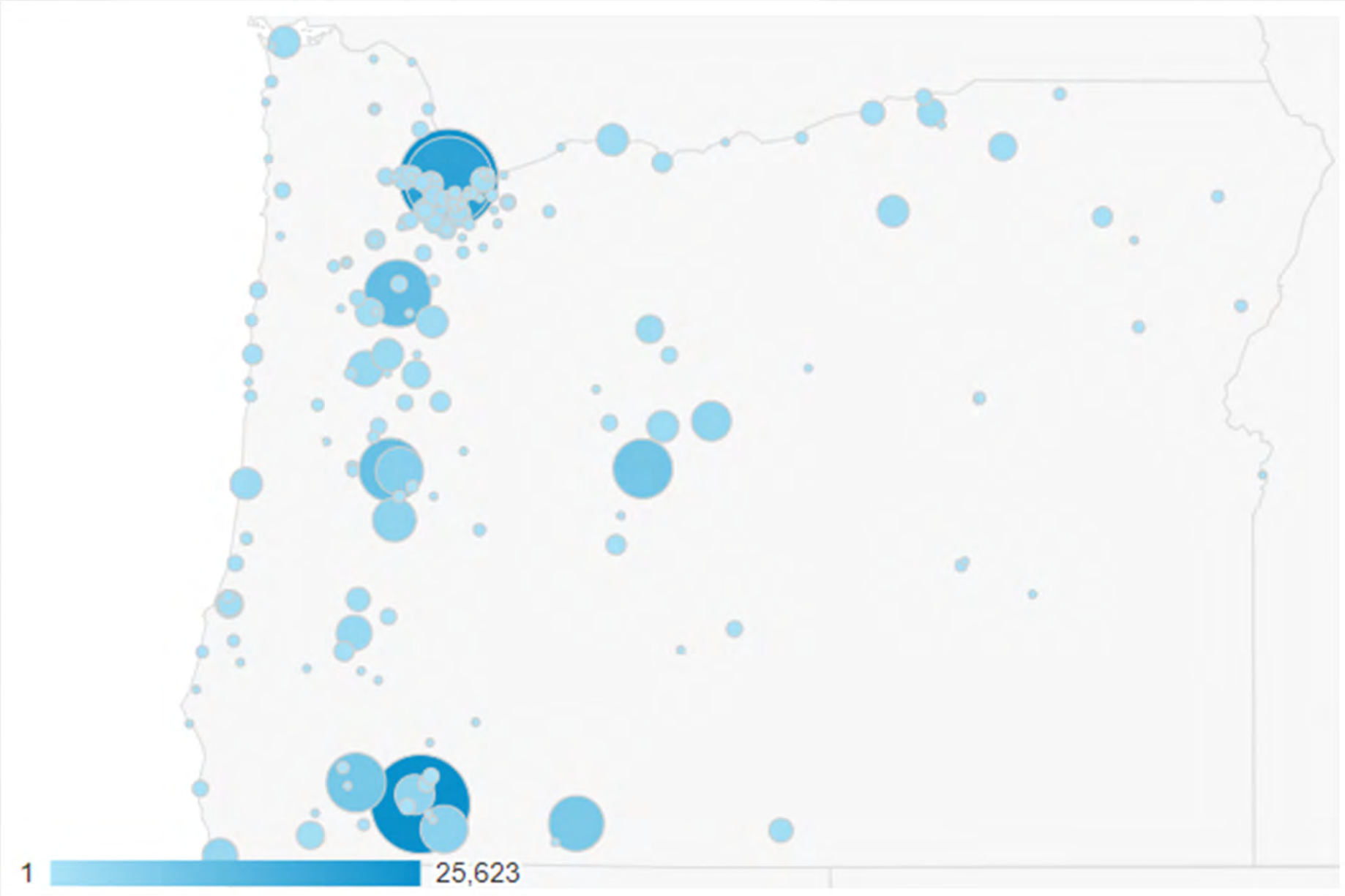
	Users	Sessions
1. Sacramento	<b>39,047</b> (8.82%)	123,641 (10.19%)
2. San Jose	<b>35,401</b> (8.00%)	88,573 (7.30%)
3. Los Angeles	<b>29,248</b> (6.61%)	68,588 (5.65%)
4. San Francisco	<b>26,067</b> (5.89%)	66,303 (5.46%)
5. (not set)	<b>19,015</b> (4.30%)	55,538 (4.58%)
6. Redding	<b>11,022</b> (2.49%)	46,623 (3.84%)
7. South Lake Tahoe	<b>8,539</b> (1.93%)	27,481 (2.26%)
8. Roseville	<b>8,480</b> (1.92%)	22,008 (1.81%)
9. San Diego	<b>5,813</b> (1.31%)	13,101 (1.08%)
10. Yreka	<b>4,830</b> (1.09%)	14,304 (1.18%)



# 932 California Cities and Towns OSS Unified: May 27, 2020 – Oct 4, 2023

	Users	Sessions
11. Susanville	<b>4,720</b> (1.07%)	<b>18,534</b> (1.53%)
12. Fresno	<b>4,253</b> (0.96%)	<b>10,865</b> (0.90%)
13. Chico	<b>4,243</b> (0.96%)	<b>12,244</b> (1.01%)
14. Truckee	<b>3,837</b> (0.87%)	<b>21,021</b> (1.73%)
15. Oakland	<b>3,617</b> (0.82%)	<b>13,043</b> (1.07%)
16. Santa Rosa	<b>3,609</b> (0.82%)	<b>8,118</b> (0.67%)
17. Yuba City	<b>3,459</b> (0.78%)	<b>13,944</b> (1.15%)
18. Folsom	<b>3,074</b> (0.69%)	<b>9,823</b> (0.81%)
19. Arcata	<b>2,993</b> (0.68%)	<b>4,878</b> (0.40%)
20. Mount Shasta	<b>2,962</b> (0.67%)	<b>10,552</b> (0.87%)

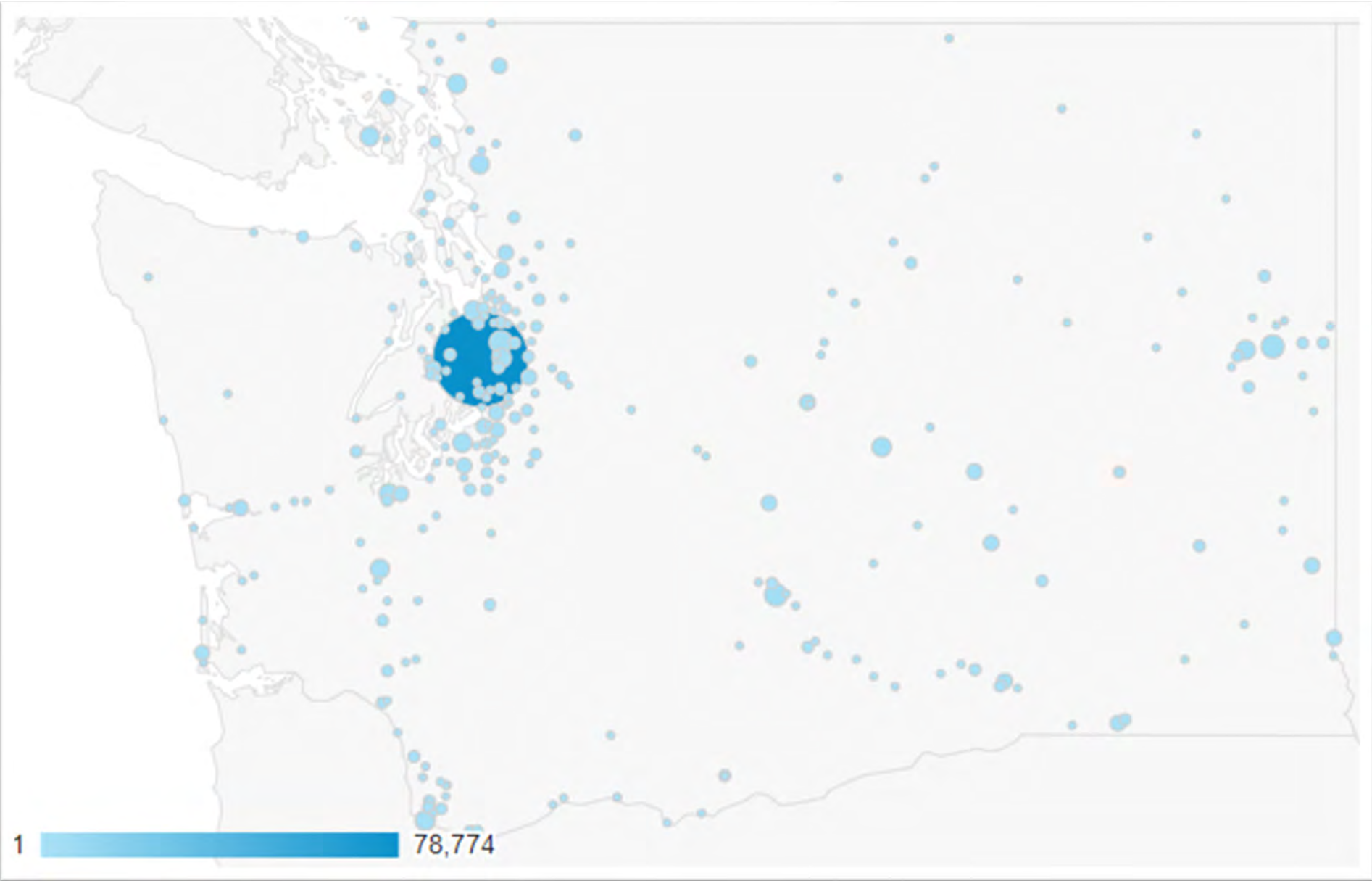
From Which Cities/Towns in Oregon?



	Users	Sessions
1. Portland	16,770 (18.05%)	45,116 (18.41%)
2. Medford	7,991 (8.60%)	25,623 (10.46%)
3. (not set)	3,842 (4.13%)	8,887 (3.63%)
4. Eugene	3,305 (3.56%)	10,335 (4.22%)
5. Grants Pass	2,897 (3.12%)	8,556 (3.49%)
6. Salem	2,861 (3.08%)	11,312 (4.62%)
7. Bend	2,652 (2.85%)	8,900 (3.63%)
8. Brookings	2,326 (2.50%)	3,452 (1.41%)
9. Springfield	2,210 (2.38%)	5,952 (2.43%)
10. Klamath Falls	2,194 (2.36%)	7,902 (3.22%)

	Users	Sessions
11. Central Point	2,018 (2.17%)	4,373 (1.78%)
12. Astoria	1,953 (2.10%)	2,300 (0.94%)
13. Heppner	1,950 (2.10%)	2,178 (0.89%)
14. Warm Springs	1,901 (2.05%)	2,129 (0.87%)
15. Cottage Grove	1,645 (1.77%)	4,699 (1.92%)
16. Ashland	1,589 (1.71%)	5,319 (2.17%)
17. Coos Bay	1,552 (1.67%)	2,903 (1.18%)
18. Hermiston	1,334 (1.44%)	1,822 (0.74%)
19. Cave Junction	1,329 (1.43%)	1,611 (0.66%)
20. Monmouth	1,284 (1.38%)	1,588 (0.65%)

From Which Cities/Towns in Washington?



	Users	Sessions
1. Seattle	28,958 (28.89%)	78,774 (35.69%)
2. (not set)	4,987 (4.98%)	8,756 (3.97%)
3. Quincy	2,421 (2.42%)	3,296 (1.49%)
4. Bellingham	2,350 (2.34%)	3,146 (1.43%)
5. Kirkland	2,169 (2.16%)	3,916 (1.77%)
6. Centralia	1,993 (1.99%)	2,310 (1.05%)
7. Friday Harbor	1,937 (1.93%)	2,218 (1.00%)
8. Vancouver	1,920 (1.92%)	6,221 (2.82%)
9. Edmonds	1,773 (1.77%)	2,100 (0.95%)
10. Mount Vernon	1,735 (1.73%)	2,203 (1.00%)

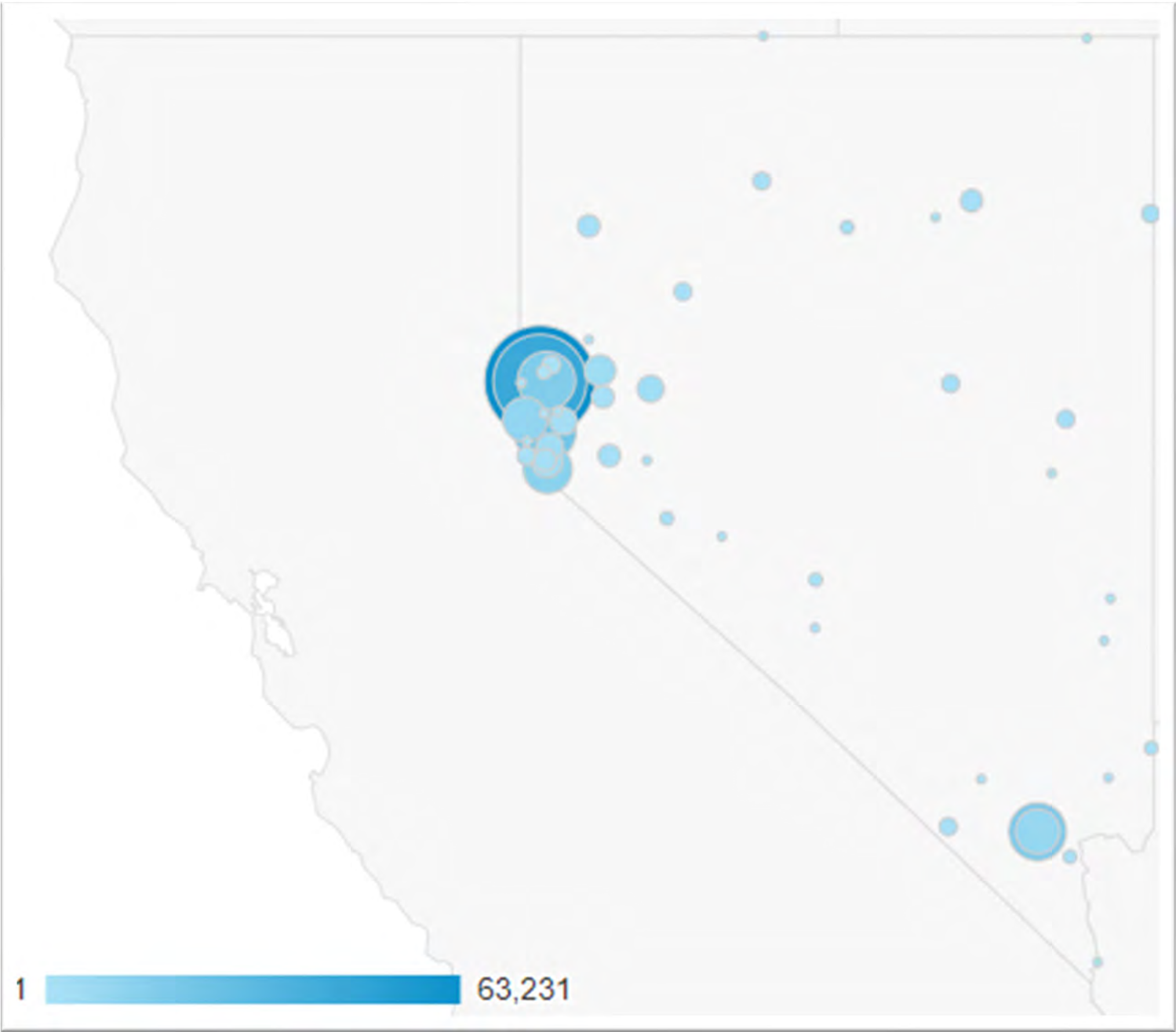


Users

Sessions

	Users	Sessions
11. Aberdeen	1,684 (1.68%)	2,036 (0.92%)
12. Kent	1,655 (1.65%)	2,726 (1.24%)
13. Eastsound	1,530 (1.53%)	1,677 (0.76%)
14. College Place	1,433 (1.43%)	1,647 (0.75%)
15. Spokane	1,390 (1.39%)	4,751 (2.15%)
16. Tacoma	1,282 (1.28%)	2,831 (1.28%)
17. Othello	1,277 (1.27%)	1,389 (0.63%)
18. Deming	1,263 (1.26%)	1,380 (0.63%)
19. Long Beach	1,240 (1.24%)	1,366 (0.62%)
20. Clarkston	1,188 (1.19%)	1,288 (0.58%)

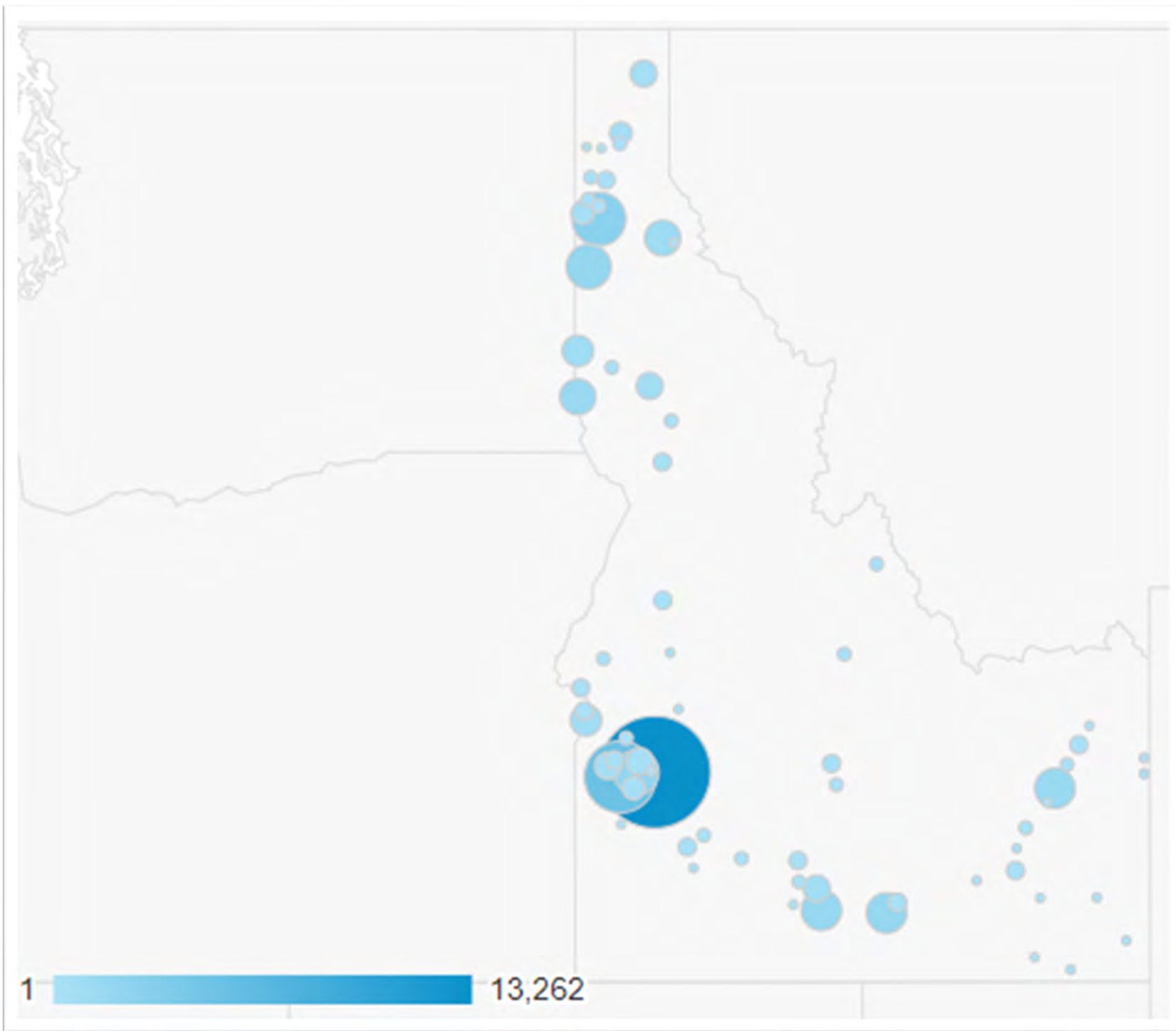
From Which Cities/Towns in Nevada?



	Users	Sessions
1. Reno	29,017 (35.68%)	107,606 (42.86%)
2. Las Vegas	10,028 (12.33%)	26,774 (10.66%)
3. Sparks	7,008 (8.62%)	16,892 (6.73%)
4. Carson City	5,725 (7.04%)	20,987 (8.36%)
5. (not set)	3,620 (4.45%)	10,809 (4.31%)
6. Gardnerville Ranchos	3,229 (3.97%)	12,522 (4.99%)
7. Incline Village	2,355 (2.90%)	10,472 (4.17%)
8. Gerlach	1,663 (2.05%)	1,835 (0.73%)
9. Gardnerville	1,328 (1.63%)	4,154 (1.65%)
10. Ely	1,292 (1.59%)	1,459 (0.58%)

	Users	Sessions
11. Eureka	1,288 (1.58%)	1,381 (0.55%)
12. Fallon	1,273 (1.57%)	3,278 (1.31%)
13. Fernley	1,248 (1.53%)	5,004 (1.99%)
14. Dayton	1,245 (1.53%)	3,042 (1.21%)
15. Silver Springs	1,230 (1.51%)	1,705 (0.68%)
16. Johnson Lane	1,020 (1.25%)	3,828 (1.52%)
17. West Wendover	893 (1.10%)	1,474 (0.59%)
18. Lovelock	888 (1.09%)	944 (0.38%)
19. Elko	824 (1.01%)	1,857 (0.74%)
20. Yerington	626 (0.77%)	1,721 (0.69%)

From Which Cities/Towns in Idaho?



	Users	Sessions
1. Boise	2,361 (12.81%)	13,262 (27.63%)
2. (not set)	2,045 (11.10%)	3,174 (6.61%)
3. Coeur d'Alene	1,842 (10.00%)	2,789 (5.81%)
4. Plummer	1,787 (9.70%)	1,991 (4.15%)
5. Nampa	1,419 (7.70%)	5,209 (10.85%)
6. Kellogg	1,099 (5.96%)	1,185 (2.47%)
7. Meridian	895 (4.86%)	2,161 (4.50%)
8. Lewiston	802 (4.35%)	1,417 (2.95%)
9. Moscow	595 (3.23%)	978 (2.04%)
10. Bonners Ferry	557 (3.02%)	582 (1.21%)



	Users	Sessions
11. Idaho Falls	470 (2.55%)	1,495 (3.12%)
12. Sandpoint	450 (2.44%)	556 (1.16%)
13. Twin Falls	332 (1.80%)	1,789 (3.73%)
14. Ketchum	242 (1.31%)	280 (0.58%)
15. Post Falls	211 (1.14%)	551 (1.15%)
16. Burley	208 (1.13%)	1,838 (3.83%)
17. Grangeville	186 (1.01%)	225 (0.47%)
18. Athol	176 (0.96%)	184 (0.38%)
19. Caldwell	163 (0.88%)	681 (1.42%)
20. Mountain Home Air Force Base	159 (0.86%)	228 (0.48%)

# Characterizing Sessions

2,383,627 Sessions

OSS Unified: May 27, 2020 – Oct 4, 2023

Count of Sessions	Sessions ?
1	638,290
2	223,003
3	130,745
4	94,290
5	73,445
6	60,057
7	50,807
8	43,899
9-14	182,624
15-25	180,845
26-50	195,959
51-100	167,818
101-200	132,264
201+	209,581

Sessions per Individual User

Lots of Sessions here. Good!

2,383,627 Sessions

OSS Unified: May 27, 2020 – Oct 4, 2023

Days Since Last Session	Sessions ?
0	1,882,786
1	174,659
2	69,311
3	46,593
4	34,110
5	26,330
6	21,429
7	13,542
8-14	47,199
15-30	39,977
31-60	17,191
61-120	7,943
121-364	2,557

Lots of Sessions here. Good!

Session Duration Bucket	Sessions <sup>?</sup>
0-10 seconds	651,526
11-30 seconds	180,050
31-60 seconds	181,887
61-180 seconds	411,627
181-600 seconds	333,120
601-1800 seconds	144,382
1801+ seconds	481,035

Sessions lasting over 30 minutes

How does that happen?

# Which Browsers?

2,383,627 Sessions

OSS Unified: May 27, 2020 – Oct 4, 2023

	Users	Sessions
1. Safari	291,792 (46.53%)	872,997 (36.62%)
2. Chrome	223,284 (35.60%)	1,087,265 (45.61%)
3. Edge	43,875 (7.00%)	201,477 (8.45%)
4. Firefox	22,417 (3.57%)	106,477 (4.47%)
5. Safari (in-app)	16,828 (2.68%)	20,467 (0.86%)
6. Android Webview	10,604 (1.69%)	13,235 (0.56%)
7. Samsung Internet	8,646 (1.38%)	34,127 (1.43%)
8. Internet Explorer	5,329 (0.85%)	31,429 (1.32%)
9. Amazon Silk	1,873 (0.30%)	6,653 (0.28%)
10. Opera	1,537 (0.25%)	7,914 (0.33%)

2,383,627 Sessions

OSS Unified: May 27, 2020 – Oct 4, 2023

	Users	Sessions
11. Mozilla Compatible Agent	529 (0.08%)	751 (0.03%)
12. UC Browser	147 (0.02%)	150 (0.01%)
13. YaBrowser	92 (0.01%)	200 (0.01%)
14. Custom	73 (0.01%)	179 (0.01%)
15. BublupBot	50 (0.01%)	50 (0.00%)
16. (not set)	16 (0.00%)	16 (0.00%)
17. [FBAN	12 (0.00%)	14 (0.00%)
18. DuckDuckGo Browser	9 (0.00%)	9 (0.00%)
19. Mozilla	8 (0.00%)	135 (0.01%)
20. Android Browser	6 (0.00%)	9 (0.00%)



Which Operating System?

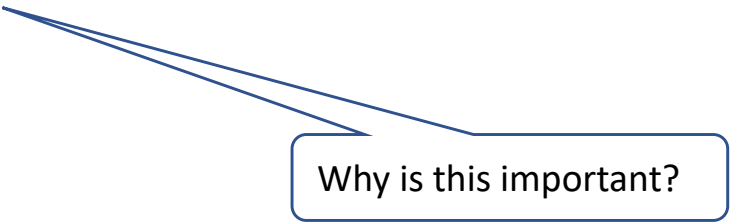
# OSS Unified: May 27, 2020 – Oct 4, 2023

## Users

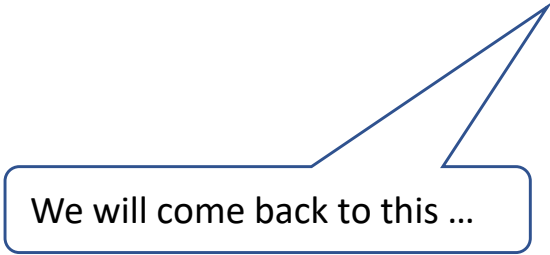
## Sessions

1. iOS	<b>240,475</b> (38.33%)	631,189 (26.48%)
2. Windows	<b>186,119</b> (29.67%)	925,432 (38.82%)
3. Macintosh	<b>103,878</b> (16.56%)	474,856 (19.92%)
4. Android	<b>88,421</b> (14.09%)	317,641 (13.33%)
5. Chrome OS	<b>5,285</b> (0.84%)	24,262 (1.02%)
6. Linux	<b>2,904</b> (0.46%)	9,601 (0.40%)
7. (not set)	<b>146</b> (0.02%)	252 (0.01%)
8. Tizen	<b>120</b> (0.02%)	359 (0.02%)
9. Windows Phone	<b>9</b> (0.00%)	9 (0.00%)
10. Xbox	<b>4</b> (0.00%)	17 (0.00%)
11. BlackBerry	<b>3</b> (0.00%)	4 (0.00%)
12. OS/2	<b>3</b> (0.00%)	3 (0.00%)
13. Firefox OS	<b>1</b> (0.00%)	1 (0.00%)
14. OpenBSD	<b>1</b> (0.00%)	1 (0.00%)

# What Screen Resolution?



Why is this important?



We will come back to this ...

	Users	Sessions
1. 1920x1080	89,537 (13.96%)	518,675 (21.76%)
2. 414x896	47,557 (7.41%)	116,501 (4.89%)
3. 390x844	44,740 (6.98%)	126,350 (5.30%)
4. 375x812	38,429 (5.99%)	94,290 (3.96%)
5. 428x926	31,485 (4.91%)	93,047 (3.90%)
6. 768x1024	29,172 (4.55%)	72,141 (3.03%)
7. 375x667	27,699 (4.32%)	66,119 (2.77%)
8. 1536x864	23,915 (3.73%)	98,875 (4.15%)
9. 1440x900	21,894 (3.41%)	106,260 (4.46%)
10. 1366x768	20,240 (3.16%)	79,622 (3.34%)

	Users	Sessions
11. 2560x1440	12,330 (1.92%)	74,308 (3.12%)
12. 810x1080	12,256 (1.91%)	32,983 (1.38%)
13. 1280x720	12,156 (1.90%)	54,622 (2.29%)
14. 1600x900	12,115 (1.89%)	55,240 (2.32%)
15. 414x736	10,928 (1.70%)	25,073 (1.05%)
16. 320x568	8,632 (1.35%)	20,931 (0.88%)
17. 1280x800	8,546 (1.33%)	33,782 (1.42%)
18. 412x915	8,089 (1.26%)	31,428 (1.32%)
19. 1680x1050	7,957 (1.24%)	37,300 (1.56%)
20. 360x800	7,842 (1.22%)	26,747 (1.12%)

# 2687 Screen Resolutions

OSS Unified: May 27, 2020 – Oct 4, 2023

1. 1920x1080	21. 1024x1366	41. 1280x960	61. 412x823	81. 320x640
2. 414x896	22. 834x1112	42. 1024x768	62. 360x772	82. 432x984
3. 390x844	23. 412x869	43. 384x824	63. 432x960	83. 1336x752
4. 375x812	24. 430x932	44. 800x1280	64. 339x753	84. 360x880
5. 428x926	25. 834x1194	45. 800x600	65. 1512x982	85. 385x824
6. 768x1024	26. 1920x1200	46. 1792x1120	66. 320x694	86. 1707x1067
7. 375x667	27. 360x740	47. 3440x1440	67. 320x676	87. 753x1205
8. 1536x864	28. 412x846	48. 360x720	68. 384x832	88. 1080x1920
9. 1440x900	29. 320x693	49. 1360x768	69. 744x1133	89. 1600x1200
10. 1366x768	30. 820x1180	50. 320x712	70. 412x877	90. 1190x794
11. 2560x1440	31. 393x852	51. 1536x960	71. 412x938	91. 393x808
12. 810x1080	32. 1280x1024	52. 320x658	72. 320x569	92. 800x1334
13. 1280x720	33. 360x640	53. 2560x1080	73. 1093x615	93. 1504x1003
14. 1600x900	34. 412x892	54. 2240x1260	74. 393x786	94. 1152x720
15. 414x736	35. 384x854	55. 393x851	75. 1337x752	95. 1440x960
16. 320x568	36. 2048x1152	56. 1728x1117	76. 962x601	96. 712x1138
17. 1280x800	37. 360x760	57. 601x962	77. 3840x2160	97. 1138x712
18. 412x915	38. 360x780	58. 1368x912	78. 1707x960	98. 1334x800
19. 1680x1050	39. 412x883	59. 412x732	79. 1600x1024	99. 1524x857
20. 360x800	40. 385x854	60. 1344x840	80. 1470x956	100. 384x811

Mobile or Desktop?

# OSS Unified: May 27, 2020 – Oct 4, 2023

Device Category ?	Acquisition	
	Users ? ↓	Sessions ?
	<b>625,786</b> % of Total: 100.00% (625,786)	<b>2,383,627</b> % of Total: 100.00% (2,383,627)
1. mobile	<b>303,450</b> (48.36%)	<b>870,378</b> (36.51%)
2. desktop	<b>297,787</b> (47.46%)	<b>1,431,109</b> (60.04%)
3. tablet	<b>26,186</b> (4.17%)	<b>82,140</b> (3.45%)

Device Category ?	Avg. Session Duration ?
1. mobile	00:04:03
2. desktop	01:01:14
3. tablet	00:10:07

Almost an even split between Desktop and Mobile use over this time period.



# OSS Unified: May 27, 2020 – Dec 31, 2020

Device Category ?	Acquisition	
	Users ? ↓	Sessions ?
	<b>61,863</b> % of Total: 100.00% (61,863)	<b>189,560</b> % of Total: 100.00% (189,560)
1. desktop	<b>37,369</b> (60.40%)	<b>135,370</b> (71.41%)
2. mobile	<b>21,410</b> (34.60%)	<b>46,368</b> (24.46%)
3. tablet	<b>3,092</b> (5.00%)	<b>7,822</b> (4.13%)

Device Category ?	Avg. Session Duration ?
1. desktop	01:13:57
2. mobile	00:03:35
3. tablet	00:23:01

More Desktop than Mobile in 2020.

# OSS Unified: Jan 1, 2021 – Dec 31, 2021

Device Category ?	Acquisition	
	Users ? ↓	Sessions ?
	<b>210,629</b> % of Total: 100.00% (210,629)	<b>710,153</b> % of Total: 100.00% (710,153)
1. desktop	<b>102,643</b> (48.35%)	<b>417,659</b> (58.81%)
2. mobile	<b>99,779</b> (47.00%)	<b>264,887</b> (37.30%)
3. tablet	<b>9,861</b> (4.65%)	<b>27,607</b> (3.89%)

Device Category ?	Avg. Session Duration ?
1. desktop	01:02:08
2. mobile	00:04:06
3. tablet	00:11:39

Almost an even split between Desktop and Mobile in 2021.

# OSS Unified: Jan 1, 2022 – Dec 31, 2022

Device Category ?	Acquisition	
	Users ? ↓	Sessions ?
	<b>165,166</b> % of Total: 100.00% (165,166)	<b>622,924</b> % of Total: 100.00% (622,924)
1. desktop	<b>79,766</b> (48.69%)	386,861 (62.10%)
2. mobile	<b>77,489</b> (47.30%)	216,053 (34.68%)
3. tablet	<b>6,566</b> (4.01%)	20,010 (3.21%)

Device Category ?	Avg. Session Duration ?
1. desktop	01:05:05
2. mobile	00:03:46
3. tablet	00:09:02

Almost an even split between Desktop and Mobile in 2022.

# OSS Unified: Jan 1, 2023 – Oct 4, 2023

Device Category ?	Acquisition	
	Users ? ↓	Sessions ?
	<b>214,035</b> % of Total: 100.00% (214,035)	<b>860,990</b> % of Total: 100.00% (860,990)
1. mobile	<b>110,629</b> (51.61%)	343,070 (39.85%)
2. desktop	<b>95,868</b> (44.72%)	491,219 (57.05%)
3. tablet	<b>7,868</b> (3.67%)	26,701 (3.10%)

Device Category ?	Avg. Session Duration ?
	<b>00:32:38</b> Avg for View: 00:32:38 (0.00%)
1. mobile	00:04:14
2. desktop	00:53:56
3. tablet	00:05:35

More Mobile users than Desktop users in 2023.

Which Mobile Device?

# 1947 Mobile Device Types

OSS Unified: May 27, 2020 – Oct 4, 2023

## Users Sessions

Rank	Device Type	Users	Sessions
1.	Apple iPhone	213,647 (64.44%)	568,520 (59.69%)
2.	Apple iPad	16,256 (4.90%)	49,221 (5.17%)
3.	(not set)	4,662 (1.41%)	12,156 (1.28%)
4.	Samsung SM-G998U Galaxy S21 Ultra 5G	2,949 (0.89%)	13,997 (1.47%)
5.	Samsung SM-G960U Galaxy S9	2,491 (0.75%)	7,077 (0.74%)
6.	Samsung SM-S908U Galaxy S22 Ultra	2,482 (0.75%)	12,562 (1.32%)
7.	Samsung SM-G991U Galaxy S21 5G	2,425 (0.73%)	9,523 (1.00%)
8.	Samsung SM-G975U Galaxy S10+	2,329 (0.70%)	8,052 (0.85%)
9.	Wiko K-KOOL	2,287 (0.69%)	7,467 (0.78%)
10.	Samsung SM-G973U Galaxy S10	2,189 (0.66%)	8,444 (0.89%)
11.	Samsung SM-N960U Galaxy Note9	1,825 (0.55%)	6,964 (0.73%)
12.	Samsung SM-G970U Galaxy S10e	1,671 (0.50%)	5,157 (0.54%)
13.	Samsung SM-G965U Galaxy S9+	1,666 (0.50%)	5,507 (0.58%)
14.	Samsung SM-N986U Galaxy Note20 Ultra 5G	1,588 (0.48%)	6,756 (0.71%)
15.	Samsung SM-G950U Galaxy S8	1,418 (0.43%)	4,677 (0.49%)
16.	Samsung SM-G986U Galaxy S20+ 5G	1,372 (0.41%)	6,030 (0.63%)
17.	Samsung SM-N975U Galaxy Note10+	1,269 (0.38%)	4,235 (0.44%)
18.	Samsung SM-G996U Galaxy S21+ 5G	1,262 (0.38%)	5,195 (0.55%)
19.	Samsung SM-S901U Galaxy S22	1,245 (0.38%)	5,387 (0.57%)
20.	Samsung SM-G781U Galaxy S20 FE 5G	1,186 (0.36%)	3,925 (0.41%)

# 1947 Mobile Device Types

1. Apple iPhone

---

2. Apple iPad

---

3. (not set)

---

4. Samsung SM-G998U Galaxy S21 Ultra 5G

---

5. Samsung SM-G960U Galaxy S9

---

6. Samsung SM-S908U Galaxy S22 Ultra

---

7. Samsung SM-G991U Galaxy S21 5G

---

8. Samsung SM-G975U Galaxy S10+

---

9. Wiko K-KOOL

---

10. Samsung SM-G973U Galaxy S10

---

11. Samsung SM-N960U Galaxy Note9

---

12. Samsung SM-G970U Galaxy S10e

---

13. Samsung SM-G965U Galaxy S9+

---

14. Samsung SM-N986U Galaxy Note20 Ultra 5G

---

15. Samsung SM-G950U Galaxy S8

---

16. Samsung SM-G986U Galaxy S20+ 5G

---

17. Samsung SM-N975U Galaxy Note10+

---

18. Samsung SM-G996U Galaxy S21+ 5G

---

19. Samsung SM-S901U Galaxy S22

---

20. Samsung SM-G781U Galaxy S20 FE 5G

# OSS Unified: May 27, 2020 – Oct 4, 2023

21. Samsung SM-N950U Galaxy Note8

---

22. Apple iPhone XR

---

23. Samsung SM-G781V Galaxy S20 FE 5G

---

24. Samsung SM-G955U Galaxy S8+

---

25. Apple iPhone 13 Pro Max

---

26. Apple iPhone 11

---

27. Samsung SM-S906U Galaxy S22+

---

28. Samsung SM-G988U Galaxy S20 Ultra 5G

---

29. Mozilla Firefox for Android

---

30. Samsung SM-N981U Galaxy Note20 5G

---

31. Apple iPhone 8 Plus

---

32. Google Pixel 6 Pro

---

33. Apple iPhone 13

---

34. Samsung SM-G981U Galaxy S20 5G

---

35. Samsung SM-T580 Galaxy Tab A 10.1

---

36. Google Pixel 3

---

37. Apple iPhone 13 Pro

---


38. Google Pixel 6

---

39. Samsung SM-G930V Galaxy S7

---

40. Samsung SM-A505U Galaxy A50



Who do you think?

Who is sending users (linking) to us?



		Users
	1. (direct) / (none)	<b>342,201</b> (53.42%)
Caltrans (Sean)	2. cwwp2.dot.ca.gov / referral	<b>208,282</b> (32.52%)
	3. google / organic	<b>27,523</b> (4.30%)
	4. m.facebook.com / referral	<b>17,638</b> (2.75%)
Caltrans	5. dot.ca.gov / referral	<b>14,124</b> (2.20%)
	6. rogueweather.com / referral	<b>6,050</b> (0.94%)
	7. lm.facebook.com / referral	<b>6,020</b> (0.94%)
	8. l.facebook.com / referral	<b>3,206</b> (0.50%)
WSRTC	9. westernstates.org / referral	<b>2,882</b> (0.45%)
	10. bing / organic	<b>1,708</b> (0.27%)

Direct!!!

BIG!

BIG!

Caltrans (Sean)

Caltrans

WSRTC

## Users

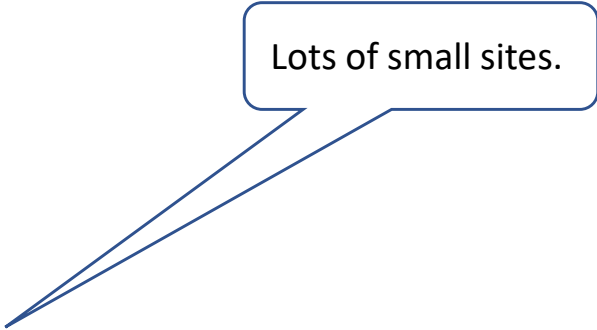
11.	<a href="#">bot-traffic.icu / referral</a>	<b>1,226</b>	<b>(0.19%)</b>
12.	<a href="#">reddit.com / referral</a>	<b>987</b>	<b>(0.15%)</b>
13.	<a href="#">duckduckgo / organic</a>	<b>717</b>	<b>(0.11%)</b>
14.	<a href="#">yahoo / organic</a>	<b>644</b>	<b>(0.10%)</b>
15.	<a href="#">t.co / referral</a>	<b>566</b>	<b>(0.09%)</b>
16.	<a href="#">ktvq.com / referral</a>	<b>364</b>	<b>(0.06%)</b>
17.	<a href="#">kpax.com / referral</a>	<b>363</b>	<b>(0.06%)</b>
18.	<a href="#">kxlf.com / referral</a>	<b>346</b>	<b>(0.05%)</b>
19.	<a href="#">statics.teams.cdn.office.net / referral</a>	<b>325</b>	<b>(0.05%)</b>
20.	<a href="#">webcams.water-data.com / referral</a>	<b>290</b>	<b>(0.05%)</b>

Montana  
News

### Users

21.	forums.wildfireintel.org / referral	246	(0.04%)
22.	nwhikers.net / referral	236	(0.04%)
23.	missycoupons.com / referral	193	(0.03%)
24.	krtv.com / referral	186	(0.03%)
25.	shastalake.com / referral	167	(0.03%)
26.	aaancnu-simpplr.visualforce.com / referral	151	(0.02%)
27.	baidu / organic	149	(0.02%)
28.	nextdoor.com / referral	148	(0.02%)
29.	advrider.com / referral	136	(0.02%)
30.	waseogis.maps.arcgis.com / referral	132	(0.02%)
31.	irv2.com / referral	130	(0.02%)
32.	co.siskiyou.ca.us / referral	81	(0.01%)
33.	facebook.com / referral	80	(0.01%)
34.	almanor.popelak.info / referral	78	(0.01%)
35.	lakepowell.water-data.com / referral	78	(0.01%)
36.	mail.google.com / referral	78	(0.01%)
37.	rvnetwork.com / referral	72	(0.01%)
38.	longhauler-usa.com / referral	71	(0.01%)
39.	old.reddit.com / referral	71	(0.01%)
40.	pwinet / referral	71	(0.01%)

Lots of small sites.



### Users

41.	<a href="https://snowpack.water-data.com">snowpack.water-data.com</a> / referral	67	(0.01%)
42.	<a href="https://bigbearskipatrol.com">bigbearskipatrol.com</a> / referral	63	(0.01%)
43.	<a href="https://graphs.water-data.com">graphs.water-data.com</a> / referral	56	(0.01%)
44.	<a href="https://d06web.com">d06web</a> / referral	48	(0.01%)
45.	<a href="https://renotahoeweather.com">renotahoeweather.com</a> / referral	47	(0.01%)
46.	<a href="https://stancounty-gis.maps.arcgis.com">stancounty-gis.maps.arcgis.com</a> / referral	44	(0.01%)
47.	<a href="https://youtube.com">youtube.com</a> / referral	44	(0.01%)
48.	<a href="https://lakemead.water-data.com">lakemead.water-data.com</a> / referral	37	(0.01%)
49.	<a href="https://url2.mailanyone.net">url2.mailanyone.net</a> / referral	36	(0.01%)
50.	<a href="https://adventureknowhow.com">adventureknowhow.com</a> / referral	35	(0.01%)
51.	<a href="https://plumasnews.com">plumasnews.com</a> / referral	33	(0.01%)
52.	<a href="https://longhaulerusa.com">longhaulerusa.com</a> / referral	32	(0.00%)
53.	<a href="https://sierranivadacaliforniawebcams.com">sierranivadacaliforniawebcams.com</a> / referral	31	(0.00%)
54.	<a href="https://southbayriders.com">southbayriders.com</a> / referral	31	(0.00%)
55.	<a href="https://rvforum.net">rvforum.net</a> / referral	30	(0.00%)
56.	<a href="https://startpage.com">startpage.com</a> / referral	28	(0.00%)
57.	<a href="https://grizzlystore.portola-ca.com">grizzlystore.portola-ca.com</a> / referral	26	(0.00%)
58.	<a href="https://chico.popelak.info">chico.popelak.info</a> / referral	25	(0.00%)
59.	<a href="https://l.instagram.com">l.instagram.com</a> / referral	25	(0.00%)
60.	<a href="https://linkedin.com">linkedin.com</a> / referral	25	(0.00%)

Lots of small sites.

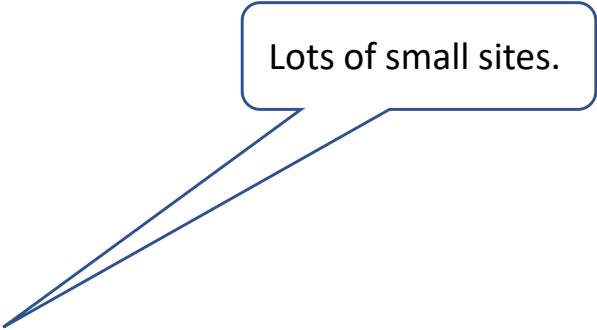
### Users

61.	arcgis.com / referral	24	(0.00%)
62.	messages.google.com / referral	24	(0.00%)
63.	voice.google.com / referral	24	(0.00%)
64.	kymkemp.com / referral	23	(0.00%)
65.	1das.net / referral	22	(0.00%)
66.	scoobsbrew.com / referral	22	(0.00%)
67.	water-data.com / referral	22	(0.00%)
68.	backpackers.com.tw / referral	21	(0.00%)
69.	disq.us / referral	21	(0.00%)
70.	kenfsail.freeshell.net / referral	21	(0.00%)
71.	app.westernwx.com / referral	20	(0.00%)
72.	d06webt / referral	20	(0.00%)
73.	instagram.com / referral	20	(0.00%)
74.	jonboyproductions.com / referral	20	(0.00%)
75.	l.messenger.com / referral	20	(0.00%)
76.	mcneice.com / referral	20	(0.00%)
77.	refugeforums.com / referral	20	(0.00%)
78.	sierranewadawebcams.com / referral	20	(0.00%)
79.	nctruck.ca / referral	19	(0.00%)
80.	portyard.weebly.com / referral	19	(0.00%)

Lots of small sites.


## Users

81.	<a href="#">trackingstats.info / referral</a>	19	(0.00%)
82.	<a href="#">10.28.27.200 / referral</a>	18	(0.00%)
83.	<a href="#">forecasts.westernwx.com / referral</a>	18	(0.00%)
84.	<a href="#">www-kxlf-com.cdn.ampproject.org / referral</a>	18	(0.00%)
85.	<a href="#">mail.yahoo.com / referral</a>	17	(0.00%)
86.	<a href="#">nwdowds.org / referral</a>	17	(0.00%)
87.	<a href="#">sierrapark.org / referral</a>	17	(0.00%)
88.	<a href="#">utahalerts.com / referral</a>	17	(0.00%)
89.	<a href="#">lassennews.com / referral</a>	16	(0.00%)
90.	<a href="#">tahoessouth.com / referral</a>	16	(0.00%)
91.	<a href="#">ecosia.org / organic</a>	15	(0.00%)
92.	<a href="#">edmiston.tv / referral</a>	15	(0.00%)
93.	<a href="#">ighome.com / referral</a>	15	(0.00%)
94.	<a href="#">northcoastrivers.com / referral</a>	15	(0.00%)
95.	<a href="#">20geo.com / referral</a>	14	(0.00%)
96.	<a href="#">chat.arise.com / referral</a>	14	(0.00%)
97.	<a href="#">kdrv.com / referral</a>	14	(0.00%)
98.	<a href="#">refwendy.org / referral</a>	14	(0.00%)
99.	<a href="#">search.aol.com / referral</a>	14	(0.00%)
100.	<a href="#">smartnews.com / referral</a>	14	(0.00%)



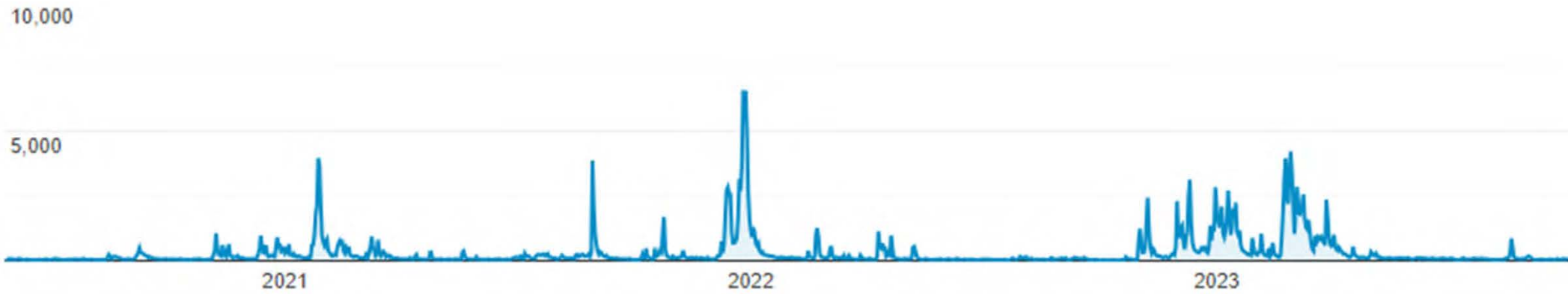
Lots of small sites.

[cwwp2.dot.ca.gov](http://cwwp2.dot.ca.gov)



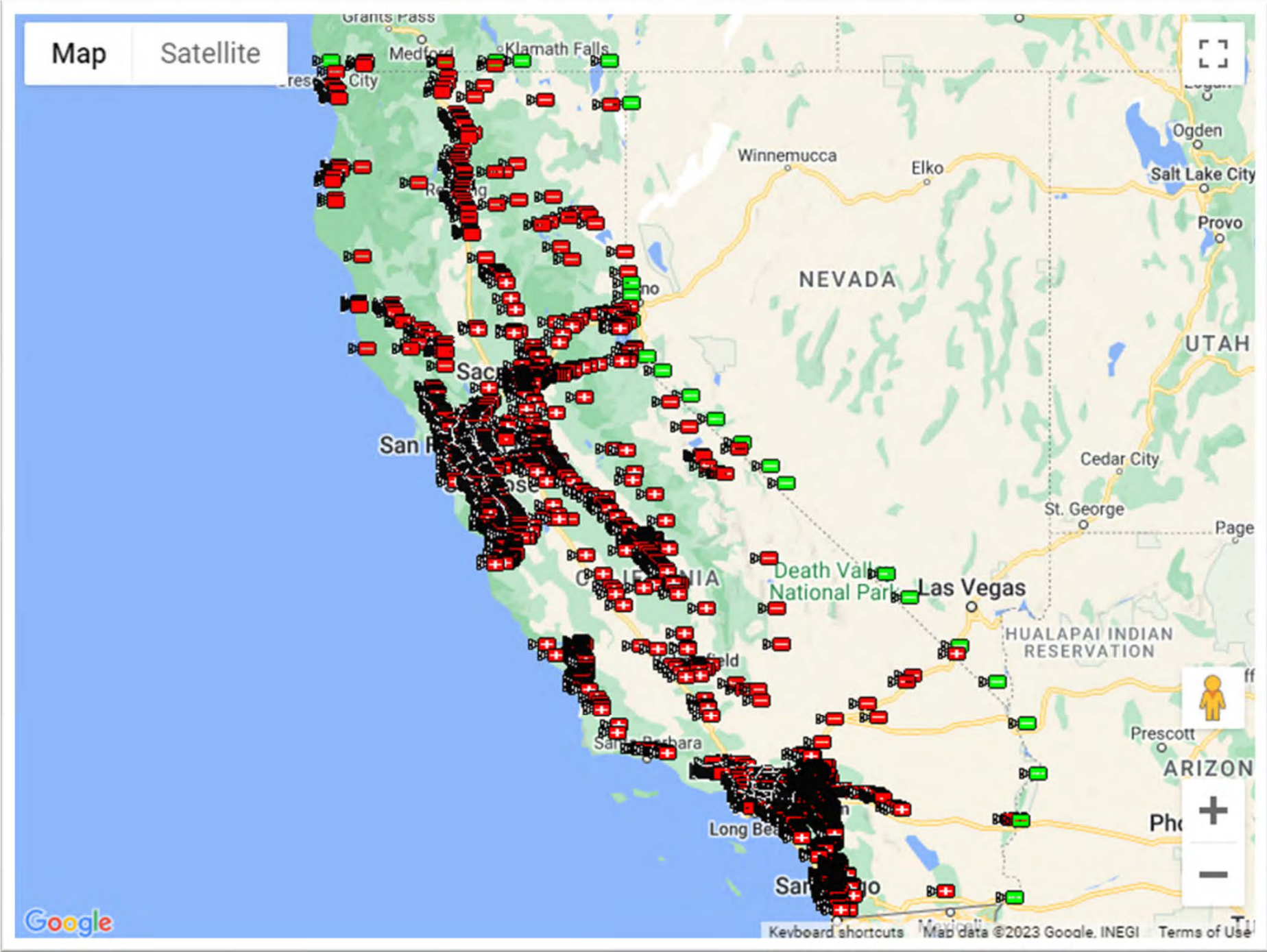
Thanks Sean Campbell!!!

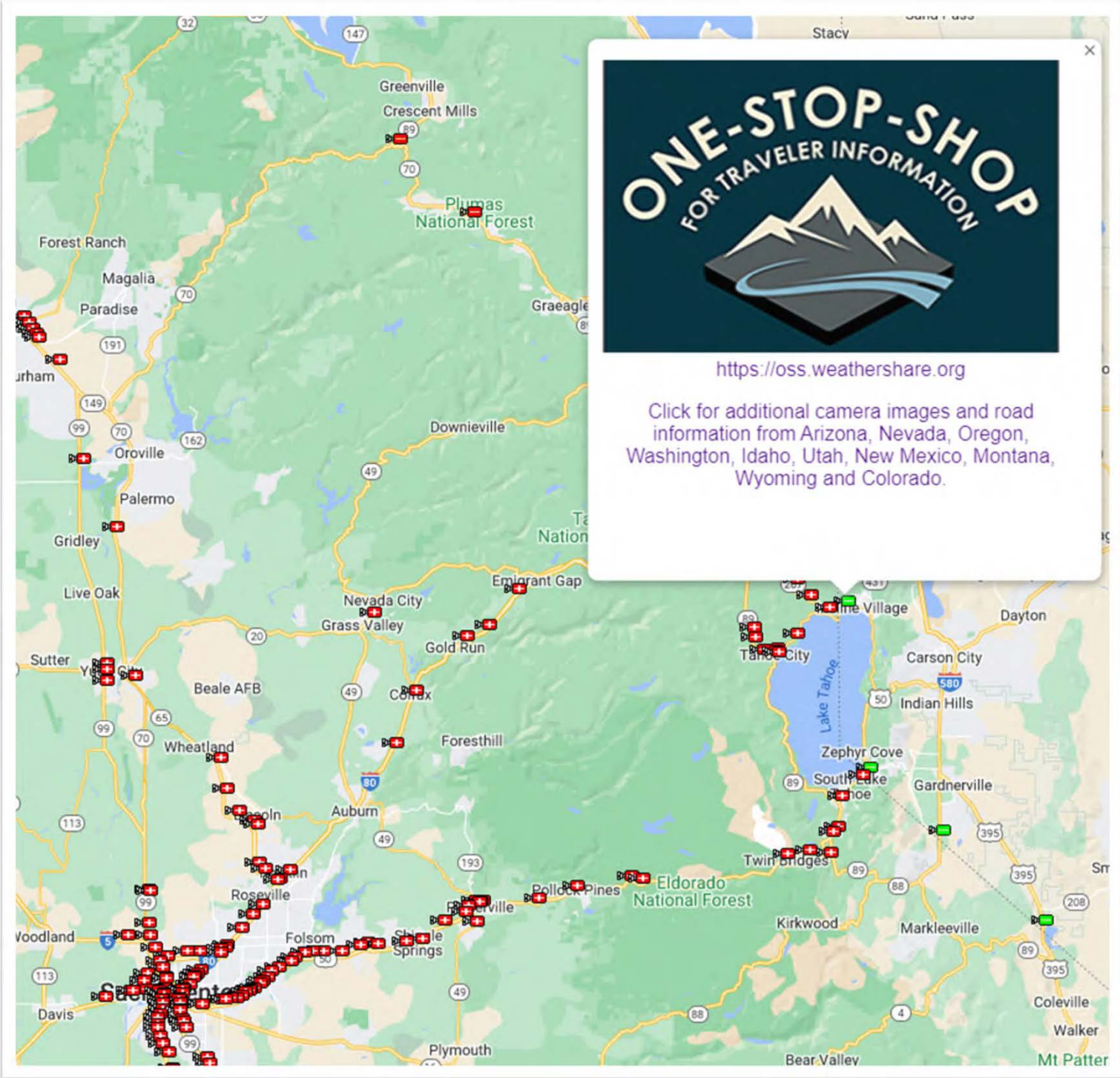
# Users









Users referred to OSS  
from the Caltrans  
CWWP2



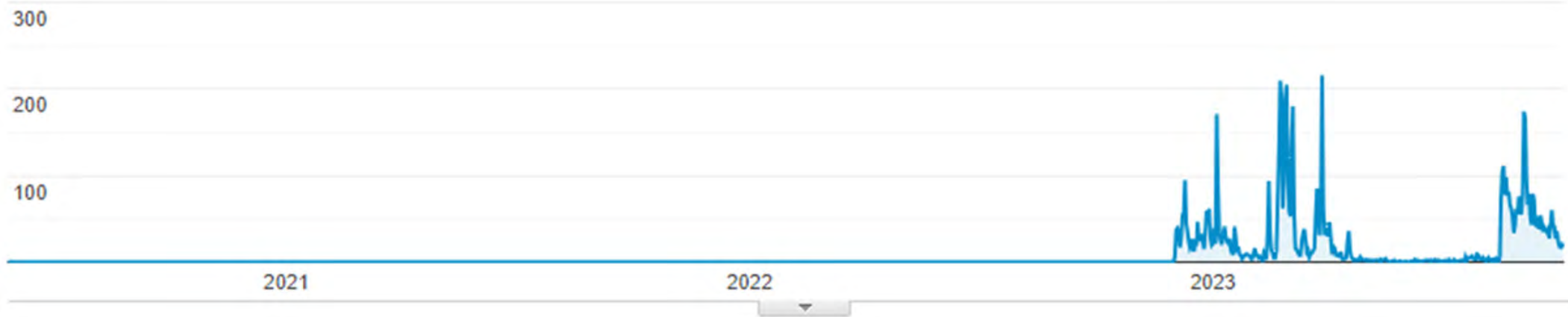




Referral Path ?	Acquisition			
	Users ? ↓	New Users ?	Sessions ?	Avg. Session Duration ?
	<b>208,282</b> % of Total: 33.28% (625,786)	<b>205,175</b> % of Total: 32.39% (633,453)	<b>606,375</b> % of Total: 25.44% (2,383,627)	<b>00:23:53</b> Avg for View: 00:38:35 (-38.12%)
1. / 	<b>193,636</b> (92.40%)	189,996 (92.60%)	563,943 (93.00%)	00:23:45
2. /vm/loc/oss/nevada.htm 	<b>10,526</b> (5.02%)	10,106 (4.93%)	26,785 (4.42%)	00:23:34
3. /vm/loc/oss/oregon.htm 	<b>4,130</b> (1.97%)	3,866 (1.88%)	12,745 (2.10%)	00:29:51
4. /vm/iframeemap.htm 	<b>701</b> (0.33%)	691 (0.34%)	1,892 (0.31%)	00:23:42
5. /vm/loc/oss/arizona.htm 	<b>576</b> (0.27%)	516 (0.25%)	1,008 (0.17%)	00:27:45
6. /vm-ssl/loc/oss/arizona.htm 	<b>1</b> (0.00%)	0 (0.00%)	2 (0.00%)	02:15:54

rogueweather.com

# Users





Your Information Now

- HOME
- WEATHER
- ROAD CONDITIONS
- FIRE
- RECREATION
- BUSINESS DIRECTORY

USE THE CATEGORIES IN THE BLACK BAR ABOVE, OR YOUR MENU ICON OF YOUR DEVICE TO NAVIGATE THE SITE TO FIND THE INFORMATION YOU ARE LOOKING FOR.

ROGUEWEATHER IS PRESENTED BY:

**TWO LOCATIONS TO SERVE YOU**



**Union Avenue in Grants Pass**

**Stewart Avenue in Medford**



**START**

1) Click on "Start" | 2) Start the Installation | 3) Block Ads & Malware

Web Companion

I'm proud to support  
Eagle Point  
Allstate Agent



**NO ROADS NO PROBLEM**

OVERLANDING ACCESSORIES  
OFF-ROAD ACCESSORIES  
LINE-X SPRAY-ON BEDLINERS  
TRUCK & SUV ACCESSORIES

OREGON  
Truck & Auto  
AUTHORITY

Highway 199 webcams. These cameras update in real time

Grants Pass - [http://tripcheck.com/RoadCams/cams/US199%20at%20Grants%20Pass\\_pid3363.JPG?  
rand=1491233789275](http://tripcheck.com/RoadCams/cams/US199%20at%20Grants%20Pass_pid3363.JPG?rand=1491233789275)

[https://tripcheck.com/RoadCams/cams/US199%20at%20Grants%20Pass\\_pid3363.JPG?  
rand=1506185596201](https://tripcheck.com/RoadCams/cams/US199%20at%20Grants%20Pass_pid3363.JPG?rand=1506185596201)

[https://tripcheck.com/RoadCams/cams/US199%20at%20Grants%20Pass%20SB\\_pid3367.JPG?  
rand=1506185596202](https://tripcheck.com/RoadCams/cams/US199%20at%20Grants%20Pass%20SB_pid3367.JPG?rand=1506185596202)

[https://tripcheck.com/RoadCams/cams/US199%20at%20Ringuette%20St%20SB\\_pid3479.JPG?  
rand=1506185656214](https://tripcheck.com/RoadCams/cams/US199%20at%20Ringuette%20St%20SB_pid3479.JPG?rand=1506185656214)




Hayes Hill - [http://tripcheck.com/RoadCams/cams/HayesHillSummit\\_pid2523.JPG?rand=1480454702570](http://tripcheck.com/RoadCams/cams/HayesHillSummit_pid2523.JPG?rand=1480454702570)

California State line

- [http://tripcheck.com/RoadCams/cams/US199%20at%20S%20of%20OR%20State%20Line%20W\\_pid3305.JPG?  
rand=1480454740118](http://tripcheck.com/RoadCams/cams/US199%20at%20S%20of%20OR%20State%20Line%20W_pid3305.JPG?rand=1480454740118)

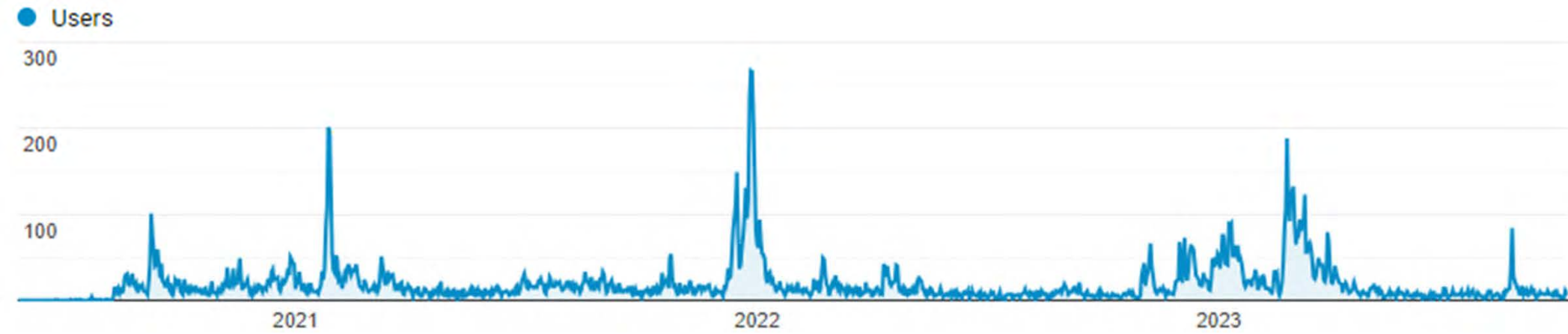
**VERY HARD TO FIND WEBCAM SHOT BELOW. THIS IS AT THE TRUE HIGHEST SPOT ON HIGHWAY 199**

Oregon Mountain/Collier Tunnel - [https://oss.weathershare.org/?  
clat=42.04929&clng=-123.74247&zoom=11#](https://oss.weathershare.org/?clat=42.04929&clng=-123.74247&zoom=11#)

Referral Path ?	Acquisition			
	Users ? ↓	New Users ?	Sessions ?	Avg. Session Duration ?
	<b>6,050</b> % of Total: 0.97% (625,786)	<b>6,042</b> % of Total: 0.95% (633,453)	<b>12,313</b> % of Total: 0.52% (2,383,627)	<b>00:07:27</b> Avg for View: 00:38:35 (-80.68%)
1. / 	<b>6,020</b> (99.32%)	6,004 (99.37%)	12,249 (99.48%)	00:07:29
2. /southern-oregon-road-conditions/highway-199-road-conditions 	<b>38</b> (0.63%)	35 (0.58%)	58 (0.47%)	00:03:06
3. /index.php 	<b>3</b> (0.05%)	3 (0.05%)	6 (0.05%)	00:00:10










dot.ca.gov



The screenshot shows the Caltrans website's 'Travel' page. At the top, there is a blue navigation bar with links for 'About Caltrans', 'Contact Us', 'ADA Certification', 'Request ADA Compliant Documents', 'Settings', and 'Translate'. Below this is the Caltrans logo and a row of icons for 'Travel', 'Work with Caltrans', 'Programs', 'Caltrans Near Me', and 'Search'. The main content area has a dark blue background with a 'Home' and 'Travel' breadcrumb. The 'Travel' section features several links: '511 Real-Time Traveler Information', 'Live Traffic Cameras', 'Amtrak California', 'One Stop Shop', 'Check Current Highway Conditions', 'QuickMap', and 'California Highway Patrol'. A speech bubble on the right says 'Thanks Caltrans!'.

Thanks Caltrans!

Referral Path <sup>?</sup>	Acquisition			Avg. Session Duration <sup>?</sup>
	Users <sup>?</sup> ↓	New Users <sup>?</sup>	Sessions <sup>?</sup>	
	<b>14,124</b> % of Total: 2.26% (625,786)	<b>13,309</b> % of Total: 2.10% (633,453)	<b>32,794</b> % of Total: 1.38% (2,383,627)	<b>00:39:23</b> Avg for View: 00:38:35 (2.05%)
1. / 	<b>12,291</b> (86.76%)	<b>11,495</b> (86.37%)	<b>29,502</b> (89.96%)	<b>00:39:40</b>
2. /travel 	<b>1,805</b> (12.74%)	<b>1,749</b> (13.14%)	<b>3,014</b> (9.19%)	<b>00:34:55</b>
3. /programs/research-innovation-system-information 	<b>41</b> (0.29%)	<b>38</b> (0.29%)	<b>228</b> (0.70%)	<b>00:45:33</b>
4. /programs/traffic-operations 	<b>19</b> (0.13%)	<b>17</b> (0.13%)	<b>21</b> (0.06%)	<b>00:59:28</b>
5. /programs/research-innovation-system-information/ 	<b>6</b> (0.04%)	<b>6</b> (0.05%)	<b>6</b> (0.02%)	<b>00:00:26</b>
6. /research/its/cctv/hq/nevada.htm 	<b>3</b> (0.02%)	<b>3</b> (0.02%)	<b>4</b> (0.01%)	<b>00:00:46</b>
7. /research/its/cctv/iframemap.htm 	<b>1</b> (0.01%)	<b>1</b> (0.01%)	<b>19</b> (0.06%)	<b>03:37:32</b>

# Social Networking













Sessions: **2,383,627**



Sessions via Social Referral: **45,092**

Relatively Small

Opportunity?

Social Network	Sessions	% Sessions
1. Facebook	38,901	 86.27%
2. reddit	4,420	 9.80%
3. Twitter	1,158	 2.57%
4. Instagram	239	 0.53%
5. LiveJournal	72	 0.16%
6. YouTube	70	 0.16%
7. Weebly	59	 0.13%
8. Pinterest	44	 0.10%
9. Instagram Stories	41	 0.09%
10. LinkedIn	41	 0.09%

# Facebook



FIRE & TRAFFIC Questions, Chit Chat & support Shasta Co "aka" voices · [Join](#)

Les Potter · October 25 at 11:36 PM · 🌐

If traveling to Oregon.

Tonight on Hwy 97. ❄️🌨️

<https://oss.weathershare.org/?clat=43.79476...#>

### US97 at LaPine

Updated: Oct 25 2023 9:57 PM



Elevation 4235 TripCheck.com Milepost 167.50  
Temperature 31.5F Wind SW MPH 2

### US97 at Lava Butte

Updated: Oct 25 2023 9:57 PM Looking South



Elevation 4514 TripCheck.com Milepost 150.00  
Temperature 28.9F Wind SW MPH 1

### Century Drive at MP 21.11

Updated: Oct 25 2023 9:57 PM



Elevation 6383 TripCheck.com Milepost 21.11  
Temperature 23.9F Wind NW MPH 9

### US20 at Santiam Jct

Updated: Oct 25 2023 9:56 PM Looking West




Elevation 3781 TripCheck.com Milepost 74.80  
Temperature 33.8F Wind N MPH 0


👍👎❤️ 90

6 comments 11 shares




# Facebook





**Wyoming Road and Weather Conditions Reports Updates**  
Abel Delgado · 4d · 




Dropping this here again. For us in the Western US. Crazy how useful a tool this is. Crazier how many folks don't know about it.

OSS.WEATHERSHARE.ORG 


**One-Stop-Shop for Rural Traveler Information**

  23 6 comments 7 share


---


 Like  Comment  Share

Most recent ▾



**Mick O'Doherty**  
That is awesome!! Thanks for sharing. I could use that all the time

12h Like Reply Share 



**Abel Delgado** Author  
**Mick O'Doherty** absolutely, the cameras aren't always reliable but being able to see the road sign status is so valuable imo

11h Like Reply Share

 **NWS Reno**  @NWSReno · Jan 23, 2021 ...

A selection of cameras throughout the region showing the snow that fell overnight. Have a snow report? Let us know! Photos, rulers, and location are appreciated.

Want more cameras and road info? [oss.weathershare.org](https://oss.weathershare.org)




 3  10  50   

 **NWS Medford** @NWSMedford · Dec 15, 2021

Current snow impacts are widespread! I-5 from Mt Shasta north to Siskiyou Summit (very hazardous!), Hayes Hill 199, Sexton Pass I-5...more in comment section... ([tripcheck.com](http://tripcheck.com) and [oss.weathershare.org](http://oss.weathershare.org/?clat=41.56326...)) #orwx #cawx

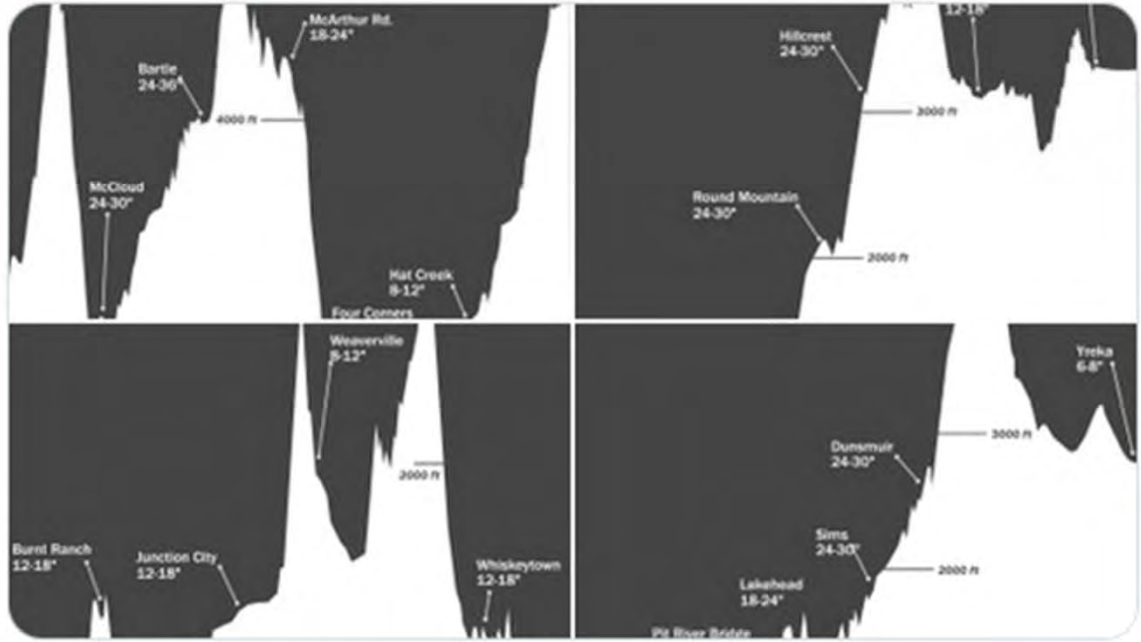


2    7    9            

 **Caltrans District 2** @CaltransD2 · Feb 27 ⋮

Replying to @CaltransD2 and @NWSSacramento

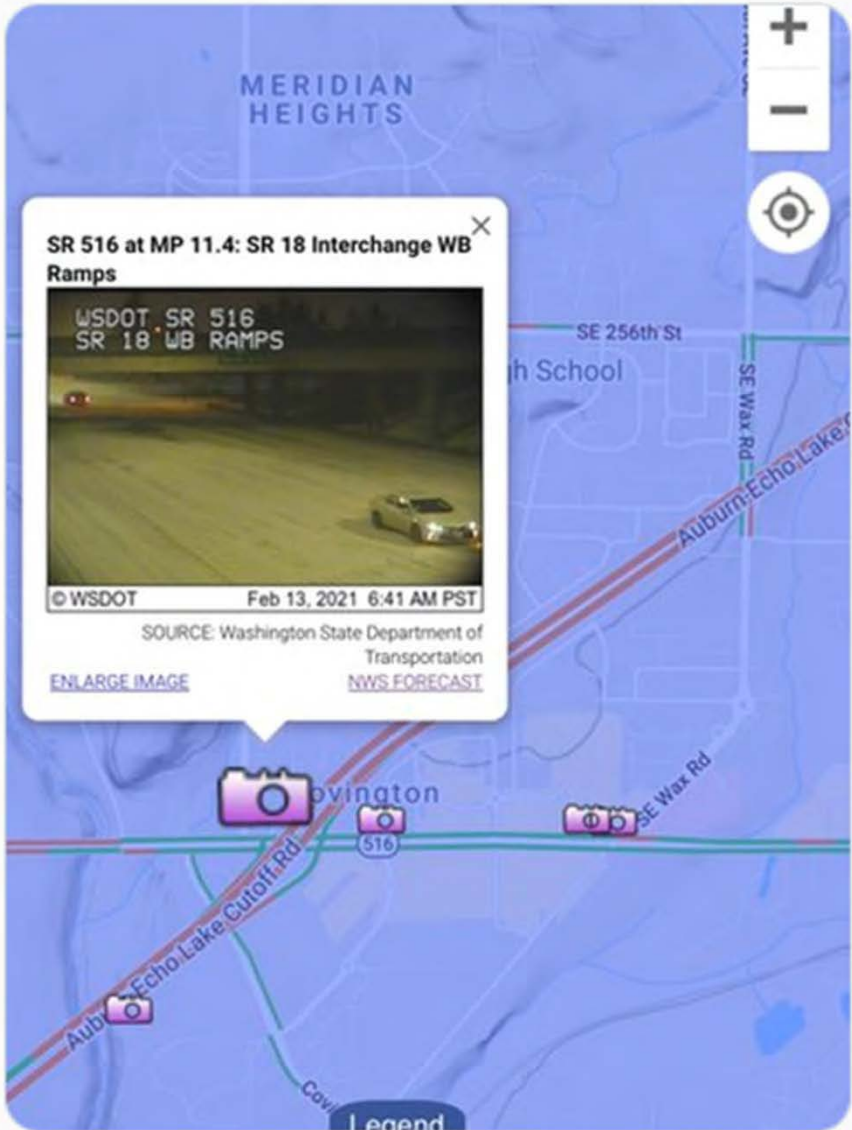
For up to date roadway information, please use [QuickMap.dot.ca.gov](http://QuickMap.dot.ca.gov). You can also use the following link to view cameras throughout District 2: [cwwp2.dot.ca.gov/tools/d2allcam....](http://cwwp2.dot.ca.gov/tools/d2allcam....) And if you're traveling beyond California's borders, check out One Stop Shop here: [oss.weathershare.org/?clat=40.60821...](http://oss.weathershare.org/?clat=40.60821...)



💬 ↻ 2 ❤️ 6 📊 887 🔖 📤

**City of Covington** @CovingtonWash · Feb 13, 2021

Curious what the conditions are on the main highways and freeways? Check out this link (also on our website homepage “Quick Links”) to real time traffic info and camera views along Kent Kangley and the entire region. [oss.weathershare.org/?clat=47.3616&...](https://oss.weathershare.org/?clat=47.3616&...)



**SR 516 at MP 11.4: SR 18 Interchange WB Ramps**

WSDOT SR 516  
SR 18 WB RAMPs

© WSDOT Feb 13, 2021 6:41 AM PST

SOURCE: Washington State Department of Transportation

[ENLARGE IMAGE](#) [NWS FORECAST](#)

Map labels: MERIDIAN HEIGHTS, SE 256th St, h School, SE Wax Rd, Auburn-Echo Lake, SE Wax Rd, Covington, 516, Auburn-Echo Lake Cutoff Rd, Covi

Twitter interaction icons: Reply, Retweet, Like (5), View, Bookmark, Share

# Reddit

reddit r/tahoe Search in r/tahoe

r/tahoe • 2 yr. ago mountainaita Join


## Questions About Travel? Helpful Links

In the last few days there have been multiple posts asking for information about snow and travel. There are several resources available to see if the roads are safe, get information on road closures and chain restrictions, and find out the experts' best guesses on snow levels. Since none of us have crystal balls, I thought it might be helpful to have all of these resources in one place so that people can look this information up and avoid posting variations on the same topics. Feel free to add your own helpful information in the comments!

(And if I see another "when should I leave" post after this I will *literally lose it*, so please for the love of all that is holy consider using these links before posting)

- National Weather Service- Reno Office
- Open Snow- Tahoe Basin
- Caltrans CCTV Map
- Caltrans Current Road Conditions
- Caltrans Chain Requirement Rules
- NDOT (Nevada) Road Conditions
- Caltrans District 3 Twitter
- Driving in Snow for Beginners
- Drive smart and safe!

218 110 Share

 **Pegasus\_queen** • 2 yr. ago

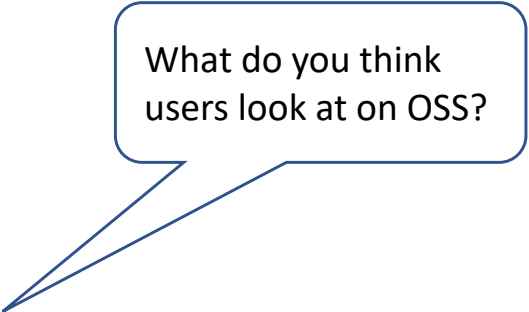
This is what we use. You only need this one website. All info is integrated.

<http://oss.weathershare.org/?clat=38.54422&clng=-117.90751&zoom=8>

48 Reply Share

4 more replies

That's a nice endorsement!



What do you think  
users look at on OSS?

# What are they looking at?

# 142,445,822 UI Events

# OSS Unified: May 27, 2020 – Oct 4, 2023

Approaching 1.75 million events / interactions in a single day!



Total Events  
**142,445,822**

Unique Events  
**85,055,449**

Sessions with Event  
**2,362,748**

Events / Session with Event  
**60.29**



We are mainly interested in Markers and Layers.

Event Category	Total Events	% Total Events
1. Marker	86,528,414	60.74%
2. Layer	38,987,477	27.37%
3. LoadTime	10,552,040	7.41%
4. Load	5,639,229	3.96%
5. UI	348,506	0.24%
6. TimeSelect	169,067	0.12%
7. Link	141,519	0.10%
8. FailedLayerLoad	52,943	0.04%
9. Zoom	25,045	0.02%
10. addthis	1,517	0.00%

# 86,528,414 Marker Events

OSS Unified: May 27, 2020 – Oct 4, 2023

Event Action ?	Total Events ? ↓
	<b>86,528,414</b> % of Total: 60.74% (142,445,822)
1. CCTV	<b>61,170,323</b> (70.69%)
2. CMS	<b>8,263,068</b> (9.55%)
3. Incident	<b>6,163,702</b> (7.12%)
4. Chain	<b>4,507,277</b> (5.21%)
5. RWIS	<b>3,862,952</b> (4.46%)
6. CCTVModal	<b>1,567,043</b> (1.81%)
7. CurrentAirTemperature	<b>167,022</b> (0.19%)
8. Wind	<b>138,859</b> (0.16%)
9. Weather	<b>138,518</b> (0.16%)
10. WindGustSpeed	<b>128,047</b> (0.15%)

CCTV is by far most popular.

Other ITS elements get viewed too.

Things not shown in the default layer don't get viewed as much.

# 86,528,414 Marker Events

OSS Unified: May 27, 2020 – Oct 4, 2023

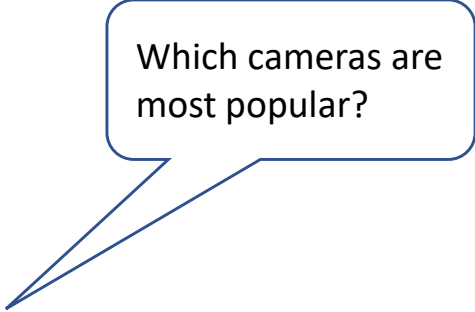
Event Action ?	Total Events ?	↓
	<b>86,528,414</b> % of Total: 60.74% (142,445,822)	
11. RoadInfo	<b>126,348</b> (0.15%)	
12. FireDetectors	<b>78,686</b> (0.09%)	
13. Snow	<b>43,036</b> (0.05%)	
14. WindSpeed	<b>42,183</b> (0.05%)	
15. FireIncidents	<b>26,063</b> (0.03%)	
16. ForecastAirTemperature	<b>19,667</b> (0.02%)	
17. RestAreas	<b>17,783</b> (0.02%)	
18. Precipitation24hour	<b>15,049</b> (0.02%)	
19. Precipitation12hour	<b>14,146</b> (0.02%)	
20. SummitLocations	<b>10,850</b> (0.01%)	

This is in the default layer, but it is toggled off by default – too many construction markers.

86,528,414 Marker Events

OSS Unified: May 27, 2020 – Oct 4, 2023

Event Action <span>?</span>	Total Events <span>?</span> <span>↓</span>
	<b>86,528,414</b> % of Total: 60.74% (142,445,822)
21. <a href="#">AHPS</a>	<b>6,825</b> (0.01%)
22. <a href="#">Precipitation6hour</a>	<b>5,579</b> (0.01%)
23. <a href="#">TruckScales</a>	<b>3,937</b> (0.00%)
24. <a href="#">Humidity</a>	<b>3,277</b> (0.00%)
25. <a href="#">FeaturesOfInterest</a>	<b>3,088</b> (0.00%)
26. <a href="#">SkyCover</a>	<b>2,401</b> (0.00%)
27. <a href="#">Precipitation1hour</a>	<b>1,562</b> (0.00%)
28. <a href="#">ForecastHumidity</a>	<b>1,123</b> (0.00%)



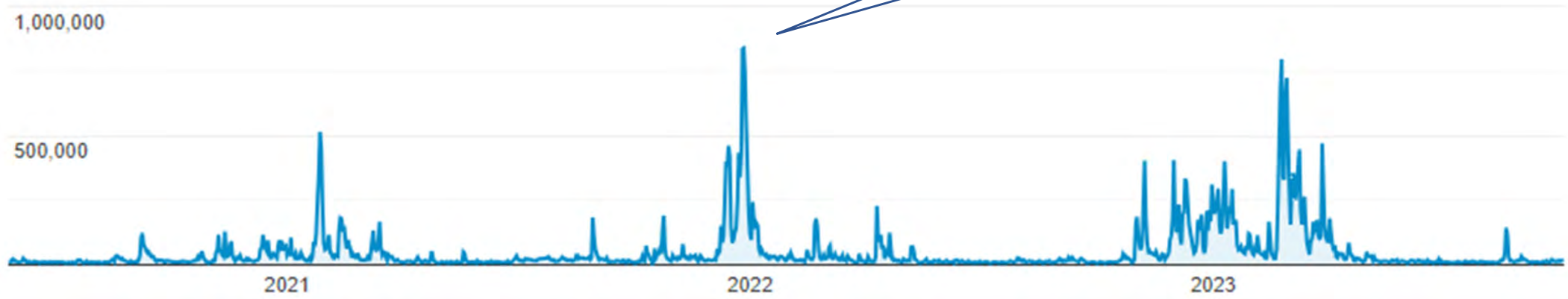
Which cameras are most popular?

# CCTV (Camera Images)

61,170,323 CCTV Camera Views

OSS Unified: May 27, 2020 – Oct 4, 2023

Approaching 800,000  
CCTV views in a single  
day!



# 14,663 CCTV Camera Locations OSS Unified: May 27, 2020 – Oct 4, 2023

Event Label <span>?</span>	Total Events <span>?</span> <span>↓</span>
	<p><b>61,170,323</b>                      % of Total: 42.94%                      (142,445,822)</p>
1. (41.63331,-122.19312)	<b>281,133</b> (0.46%)
2. (39.33075,-120.285422)	<b>274,951</b> (0.45%)
3. (38.08782,-119.181251)	<b>266,579</b> (0.44%)
4. (37.64111,-118.91848)	<b>255,458</b> (0.42%)
5. (39.334602,-120.355626)	<b>234,225</b> (0.38%)
6. (42.06332,-122.60288)	<b>231,336</b> (0.38%)
7. (39.339039,-120.347722)	<b>223,104</b> (0.36%)
8. (39.326506,-120.389657)	<b>220,657</b> (0.36%)
9. (38.948564,-119.95724)	<b>214,368</b> (0.35%)
10. (39.395554,-120.023839)	<b>209,899</b> (0.34%)



We will come back to these.

# 14,663 CCTV Camera Locations OSS Unified: May 27, 2020 – Oct 4, 2023

Event Label <span>?</span>	Total Events <span>?</span> <span>↓</span>
	<p style="text-align: center;"><b>61,170,323</b>                      % of Total: 42.94%                      (142,445,822)</p>
11. (39.323597,-120.219099)	<b>208,211</b> (0.34%)
12. (39.313549,-120.448465)	<b>207,326</b> (0.34%)
13. (39.31582,-120.439405)	<b>206,284</b> (0.34%)
14. (38.913277,-120.00461)	<b>205,438</b> (0.34%)
15. (41.28481,-122.30222)	<b>197,791</b> (0.32%)
16. (42.00549,-122.61518)	<b>195,249</b> (0.32%)
17. (41.21896,-122.27521)	<b>192,769</b> (0.32%)
18. (38.81321,-120.02928)	<b>188,117</b> (0.31%)
19. (42.01611,-122.61294)	<b>187,322</b> (0.31%)
20. (39.328091,-120.387339)	<b>185,954</b> (0.30%)

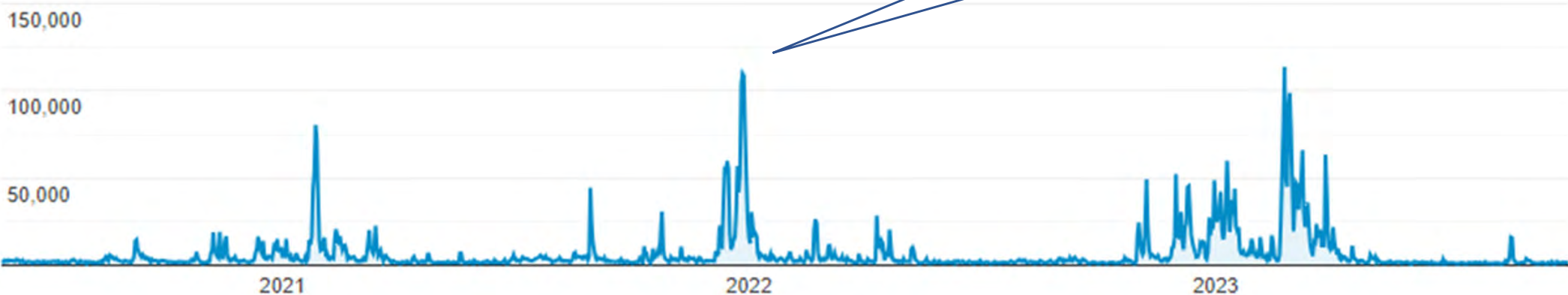


CMS

8,263,068 CMS Views

OSS Unified: May 27, 2020 – Oct 4, 2023

Approaching 120,000 CMS views in a single day!



# 3322 CMS Locations

OSS Unified: May 27, 2020 – Oct 4, 2023

Event Label <span>?</span>	Total Events <span>?</span> <span>↓</span>
	<p style="text-align: center;"><b>8,263,068</b></p> <p style="text-align: center;">% of Total: 5.80% (142,445,822)</p>
1. (38.504398,-118.176803)	<b>283,048</b> (3.43%)
2. (35.212506,-113.974003)	<b>212,360</b> (2.57%)
3. (39.328996,-120.26924)	<b>108,713</b> (1.32%)
4. (39.311639,-120.490908)	<b>93,194</b> (1.13%)
5. (41.96897,-122.60201)	<b>76,071</b> (0.92%)
6. (39.35456,-120.147641)	<b>68,646</b> (0.83%)
7. (38.807658,-120.13715)	<b>67,369</b> (0.82%)
8. (39.323878,-120.224141)	<b>66,520</b> (0.81%)
9. (38.681454,-119.548231)	<b>65,104</b> (0.79%)
10. (38.842142,-119.779154)	<b>62,998</b> (0.76%)

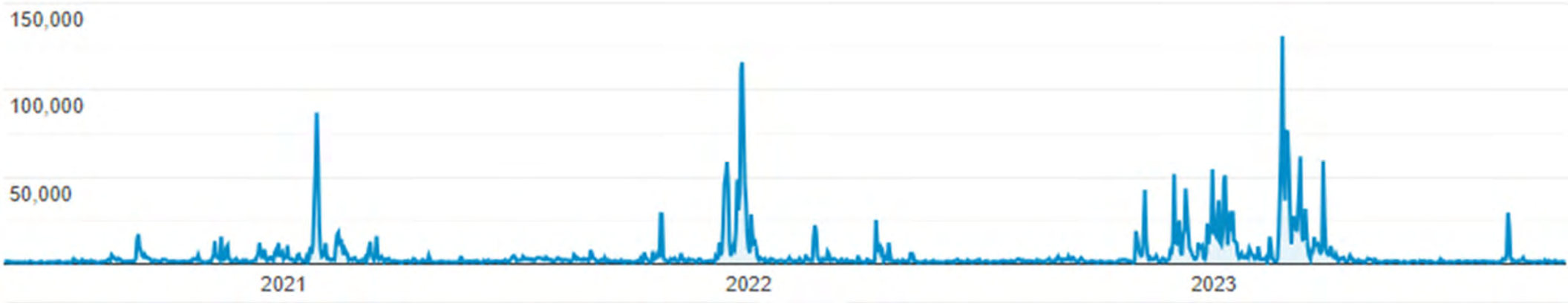


# INCIDENTS

6,163,702 Incident Views

OSS Unified: May 27, 2020 – Oct 4, 2023

Approaching 120,000  
Incident views in a single  
day!



# 223,943 Incident Locations

OSS Unified: May 27, 2020 – Oct 4, 2023

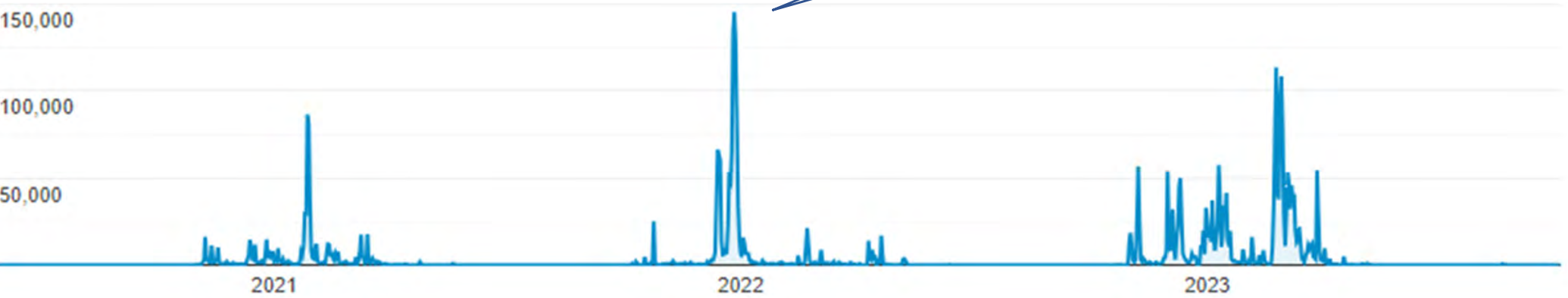
Event Label ?	Total Events ? ↓
	<b>6,168,222</b> % of Total: 4.33% (142,445,822)
1. (39.337687,-120.175522)	<b>112,308</b> (1.82%)
2. (38.853533,-120.019154)	<b>87,237</b> (1.41%)
3. (39.331061,-120.183004)	<b>60,168</b> (0.98%)
4. (42.01719,-122.61356)	<b>57,784</b> (0.94%)
5. (41.710042,-122.642273)	<b>39,172</b> (0.64%)
6. (39.273592,-120.717401)	<b>38,399</b> (0.62%)
7. (42.13134,-122.61151)	<b>35,736</b> (0.58%)
8. (42.3914,-122.48392)	<b>35,084</b> (0.57%)
9. (39.316381,-120.442656)	<b>32,689</b> (0.53%)
10. (41.311489,-122.322355)	<b>31,454</b> (0.51%)

Incident locations are interesting ...

# Chain Control Messages

# 4,507,277 Chain Control Views OSS Unified: May 27, 2020 – Oct 4, 2023

Approaching 150,000 Chain Control views in a single day!

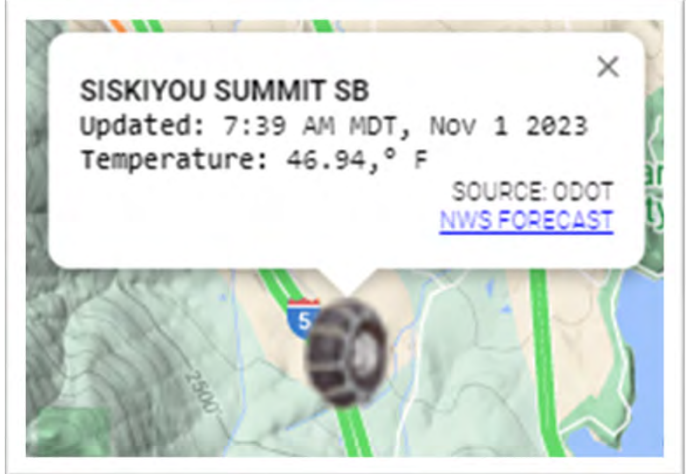




# 1444 Chain Control Locations

OSS Unified: May 27, 2020 – Oct 4, 2023

Event Label ?	Total Events ? ↓
	<p style="text-align: center;"><b>4,507,527</b></p> <p style="text-align: center;">% of Total: 3.16% (142,445,822)</p>
1. (42.14506,-122.63873)	<b>64,188</b> (1.42%)
2. (39.32886,-120.27931)	<b>58,850</b> (1.31%)
3. (42.01897,-122.60999)	<b>53,132</b> (1.18%)
4. (41.677837,-122.069209)	<b>52,177</b> (1.16%)
5. (39.331,-120.28941)	<b>46,956</b> (1.04%)
6. (39.3051,-120.52812)	<b>40,858</b> (0.91%)
7. (39.31176,-120.49317)	<b>40,738</b> (0.90%)
8. (39.384062,-120.083938)	<b>39,606</b> (0.88%)
9. (39.496752,-119.997897)	<b>36,707</b> (0.81%)
10. (39.32371,-120.22045)	<b>35,135</b> (0.78%)



# RWIS

(Roadside Weather Information Systems)

3,862,952 RWIS Views

OSS Unified: May 27, 2020 – Oct 4, 2023

Approaching 50,000 RWIS views in a single day!



# 1354 RWIS Locations

OSS Unified: May 27, 2020 – Oct 4, 2023

Event Label <span>?</span>	Total Events <span>?</span> <span>↓</span>
	<p style="text-align: center;"><b>3,864,963</b></p> <p style="text-align: center;">% of Total: 2.71% (142,445,822)</p>
1. (38.053398,-117.216201)	<b>278,430</b> (7.20%)
2. (41.98883,-122.60745)	<b>59,930</b> (1.55%)
3. (41.90631,-122.56764)	<b>54,016</b> (1.40%)
4. (41.26848,-122.21339)	<b>45,296</b> (1.17%)
5. (40.58548,-121.0887)	<b>41,172</b> (1.07%)
6. (38.970458,-119.935218)	<b>40,654</b> (1.05%)
7. (41.85169,-122.57007)	<b>39,504</b> (1.02%)
8. (38.51387,-119.212882)	<b>39,283</b> (1.02%)
9. (41.21896,-122.27521)	<b>38,677</b> (1.00%)
10. (39.002288,-119.949386)	<b>34,645</b> (0.90%)

This site is no longer active.

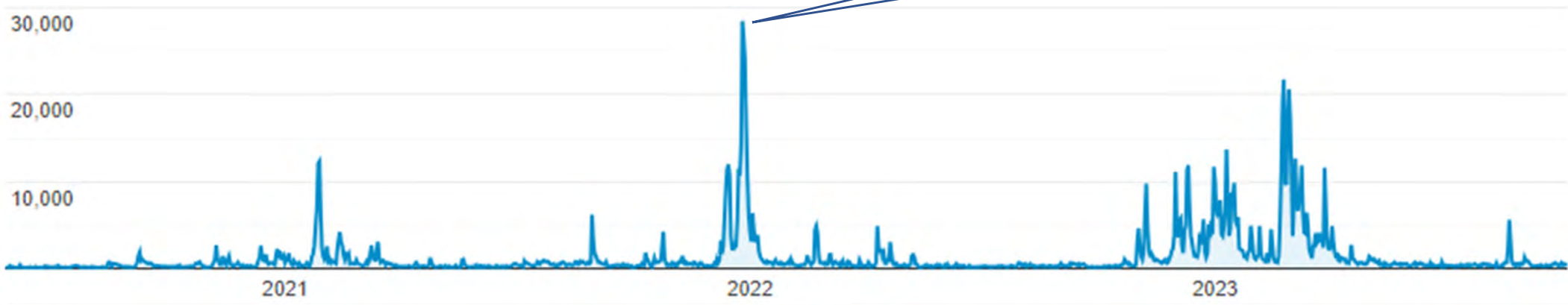
# CCTV Modal

(User-Viewed Enlarged CCTV Images)

1,567,043 CCTV Modal Views

OSS Unified: May 27, 2020 – Oct 4, 2023

Approaching 30,000 Enlarged CCTV views in a single day!



# 11983 CCTV Modal Locations

OSS Unified: May 27, 2020 – Oct 4, 2023

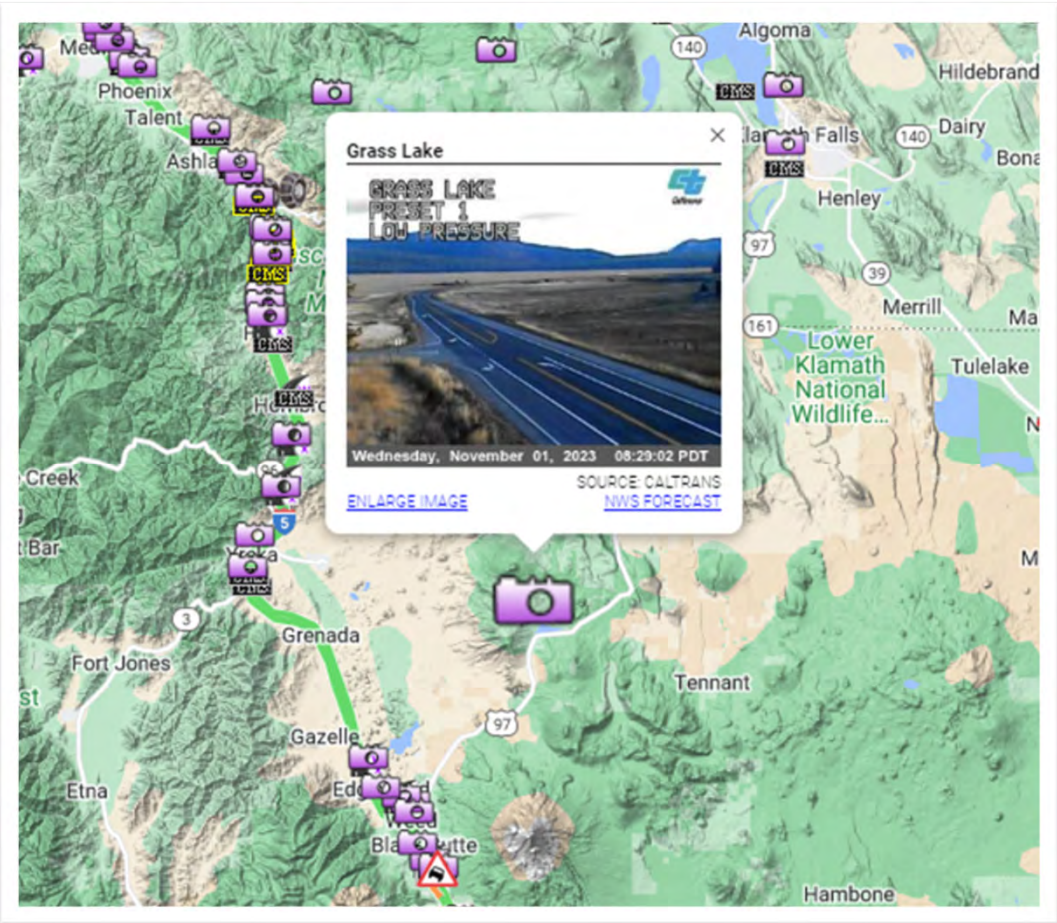
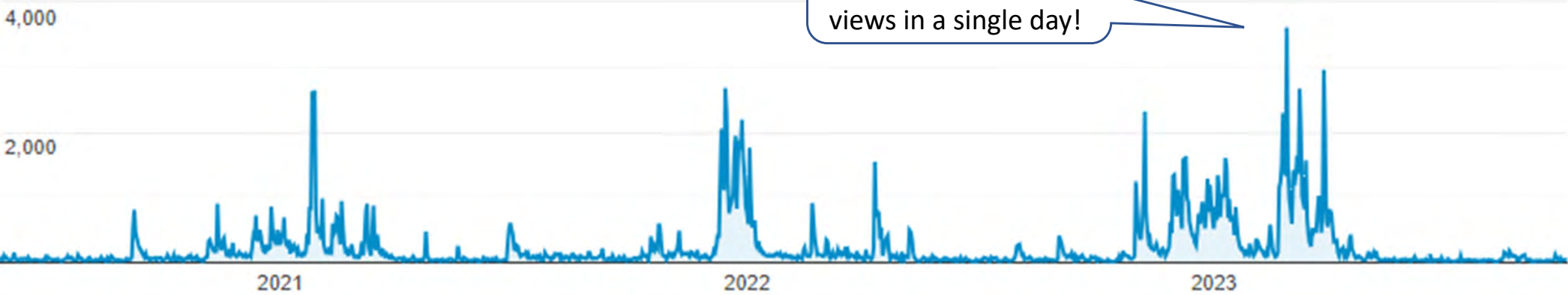
Event Label ?	Total Events ?
	<p style="text-align: center;"><b>1,568,886</b></p> <p style="text-align: center;">% of Total: 1.10% (142,445,822)</p>
1. (39.33075,-120.285422)	<p style="text-align: center;"><b>12,510</b> (0.80%)</p>
2. (39.339039,-120.347722)	<p style="text-align: center;"><b>12,084</b> (0.77%)</p>
3. (39.323597,-120.219099)	<p style="text-align: center;"><b>11,968</b> (0.76%)</p>
4. (39.496826,-119.998001)	<p style="text-align: center;"><b>11,924</b> (0.76%)</p>
5. (38.9766,-119.888603)	<p style="text-align: center;"><b>11,714</b> (0.75%)</p>
6. (38.948564,-119.95724)	<p style="text-align: center;"><b>11,475</b> (0.73%)</p>
7. (39.048091,-119.946899)	<p style="text-align: center;"><b>11,068</b> (0.71%)</p>
8. (42.06332,-122.60288)	<p style="text-align: center;"><b>10,824</b> (0.69%)</p>
9. (38.08782,-119.181251)	<p style="text-align: center;"><b>10,780</b> (0.69%)</p>
10. (37.64111,-118.91848)	<p style="text-align: center;"><b>10,617</b> (0.68%)</p>



281,133 CCTV Views @  
(41.63331, -122.19312)

OSS Unified: May 27, 2020 – Oct 4, 2023

Approaching 4000  
Grass Lake CCTV  
views in a single day!

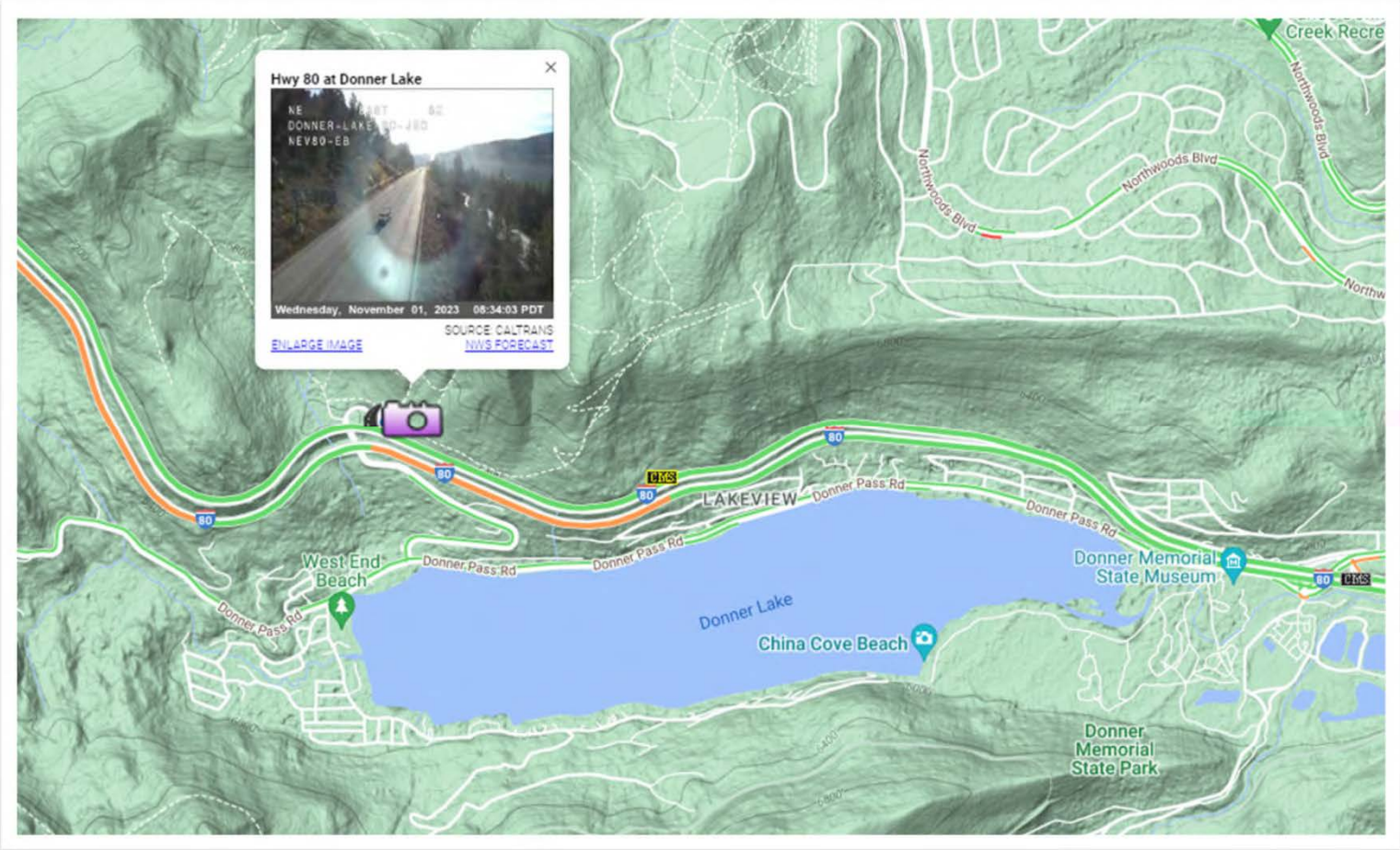
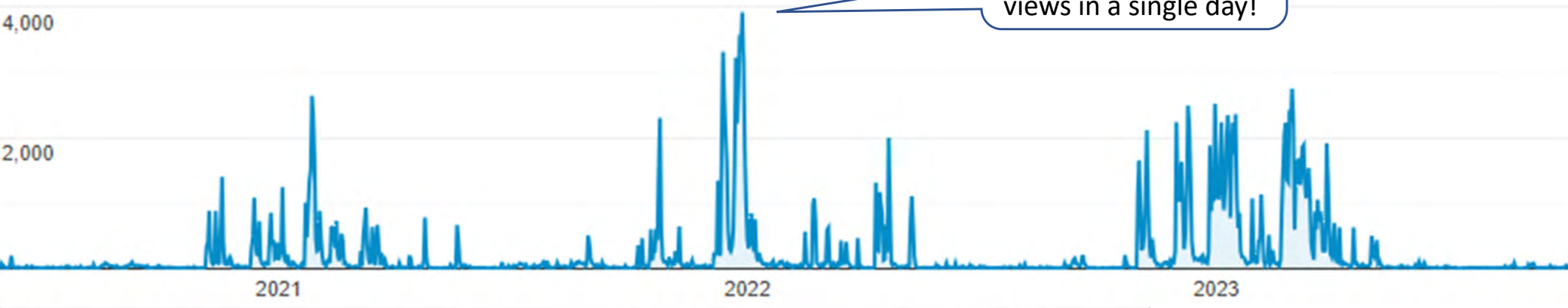




274,951 CCTV Views @  
(39.33075, -120.285422)

OSS Unified: May 27, 2020 – Oct 4, 2023

Approaching 4000  
Doinner Lake CCTV  
views in a single day!



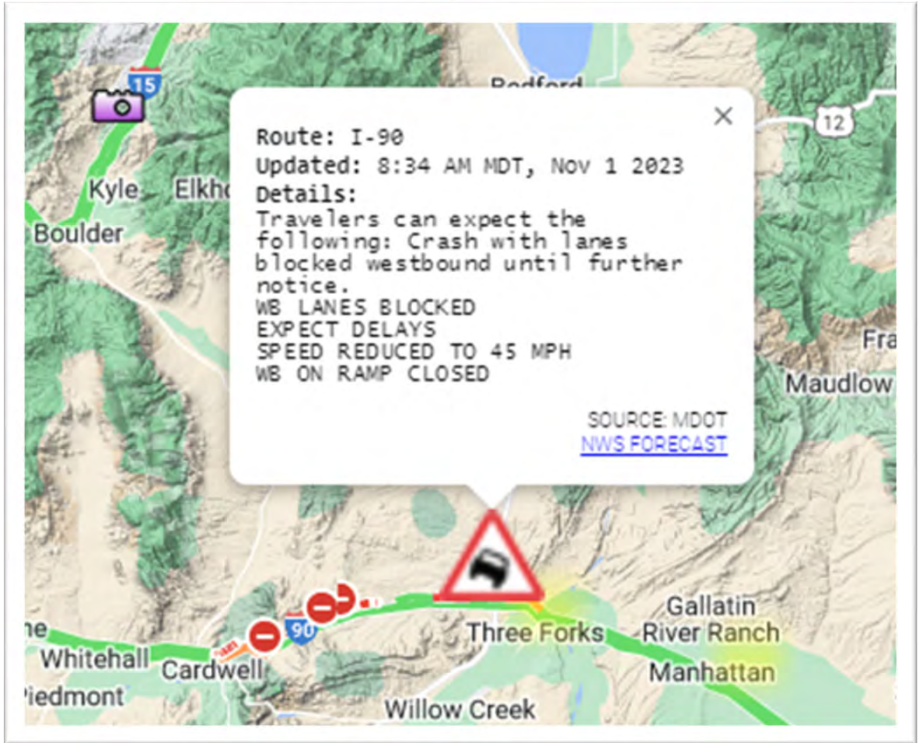
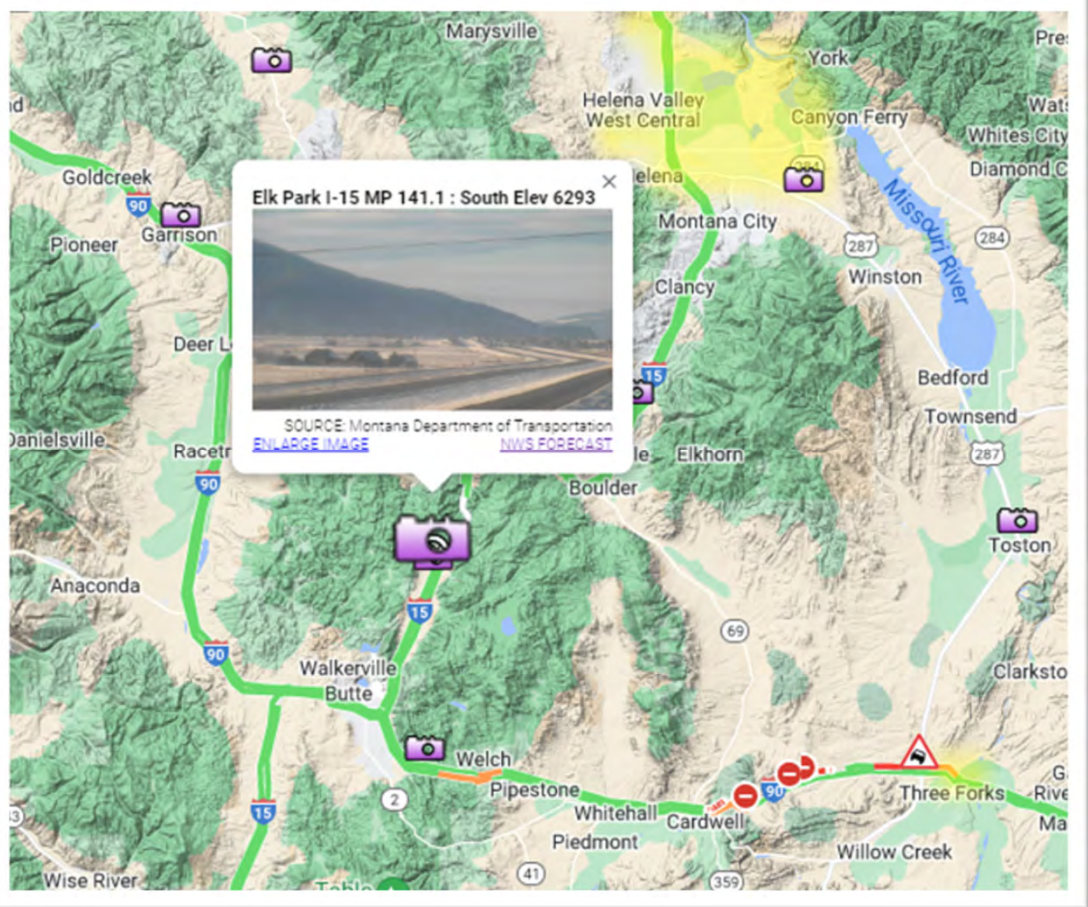
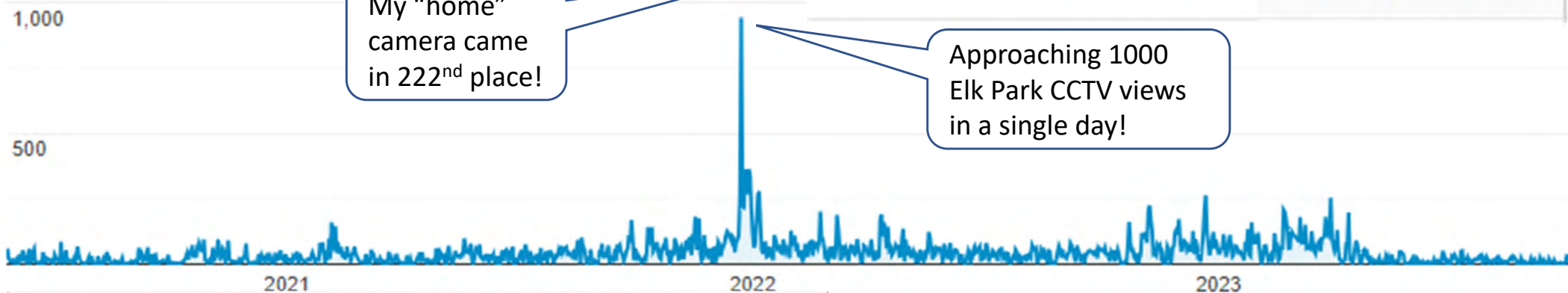
53,112 CCTV Views @  
(46.13589, -112.39799)

OSS Unified: May 27, 2020 – Oct 4, 2023

222.	(46.13589,-112.39799)	53,112	(0.09%)
------	-----------------------	--------	---------

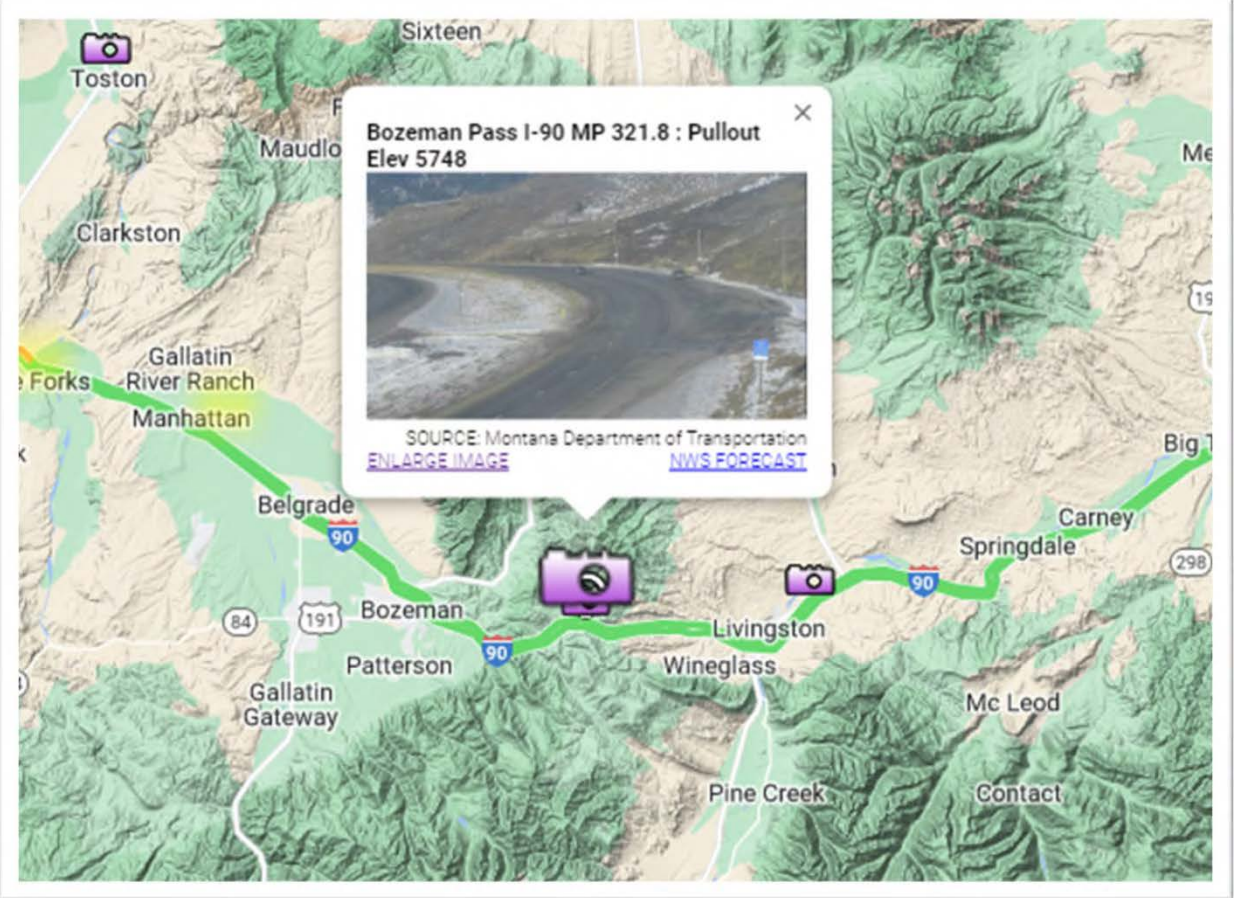
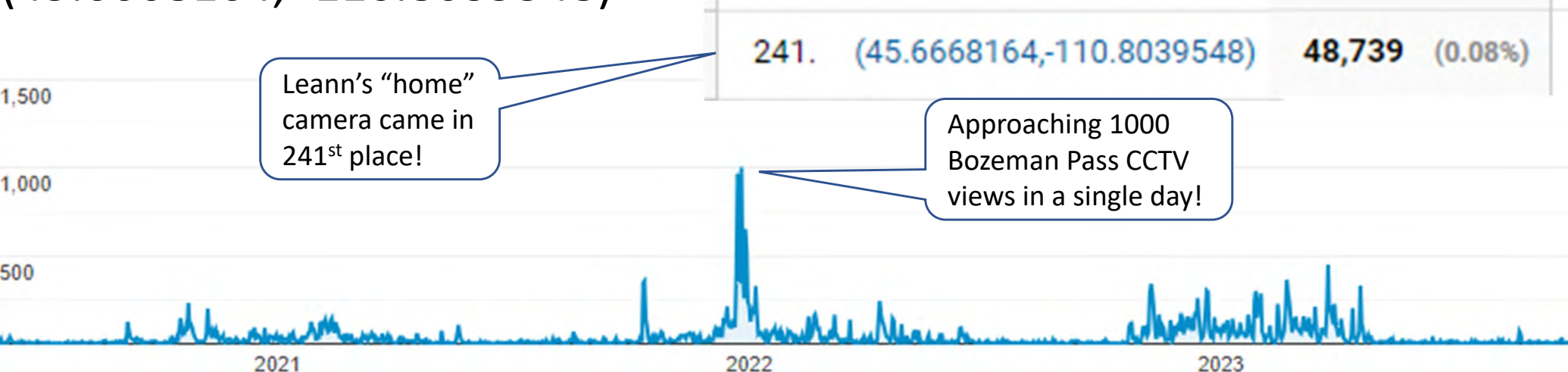
My "home" camera came in 222<sup>nd</sup> place!

Approaching 1000 Elk Park CCTV views in a single day!



48,739 CCTV Views @  
(45.6668164, -110.8039548)

OSS Unified: May 27, 2020 – Oct 4, 2023




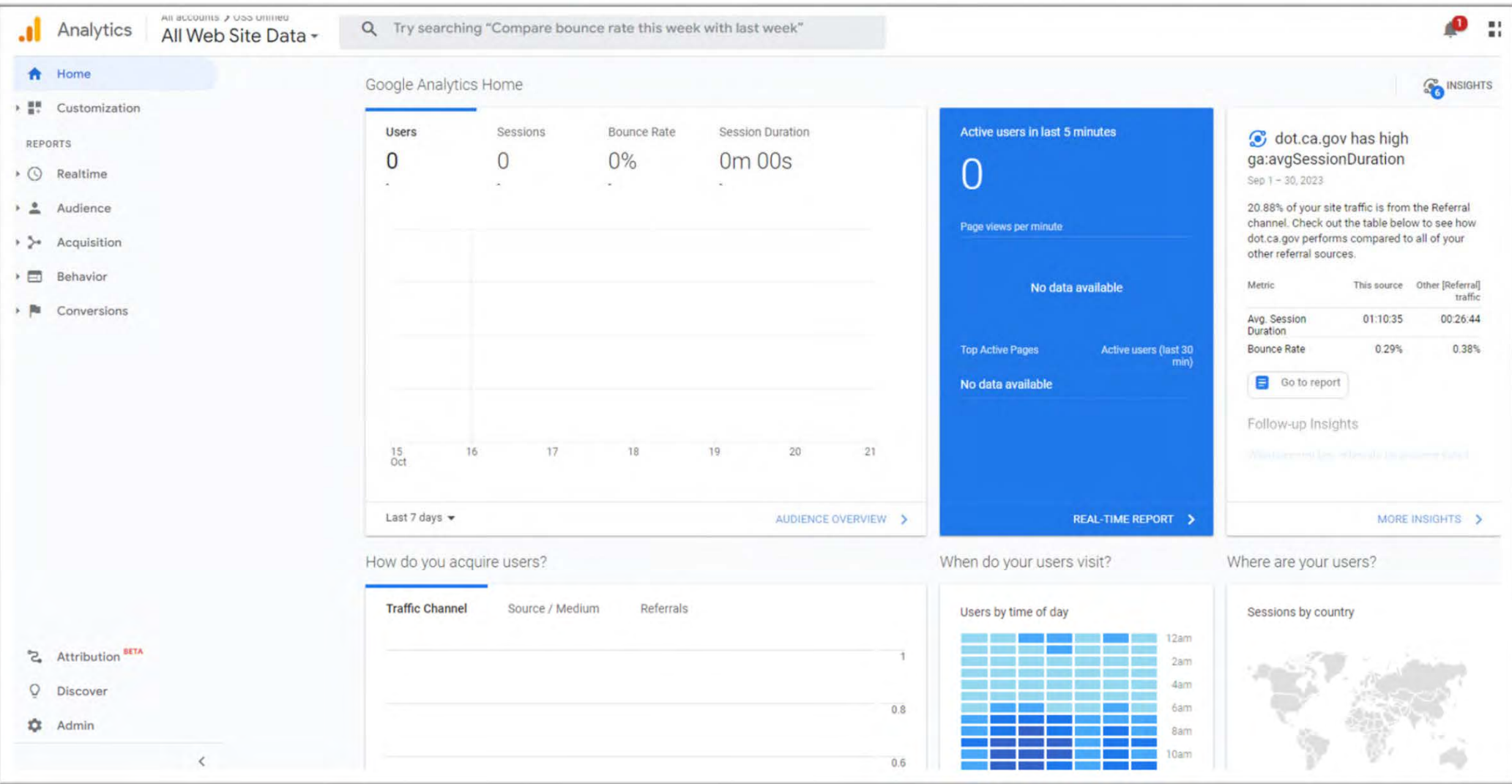
BUMMER! I Liked  
Google Analytics V3 ...

# Google Analytics V3 Phased Out



# Google Analytics V3 Phased Out

 This property has stopped processing data. To continue measuring website performance, set up a Google Analytics 4 (GA4) property.



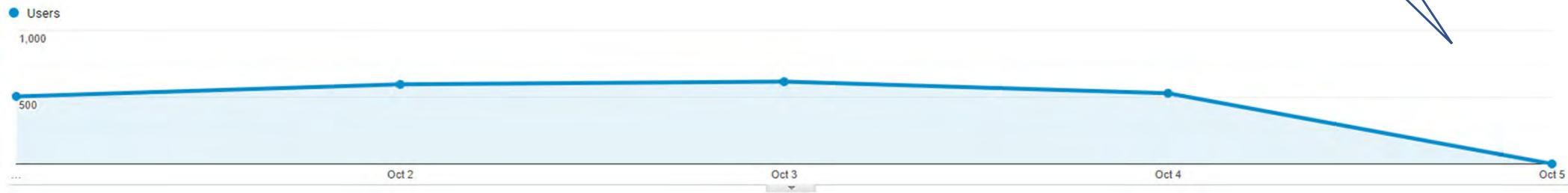
The screenshot displays the Google Analytics V3 interface for a property named 'All Web Site Data'. A prominent warning banner at the top states: 'This property has stopped processing data. To continue measuring website performance, set up a Google Analytics 4 (GA4) property.' The interface is divided into several sections:

- Navigation:** Includes 'Home', 'Customization', and 'REPORTS' (Realtime, Audience, Acquisition, Behavior, Conversions).
- Search:** A search bar with the text 'Try searching "Compare bounce rate this week with last week"'. A notification bell icon shows 1 alert.
- Google Analytics Home:** A central dashboard with four main cards:
  - Users:** Shows 0 users, 0 sessions, 0% bounce rate, and 0m 00s session duration. A line chart below shows zero activity from Oct 15 to 21.
  - Active users in last 5 minutes:** Shows 0 active users. A blue box contains the text 'No data available'.
  - Page views per minute:** Shows 'No data available'.
  - Top Active Pages / Active users (last 30 min):** Shows 'No data available'.
- Insights:** A section titled 'dot.ca.gov has high ga:avgSessionDuration' for Sep 1 - 30, 2023. It notes that 20.88% of traffic is from the Referral channel. A table compares metrics for 'This source' and 'Other [Referral] traffic':

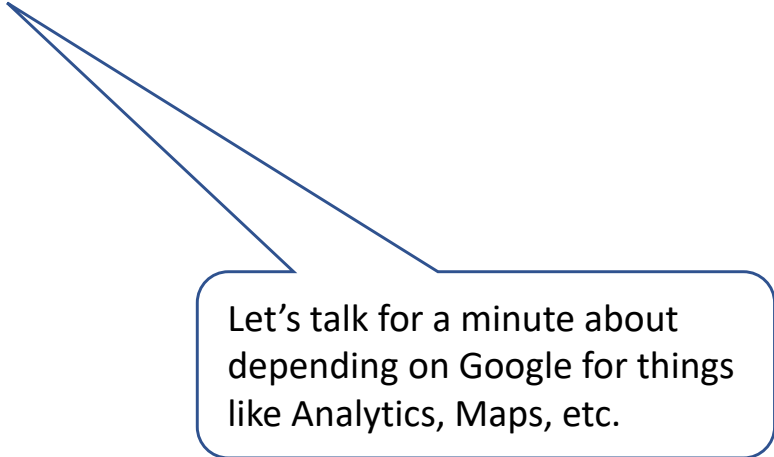
Metric	This source	Other [Referral] traffic
Avg. Session Duration	01:10:35	00:26:44
Bounce Rate	0.29%	0.38%
- How do you acquire users?:** A table with columns 'Traffic Channel', 'Source / Medium', and 'Referrals'. It shows three rows with referral counts of 1, 0.8, and 0.6.
- When do your users visit?:** A heatmap titled 'Users by time of day' showing activity from 12am to 10am.
- Where are your users?:** A world map titled 'Sessions by country' showing geographic distribution.

# Google Analytics V3 Phased Out

Things like this always happen at a bad time.



# Google Analytics V3 Phased Out



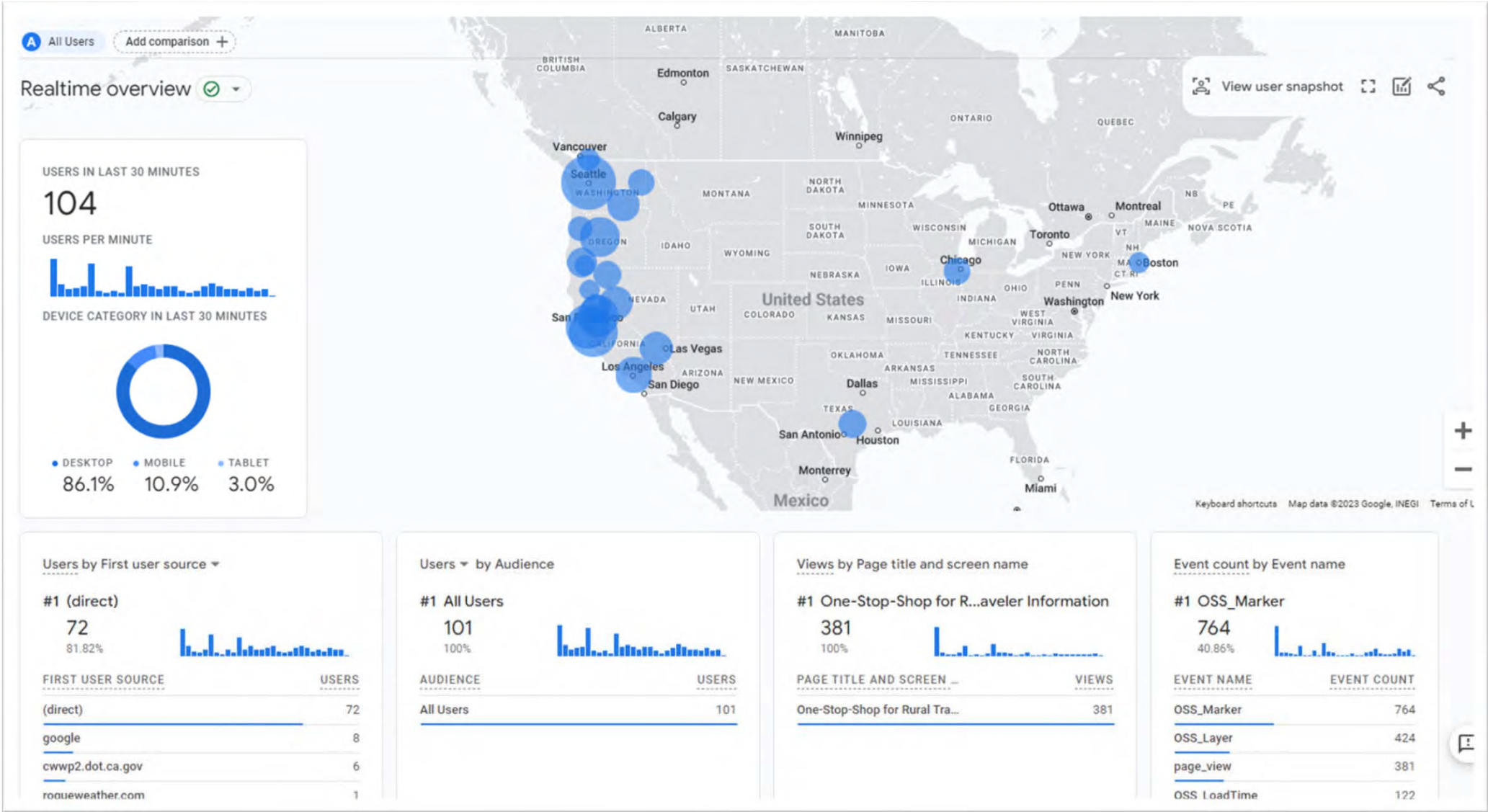
Let's talk for a minute about depending on Google for things like Analytics, Maps, etc.

# Google Analytics V4

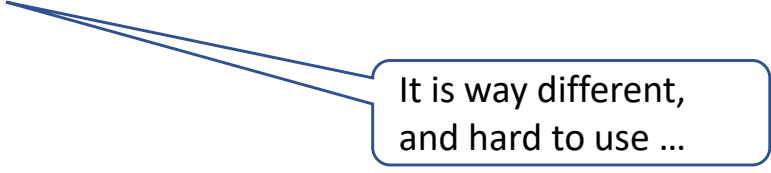


# Google Analytics V4

Looks good!



# Google Analytics V4



It is way different,  
and hard to use ...

# Google Analytics V4

It is way different –  
and hard to use ...

This presented a problem  
as I was trying to wrap up  
this presentation ...



A somewhat better way  
of viewing the problem.



When life gives you lemons ...

*When life gives you lemons ...*

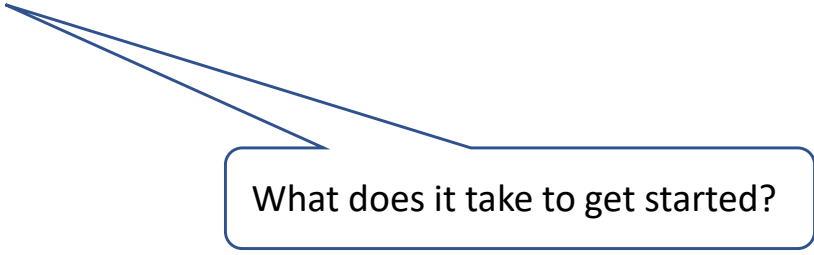
When life gives you lemons ...

*When life gives you lemons, make lemonade!*

By forcing me to grab the data programmatically, I took the opportunity to look at some of the data I originally envisioned when implementing Analytics data collection, along with some things we have already seen.



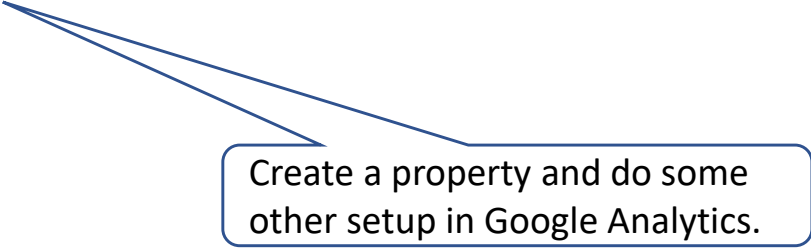
# Google Analytics V4



What does it take to get started?



# Google Analytics V4



Create a property and do some other setup in Google Analytics.

# Google Analytics V4

Insert this into the HTML of your site.

## Minified version

```
<!-- Google Analytics -->
<script>
(function(i,s,o,g,r,a,m){i['GoogleAnalyticsObject']=r;i[r]=i[r]||function(){
(i[r].q=i[r].q||[]).push(arguments)},i[r].l=1*new Date();a=s.createElement(o),
m=s.getElementsByTagName(o)[0];a.async=1;a.src=g;m.parentNode.insertBefore(a,m)
})(window,document,'script','https://www.google-analytics.com/analytics.js','ga');

ga('create', 'UA-XXXXX-Y', 'auto');
ga('send', 'pageview');
</script>
<!-- End Google Analytics -->
```

Property ID

# Google Analytics V4

Unminified version

```
<!-- Google Analytics -->
<script>
/**
 * Creates a temporary global ga object and loads analytics.js.
 * Parameters o, a, and m are all used internally. They could have been
 * declared using 'var', instead they are declared as parameters to save
 * 4 bytes ('var ').
 *
 * @param {Window}      i The global context object.
 * @param {HTMLDocument} s The DOM document object.
 * @param {string}     o Must be 'script'.
 * @param {string}     g Protocol relative URL of the analytics.js script.
 * @param {string}     r Global name of analytics object. Defaults to 'ga'.
 * @param {HTMLElement} a Async script tag.
 * @param {HTMLElement} m First script tag in document.
 */
(function(i, s, o, g, r, a, m){
  i['GoogleAnalyticsObject'] = r; // Acts as a pointer to support renaming.

  // Creates an initial ga() function.
  // The queued commands will be executed once analytics.js loads.
  i[r] = i[r] || function() {
    (i[r].q = i[r].q || []).push(arguments)
  };

  // Sets the time (as an integer) this tag was executed.
  // Used for timing hits.
  i[r].l = 1 * new Date();

  // Insert the script tag asynchronously.
  // Inserts above current tag to prevent blocking in addition to using the
  // async attribute.
  a = s.createElement(o),
  m = s.getElementsByTagName(o)[0];
  a.async = 1;
  a.src = g;
  m.parentNode.insertBefore(a, m)
})(window, document, 'script', '//www.google-analytics.com/analytics.js', 'ga');

// Creates a default tracker with automatic cookie domain configuration.
ga('create', 'UA-XXXXX-Y', 'auto');

// Sends a pageview hit from the tracker just created.
ga('send', 'pageview');
</script>
<!-- End Google Analytics -->
```

Easier to understand version ...

# Google Analytics V4

- On the screen, you'll see the JavaScript snippet for your account's Google tag. Your Google tag is the entire section of code that appears, beginning with:

```
<!-- Google tag (gtag.js) -->
```

and ending with

```
</script>
```

Paste your Google tag immediately after the `<head>` on each page of your website.

This is needed to record custom events.

## Set up events

Use the [gtag.js API](#) to send events to Google Analytics. The API has one function called `gtag()`, and whenever you want to send an event to Google Analytics, you use the following syntax:

```
gtag('event', '<event_name>', {
  <event_parameters>
});
```

In this example, the `gtag()` function includes the following:

- An `event` command that tells Google that you are sending an event
- The name of the recommended or custom event
- (Optional) A collection of [parameters](#) that provide additional information about the event

For example, the following is a recommended event called `screen_view` with two parameters:

```
gtag('event', 'screen_view', {
  'app_name': 'myAppName',
  'screen_name': 'Home'
});
```

# Google Analytics V4

JavaScript Function in OSS

```
LogAnalyticsEvent("Marker", elementtype, "(" + element.latitude + "," + element.longitude + ")");
```

```
// Google analytics function
function LogAnalyticsEvent(eventCategory, eventAction, eventLabel) {
  ga('send', {
    hitType: 'event',
    eventCategory: eventCategory,
    eventAction: eventAction,
    eventLabel: eventLabel
  });
  if (eventCategory == "Marker") {
    gtag('event', 'OSS_Marker', {'OSS_elementtype':eventAction , 'OSS_location':eventLabel });
  }
  if (eventCategory == "Link") {
    gtag('event', 'OSS_Link', {'OSS_linktype':eventAction , 'OSS_location':eventLabel });
  }
  if (eventCategory == "Load") {
    gtag('event', 'OSS_Load', {'OSS_href':eventAction , 'OSS_location':eventLabel });
  }
  if (eventCategory == "Layer") {
    gtag('event', 'OSS_Layer', {'OSS_layer':eventAction , 'OSS_status':eventLabel });
  }
  if (eventCategory == "LoadTime") {
    gtag('event', 'OSS_LoadTime', {'OSS_element':eventAction , 'OSS_time':eventLabel });
  }
  if (eventCategory == "UI") {
    gtag('event', 'OSS_UI', {'OSS_element':eventAction , 'OSS_status':eventLabel });
  }
  if (eventCategory == "TimeSelect") {
    gtag('event', 'OSS_TimeSelect', {'OSS_layer':eventAction , 'OSS_time':eventLabel });
  }
  if (eventCategory == "FailedLayerLoad") {
    gtag('event', 'OSS_FailedLayerLoad', {'OSS_layer':eventAction});
  }
  if (eventCategory == "Zoom") {
    gtag('event', 'OSS_Zoom', {'OSS_location':eventLabel});
  }
  if (eventCategory == "addthis") {
    gtag('event', 'OSS_addthis', {'OSS_service':eventAction , 'OSS_href':eventLabel });
  }
}
```

For Google Analytics V3

For Google Analytics V4

# Google Analytics V4

HTTP GET request sent to Google Analytics.

Click on Camera Marker



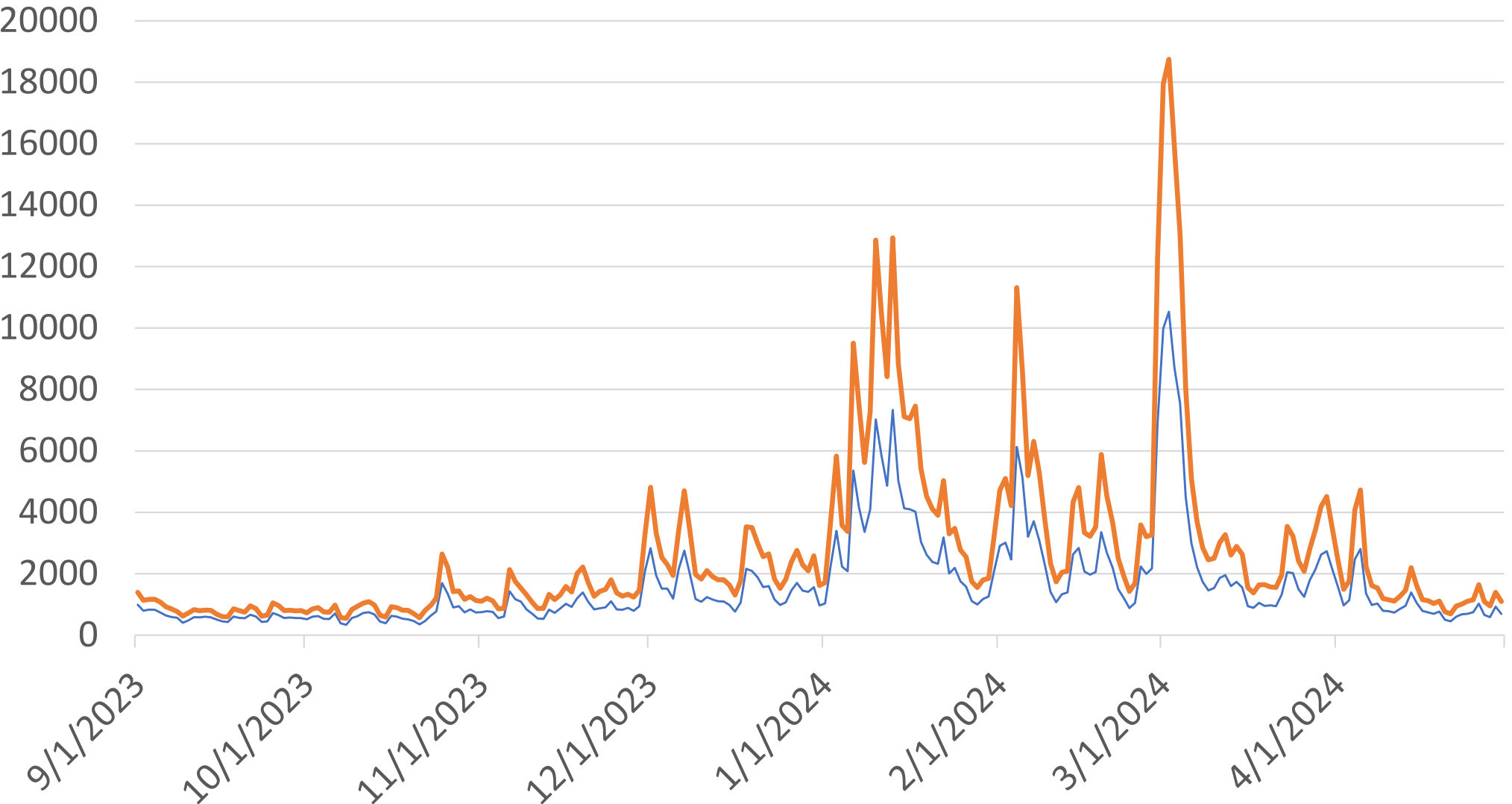
GET

```
https://www.google-analytics.com/collect?v=1&_v=j101&a=718561488&t=event&_s=22&dl=https%3A%2F%2Foss.weathershare.org%2F%3Fclat%3D46.27845%26clng%3D-112.39799%26zoom%3D10&ul=en-us&de=windows-1252&dt=One-Stop-Shop%20for%20Rural%20Traveler%20Information&sd=24-bit&sr=1920x1080&vp=1202x945&je=0&ec=Marker&ea=CCTV&el=(46.32329873%2C-112.0689089)&_u=CACAAEABAAAAACAAI~&jid=&gjid=&cid=1250447631.1705182219&tid=UA-15870020-16&_gid=1219875172.1713134285&z
```

# September 2023 – April 2024

OSS Users and Sessions per Day

— Users — Sessions



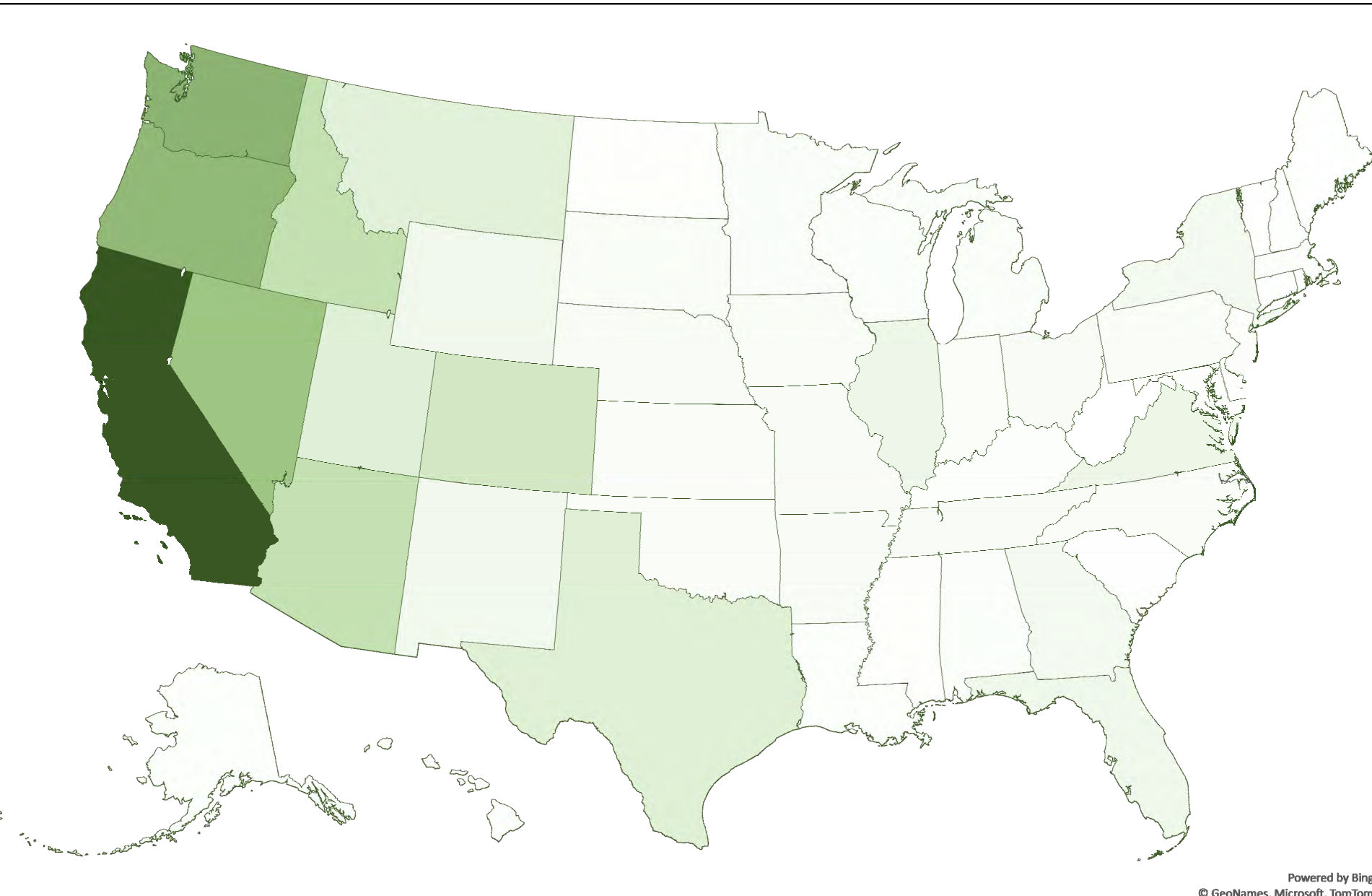


# September 2023 – April 2024

<b>Country</b>	<b>Users</b>	<b>Sessions</b>	<b>Sessions per User</b>	<b>Session Duration (minutes)</b>	<b>Events per Session</b>
United States	195043	743957	3.82	56.95	92.25
Canada	4239	13641	3.23	18.11	60.61
Germany	753	1611	2.15	20.93	75.86
Mexico	411	823	2.06	7.30	69.76
France	360	637	1.77	19.92	57.60
China	266	269	1.01	0.57	5.84
India	213	1507	7.08	141.67	126.94
Brazil	203	349	1.73	47.84	148.42
United Kingdom	169	404	2.43	24.10	105.61
Indonesia	101	170	1.68	73.99	107.64

# US Users: September 2023 – April 2024

Users by State

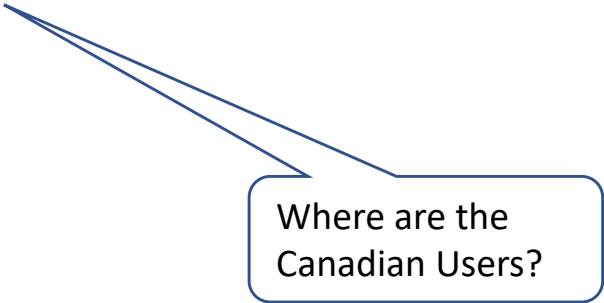


Powered by Bing  
© GeoNames, Microsoft, TomTom

# Users: September 2023 – April 2024

	<b>State</b>	<b>Users</b>	<b>Sessions</b>	<b>Sessions per User</b>	<b>Session Duration (minutes)</b>	<b>Events per Session</b>
1	California	108337	369783	3.44	49.38	85.91
2	Washington	35075	100419	2.91	33.07	76.54
3	Oregon	29986	83527	2.83	80.73	108.79
4	Nevada	19948	61755	3.14	55.40	87.77
5	Idaho	6818	17831	2.69	78.08	94.40
6	Arizona	6718	20228	3.07	66.55	105.05
7	Colorado	5113	12965	2.59	51.42	84.92
8	Texas	3582	7685	2.19	54.40	92.31
9	Utah	3566	12438	3.57	135.70	173.58
10	Montana	3315	11360	3.50	72.58	82.78

# Canadian Users: September 2023 – April 2024



Where are the  
Canadian Users?

# Canadian Users: September 2023 – April 2024

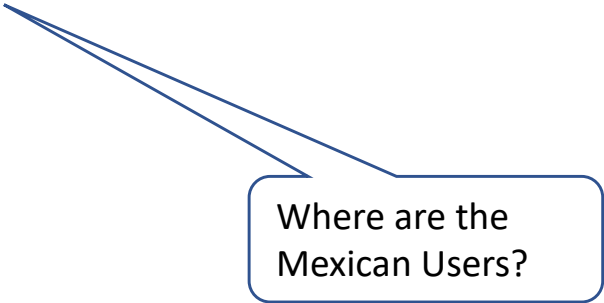
Users by Canadian Province



# Canadian Users: September 2023 – April 2024

<b>Province</b>	<b>Users</b>	<b>Sessions</b>	<b>Sessions per User</b>	<b>Session Duration minutes</b>	<b>Events per Session</b>
British Columbia	2178	7869	3.64	19.27	62.24
Alberta	1535	3491	2.28	11.52	37.23
Ontario	566	1432	2.63	32.16	91.33
Quebec	261	655	2.60	8.79	71.25
Saskatchewan	120	205	1.77	5.66	56.32

# Mexican Users: September 2023 – April 2024



Where are the  
Mexican Users?

# Mexican Users: September 2023 – April 2024

Users from Mexican States





# Mexican Users: September 2023 – April 2024

<b>Region</b>	<b>Users</b>	<b>Sessions</b>	<b>Sessions per User</b>	<b>Session Duration (minutes)</b>	<b>Events per Session</b>
Baja California	111	178	1.71	7.69	74.22
Mexico City	52	97	1.94	17.63	53.84
Jalisco	42	120	2.93	11.68	116.26

# September 2023 – April 2024

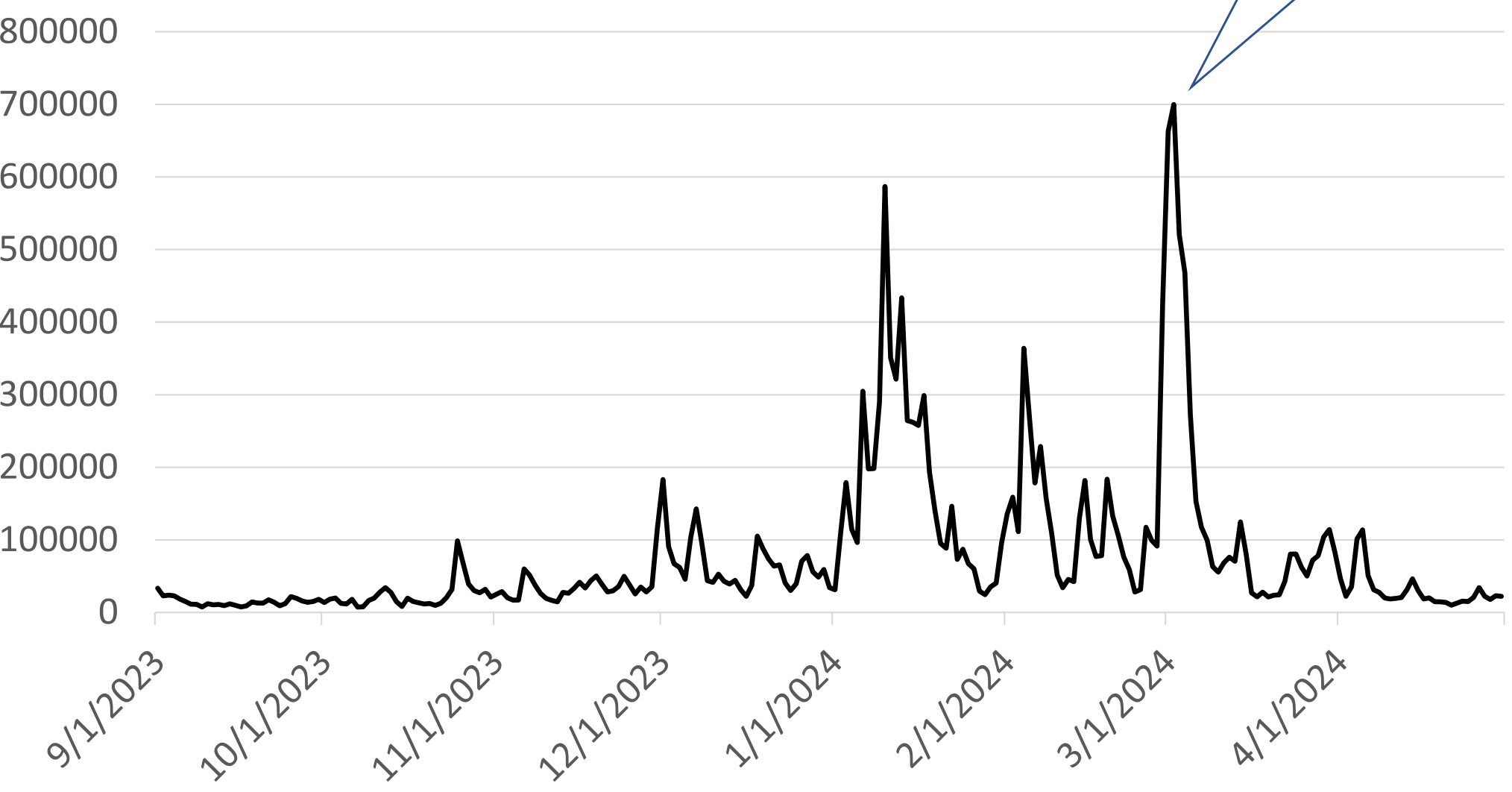
	<b>City</b>	<b>Users</b>	<b>Sessions</b>	<b>Sessions per User</b>	<b>Session Duration (minutes)</b>	<b>Events per Session</b>
1	San Jose, CA	21918	53276	2.48	21.84	64.73
2	Seattle, WA	16227	44569	2.79	22.94	74.28
3	Los Angeles, CA	14234	35577	2.56	29.69	68.01
4	Sacramento, CA	11983	36495	3.10	60.89	87.46
5	Portland, OR	5943	16810	2.89	24.33	78.17
6	Reno, NV	5803	22880	3.97	65.02	90.82
7	San Francisco, CA	5800	14678	2.58	26.98	76.72
8	Phoenix, AZ	3291	10535	3.29	98.05	122.47
9	Redding, CA	2883	14770	5.16	51.68	85.34
10	Las Vegas, NV	2867	7143	2.56	75.70	95.17

# September 2023 – April 2024

	<b>City</b>	<b>Users</b>	<b>Sessions</b>	<b>Sessions per User</b>	<b>Session Duration (minutes)</b>	<b>Events per Session</b>
11	Medford, OR	2682	7169	2.73	111.69	118.73
12	Sparks, NV	2559	5716	2.30	51.94	92.12
13	South Lake Tahoe, CA	1948	4880	2.57	39.03	64.65
14	San Diego, CA	1923	3919	2.10	54.29	84.88
15	Denver, CO	1807	5058	2.86	84.09	99.60
16	Grants Pass, OR	1606	3791	2.41	27.06	70.90
17	Yreka, CA	1513	4289	2.86	82.80	106.39
18	Salt Lake City, UT	1446	5537	3.93	36.25	81.18
19	Arcata, CA	1442	2242	1.59	11.18	58.68
20	Quincy, CA	1394	2038	1.52	34.87	63.95

# September 2023 – April 2024

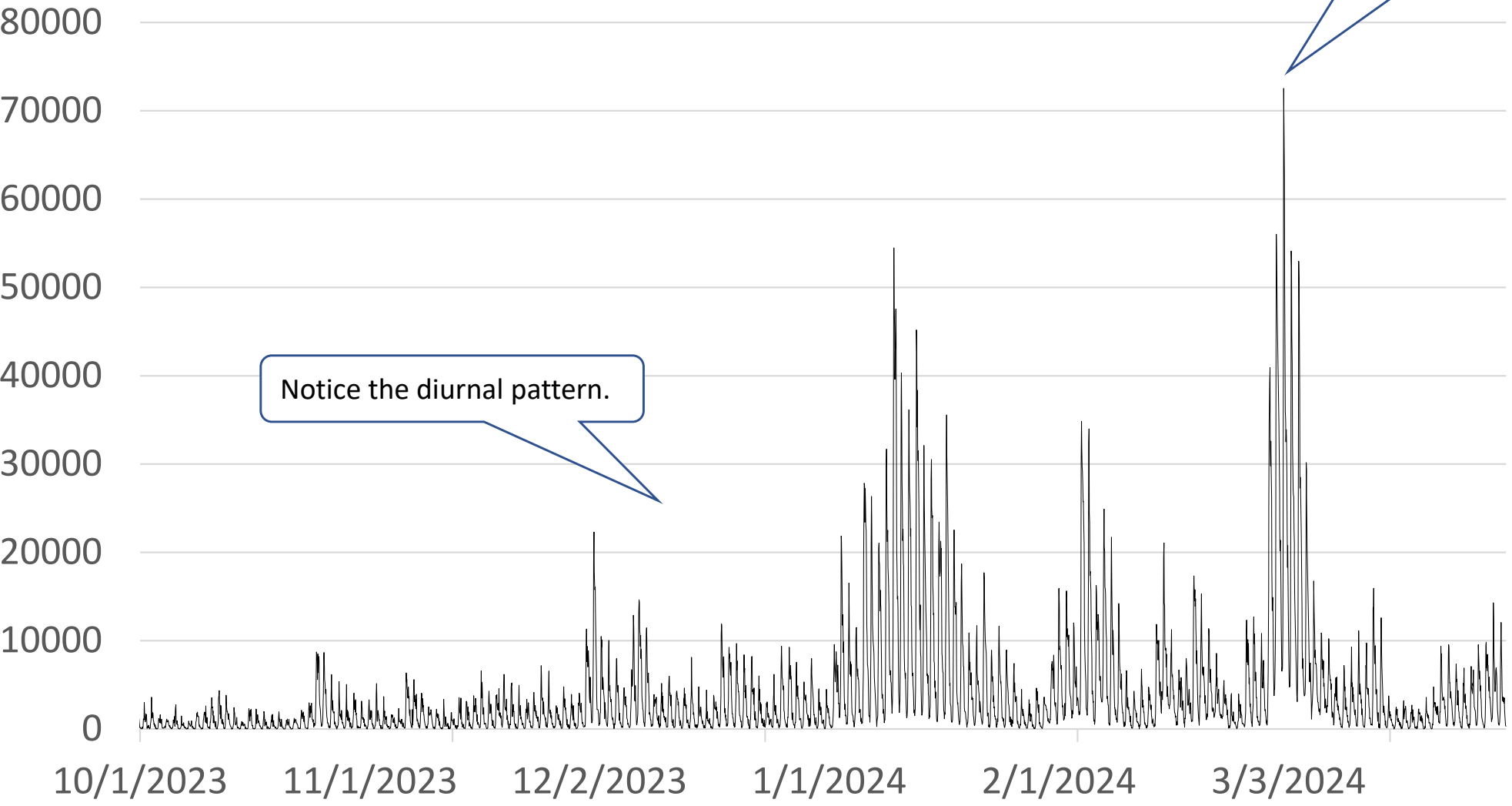
## OSS CCTV Views by Day



700,000 CCTV Views in a day.

# October 2023 – March 2024

## OSS CCTV Views Per Hour

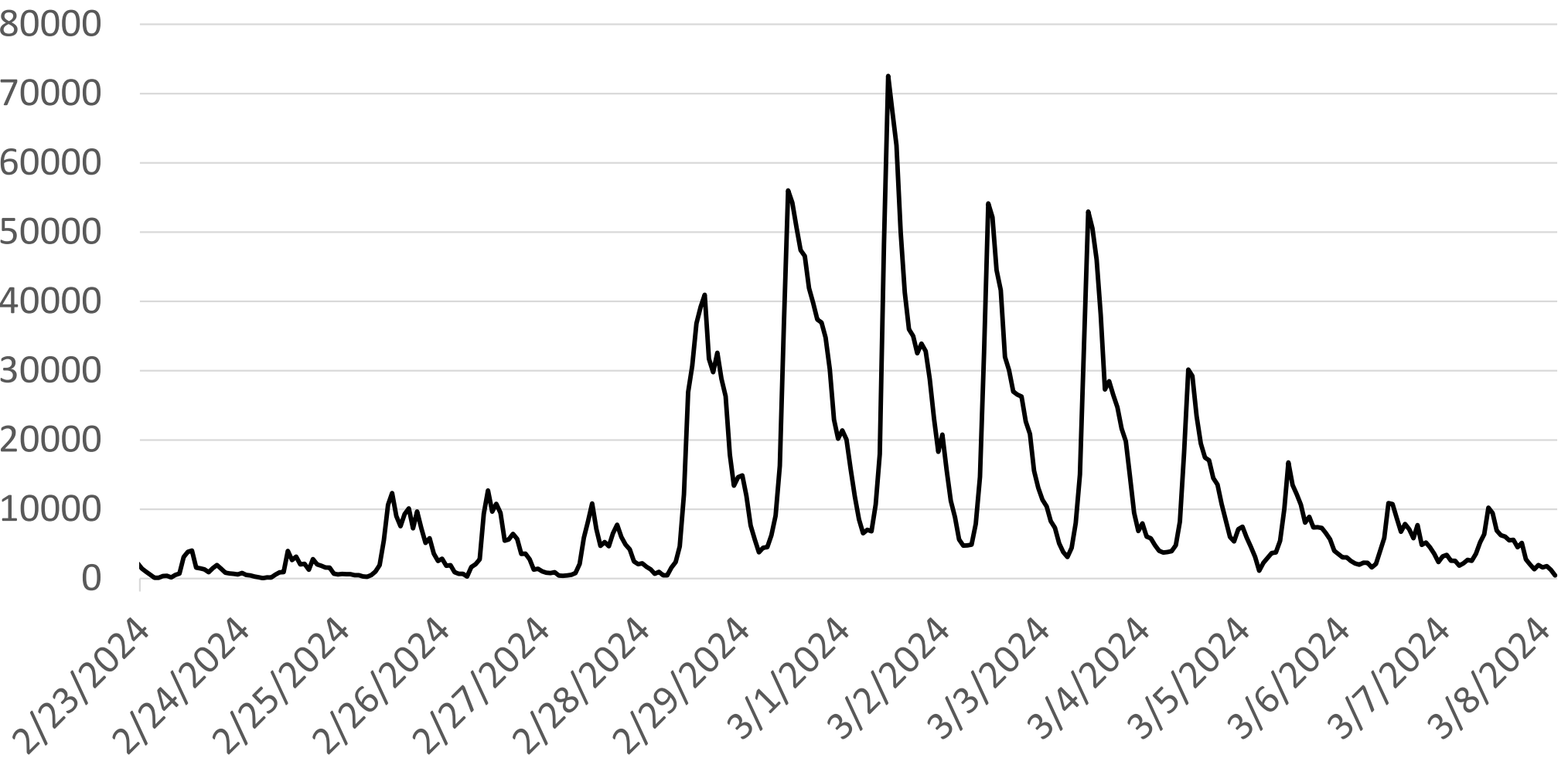


Notice the diurnal pattern.

70,000 CCTV Views in an hour.

# February 23<sup>rd</sup>, 2024 – March 8<sup>th</sup>, 2024

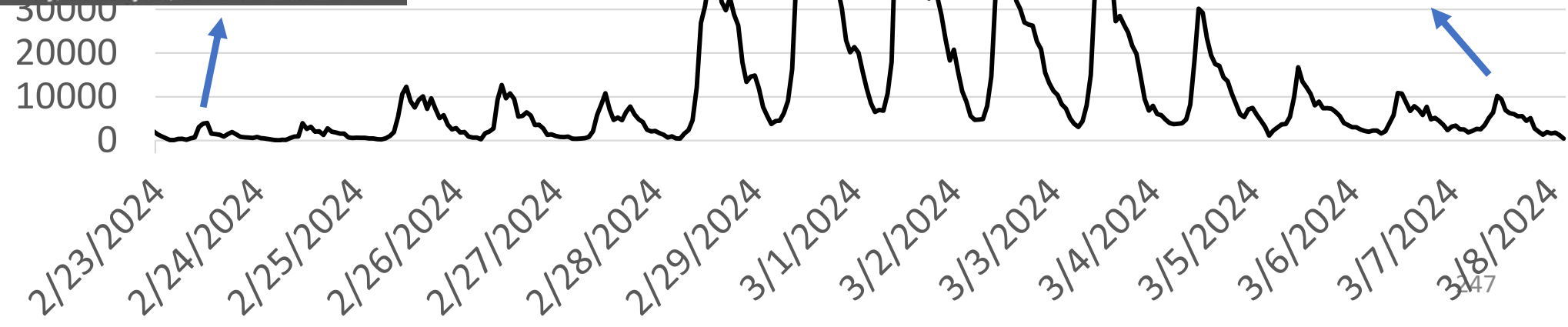
## OSS CCTV Views Per Hour



# February 23<sup>rd</sup>, 2024 – March 8<sup>th</sup>, 2024



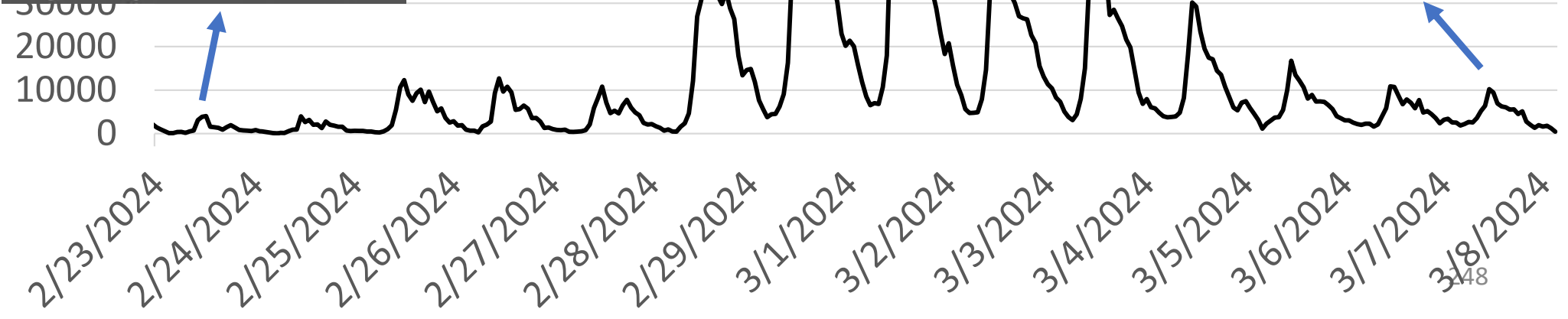
OSS CCTV Views Per Hour



# February 23<sup>rd</sup>, 2024 – March 8<sup>th</sup>, 2024



OSS CCTV Views Per Hour

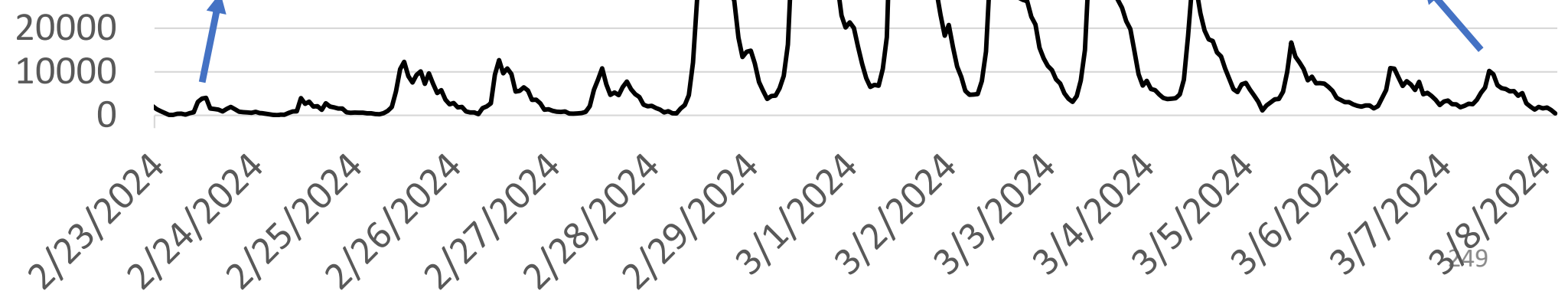




# February 23<sup>rd</sup>, 2024 – March 8<sup>th</sup>, 2024



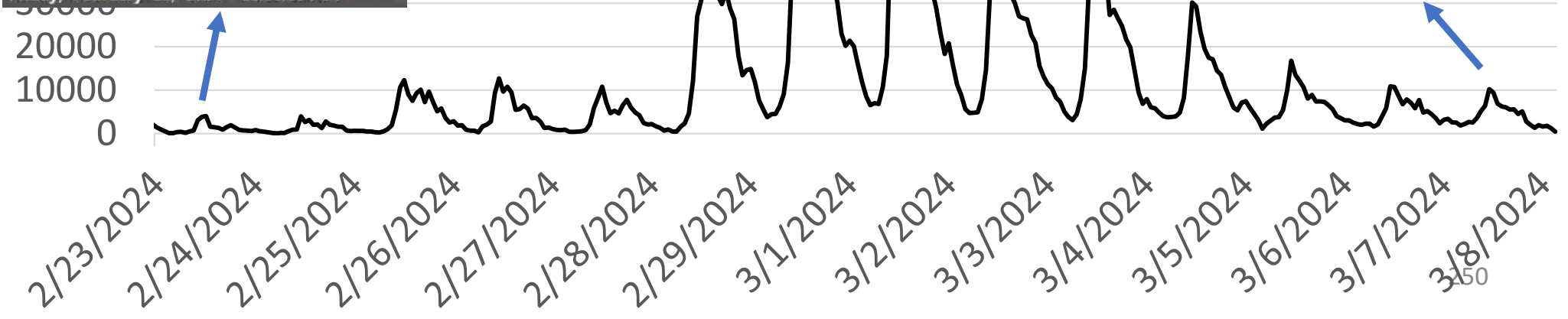
OSS CCTV Views Per Hour



# February 23<sup>rd</sup>, 2024 – March 8<sup>th</sup>, 2024



OSS CCTV Views Per Hour



# TOP CCTV September 2023 – April 2024

Rank	Count	Agency	Region	Location	URL
1	89111	Caltrans D3	Donner Pass	Hwy 80 at Donner Lake	<a href="https://oss.weathershare.org/?clat=39.33075&amp;clng=-120.285422&amp;zoom=14">https://oss.weathershare.org/?clat=39.33075&amp;clng=-120.285422&amp;zoom=14</a>
2	82845	Caltrans D3	Donner Pass	Hwy 80 at Soda Springs EB	<a href="https://oss.weathershare.org/?clat=39.326506&amp;clng=-120.389657&amp;zoom=14">https://oss.weathershare.org/?clat=39.326506&amp;clng=-120.389657&amp;zoom=14</a>
3	80447	Caltrans D3	Donner Pass	Hwy 80 at Castle Peak	<a href="https://oss.weathershare.org/?clat=39.334602&amp;clng=-120.355626&amp;zoom=14">https://oss.weathershare.org/?clat=39.334602&amp;clng=-120.355626&amp;zoom=14</a>
4	75137	Caltrans D2	Hwy 97	Grass Lake	<a href="https://oss.weathershare.org/?clat=41.63331&amp;clng=-122.19312&amp;zoom=14">https://oss.weathershare.org/?clat=41.63331&amp;clng=-122.19312&amp;zoom=14</a>
5	73038	Caltrans D3	Donner Pass	Hwy 80 at Donner Summit	<a href="https://oss.weathershare.org/?clat=39.339039&amp;clng=-120.347722&amp;zoom=14">https://oss.weathershare.org/?clat=39.339039&amp;clng=-120.347722&amp;zoom=14</a>
6	66940	Caltrans D3	Donner Pass	Hwy 80 at Kingvale WB	<a href="https://oss.weathershare.org/?clat=39.31582&amp;clng=-120.439405&amp;zoom=14">https://oss.weathershare.org/?clat=39.31582&amp;clng=-120.439405&amp;zoom=14</a>
7	61563	ADOT	Kingman SE of Las Vegas	SR-66 NB 61.40 @Mohave Airport Dr	<a href="https://oss.weathershare.org/?clat=35.270814&amp;clng=-113.958953&amp;zoom=14">https://oss.weathershare.org/?clat=35.270814&amp;clng=-113.958953&amp;zoom=14</a>
8	59501	Caltrans D2	Mount Shasta	Snowman	<a href="https://oss.weathershare.org/?clat=41.26879&amp;clng=-122.21239&amp;zoom=14">https://oss.weathershare.org/?clat=41.26879&amp;clng=-122.21239&amp;zoom=14</a>
9	58533	Caltrans D3	Donner Pass	Hwy 80 at Kingvale EB	<a href="https://oss.weathershare.org/?clat=39.313549&amp;clng=-120.448465&amp;zoom=14">https://oss.weathershare.org/?clat=39.313549&amp;clng=-120.448465&amp;zoom=14</a>
10	57900	Caltrans D3	Donner Pass	Hwy 80 at Old Ag Station	<a href="https://oss.weathershare.org/?clat=39.323597&amp;clng=-120.219099&amp;zoom=14">https://oss.weathershare.org/?clat=39.323597&amp;clng=-120.219099&amp;zoom=14</a>



Donner Pass dominates!

# TOP CCTV September 2023 – April 2024

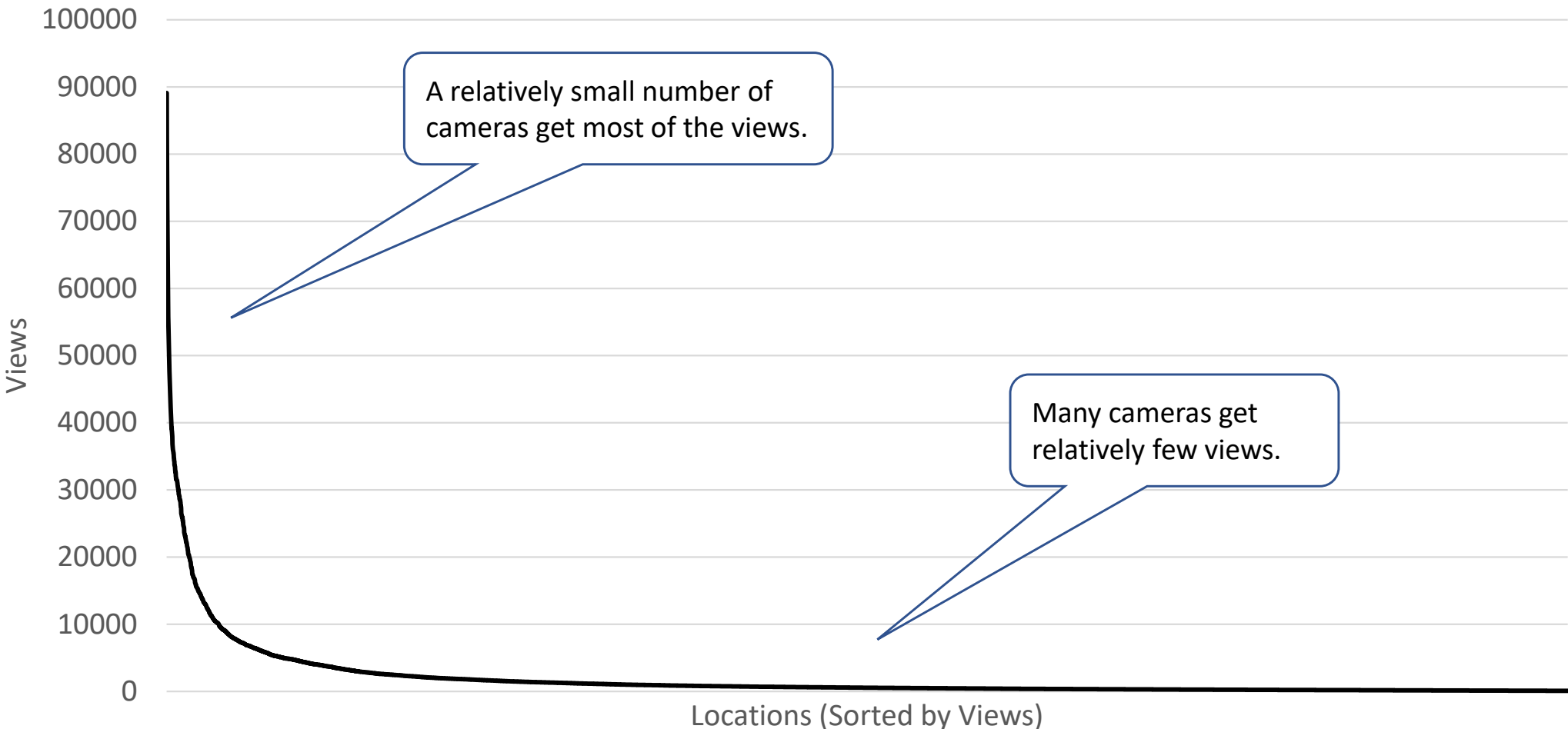
Rank	Count	Agency	Region	Location	URL
11	57314	Caltrans D2	East of Lassen	Bogard	<a href="https://oss.weathershare.org/?clat=40.58548&amp;clng=-121.0887&amp;zoom=14">https://oss.weathershare.org/?clat=40.58548&amp;clng=-121.0887&amp;zoom=14</a>
12	55809	Caltrans D3	Donner Pass	Hwy 89 at West River	<a href="https://oss.weathershare.org/?clat=39.322884&amp;clng=-120.207395&amp;zoom=14">https://oss.weathershare.org/?clat=39.322884&amp;clng=-120.207395&amp;zoom=14</a>
13	55421	Caltrans D2	Siskiyou Pass	Hilt Sandhouse	<a href="https://oss.weathershare.org/?clat=42.00549&amp;clng=-122.61518&amp;zoom=14">https://oss.weathershare.org/?clat=42.00549&amp;clng=-122.61518&amp;zoom=14</a>
14	54964	Caltrans D3	Donner Pass	Hwy 80 at Floriston	<a href="https://oss.weathershare.org/?clat=39.395554&amp;clng=-120.023839&amp;zoom=14">https://oss.weathershare.org/?clat=39.395554&amp;clng=-120.023839&amp;zoom=14</a>
15	52618	ODOT	Siskiyou Pass	I-5 at Siskiyou MP.2	<a href="https://oss.weathershare.org/?clat=42.01611&amp;clng=-122.61294&amp;zoom=14">https://oss.weathershare.org/?clat=42.01611&amp;clng=-122.61294&amp;zoom=14</a>
16	52076	ODOT	Siskiyou Pass	I-5 at Siskiyou MP 6.87	<a href="https://oss.weathershare.org/?clat=42.09242&amp;clng=-122.60286&amp;zoom=14">https://oss.weathershare.org/?clat=42.09242&amp;clng=-122.60286&amp;zoom=14</a>
17	51943	ODOT	Siskiyou Pass	I-5 at Siskiyou MP 10.98	<a href="https://oss.weathershare.org/?clat=42.13114&amp;clng=-122.63203&amp;zoom=14">https://oss.weathershare.org/?clat=42.13114&amp;clng=-122.63203&amp;zoom=14</a>
18	49831	Caltrans D3	Donner Pass	Hwy 80 at Truckee Scales WB	<a href="https://oss.weathershare.org/?clat=39.36354&amp;clng=-120.12443&amp;zoom=14">https://oss.weathershare.org/?clat=39.36354&amp;clng=-120.12443&amp;zoom=14</a>
19	48694	NDOT	East of Reno	I-80 @ Nightingale	<a href="https://oss.weathershare.org/?clat=39.83544&amp;clng=-118.9604&amp;zoom=14">https://oss.weathershare.org/?clat=39.83544&amp;clng=-118.9604&amp;zoom=14</a>
20	47452	Caltrans D2	Mount Shasta	I5-SR89	<a href="https://oss.weathershare.org/?clat=41.28481&amp;clng=-122.30222&amp;zoom=14">https://oss.weathershare.org/?clat=41.28481&amp;clng=-122.30222&amp;zoom=14</a>



Siskiyou Pass is next!

# CCTV September 2023 – April 2024

CCTV Views by Location



A relatively small number of cameras get most of the views.

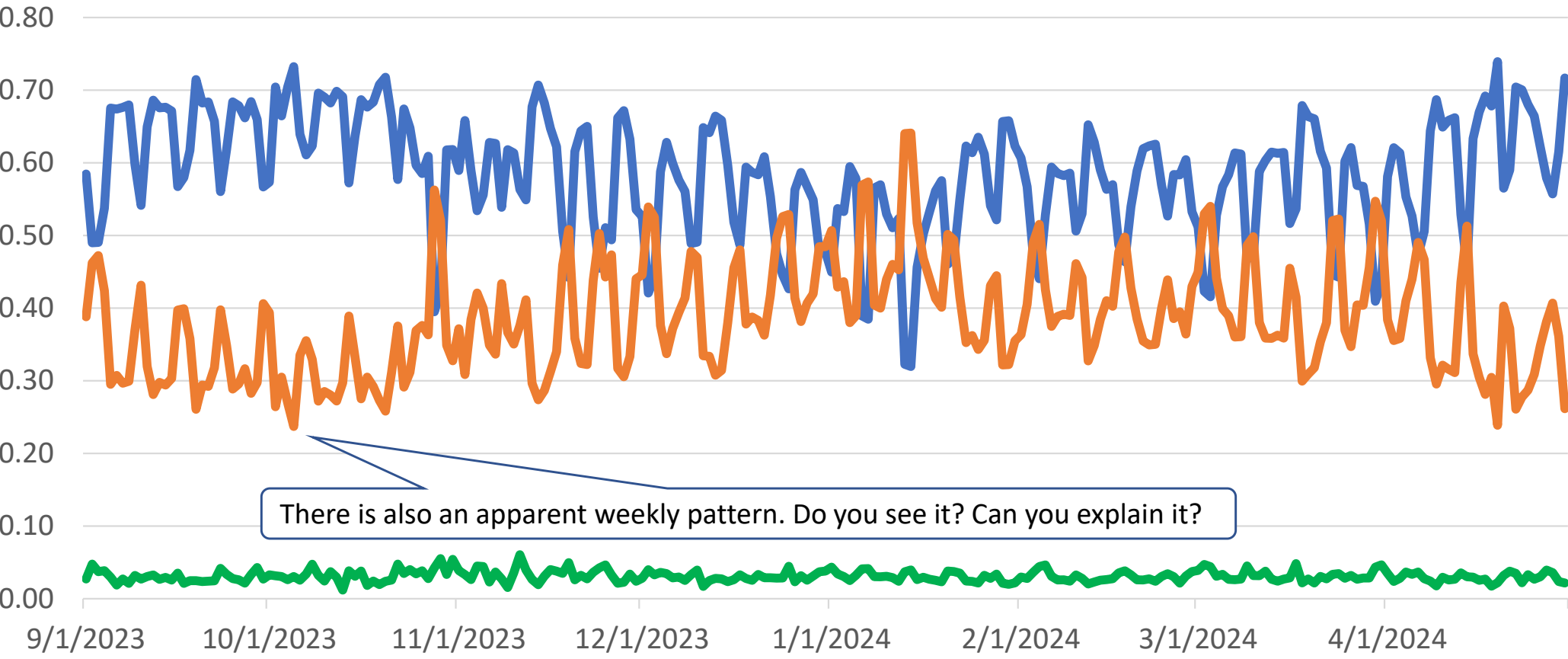
Many cameras get relatively few views.

This pattern is not surprising. Zipf's law.

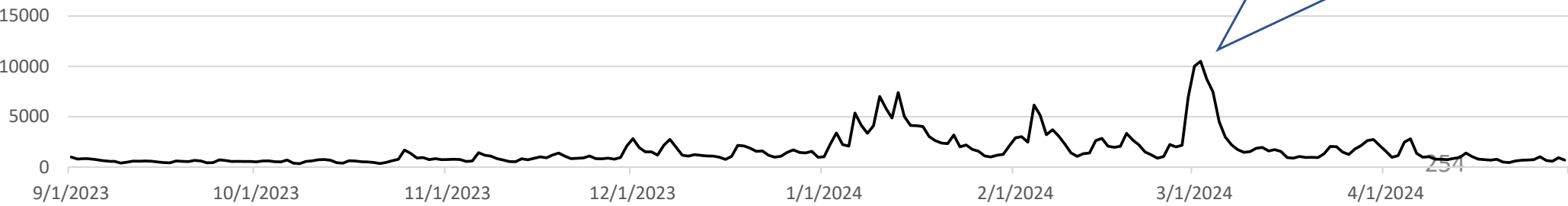
# OSS Users by Device Type September 2023 – April 2024

Percentage Users by Device Type

Desktop Mobile Tablet



Total Users



# September 2023 – April 2024

Mobile use (pct) exceeds Desktop use overall in terms of Users.

Device Type	Users	PCT	Sessions	Sessions per User	Average Session Duration (minutes)	Events per Session
mobile	104953	0.521	322241	3.07	5.44	56.57
desktop	89486	0.444	412583	4.61	101.60	123.25
tablet	6967	0.035	21716	3.12	7.38	71.39
smart tv	20	0	42	2.10	7.92	83.00

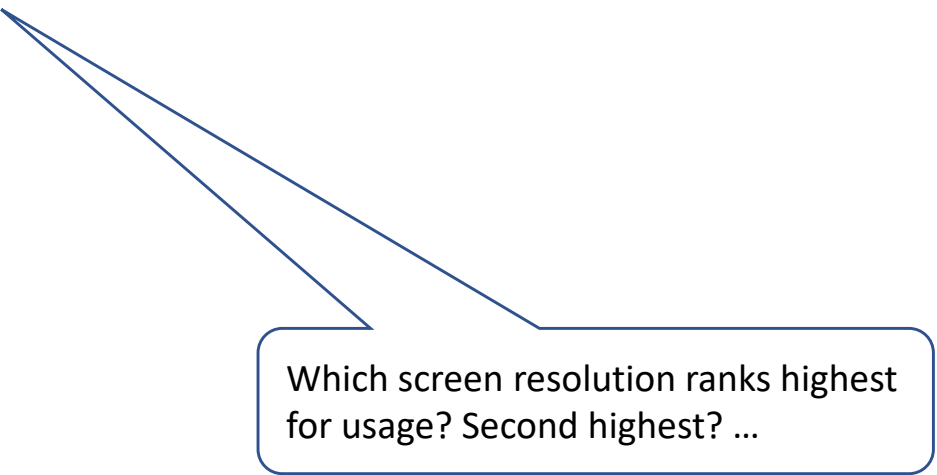
This is new!

Opportunity?

Desktop use (pct) exceeds Mobile use overall in terms of Sessions and Events.

Desktop users have much longer sessions and are more active.

# Screen Resolution



Which screen resolution ranks highest for usage? Second highest? ...



# Screen Resolution

There were 1583 different screen resolutions recorded.

Rank	Screen Resolution	Users	Sessions	Sessions per User	Average Session Duration (Minutes)	Events per Session
1	1920x1080	28669	162485	5.67	156.07	150.28
2	390x844	20280	53270	2.63	6.25	53.97
3	428x926	11471	32080	2.80	6.89	53.05
4	430x932	9548	27765	2.92	5.71	52.04
5	375x812	9519	24198	2.55	5.49	52.88
6	414x896	8289	19798	2.39	5.81	55.30
7	1536x864	7354	28999	3.95	79.96	117.95
8	393x852	7215	20177	2.80	6.31	49.25
9	1440x900	6461	29201	4.52	17.53	53.99
10	810x1080	5117	14286	2.79	6.69	72.52
11	768x1024	5038	13023	2.59	7.33	77.72
12	375x667	4868	13685	2.81	7.15	57.84
13	2560x1440	4143	18099	4.37	100.63	95.48
14	1366x768	3786	18207	4.81	39.76	156.50
15	1280x720	3573	15398	4.32	71.54	104.45

# Screen Resolution

1080p

Rank	Screen Resolution	Users	Sessions	Sessions per User	Average Session Duration (Minutes)	Events per Session
1	<b>1920x1080</b>	28669	162485	5.67	156.07	150.28
2	390x844	20280	53270	2.63	6.25	53.97
3	428x926	11471	32080	2.80	6.89	53.05
4	430x932	9548	27765	2.92	5.71	52.04
5	375x812	9519	24198	2.55	5.49	52.88
6	414x896	8289	19798	2.39	5.81	55.30
7	1536x864	7354	28999	3.95	79.96	117.95
8	393x852	7215	20177	2.80	6.31	49.25
9	1440x900	6461	29201	4.52	17.53	53.99
10	810x1080	5117	14286	2.79	6.69	72.52
11	768x1024	5038	13023	2.59	7.33	77.72
12	375x667	4868	13685	2.81	7.15	57.84
13	2560x1440	4143	18099	4.37	100.63	95.48
14	1366x768	3786	18207	4.81	39.76	156.50
15	1280x720	3573	15398	4.32	71.54	104.45

# Screen Resolution

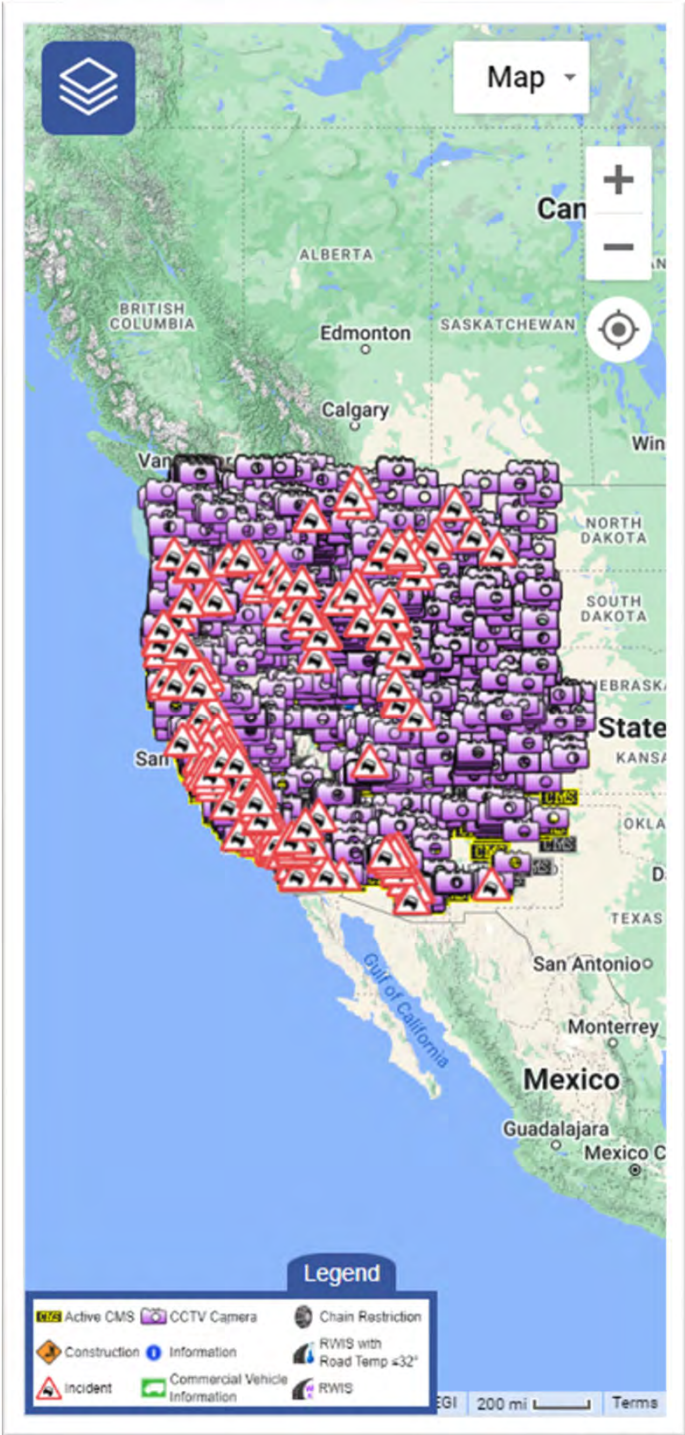
390 x 844 ???

Rank	Screen Resolution	Users	Sessions	Sessions per User	Average Session Duration (Minutes)	Events per Session
1	1920x1080	28669	162485	5.67	156.07	150.28
2	<b>390x844</b>	20280	53270	2.63	6.25	53.97
3	428x926	11471	32080	2.80	6.89	53.05
4	430x932	9548	27765	2.92	5.71	52.04
5	375x812	9519	24198	2.55	5.49	52.88
6	414x896	8289	19798	2.39	5.81	55.30
7	1536x864	7354	28999	3.95	79.96	117.95
8	393x852	7215	20177	2.80	6.31	49.25
9	1440x900	6461	29201	4.52	17.53	53.99
10	810x1080	5117	14286	2.79	6.69	72.52
11	768x1024	5038	13023	2.59	7.33	77.72
12	375x667	4868	13685	2.81	7.15	57.84
13	2560x1440	4143	18099	4.37	100.63	95.48
14	1366x768	3786	18207	4.81	39.76	156.50
15	1280x720	3573	15398	4.32	71.54	104.45

# Screen Resolution

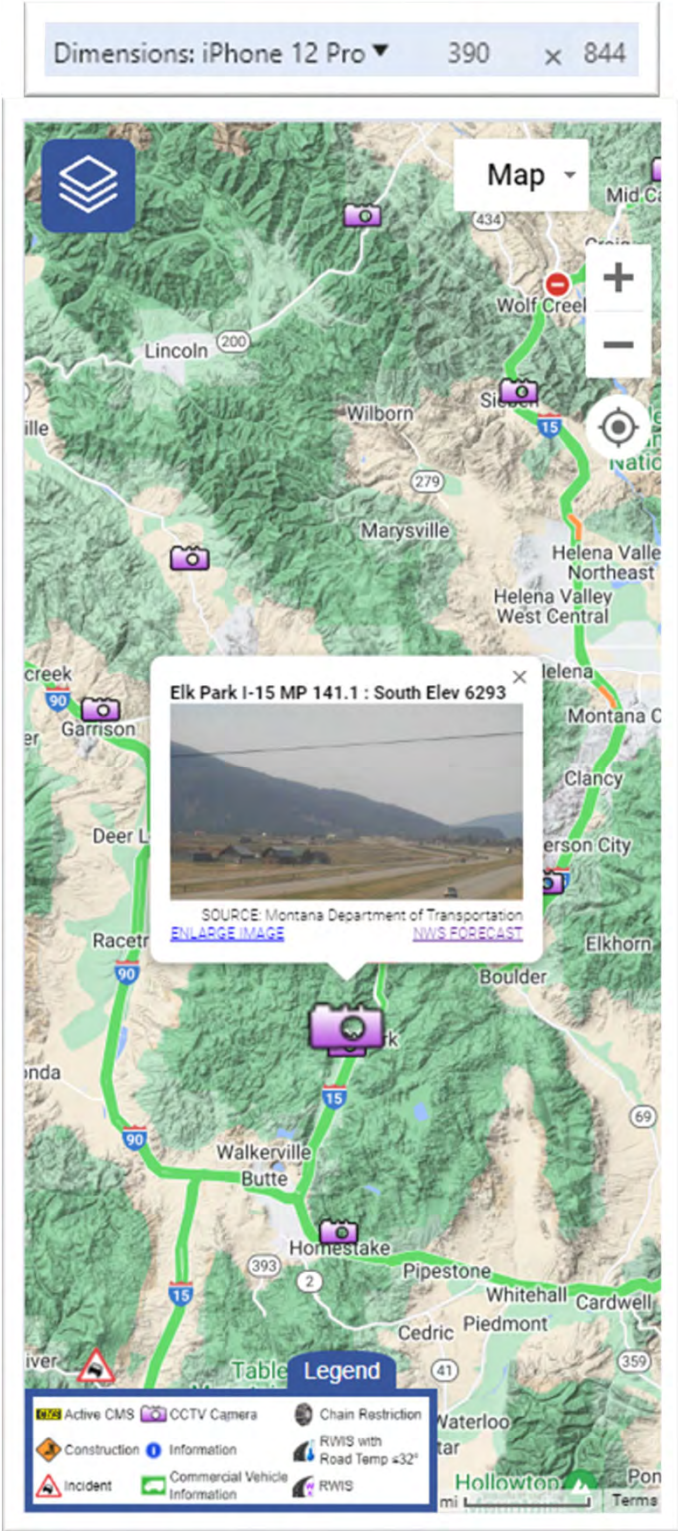
Dimensions: iPhone 12 Pro ▼ 390 x 844

390 x 844



# Screen Resolution

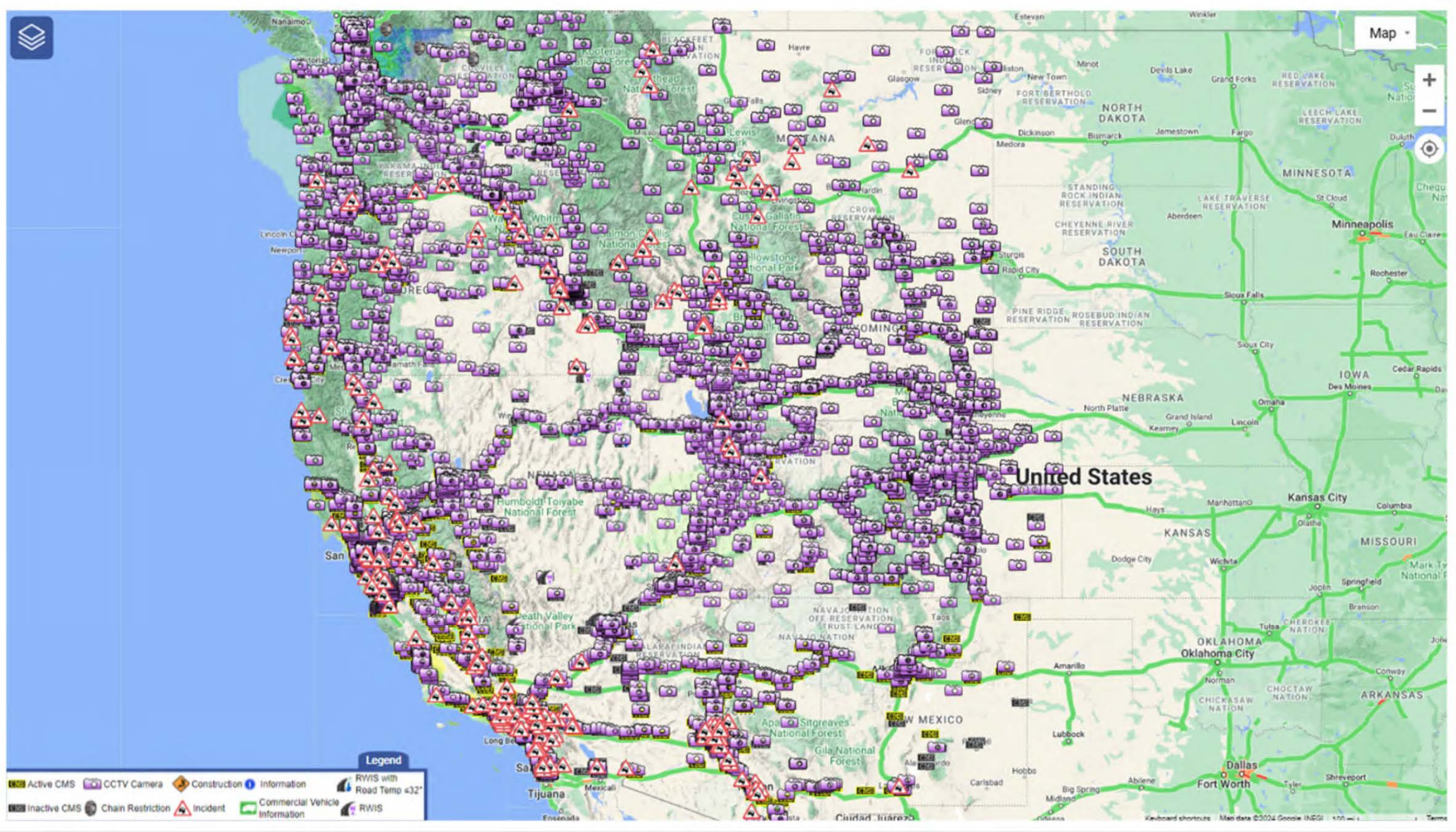
390 x 844



Responsive Design

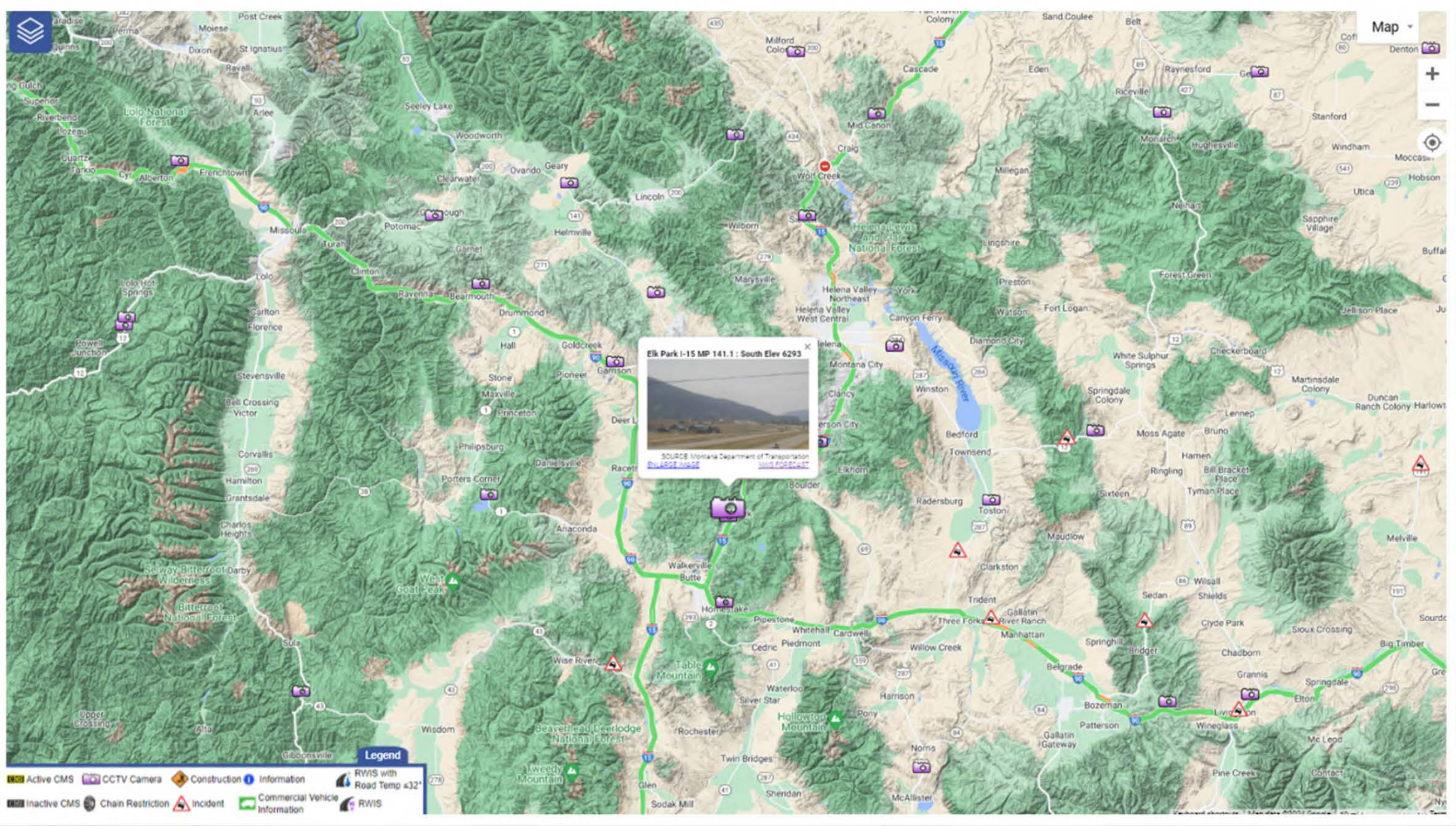
# Screen Resolution

1920x1080



# Screen Resolution

1920x1080



# Screen Resolution

1920x1080

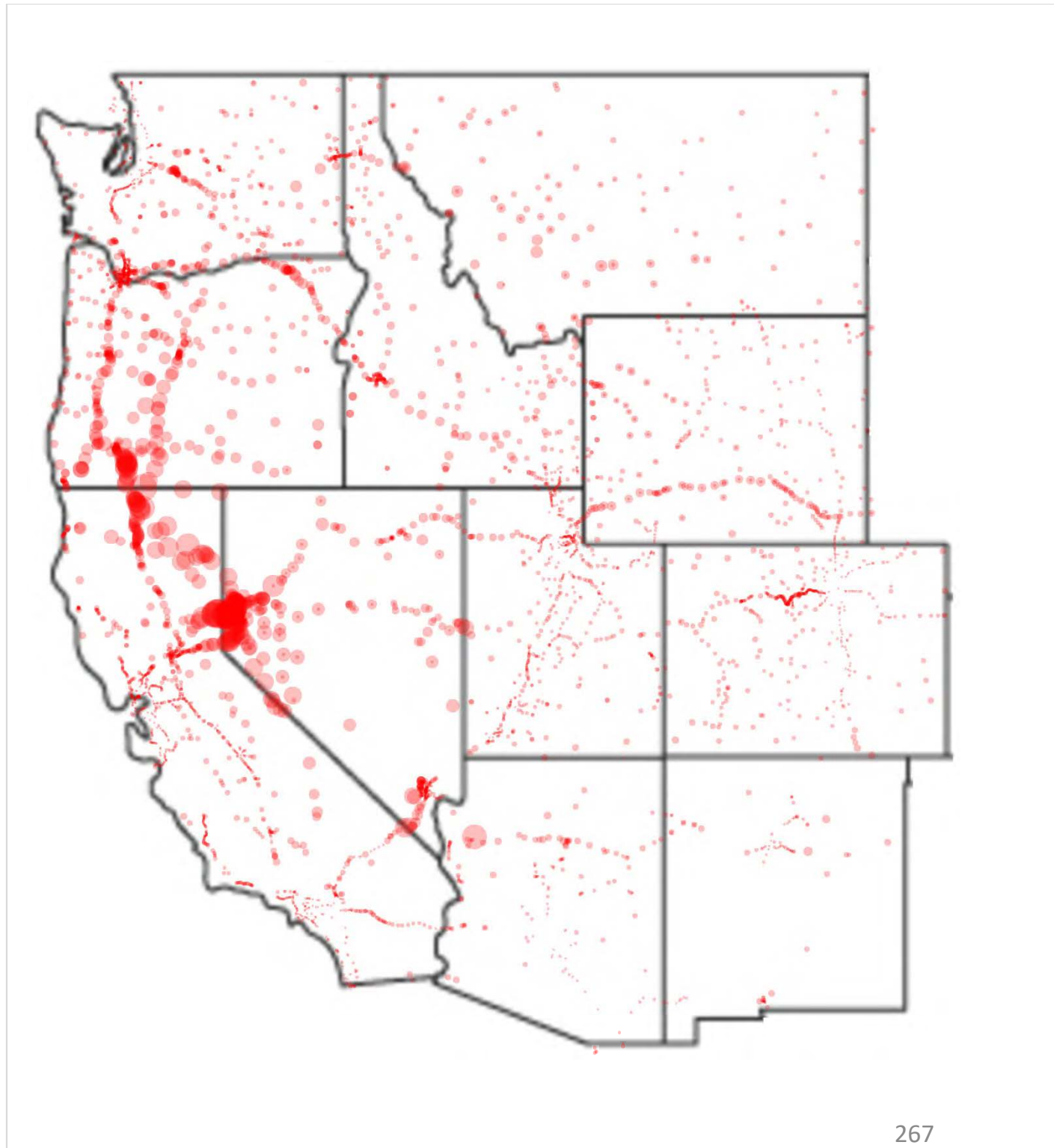




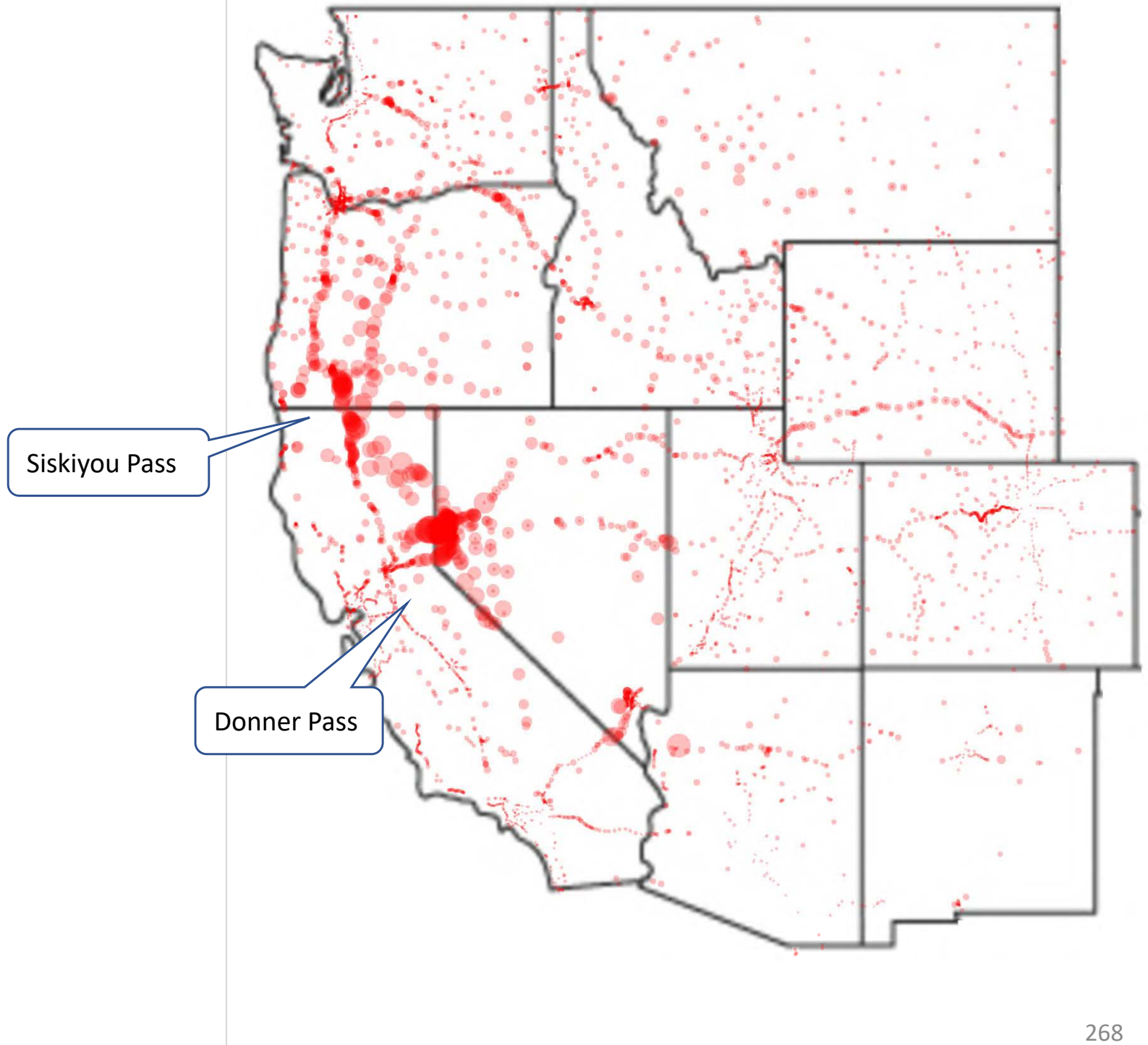
What are users looking at?



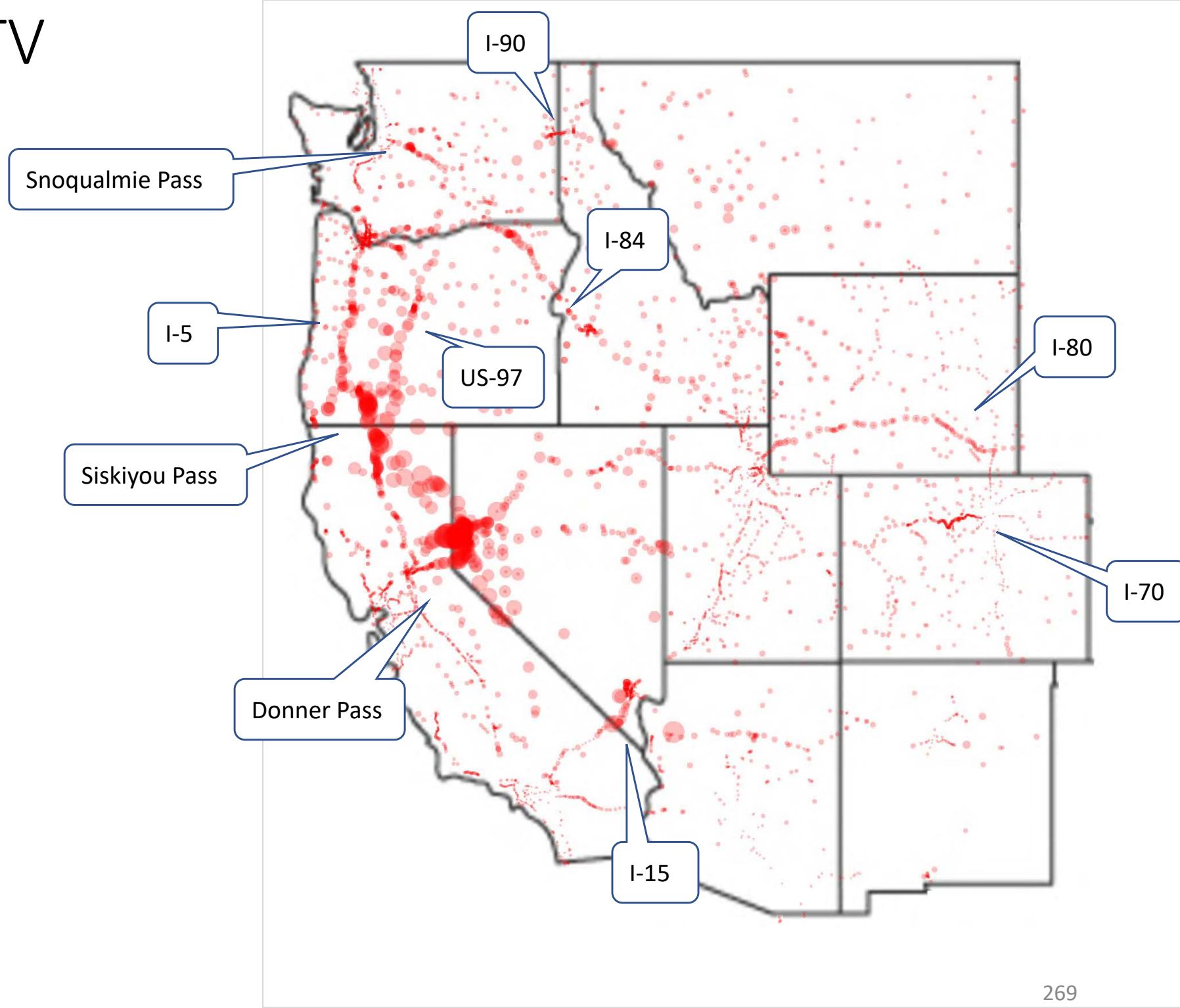
# All CCTV



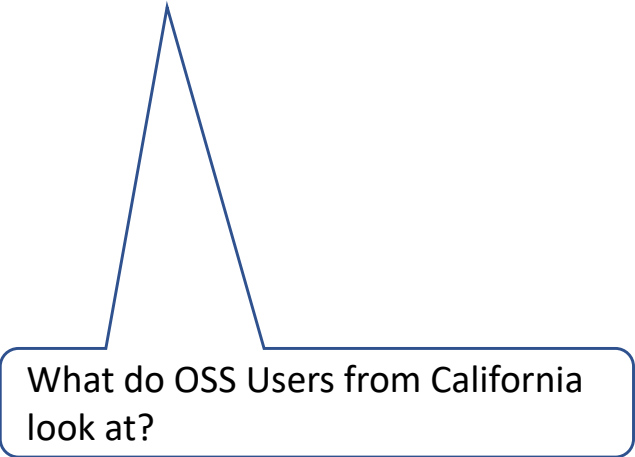
# All CCTV



# All CCTV

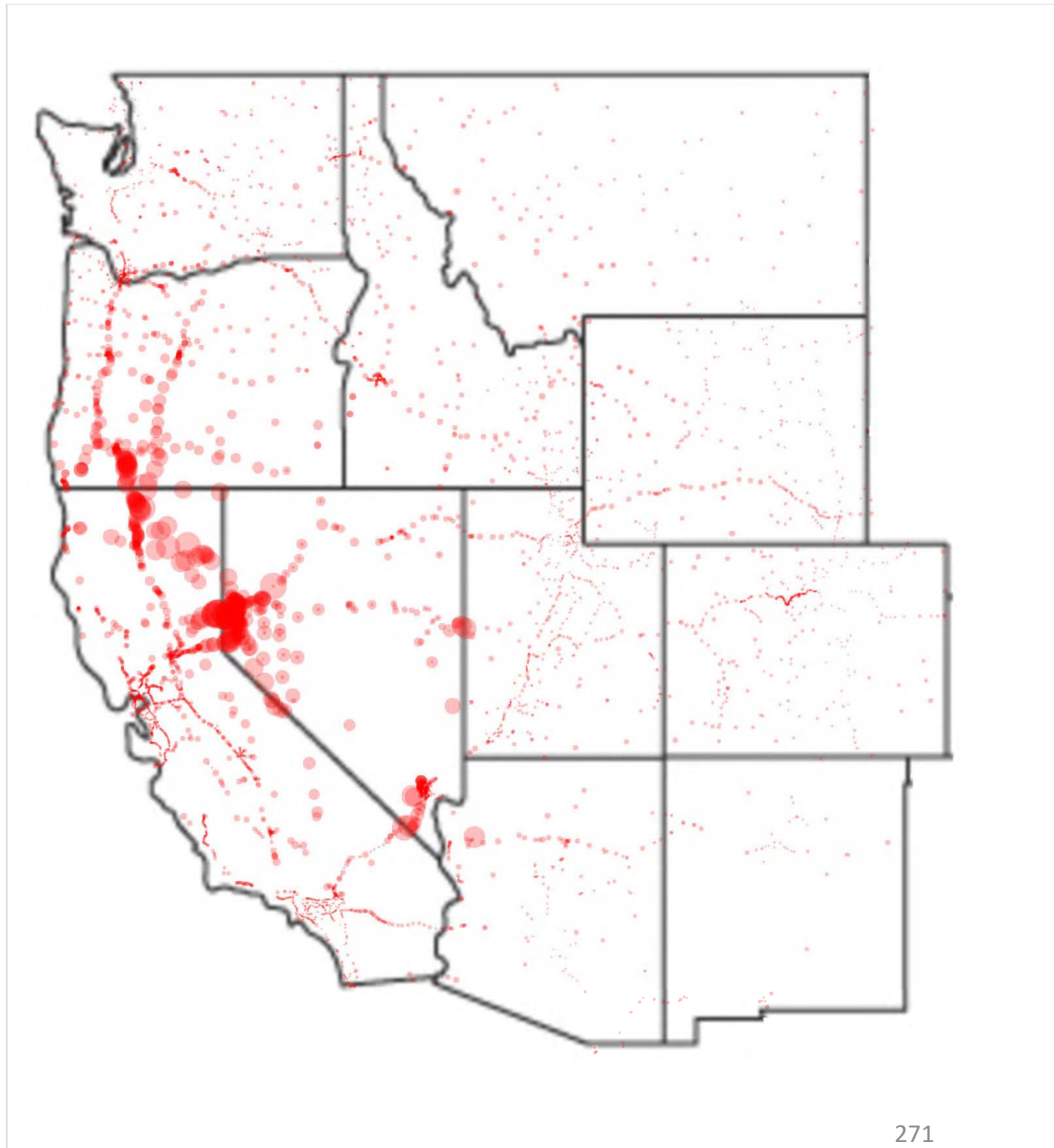


# From California

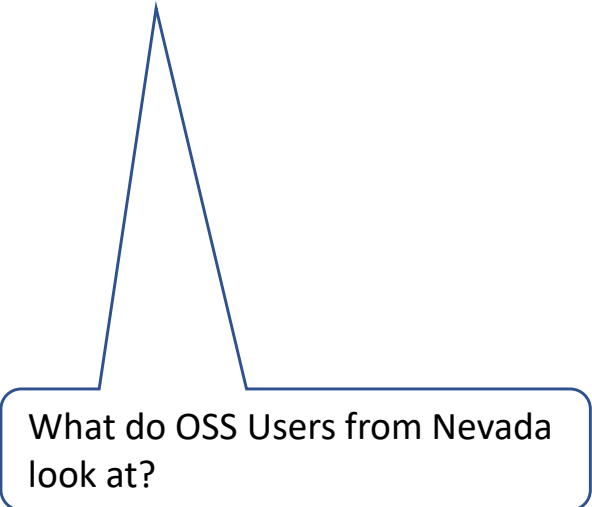


What do OSS Users from California  
look at?

From  
California



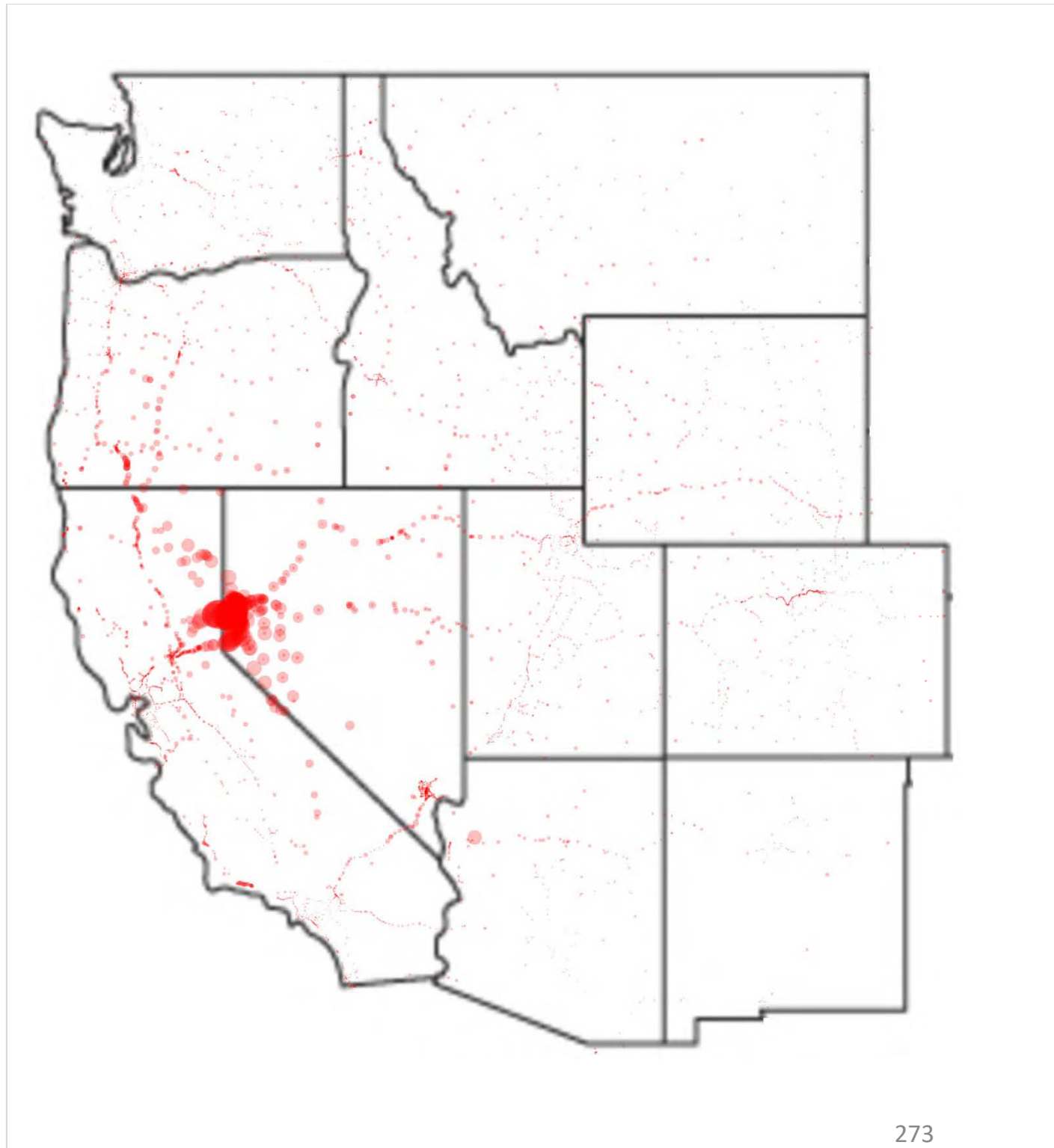
# From Nevada



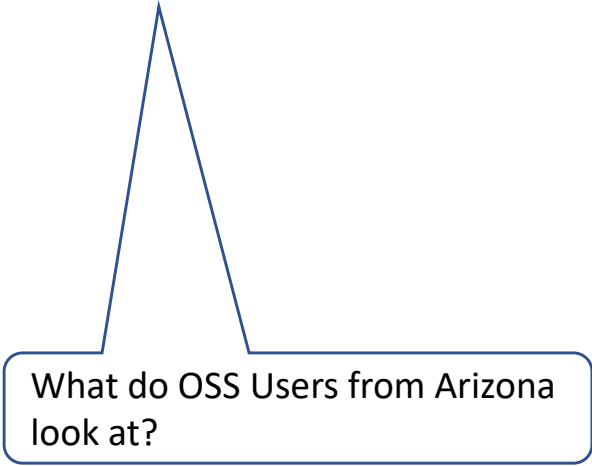
What do OSS Users from Nevada  
look at?



From  
Nevada

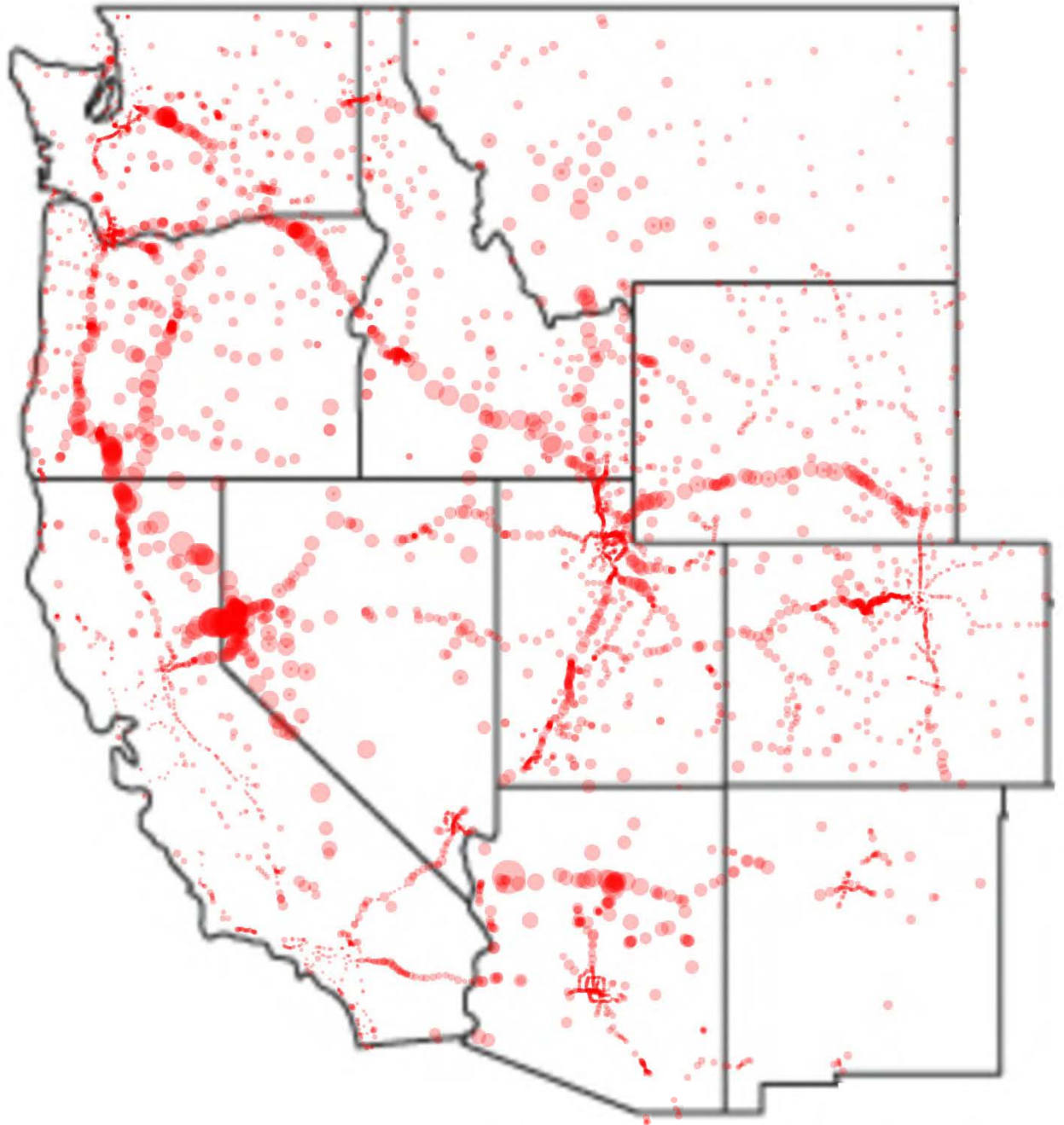


# From Arizona



What do OSS Users from Arizona look at?

From  
Arizona

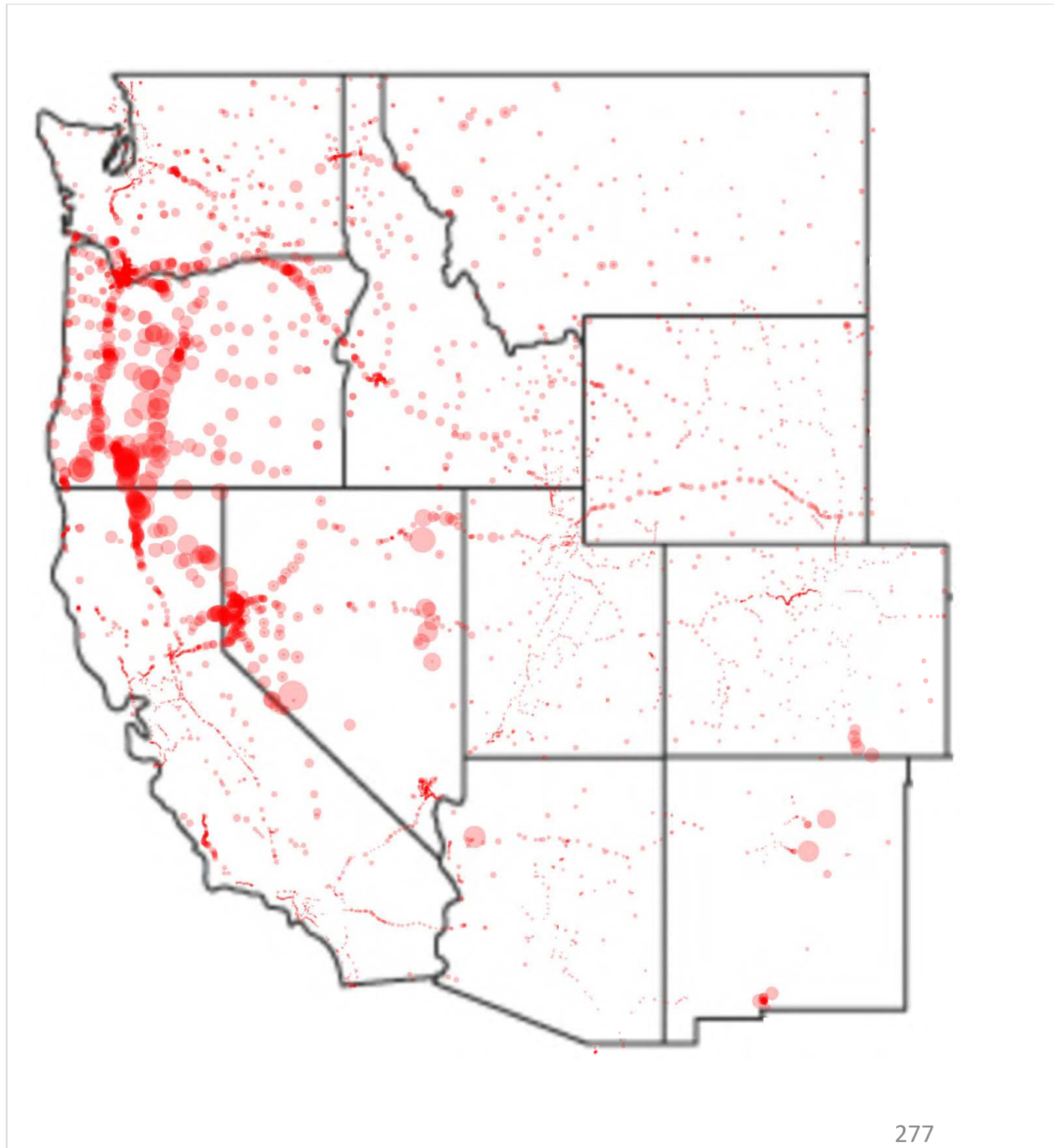


# From Oregon

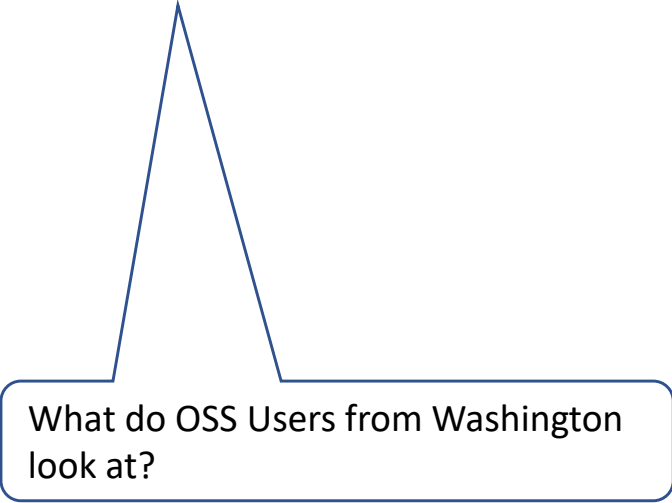


What do OSS Users from Oregon  
look at?

From  
Oregon

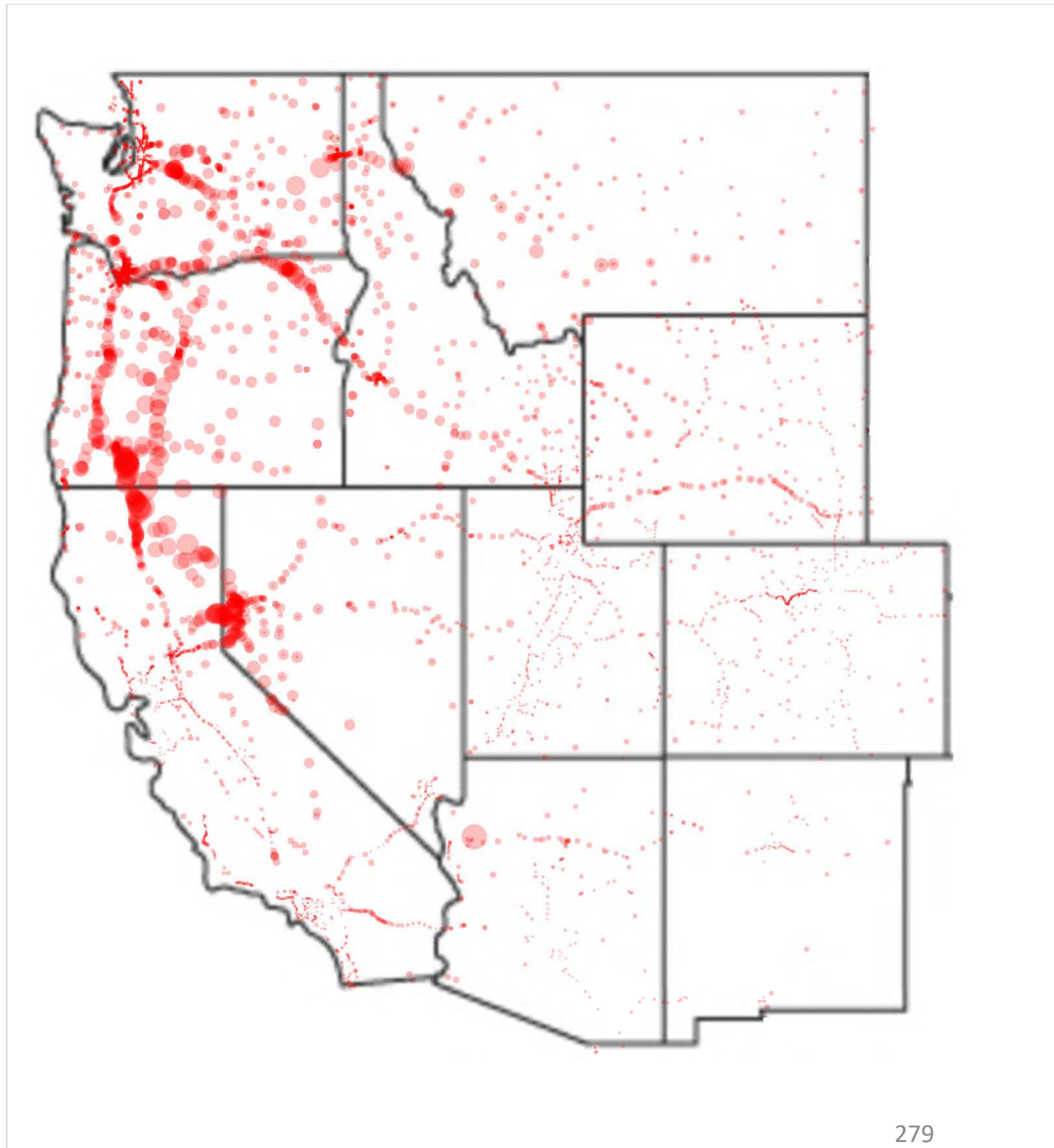


# From Washington

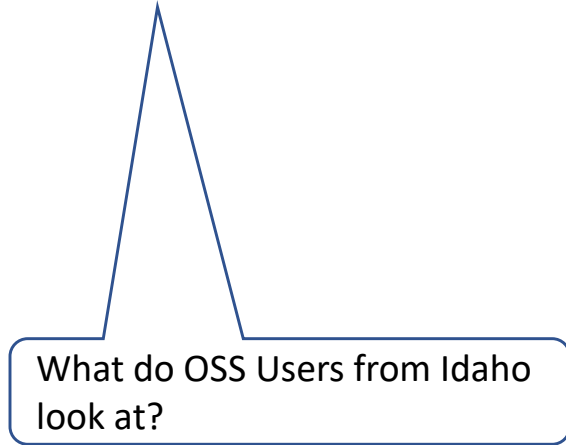


What do OSS Users from Washington  
look at?

# From Washington

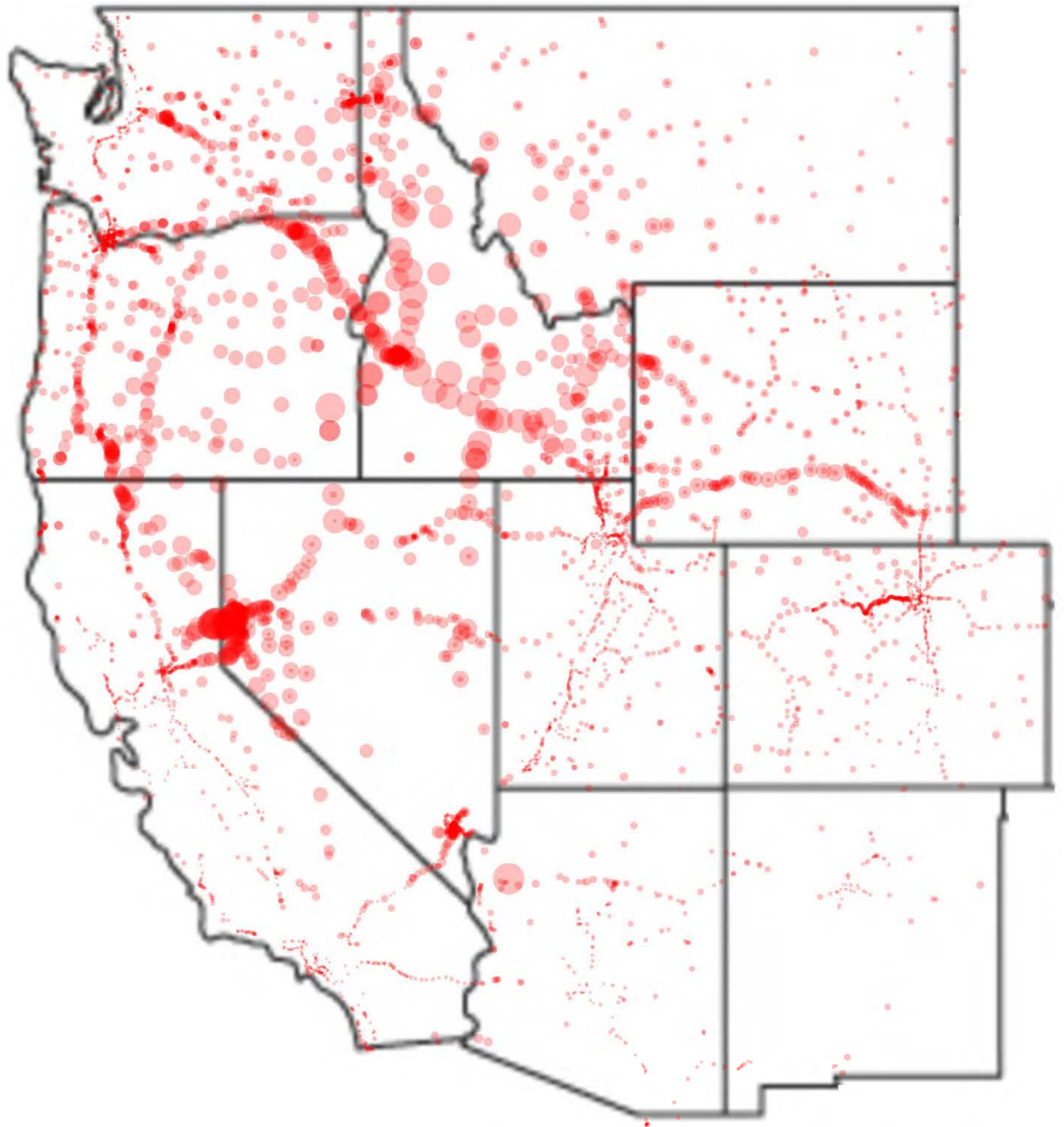


# From Idaho

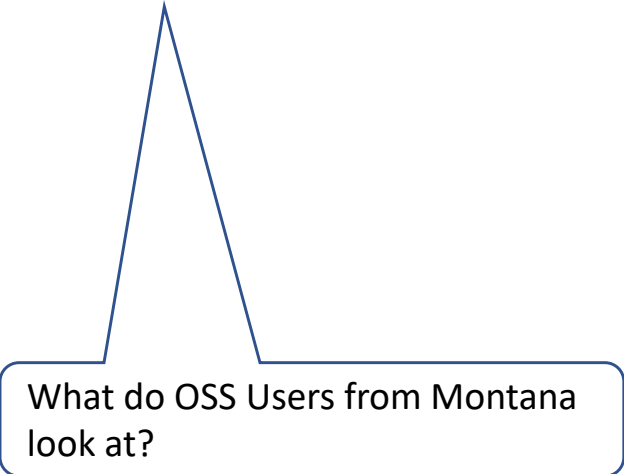




From  
Idaho

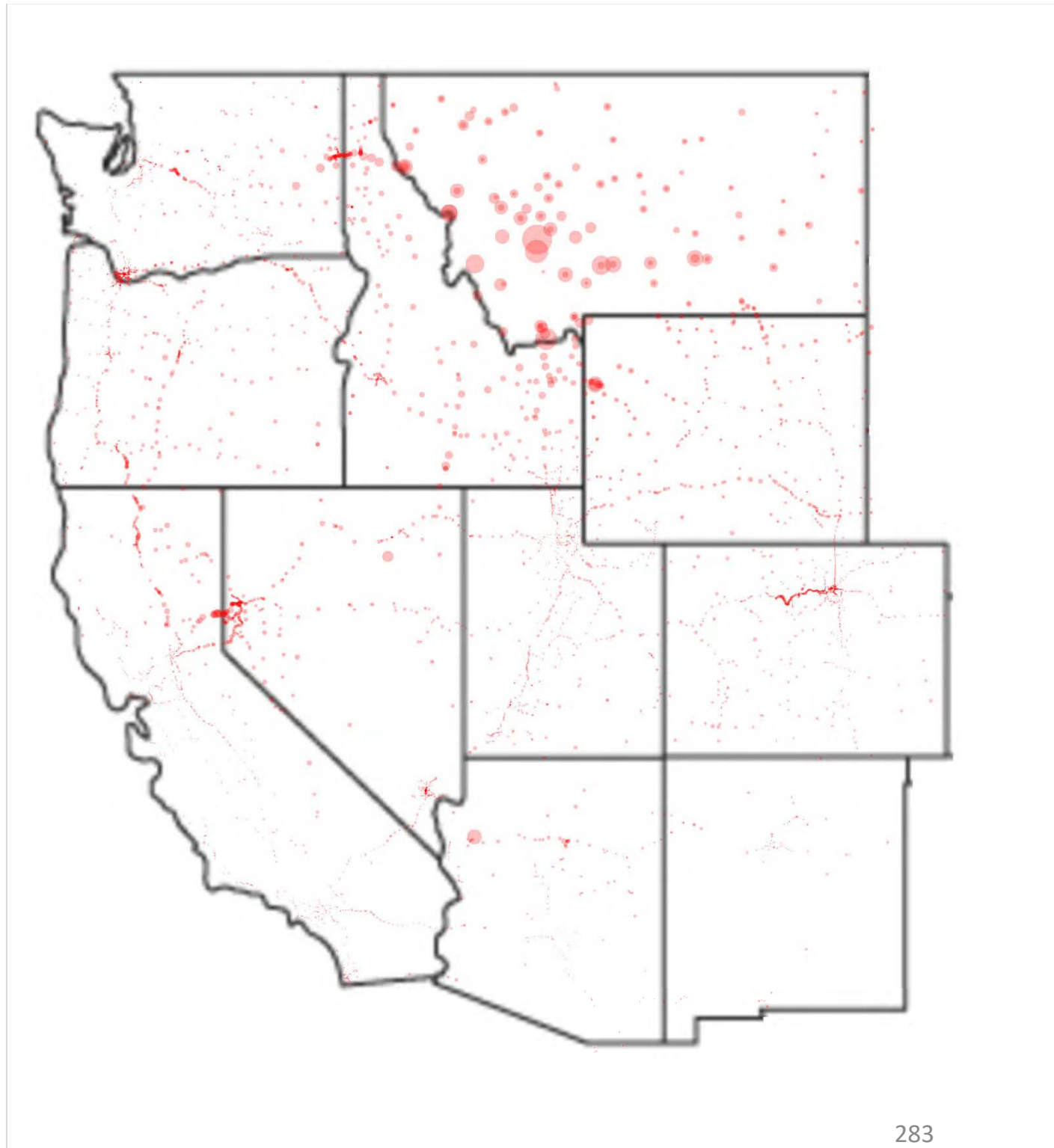


# From Montana

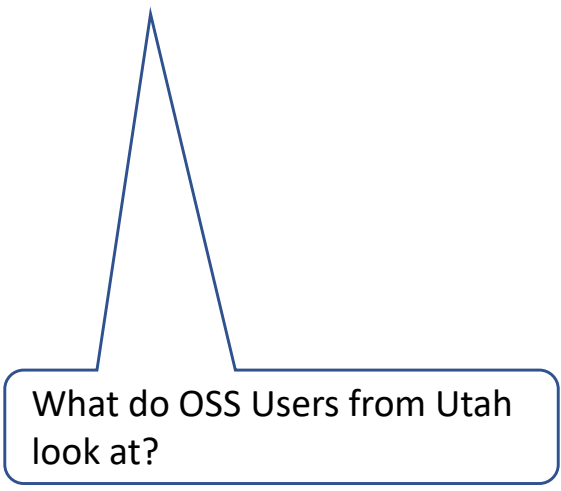


What do OSS Users from Montana look at?

From  
Montana

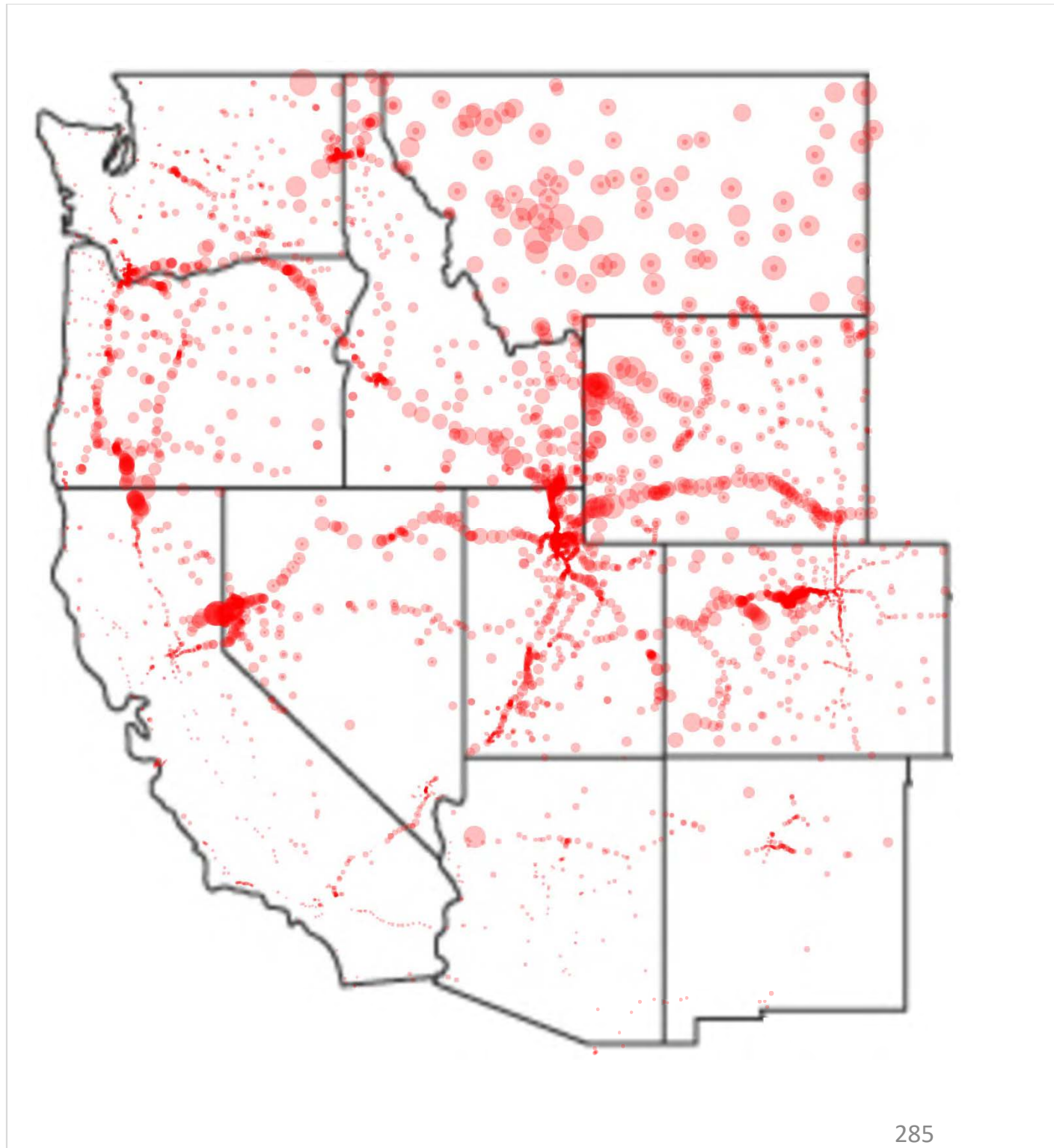


# From Utah

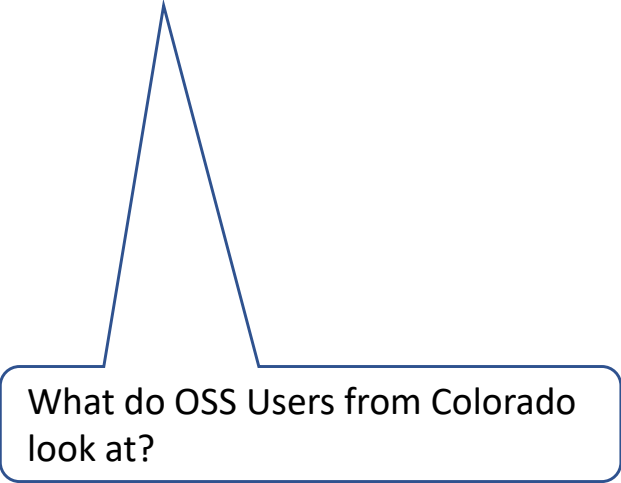


What do OSS Users from Utah  
look at?

From  
Utah

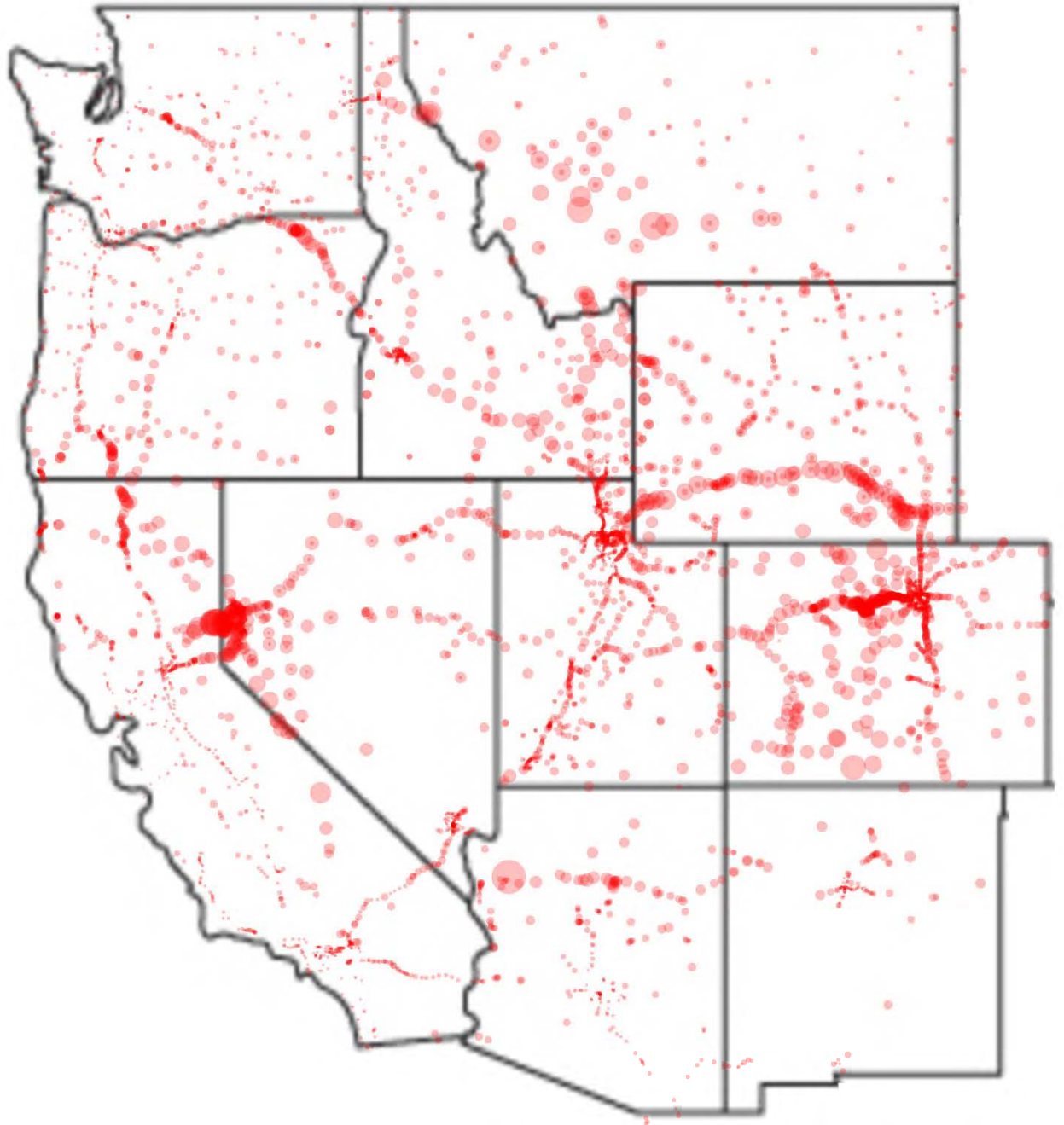


# From Colorado

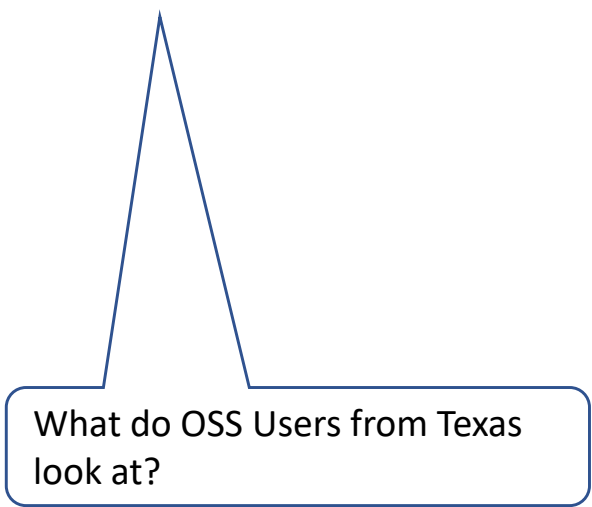


What do OSS Users from Colorado  
look at?

From  
Colorado



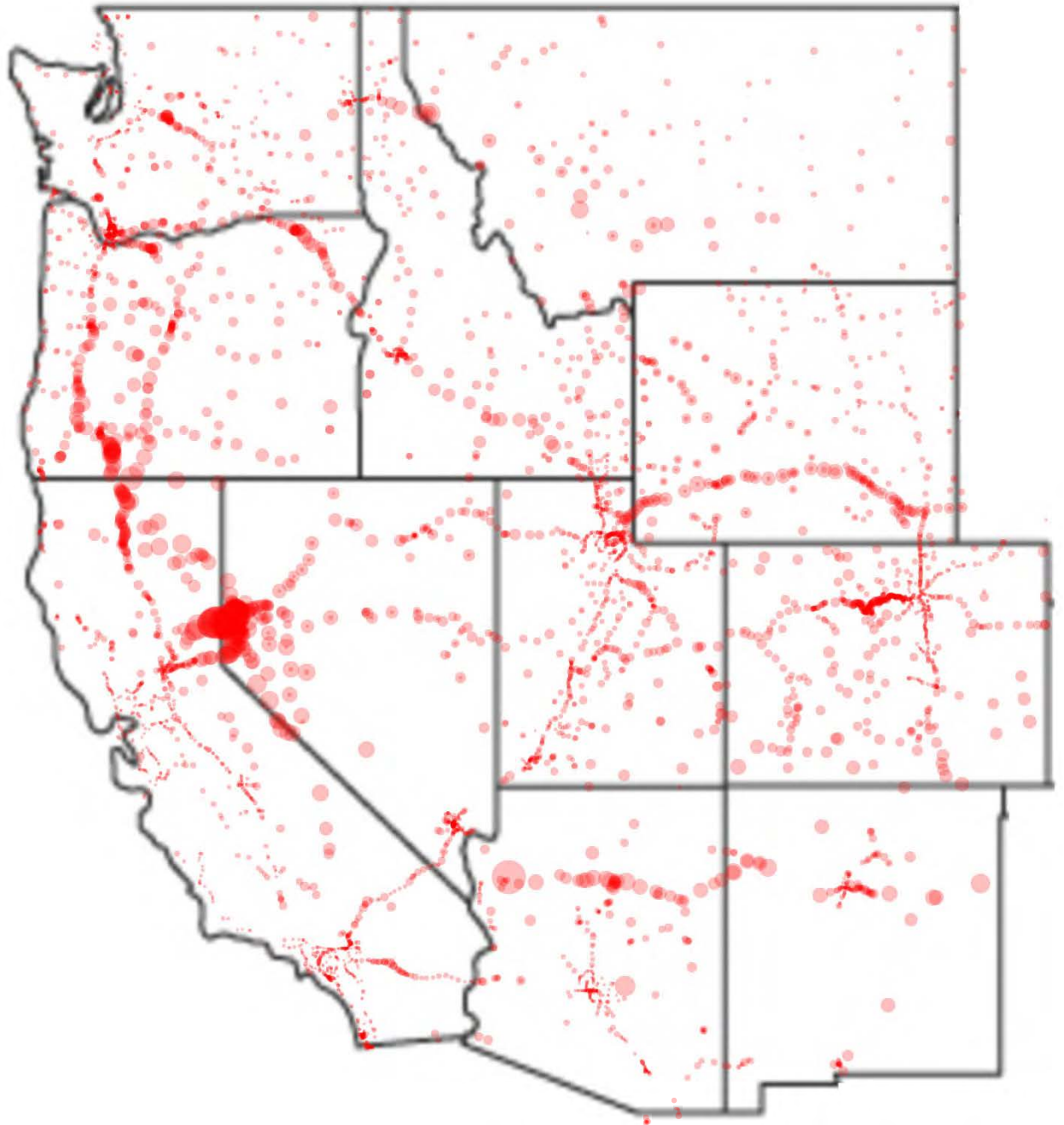
# From Texas



What do OSS Users from Texas  
look at?



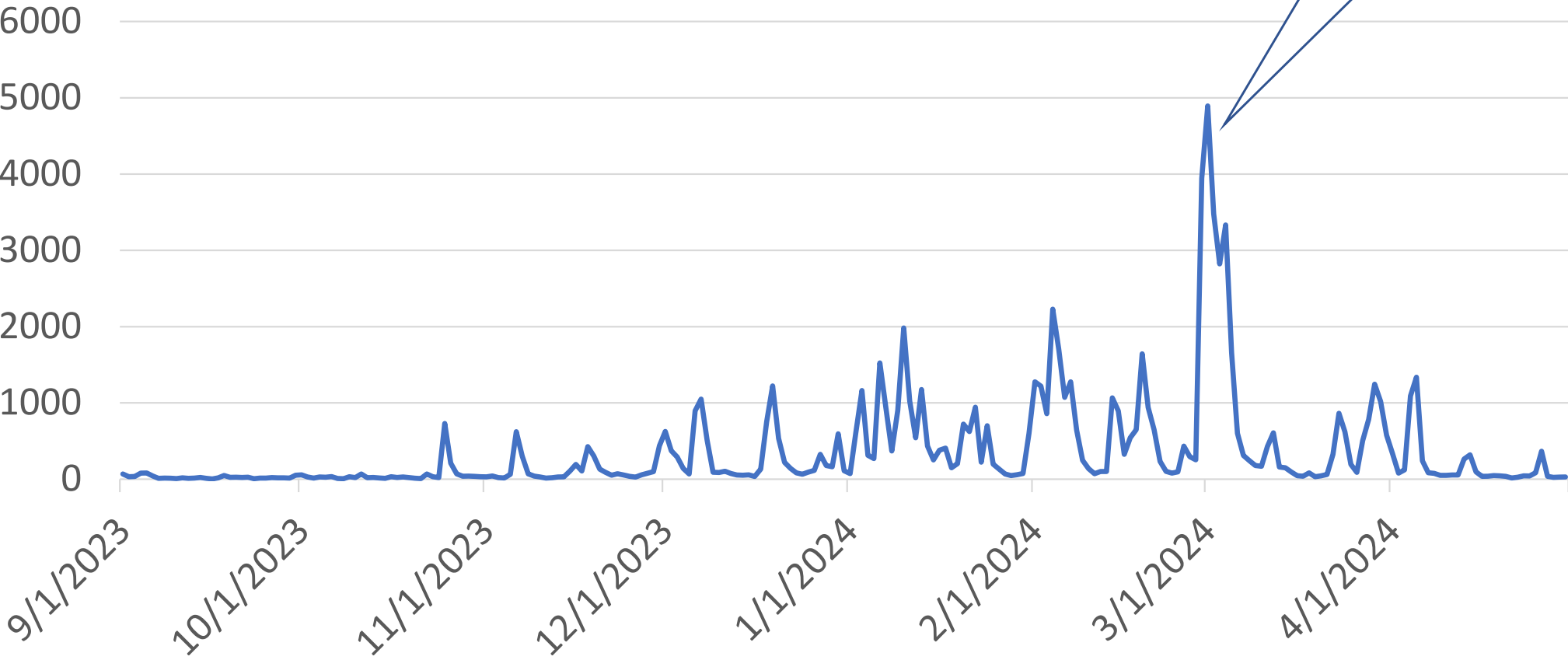
From  
Texas



# Donner Lake CCTV

Sep 2023 – Apr 2024

### Donner Lake CCTV Views



Almost 5000 CCTV views in a day

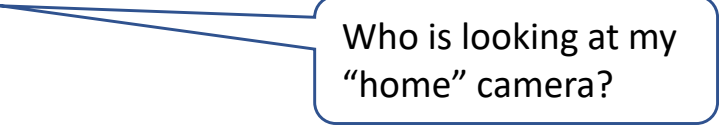
# Donner Lake CCTV

Sep 2023 – Apr 2024

	<b>From City</b>	<b>CCTV Views</b>
1	San Jose, CA	8090
2	Reno, NV	7046
3	Sacramento, CA	4800
4	Los Angeles, CA	3549
5	San Francisco, CA	2474
6	Truckee, CA	2126
7	Sparks, NV	2051
8	Seattle, WA	1998
9	Carson City, NV	1448
10	Phoenix, AZ	1091

# Elk Park, Montana

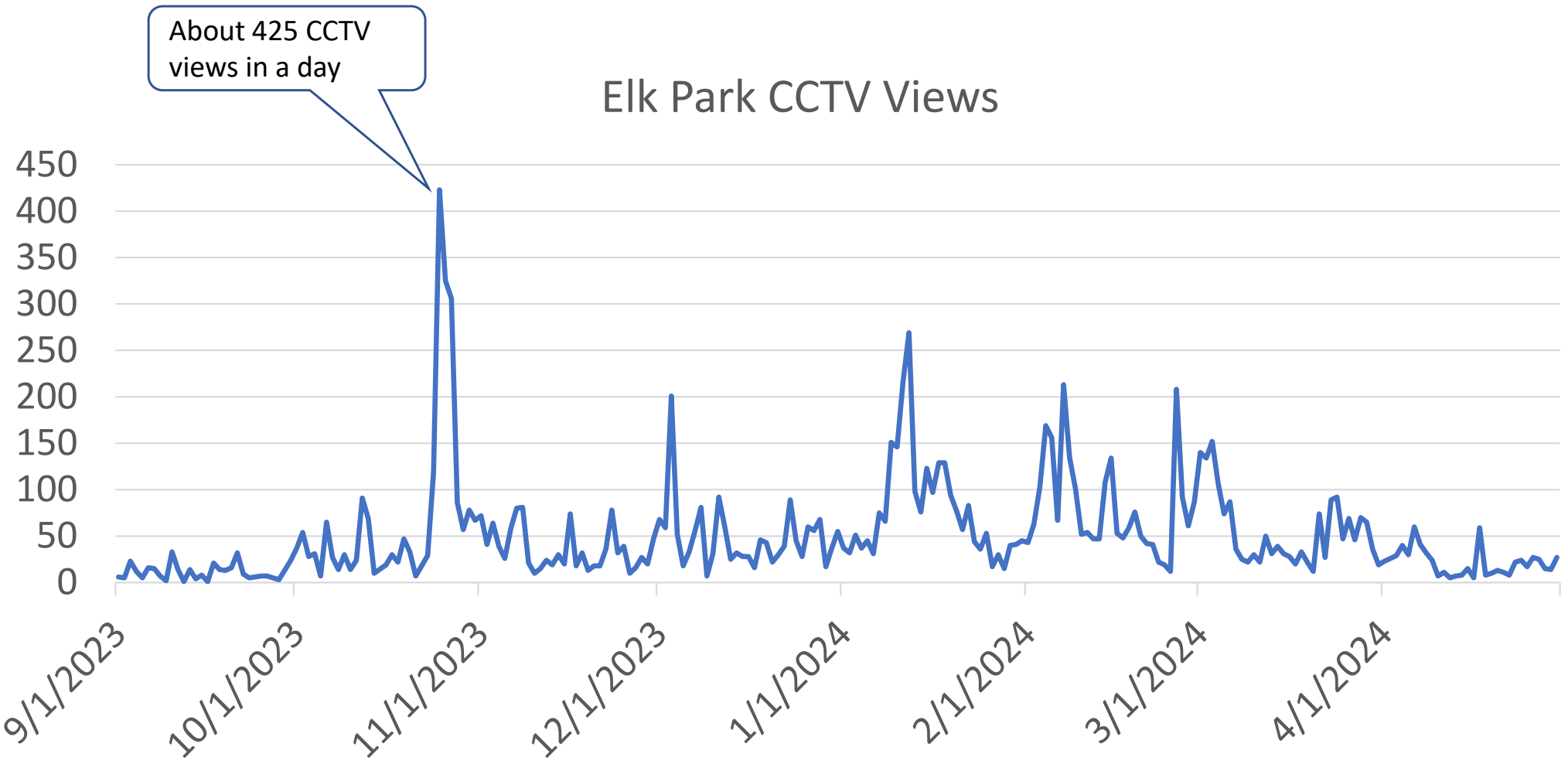
Sep 2023 – Apr 2024



Who is looking at my  
“home” camera?

# Elk Park, Montana

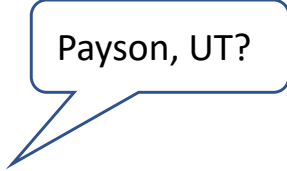
Sep 2023 – Apr 2024



# Elk Park

Sep 2023 – Apr 2024


	<b>From City</b>	<b>CCTV Views</b>
1	Butte, MT	3715
2	Payson, UT	1396
3	Seattle, WA	486
4	Denver, CO	291
5	Phoenix, AZ	287
6	San Jose, CA	220
7	Salt Lake City, UT	197
8	Calgary, AB	157
9	Los Angeles, CA	143
10	Portland, OR	139



Payson, UT?

# Bozeman Pass, Montana

Oct 2023 – April 2024

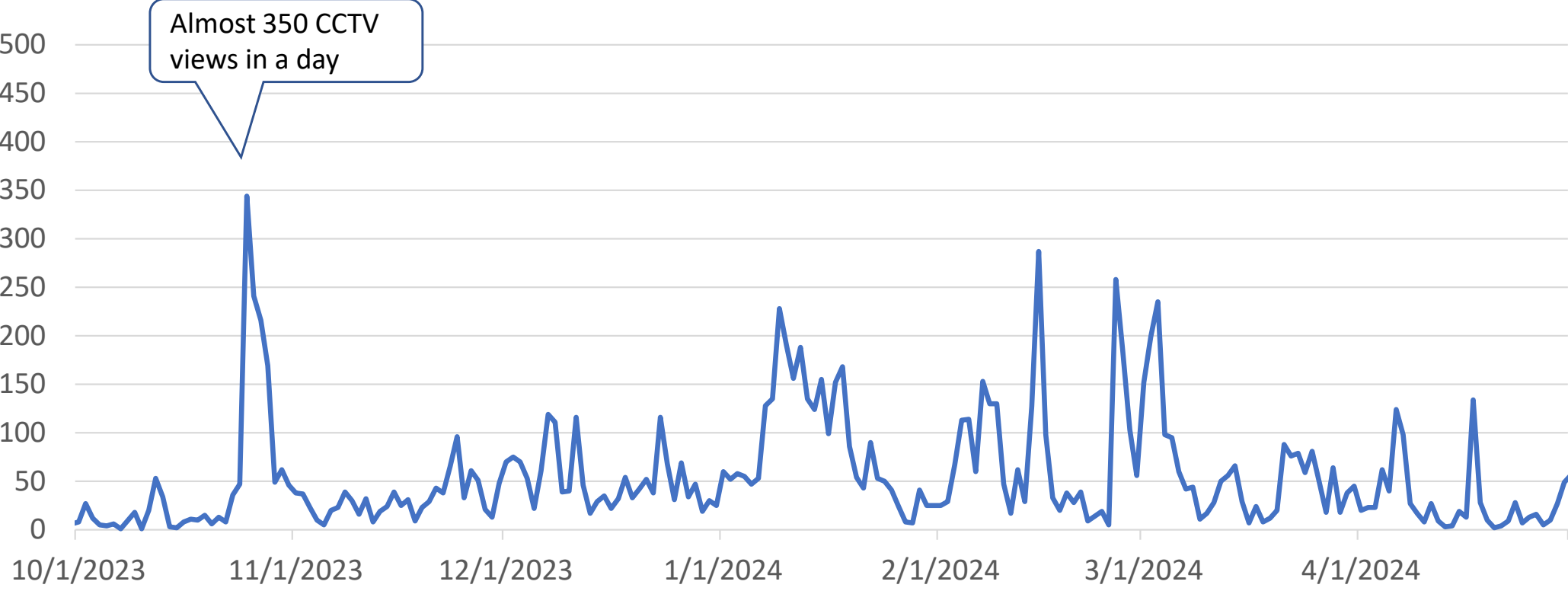


Who is looking at  
Bozeman Pass?

# Bozeman Pass, Montana

Oct 2023 – April 2024

## Bozeman Pass CCTV Views





# Bozeman Pass, Montana

Oct 2023 – April 2024

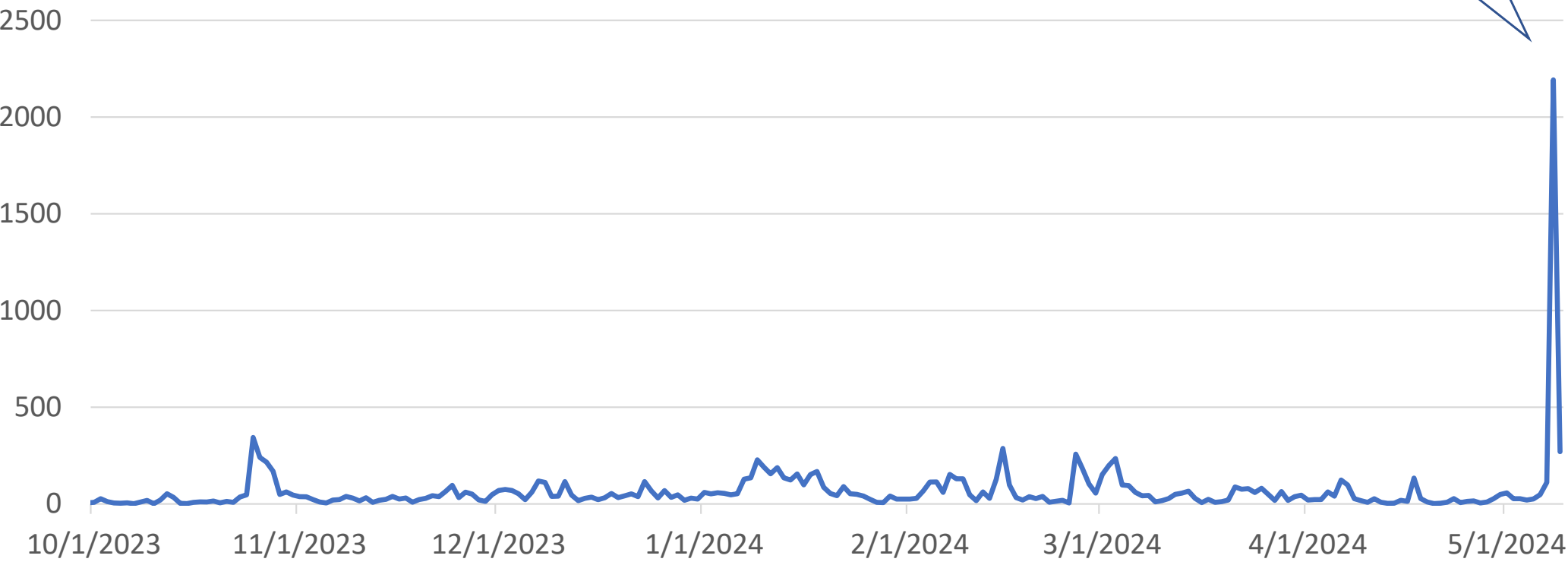
	<b>From City</b>	<b>CCTV Views</b>
1	Seattle, WA	1313
2	Payson, UT	809
3	Sheridan, WY	706
4	Denver, CO	486
5	Phoenix, AZ	388
6	Butte, MT	343
7	Rosemont, CA	327
8	Billings, MT	289
9	Chicago, IL	239
10	San Jose, CA	227

# Bozeman Pass, Montana

Oct 2023 – (early) May 2024

What happened here?

### Bozeman Pass CCTV Views



# Bozeman Pass, Montana

Oct 2023 – (early) May 2024



# Bozeman Pass, Montana

Oct 2023 – (early) May 2024

Route: I-90  
Updated: 5:14 PM MDT, May 8 2024  
Details:  
Travelers can expect the following: road closed and Emergency Closure with major delays eastbound until further notice.  
I-90 East is CLOSED from Bozeman to Livingston due to multiple commercial vehicle incidents. Use alternate route.  
SOURCE: MDOT  
[NWS FORECAST](#)

Updated: 5:13 PM MDT, May 8 2024  
Headline: Chains Required  
Location: I-90 from MP 319.0 to 323.0  
Report: Travelers can expect the following: Chains Required For Towing Units until further notice.  
SOURCE: MDOT  
[NWS FORECAST](#)

Route: I-90  
Updated: 5:14 PM MDT, May 8 2024  
Details:  
Travelers can expect the following: an event and Incident westbound until further notice.  
BLOCKED LANES ON I-90W.  
ALTERNATE ROUTE ADV.  
SOURCE: MDOT  
[NWS FORECAST](#)

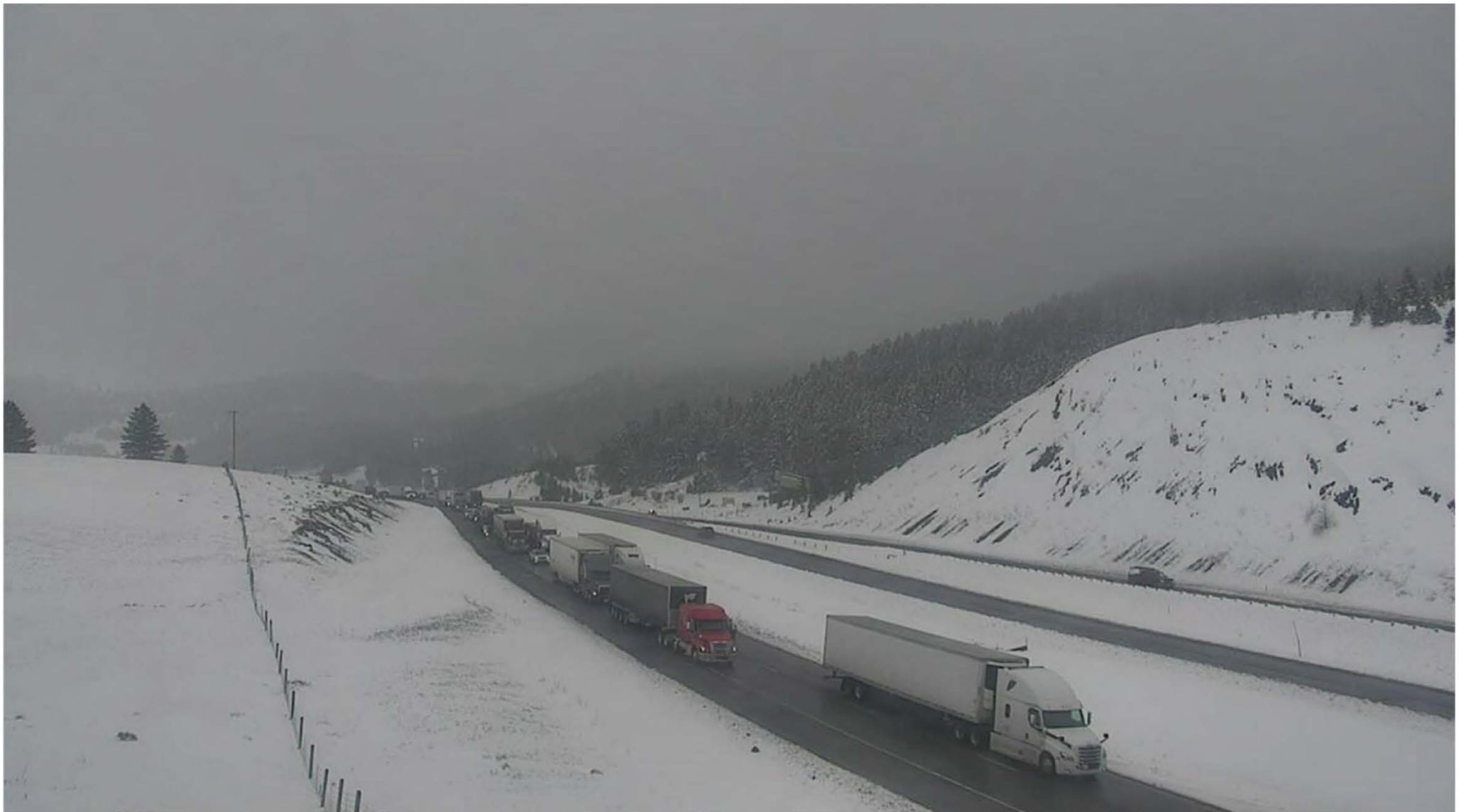
# Bozeman Pass, Montana

Oct 2023 – (early) May 2024



# Bozeman Pass, Montana

Oct 2023 – (early) May 2024



# Bozeman Pass, Montana

Oct 2023 – (early) May 2024



# Traffic moving slowly on Bozeman Pass after 'historic blockage' led to closure



Photo by: Gallatin County Sheriff's Office



# Standstill on Bozeman Pass: Family gets stuck on I-90 for more than 10 hours



By: Jolee Sallee

*Posted at 6:32 PM, May 08, 2024 and last updated 10:40 AM, May 09, 2024*

**BOZEMAN** — Imagine being stuck in your car in the snow for more than 10 hours—that’s what travelers on I-90 between Bozeman and Livingston experienced on Wednesday.

Traffic was still at a standstill in both directions on Bozeman Pass for most of Wednesday. I spoke by phone with two different women who were stranded in the snow for hours after harsh weather caused commercial vehicles to become stuck, blocking the interstate.

“It’s miserable—we’re just waiting for any type of movement,” said Deana Lane.

# Junction Point

# Will OSS take off again?

- Large project R&D funding has lapsed.
- Sean retired.
- Doug moved back to Montana, to Montana Tech in Butte.
- Jeremiah is still in Caltrans D2, and they continue to use OSS.
  
- We need to maintain OSS.

# Funding Mechanisms – Possibilities Identified

- Advertisements?
- Crowdfunding?
- Phone App?
- Subscriptions?
- Continued Research Funding?
- (Multi-)State Funding?
- Hobby / Do it in our spare time?
- Integrate into Curriculum as a Learning Tool?
- Sponsorship?

# Costs

- Mapping API – We are currently using Caltrans' Google Maps key.
  - Caltrans pays for this.
  - Our costs would be on the order of:
    - \$7 / 1000 requests , \$200 free usage per month, 20% discount for 100K requests
    - 10,000 sessions / day -> 10,000 requests / day = \$70 / day = (\$2129 - \$200) / month
    - = \$23,150 / yr – 20% = \$18,520.
- Hosting Services – We are currently using a HostGator dedicated server priced at:
  - \$249 / mo = \$2988 / yr.
- Domain Registration – We are currently registering via GoDaddy with the following pricing:
  - \$107.92 / 2 yr (\$41.98 domain renewal, \$65.94 protected registration).
- SSL Certificate – This is currently issued via GoDaddy and priced at:
  - \$591.98 / 2 yr.

# Costs

- Google Docs Forms (free at present)
- Google Analytics (free at present)
- AddThis.com (free - gone)
- DOT Data (free)
- NWS, MesoWest, MADIS Data (free)
- Labor (Maintenance, Support, Upgrades)
  - \$\$\$???

# Recommendations

- We should investigate ways to cut costs:
  - Google Maps – We need to find alternatives, ideally free alternatives, in case Caltrans no longer pays for this.
  - We should be prepared if free services (Google Analytics, etc.) become cost-based.
  - We should investigate cutting server costs without cutting service.
- We should foster further work by university students.
  - We can integrate OSS into the curriculum via interface and web design classes, among others.
  - We could form a club or other volunteer student group to help maintain OSS.
- We should carefully consider incorporating non-intrusive mechanisms to pay for costs including:
  - crowd-funding,
  - developing an app and charging a modest fee,
  - paid sponsorship,
  - inclusion of ads (only if non-intrusive) plus an ad-free premium / pro version of OSS.

# Next Steps

- Stronger Connection with User Base
- Better use of Social Media
- Further Develop it as a Learning Tool at Montana Tech
- Develop an App?
- Value added functionality?
- Other?





# ONE-STOP-SHOP FOR RURAL TRAVELER INFORMATION

BROCK FRANCOM, TANNER KVARFORDT, BEN TAYLOR — UNDERGRADUATE RESEARCH ASSISTANTS

DR. DOUGLAS GALARUS — PRINCIPAL INVESTIGATOR

DEPARTMENT OF COMPUTER SCIENCE, COLLEGE OF ENGINEERING, UTAH STATE UNIVERSITY



## Project Overview

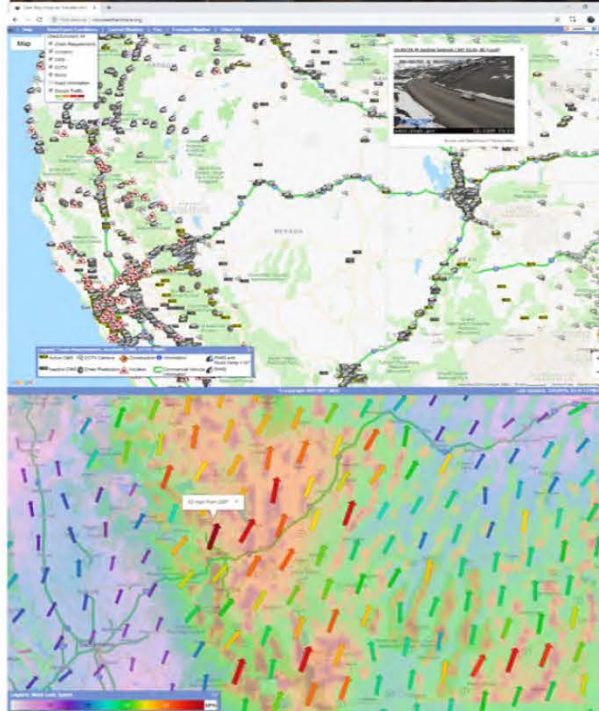
The One-Stop-Shop for Rural Traveler Information is a web application designed to provide rural travelers with real-time weather and road information for all mainland western states. The project began in 2010 at Montana State University where Dr. Galarus and his team conducted three phases of development. In Fall 2018, the project followed Dr. Galarus to Utah State University (USU), where it began its fourth phase. The fourth phase of the project is focused on transitioning research and development of the application to USU, continued testing and development of the application, and providing a foundation for long-term maintenance of the application.



See: <http://oss.weathershare.org/>  
and <http://oss.weathershare.org/m>

## Tasks Completed

- Set up development and staging servers at USU.
- Located and removed codebase artifacts.
- Performed general maintenance on the application.
- Expanded data layers to provide better coverage of the Western states.
- Implemented a menu feature for the mobile site.
- Generated project documentation, including server setup instructions and a comprehensive listing of data retrieval scripts, their dependencies, and their outputs.



## Long-Term Maintenance

The long-term maintenance plan involves recommending a long-term plan for support of the system. The team is researching similar applications and their funding sources. After available options are identified and their funding sources analyzed, then a strategy will be developed in cooperation with the sponsor.



## Credit & Sponsorship

The OSS project is sponsored by the California Department of Transportation (Caltrans) and the Western States Rural Transportation Consortium, (WSRTC), which includes departments of transportation from California, Oregon, Nevada, Washington and Utah.

### Caltrans District 2

- Jeremiah Pearce, Project Champion
- Ian Turnbull (retired), Original Project Champion

### Caltrans Division of Research and Innovation

- Sean Campbell, Caltrans Project Manager

### Phases 1, 2, & 3 (conducted at MSU)

- Daniel Richter - Research Associate
- Kelvin Bateman - Research Associate
- Douglas Galarus - Program Manager, Senior Research Scientist, Principal Investigator

### Phase 4 (currently in progress) at USU

- Brock Francom, Research Assistant
- Tanner Kvarfordt, Research Assistant
- Ben Taylor, Research Assistant
- Douglas Galarus, Assistant Professor, Principal Investigator

For further information  
email: [Douglas.Galarus@usu.edu](mailto:Douglas.Galarus@usu.edu)



# Acknowledgments

- Caltrans for its financial support of this work
- The Western States Rural Transportation Consortium for its contributions to the scope and their support through the WSRTC Pooled Fund
- Ian Turnbull, Caltrans (retired) as the early project and longtime champion of OSS
- Numerous staff at Caltrans for their early and continued support and use of OSS
- Tony Leingang and others of the Washington Department of Transportation for their support of OSS
- David Veneziano, past Principal Investigator on this project, for his assistance in Phase 1 and throughout the project
- Dan Richter, Leann Koon and numerous students for their work on OSS through the years at WTI/MSU
- USU Student Research Assistants: Tanner Kvarfordt, Brock Francom, Sahiti Katragadda, Ben Taylor, Brianna King and Jordan Knudsen
- Montana Tech Research Assistants: Tim Foreman, Tyler Bodden, others.
- Montana Tech Students in my Classes: CSCI 443 (User Interface/Experience Design), CSCI 444 Data Visualization, CSCI 470 (Web Science), CSCI 347 (Data Mining), CSCI 447 (Machine Learning)
- The many users of OSS throughout the years, particularly those who have shared it with others ...

# The Bad Weather Season is Coming

**Wintry weather brings dangerous driving conditions**

**3 KRTV**  
GREAT FALLS

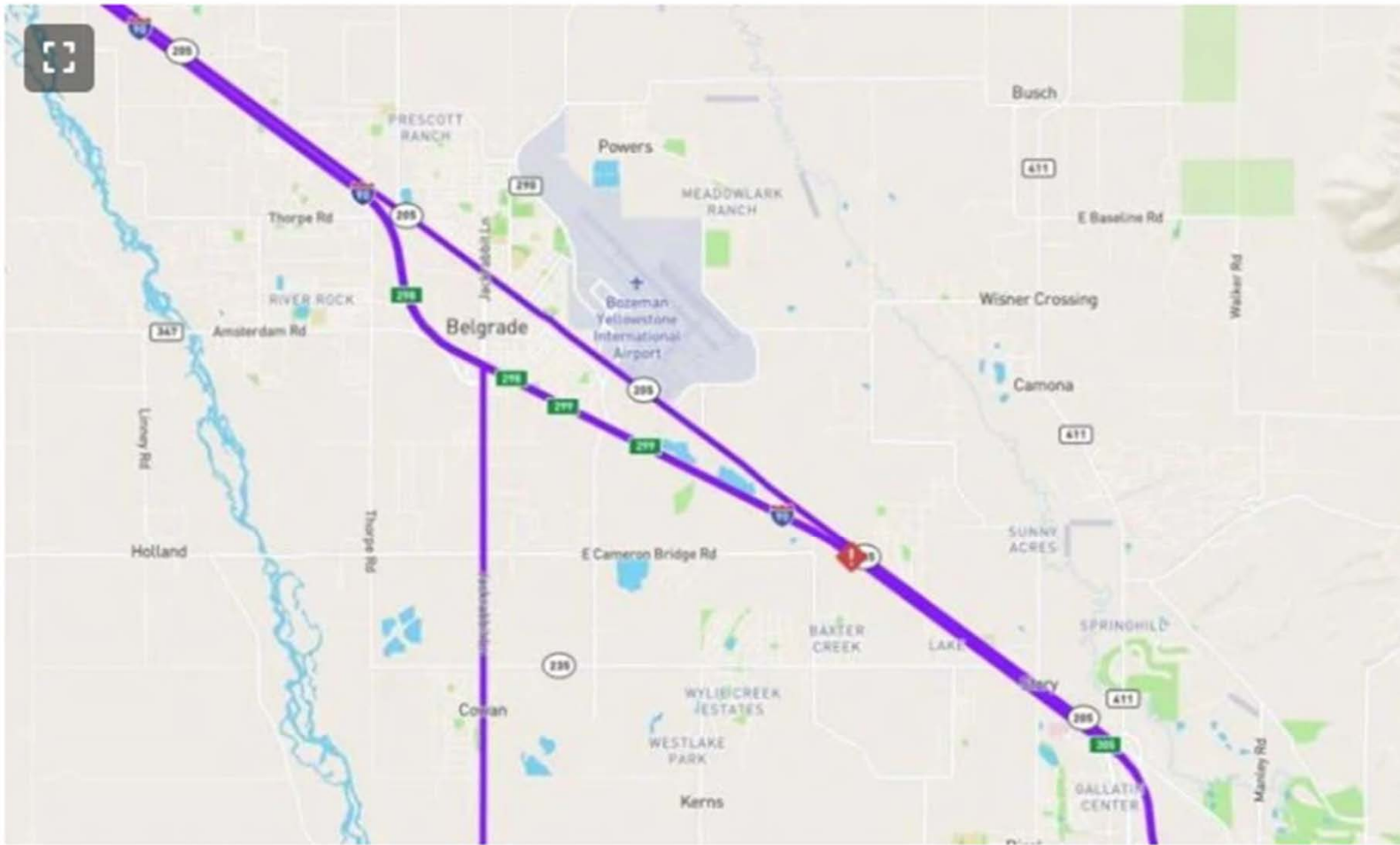


# The Bad Weather Season is Coming

Multi-vehicle crash closes portion of I-90 between Bozeman and Belgrade



Eric Young NonStop Local Digital Producer Oct 27, 2023 Updated Oct 27, 2023



Screenshot courtesy of the Montana Department of Transportation's 511 road report map

[https://www.montanarightnow.com/bozeman/multi-vehicle-crash-closes-portion-of-i-90-between-bozeman-and-belgrade/article\\_26285e18-7508-11ee-8492-af5f4b7f736f.html](https://www.montanarightnow.com/bozeman/multi-vehicle-crash-closes-portion-of-i-90-between-bozeman-and-belgrade/article_26285e18-7508-11ee-8492-af5f4b7f736f.html)

# The Bad Weather Season is Coming

ALERT

## Wreck near Laurel one of several caused by icy roads

Billings Gazette Oct 25, 2023 0

1 of



The season's first snow arrives in Billings on Wednesday. Another two inches of snow is expected over night and two more inches throughout Thursday.

LARRY MAYER



[https://billingsgazette.com/news/local/laurel-i90-winter-weather-driving-detour/article\\_90771150-7338-11ee-8375-871892060289.html](https://billingsgazette.com/news/local/laurel-i90-winter-weather-driving-detour/article_90771150-7338-11ee-8375-871892060289.html)

# The Bad Weather Season is Coming

NonStopLOCAL  
FOX

**Weather Authority Alert**

Dense Fog Advisory from WED 6:49 AM MDT until WED 10:00 AM MDT

## Crews responding to crash I-15 northbound at Jefferson County north border

Posie Buffington ABC FOX Montana Oct 23, 2023 Updated Oct 23, 2023



f x @ ✉ 📄 📌

HELENA, Mont. - Crews are responding to a vehicle crash on I-15 northbound at the Jefferson County and Lewis and Clark County border Monday.

The crash is located at mile-marker 190 at the north county line of Jefferson County.

[https://www.montanarightnow.com/helena/crews-responding-to-crash-i-15-northbound-at-jefferson-county-north-border/article\\_20780d8c-71da-11ee-b25e-db359b5cb54b.html](https://www.montanarightnow.com/helena/crews-responding-to-crash-i-15-northbound-at-jefferson-county-north-border/article_20780d8c-71da-11ee-b25e-db359b5cb54b.html)

# The Bad Weather Season is Coming

 Jefferson County Montana Sheriff's Office  
6d · 🌐

**Winter Driving Safety Tips**

- Prepare your vehicle.
- Slow down! Allow plenty of extra time to reach your destination.
- Keep windows, windshield, and mirrors clear of snow and ice.
- Give other drivers and snow plows plenty of room. Do not pass unless absolutely necessary.
- Keep an emergency travel kit, snow shovel, brush, and ice scraper in your car.



 Montana Highway Patrol ✓  
6d · 🌐

As we have begun to experience winter driving conditions, here are a few tips for staying safe on the roads.

 33

2 comments 7 shares

# Recently ...





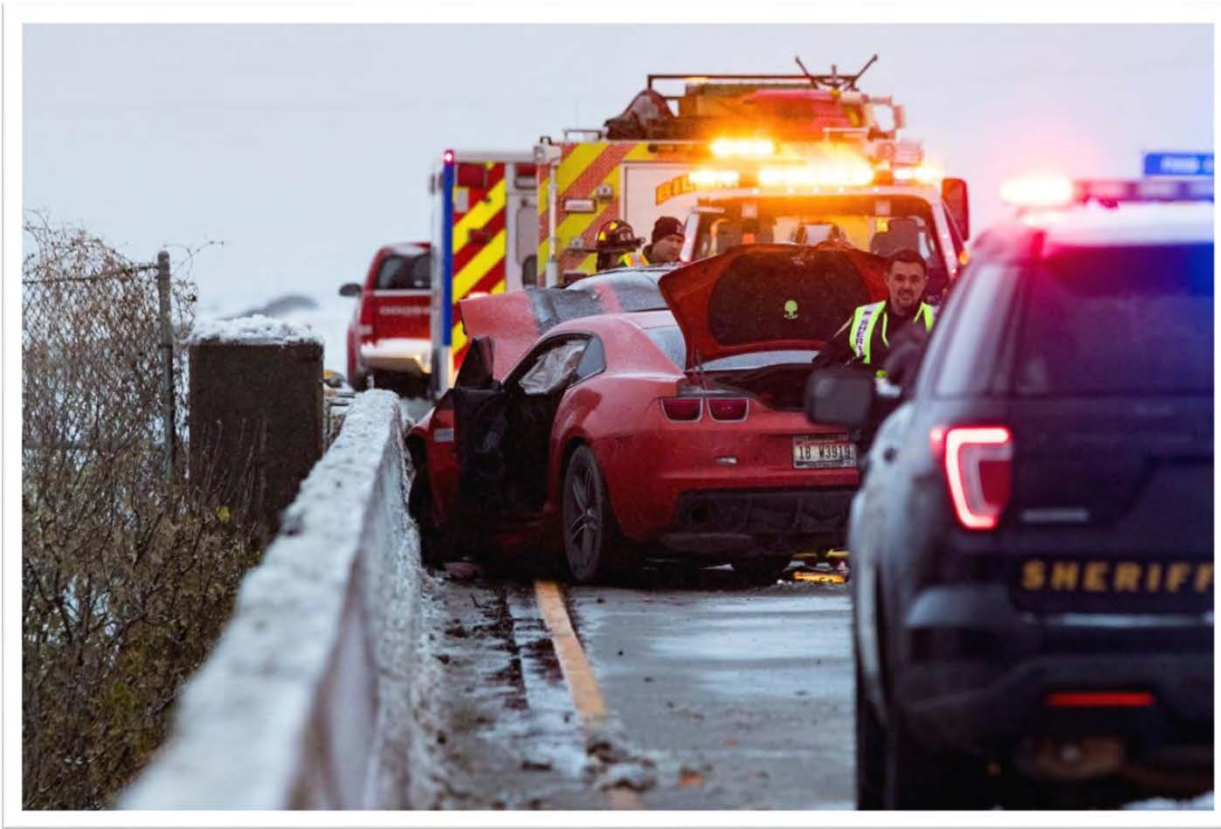
# Recently ...



# Recently ...

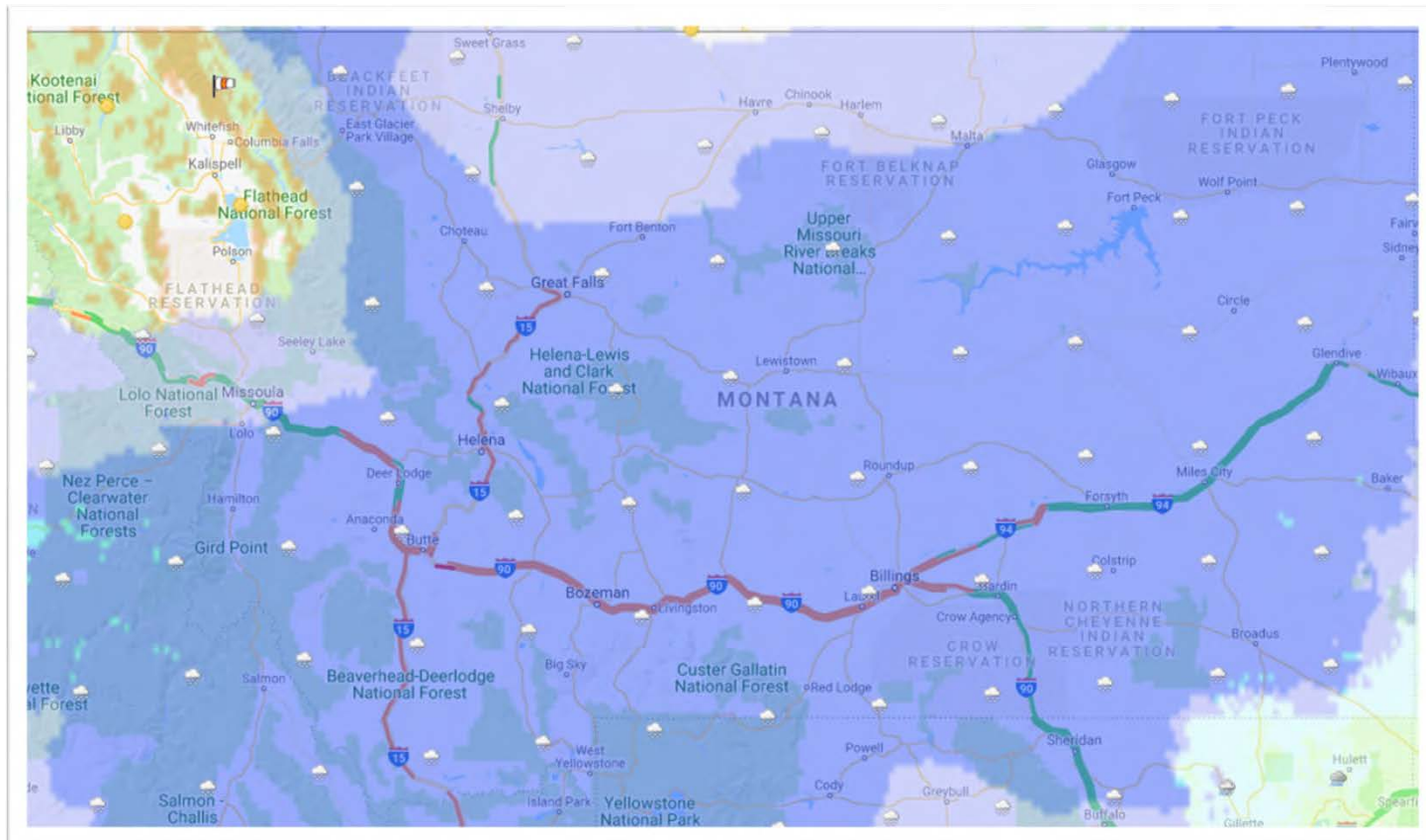


# Recently ...



# Be Prepared: Use the One-Stop-Shop

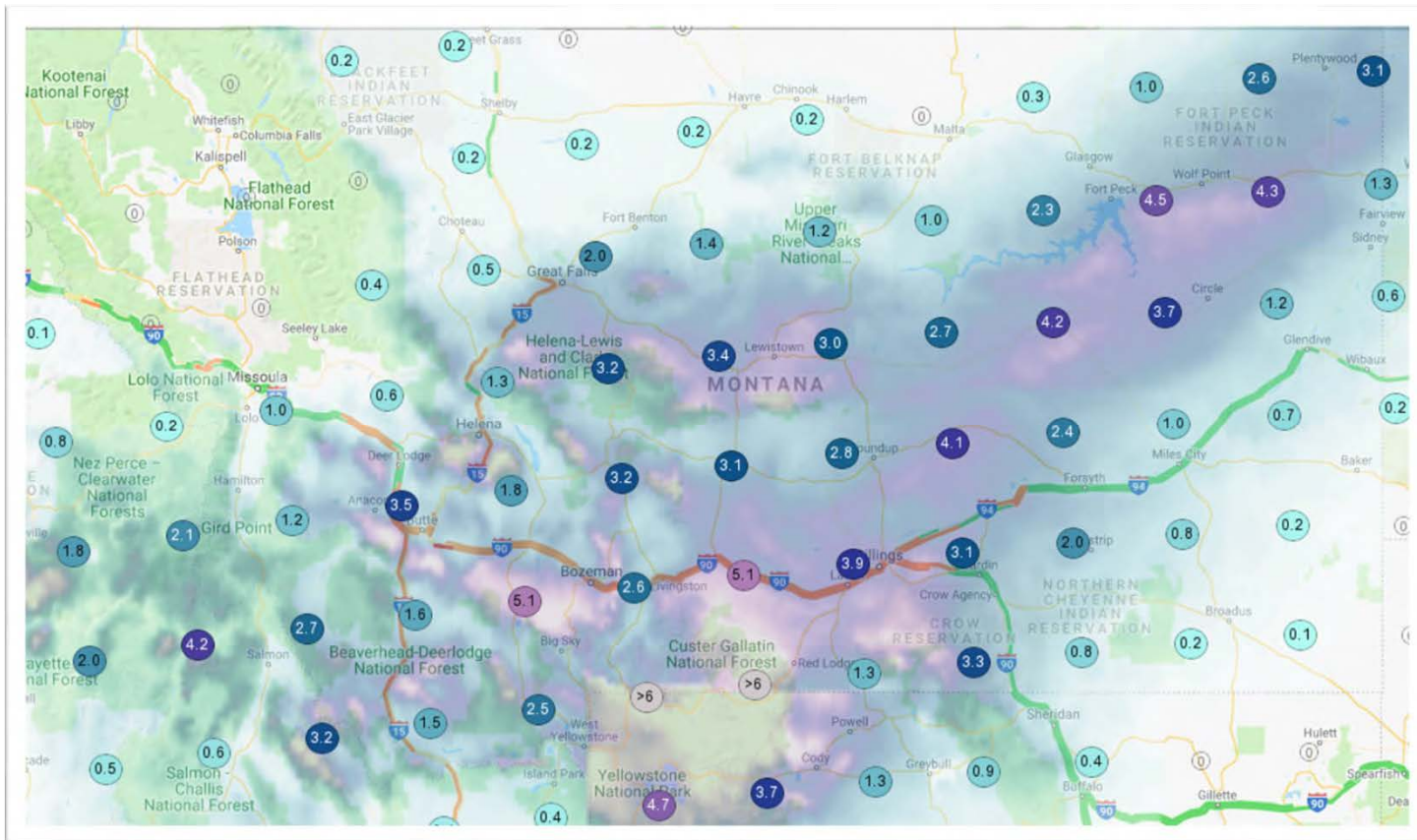
<https://oss.weathershare.org/>



Snow

# Be Prepared: Use the One-Stop-Shop

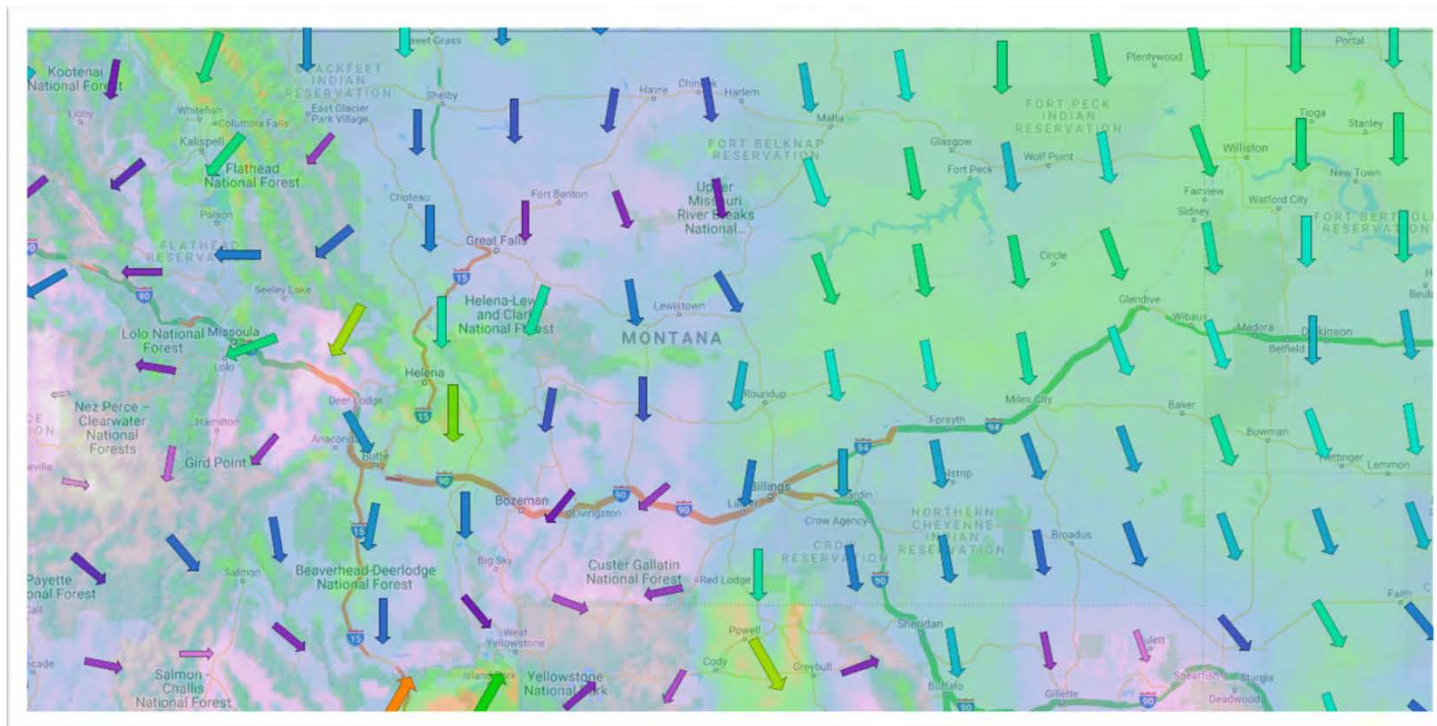
<https://oss.weathershare.org/>



Snow  
Amount

# Be Prepared: Use the One-Stop-Shop

<https://oss.weathershare.org/>



Wind

# Be Prepared: Use the One-Stop-Shop

<https://oss.weathershare.org/>



Cameras

# For Further Information

## See:

<https://oss.weathershare.org>

<http://www.westernstates.org/Projects/OSS>



# Contacts:

Principal Investigator:

Douglas Galarus, PhD

Associate Professor

Montana Tech University

[dgalarus@mtech.edu](mailto:dgalarus@mtech.edu)

Caltrans Project Manager:

Andres Chavez, P.E.

Chief, ITS Special Projects Branch

Caltrans, Division of Research, Innovation,  
and System Information

[andres.chavez@dot.ca.gov](mailto:andres.chavez@dot.ca.gov)

Caltrans Project Champion:

Jeremiah Pearce, P.E.

Chief, Office of ITS Engineering and Support

Caltrans District 2

[jeremiah.pearce@dot.ca.gov](mailto:jeremiah.pearce@dot.ca.gov)