Palm Springs DUI Project

CALIFORNIA STATE UNIVERSITY SAN BERNARDINO
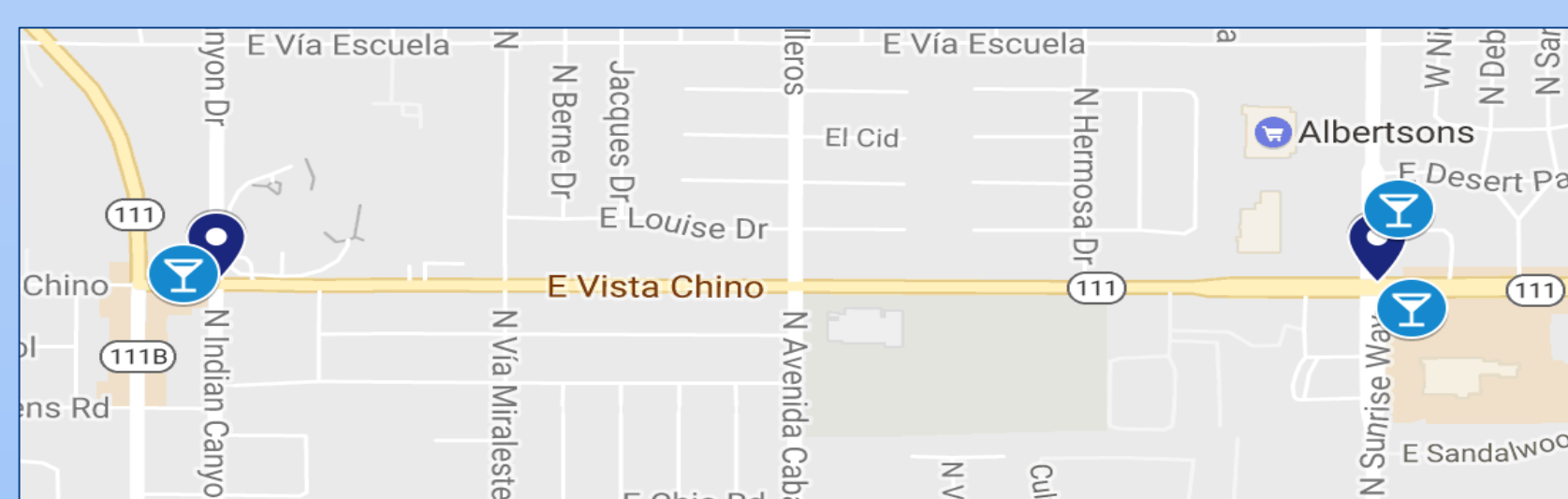
OPERATIONAL ANALYSIS

THE CURRENT PROBLEM

After analyzing police data for the months of November and December 2013 during the peak period for Palm Springs, California, it was determined that there were three intersections (hotspots) on E Vista Chino. The three intersections included E Vista Chino & N Indian Canyon Drive, E Vista Chino & N Sunrise Way, and E Vista Chino & Gene Autry Trail. Most of the stops were during late days, swing, and graveyard shifts and between all 15 stops the total time spent on scene was 32 hours. This has posed an immediate problem for our line-level officers and first-line supervisors. The following table shows the month, shift, total time, the number of people and the location of the DUI stop.
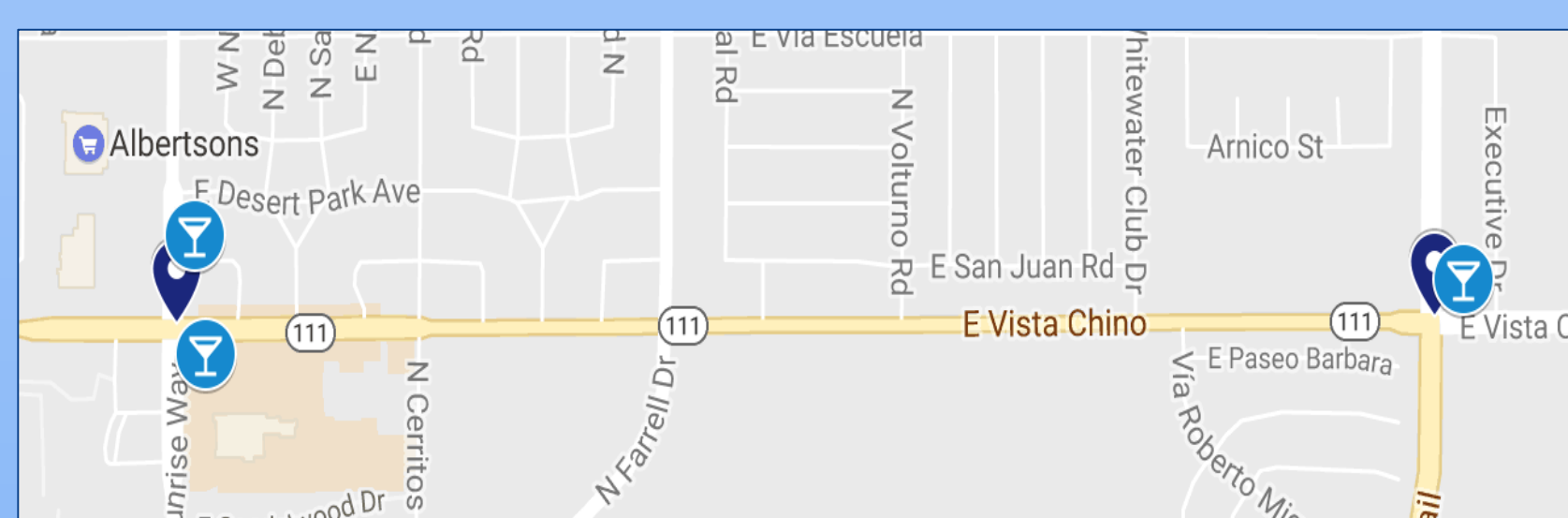
Month	Shift	Total Time	Number of People	Address
November	DAYS	0:00:00	1	E Vista Chino & N Indian Canyon Drive
November	GRAVEYARD	6:34:15	5	E Vista Chino & N Indian Canyon Drive
November	LATEDAYS & SWING	0:00:53	1	E Vista Chino & N Gene Autry Trail
November	LATEDAYS & SWING	0:03:22	1	E Vista Chino & N Gene Autry Trail
November	LATEDAYS & SWING	0:00:00	2	E Vista Chino & N Sunrise Way
November	LATEDAYS & SWING	0:07:06	3	E Vista Chino & N Sunrise Way
November	LATEDAYS & SWING	0:07:08	1	E Vista Chino & N Sunrise Way
November	GRAVEYARD	6:34:15	5	E Vista Chino & N Indian Canyon Drive
November	SWING & GRAVEYARD	6:00:40	6	E Vista Chino & N Gene Autry Trail
November	SWING & GRAVEYARD	5:53:44	3	E Vista Chino & N Indian Canyon Drive
December	LATEDAYS & SWING	5:36:54	3	E Vista Chino & N Gene Autry Trail
December	LATEDAYS & SWING	0:00:00	1	E Vista Chino & N Gene Autry Trail
December	SWING & GRAVEYARD	0:07:28	2	E Vista Chino & N Gene Autry Trail
December	SWING & GRAVEYARD	0:41:51	4	E Vista Chino & N Indian Canyon Drive
December	SWING & GRAVEYARD	0:03:28	2	E Vista Chino & N Sunrise Way

LOCATION AND HOTSPOT ANALYSIS

After conducting further analysis it was determined that each DUI hotspot is actually a hotpoint generated by convenience stores located near each one. Each hotspot is focused because they are all around the time periods of late night or early morning. In the image below the first pin is located at N Indian Canyon Drive & W Vista Chino and the drink pin is a 7 eleven. The next pin is W Vista Chino & N Sunrise Way and the drink pin that is located on the top is another 7 eleven and the bottom drink pin is ARCO. These DUI stops are only a mile away from one another.

The bottom image is of the a pin at W Vista Chino & N Sunrise Way and a third pin which is N Gene Autry Trail & E Vista Chino. The drink pin is a Sosa's grocery store. The distance between each DUI stop is only 1.7 miles.

IMPLICATION

The best course of action for our line-level officers and first-line supervisors is to make sure more officers are patrolling these areas since there is such a high level of need. In addition to patrolling it is necessary to go to these convenience stores and make sure the employees and supervisors know to not sell alcohol to patrons that are obviously intoxicated. Overtime will be offered in order to make sure there are enough officers deployed and coverage is met.

Ratcliffe, J. H.(2004). The Hotspot Matrix: A Framework for the Spatio-Temporal Targeting of Crime Reduction

Student number 7484

MANAGEMENT ANALYSIS

Sergeants, Lieutenants, and Captains are generally concerned with the productivity of police officers in order to reduce crime and perform police duties in the most effective manner.

HOTSPOTS

The term "hot spot" refers to geographical or temporal areas/times that experience a higher than expected volume of crime.[1] Identifying hot spots is critical for law enforcement in preventing crime and is a form of proactive policing rather than reactive policing. In the current portion of the project, hot spots were defined as the top locations or times that received the highest volume of responses or production time.

CURRENT PROJECT

In the current project, police data from the city of Palm Springs regarding call types, event dispositions, and computer-aided dispatch (CAD) related to DUI (police code 23152) were analyzed for all of 2013. In 2013, each DUI case required an average of 29 minutes per officer and required an average of two officers. All DUI's in 2013 totaled just over 765 man hours, 1.7% of all of the department's man hours for the year (765/44,904).

TEMPORAL ANALYSIS

The most common days of the week for DUI to occur were Saturday (92 cases) and Sunday (82 cases). An analysis of the shifts that received the highest volume of DUI arrests identified the swing shift (1800-0159) as receiving the most DUI responses. This data is collaborated when we look at the total person time per shift. A table displaying this information and the average time per response per shift can be found below.

Shift	Total Responses	Total Person Time	Avg Time per Response
GRAVEYARD (0200-0659)	67	169:20:36	2:31:39
DAYS (0700-1159)	27	31:21:34	1:09:41
LATE DAYS (12-1759)	109	82:16:29	0:45:17
SWING (1800-0159)	298	482:01:29	1:37:03
Grand Total	**501**	**765:00:08**	**1:30:55**

LOCATION ANALYSIS

Looking at the locations that had the highest volume of police responses for DUI in 2013, 401 E Amado Rd. had 27 responses, the intersection of Gene Autry Trail and Vista Chino had 14 responses, 1717 E Vista Chino had 13 responses, the intersection of E Palm Canyon Drive and S Sunrise Way had 10 responses, and N Indian Canyon Drive and E Vista Chino had 9 responses. Looking at these locations, they are all located in the downtown area and generally consist of resorts with bars and amenities.

SUMMARY

In summary, most DUI arrests in Palm Springs in 2013 occurred on the weekends between the hours of 1800 and 0200 in the downtown area. Average required personnel time varied by shift, was longest during the graveyard shift, and was shortest in the late day. This could be a function of the minor amount of criminal activity and availability of officers, the severity of the DUI (potentially collisions), or some other factor during the graveyard shift. Ultimately, the disparity in amount of time by shift needs to be rethought and resources need to be reallocated to be more equal across shifts.

1 Ratcliffe, J. H., & McCullagh, M. J. (2001). Chasing ghosts? Police perception of high crime areas. British Journal of Criminology, 41(2), 330-341.
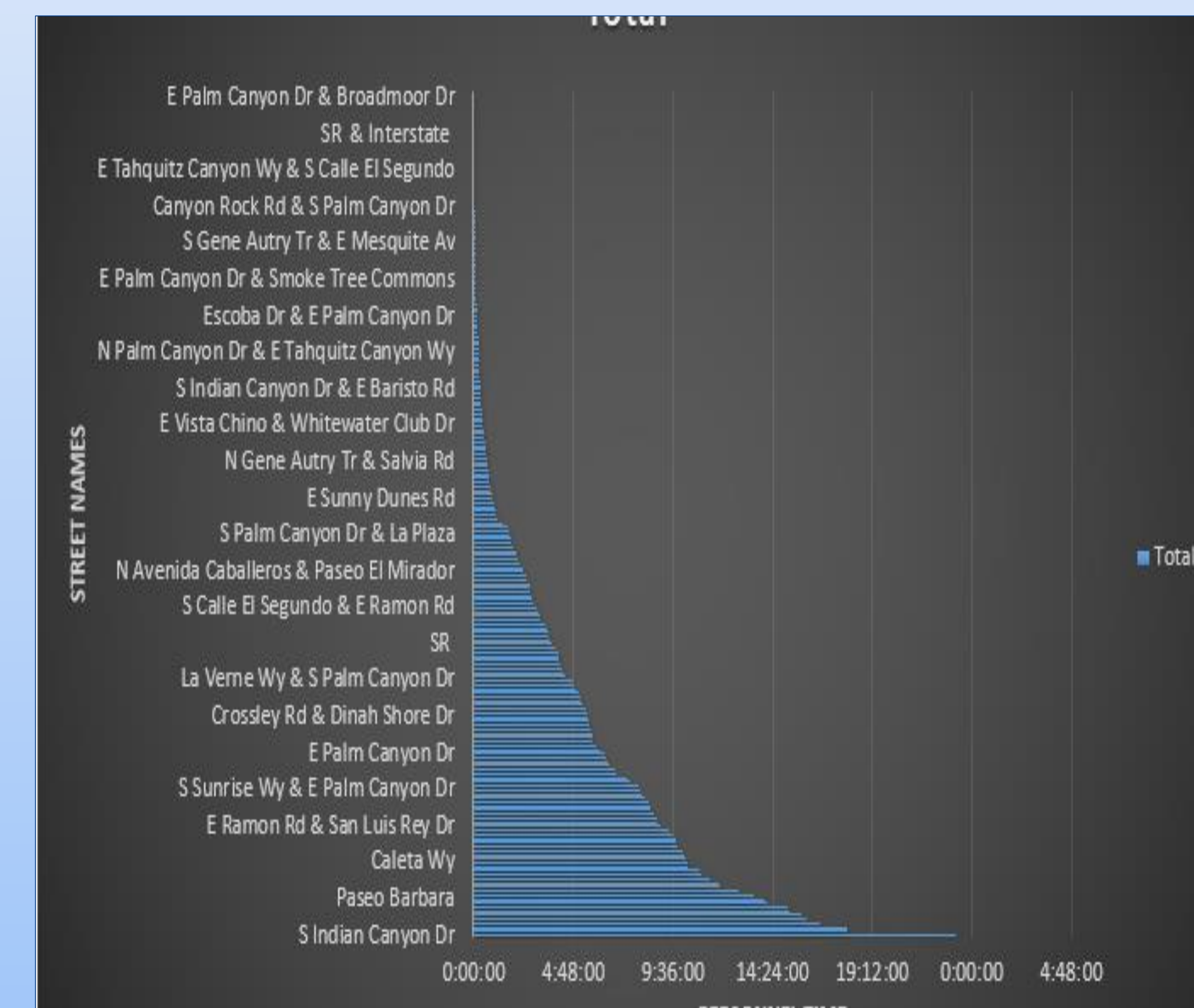
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COMMAND ANALYSIS

HOTSPOT

As mentioned before Hotspots are areas that have a high concentration of crimes compared to others. However, for our purposes, the hotspots we are going to be examining are areas that are consuming the majority of our personnel time. Furthermore,

Examining the larger data file, we can see that the personnel time is a diffused hot spot. This means that the personnel time is dispersed throughout the hotspots. As you can see in the Figure 1 a small amount of streets account for the most amount of personnel time.

Looking closely at the graph the top ten streets account for about 164 hours of personnel time in 2013. This means that 10 streets are taking up a majority of resources from our department. The street with the largest amount of personnel time, S Indian Canyon Dr., took up 23 hours alone.

IMPLICATION

Research has shown that since the hotspots are diffused the best course of action is to have uniformed-officers scout around the area while at the same time a public education campaign about the dangers of drinking and driving*. Therefore, we should have police officers go about local businesses educating them on when to stop serving alcohol to patrons. Furthermore, we should have an investigation into possible links such as finding establishments that are sending out people who are drunk to their cars.

• Ratcliffe, J. H.(2004). The Hotspot Matrix: A Framework for the Spatio-Temporal Targeting of Crime Reduction

Student number 7483