



Memorandum

DATE: April 11, 2018

MEMO TO: MROSD Board of Directors

THROUGH: Ana Ruiz, AICP, Acting General Manager *[Signature]*

FROM: Gordon Baillie, Management Analyst II

SUBJECT: Visitor Use Level Measurement Project

SUMMARY

The Visitor Services Department initiated the Visitor Use Level Measurement Project (Project) in Fiscal Year 2016-17. The focus of the Project was to gather visitor use information at the front entrance to Rancho San Antonio County Park and Open Space Preserve and pilot visitor use surveys at other preserves. An intern, Michael Cappello, was employed from October 2016 to December 2017 to install and monitor visitor use counters at 13 locations spread across the Midpeninsula Regional Open Space District's (District) preserves. He also monitored two previously installed counters. Counters are either magnetometers (measuring cars, and in one case bicycles), or infrared (a beam across a trail which counts people). Data was downloaded monthly, to ensure that the devices were working and to replace batteries as necessary.

The intern also recorded the number of people in cars (occupancy levels) for vehicles entering Rancho San Antonio County Park and Open Space Preserve through the main entrance from Cristo Rey Drive.

The Project was designed to be a pilot-project to test the equipment and to be the basis for an ongoing method of data collection.

RESULTS

Rancho San Antonio Results:

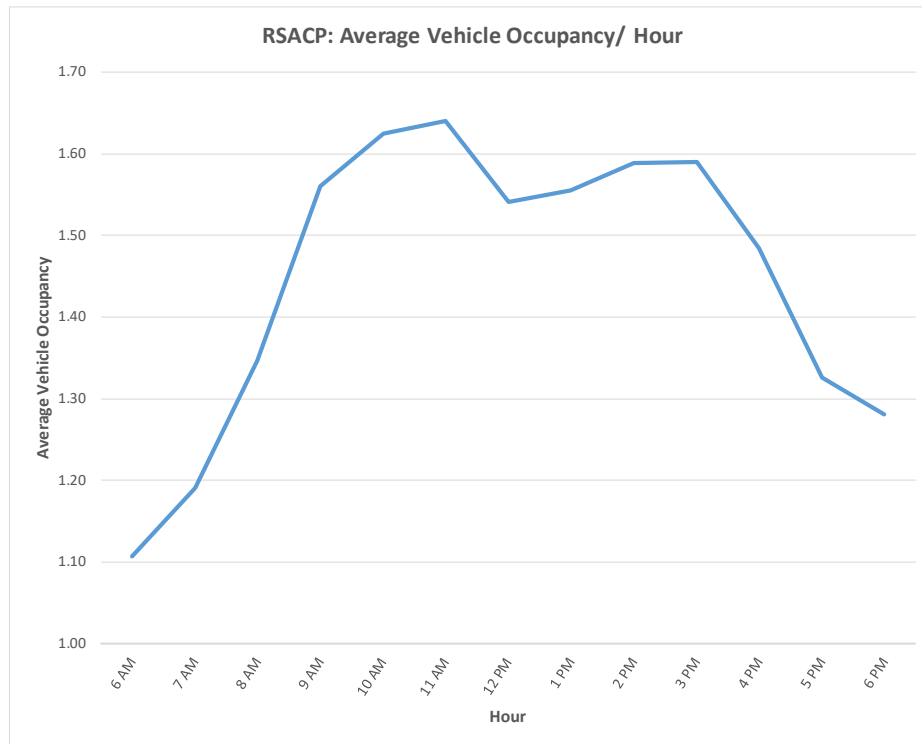
Measuring the occupancy level of vehicles entering Rancho San Antonio County Park and Open Space Preserve through the main entrance from Cristo Rey Drive was a major focus of the Project.

The intern observed and recorded the number of people in each vehicle that entered the park. Observations were done in one-hour increments, and observations were conducted over 143 days for a total of 973 hours. The occupancy levels were combined with data recorded by the vehicle counter to provide estimated visitation levels for the park and preserve. Occupancy levels were highest on the weekends and holidays, when families tended to visit the preserves.

	Average Car Occupancy
Monday	1.37
Tuesday	1.31
Wednesday	1.29
Thursday	1.34
Friday	1.38
Saturday	1.93
Sunday	1.78
Holiday	1.97
Average Occupancy 1.55	

Occupancy levels also varied according to time of day, with people coming to run/exercise in the morning and later afternoons, while parents with children were more likely to visit during the later morning and early afternoon. Staff have anecdotally noted these same visitation patterns for many years, which the intern confirmed through visual observations.

The average occupancy levels by hour are shown in the graph below.



Based on the intern’s observations, combined with data from the vehicle counter, the number of vehicles and people entering Rancho San Antonio through the main entrance is shown to the right. Visitor numbers are estimates based on the average vehicle occupancy multiplied by the number of vehicles counted. The actual visitation to Rancho San Antonio County Park and Open Space Preserve is higher than the table estimates since these measurements do not take into account walk-in access at the six different neighborhood access points, via regional trail connections, and from the Rhus Ridge parking lot. However, the vast majority of Park and Preserve visitors drive in through the front entrance.

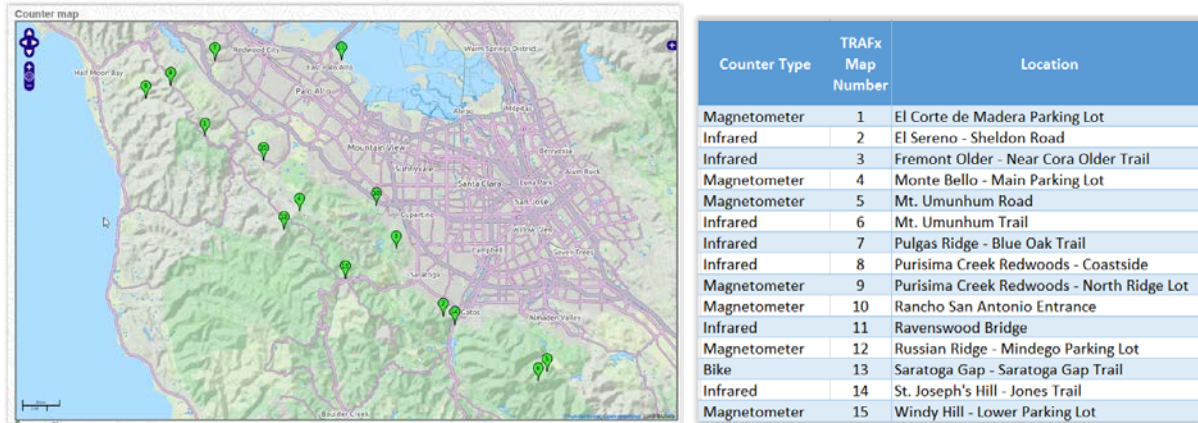
2017 Rancho Entrance Gate Visitor Statistics

Month	Cars	Visitors	Day of Week	Cars	Visitors
January	32,136	51,837	Monday	47,029	63,489
February	30,476	47,995	Tuesday	56,165	73,015
March	46,370	70,839	Wednesday	58,421	74,779
April	45,238	70,266	Thursday	54,718	71,133
May	41,768	64,365	Friday	57,019	79,256
June	41,978	63,276	Saturday	87,980	168,042
July	44,517	69,105	Sunday	89,186	158,751
August	43,106	64,209	Holiday	19,591	37,811
September	36,571	56,353			
October	35,408	54,328			
November	35,190	55,471			
December	37,351	58,232			
Total	470,109	726,276	Total	470,109	726,276

The winter of 2016/17 was quite wet, whereas the winter of 2017/18 was quite dry. Longer term monitoring over the course of several years will provide a better picture of the average visitation levels.

Visitor Counter Locations

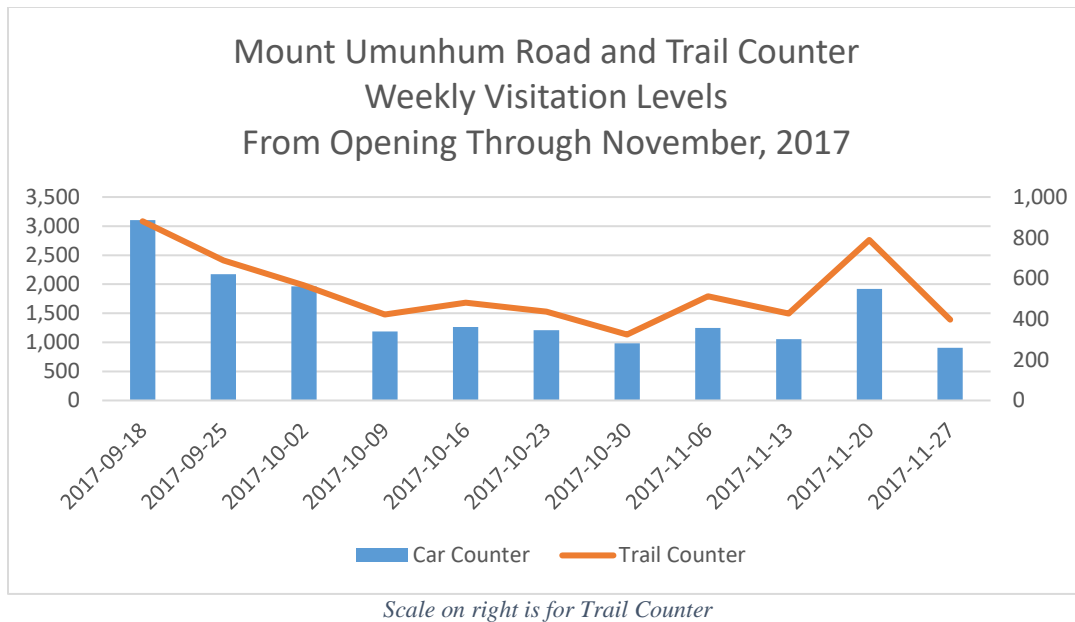
The following table and map shows the locations of all of the counters (and the counter type).



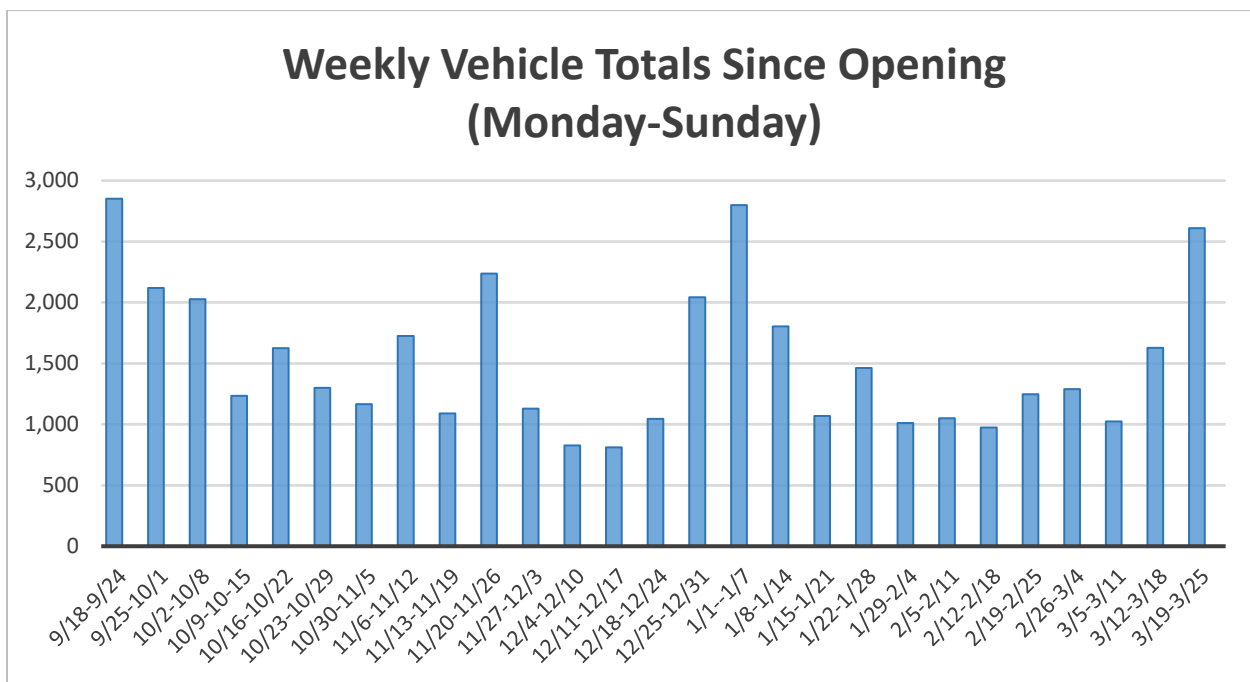
Specific counts for each of the locations listed above can be obtained by staff from the TrafX website. Some sites may need adjustments to the counter settings based on the results received. Staff is still fine-tuning the counters to accurately reflect visitation, and analyzing the data collected to weed out errors. This information is expected to be made available to the Board and public by winter, 2018.

Mount Umunhum Visitation Levels

A vehicle counter was installed on Mt Umunhum Road just below Bald Mountain, and a trail counter was installed on the Mt Umunhum Trail. Both counters recorded high levels of use when the summit was first opened, which have since leveled off with occasional peaks during holiday and school breaks. The counters suffered malfunctions later in the year, which have since been fixed. The results for the period when the counters were functioning correctly are shown below.



In addition to the vehicle counter data, we also have additional car count data from the radar speed limit signs that were installed to inform visitors of the speed limit. The radar counter is located on a speed sign just above Bald Mountain on Mt Umunhum Road. The counts by this device are consistent with the car counter and continue further out through March 2018.



**** Data was removed for the dates of Thursday November 16th, Thursday March 1st, Tuesday March 13th, and Thursday March 15th due to corrupted data. ****

Limitations on Data Collected:

- The primary limitation is that the data is only valid for the locations where the data was collected. The data does not represent an estimate of the overall visitation levels for all District preserves. This project was not designed or intended for this purpose.

- The counters were installed at various times during the 1.25-year project timeframe. To develop accurate visitation estimates, data collection over a period of several years is recommended.
- There were technical difficulties with some of the counters, as staff learned how to better calibrate the sensors for the locations and type of use. The project was designed to be a pilot-project, so technical challenges with the equipment were expected.

Project Maintenance

With the completion of the internship, responsibility for downloading data and checking on battery condition has been transferred to ranger staff (one for each of the three offices) with the responsibility for specific counters being delegated based on their location. Three rangers have received the necessary training and equipment (TrafX shuttle device) to download the data on a monthly basis. Rangers will continue to collect the data and the Visitor Services Management Analyst will analyze the data and prepare findings reports.

NEXT STEPS

Data collected will be shared with the consultant who is working on the Preserve Use Survey, which was presented to the Board at the meeting of March 14, 2018 (see report R-18-04). During that meeting, the Board expressed interest in developing District-wide use level estimates. The data collected by Visitor Services may assist the consultant in developing those estimates.

FISCAL IMPACT

Funds for the employment of the intern and purchase of the equipment were budgeted and expended in Fiscal Year 2016-17 and Fiscal Year 2017-18. Minor expenses for continued maintenance of the counters will be incurred as the program goes forward. The primary cost will be staff time for the maintenance and monitoring of the counters. The three rangers now assigned to the project will be checking the counters and downloading the data once per month. They will be doing this while performing their regular patrol duties. It is estimated that this will require about four hours per ranger per month. This does not include driving time, since they are already on patrol.

If additional counters are desired then the cost is approximately \$600 per counter, with some additional costs for containers to hold them, installation of the counter, and ongoing maintenance and monitoring.