

Market Identification for Personal Professors



GIS II Final Project Presentation

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What is Personal Professors?

- On-line tutoring and full courses in Biology and Mathematics
- Focused on home school families, charter, Waldorf, and Montessori schools
- Currently most clients are in California and Oregon

Project Objectives

- Identify and map California charter schools that meet the criteria for a potential client
- Map current clients
- Identify clusters of schools for a summer marketing trip
- Find an airport that would have the most potential clients within 150 miles
- Locate a central city that minimizes travel

Methods

- Attain data
- Geo-Reference data
- Select airports with major airline service
- Create 150 mile buffer around airports
- Select schools within the buffer zone
- Use point distance tool to calculate the distance between the airport and the schools

Methods continued

- Use basic descriptive statistics to find average distance, range of distances, and number of schools within the buffer zone
 - This results in identifying best airport to use to maximize the number of schools to market to
- Use spatial statistics to find the geographic mean center of all the schools to locate a central city from which to base marketing trip

Data acquisition and cleaning

- Obtained a list with all the California Charter Schools from the California School Board
- Loaded list of all 553 California charter schools into Access
- Filtered the list for schools with the following criteria: Home school support, Waldorf, or Montessori
- Obtained latitude & longitude for the filtered schools

Allrecord Accesses - [charterschools1a Table]															
Type a question for help															
c_county	CDS	cdcode	autl	iscode	chnum	schoolname	1	Address	City	State	Zip	ContactFirst	ContactLast	Contact	Adm
16	250	0100016	510	510	510	Sherman Thomas	101	W. Adel Street	Madera	CA	93638	Roger	Leach	Admin	Adm
16	250	0100016	510	510	510	Oakland Unity	16038	Baird Street	Oakland	CA	94605	Sharon	Lance	Admin	Adm
55	72363	0100099	495	495	495	California Virtua	2360	Shasta Way, Unit	Simi Valley	CA	93065	James	Konantz	Admin	Adm
1	61269	0100123	499	499	499	East Oakland L	2614	Seminary Ave	Oakland	CA	94605	Laura	Armstrong	Admin	Adm
43	69560	0100131	511	511	511	Advent Academy	3002	Lehigh Avenue	San Jose	CA	95124	L.E.	Boydston	Exec	Adm
16	63974	0100156	489	489	489	Lemore Elena	100	Vine Street	Lemore	CA	93245	Crescenciano	Camarena	Admin	Adm
46	72415	0100163	515	515	515	Sumner Prep	2031	Maple Street	Redwood City	CA	94061	Daniel	Tranmer	Admin	Adm
36	67685	0100271	515	515	515	Las Banderas A	217	Escondido Avenue	Visita	CA	92084	Michael	Hazzlett	Chief	Adm
19	64733	0100289	521	521	521	New Community	519	S. Lema Drive	Los Angeles	CA	90017	Andres	Versage	Admin	Adm
19	64733	0100297	520	520	520	Comerstone Tr	2232	Lincoln Boulevard	Venice	CA	90291	Cheryl	O'Connell	Admin	Adm
44	69766	0100305	512	512	512	Cypress Charter	2039	Merill Street	Santa Cruz	CA	95062	Les	Forster	Princ	Adm
37	68330	0100321	517	517	517	Museum Middle	211	Maple Street	San Diego	CA	92103	Kay	Wagner	Admin	Adm
19	64592	0100364	512	512	512	Hawthorne Madi	4091	West 139th Street	Hawthorne	CA	92540	Shelley	Rose	Admin	Adm
44	69766	0100388	513	513	513	Terra Pacifica	4091	17th Avenue	Santa Cruz	CA	95062-1808	Linda	Lambdin	Direct	Adm
19	64709	0100602	509	509	509	Lennox Mather	10319	Fins Avenue	Lennox	CA	93034	Armando	Mena	Princ	Adm
19	64733	0100689	536	536	536	Stella Middle C	2636	Mansfield Avenue	Los Angeles	CA	90016	Christina	Vogel	Assis	Adm
19	64733	0100677	537	537	537	High Tech High	1529	Gilcrest Dr.	Beverly Hills	CA	90210	Marsha	Rybin	Princ	Adm
19	64733	0100743	539	539	539	Accelerated Ele	116	East Martin Luther	Los Angeles	CA	90011	Jonathan	Williams	Co-Pr	Adm
19	64733	0100782	538	538	538	Waltis Asenber	116	E. Martin Luther	Los Angeles	CA	90011	Jonathan	Williams	Co-Pr	Adm
19	64733	0100788	536	536	536	Culture and Lan	5780	8th Avenue	Los Angeles	CA	90043	Janis	Buckner	Direct	Adm
19	64733	0100776	540	540	540	Imagine Acad	16601	Rinaldi St.	Granada Hills	CA	91344	Carole-Ann	Scott	Admin	Adm
19	64733	0100784	533	533	533	Lincoln Heights	990	W. Washington Blv	Los Angeles	CA	90015	Jerome	Porath	Presi	Adm
19	64733	0100800	534	534	534	Central City Val	221	N. Westmoreland	Los Angeles	CA	90004	Jerome	Porath	Presi	Adm
19	64733	0100787	531	531	531	KIPP Los Angel	2035	Pascadena Ave	Los Angeles	CA	90028	Leah	Leah	Presi	Adm
56	72611	0100875	519	519	519	Saras Academy	960	Flynn Road, Ste	San Diego	CA	92101	Tammy	McCrackan	Chief	Adm
34	6349	0100148	491	491	491	St. HOPE PUBL	P.O. Box	5038	Sacramento	CA	958				

OID	LATITUDE	LONGITUDE	COUNTY	CODE A	SCORE	CHRG	SCHOOLNAME	ADDRESS	CITY	STATE	ZIP	
8	38.252	-122.4597	49	70993	6111878	009	Sonoma County	17202 Sonoma Highway	Sonoma	CA	95476-5412	Suzanne
9	34.1465	-118.1393	36	67934	300670	013	Options for Youth - Victorian Chart	199 50th St Robles,	Pasadena	CA	91101	Joan
10	38.8099	-121.3224	31	66691	3136168	015	Horizon Instructional Systems	P.O. Box 499000	Lincoln	CA	95648	Lukyan
11	38.6629	-121.5669	34	75293	3340659	019	Namens Charter School	4600 Blackhawk Drive	Sacramento	CA	95835	Charly
12	39.3506	-121.1376	29	66415	6111139	026	Twin Ridges Home Study Charter S	P.O. Box 529	North San Juan	CA	95960	Doula
13	38.4024	-122.8025	49	70998	6113039	078	Scoutpost Independent Charter Sc	P.O. Box 1170	Scoutpost	CA	95473	Lou
14	38.3517	-120.895	38	66415	6113138	086	Yuba River Charter School	13006 Milky Springs R	Nevada City	CA	95659	Susan
15	38.0639	-122.5329	21	65417	6113229	089	Novato Charter School	940 C Street	Novato	CA	94949	Richael
16	37.9799	-124.8022	7	61648	6115703	143	Learnner-Centered Academy	1201 W. 10th Street	Arbuck	CA	94509	Debbie
17	40.8669	-124.083	12	75382	1230135	159	Madison Valley Charter School	P.O. Box 39	Honeydew	CA	95545	Richard
18	39.3517	-120.851	36	67228	6115935	165	Campland Academy	848 Gull Flat Road, Sul	Nevada City	CA	95659	Jane
19	34.0057	-117.1506	36	67843	3003928	180	Grove High School	200 Nevada Street	Redlands	CA	92373	Chris
20	38.5454	-121.2709	29	66415	6117311	182	Quinton Valley Charter	P.O. Box 4557	Crest Heights	CA	95610	Deborah
21	38.2975	-122.2845	29	66415	6118152	204	Napa Valley Charter School	P.O. Box 50599	Napa	CA	94501	Bill
22	34.1939	-123.258	36	67555	6117306	206	Tree of Life Charter School	P.O. Box 966	Ukiah	CA	95482	Sandi
23	34.1104	-117.3113	19	64594	1598305	285	San Bernardino Learning Center	P.O. Box 10757	San Bernardino	CA	92403	Yvonne
24	37.8938	-121.897	27	61614	6118031	305	Eagle Peak Montessori School	P.O. Box 381	Olayton	CA	94517	Michelle
25	37.9483	-121.4065	36	67281	6118006	370	Wheatland Charter Academy	P.O. Box 818	Wheatland	CA	95962	Kathy
26	38.6263	-120.3201	41	72781	6118760	412	California Montessori Instit	47116 Road	Chico	CA	95926	John
27	39.1539	-122.5238	40	65515	2253049	375	La Vie Independent Study School	P.O. Box 1461	Ukiah	CA	95482	Ana
28	20.2181	-122.773	49	70954	6193036	382	Live Oak Charter School	P.O. Box 2054	Sebastopol	CA	94952	Marguerite
29	38.7516	-121.8996	36	67415	6118523	414	Blue Oak Charter School	4415	Sebastopol	CA	94952	Mark
30	38.3044	-122.8597	49	70961	6193050	481	SanJude Charter School	487 Webster Trough Road	Petaluma	CA	95472	Mark
31	37.5547	-120.9556	50	71043	6129628	504	Whitmore Charter School	P.O. Box 307	Ceres	CA	95307	Matthew
32	34.4034	-118.0804	19	64246	1900557	411	Desert Sands Charter High School	3030 E. Palmadme Blvd.	Palmadme	CA	93550	Jerr
33	38.7309	-120.374	50	75572	6203912	477	Connecting Waters Charter School	1166 Broadway	Pacifica	CA	95667	John
34	32.5758	-117.0834	37	68330	0106799	659	Learning Choice Academy	P.O. Box 531588	San Diego	CA	92153	Katherine
26	41.7011	-125.7874	8	10082	0830039	358	Castle Rock School	301 West Vintonburg E	Crescent City	CA	95531	Dennis

Records: 44 of 44
1 2 3 4 5 6 7 8 9

Essential Data Layers

- Base map of California (county level divisions)
- Airports layer had every airport and Air Force base in California
- Cities & Towns
- Major Highways
- Data from California Spatial Information Library (CaSIL) <http://gis.ca.gov/>

Base Map

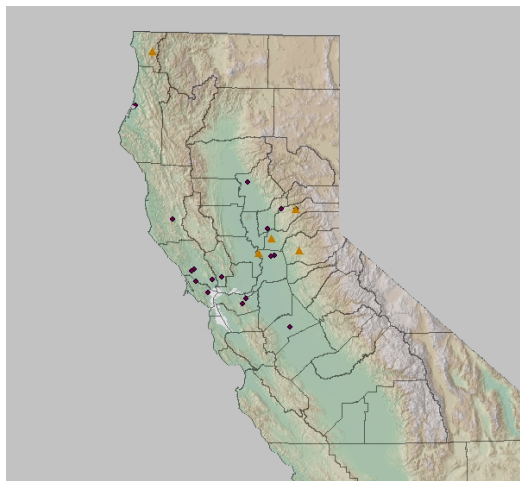


Target Schools

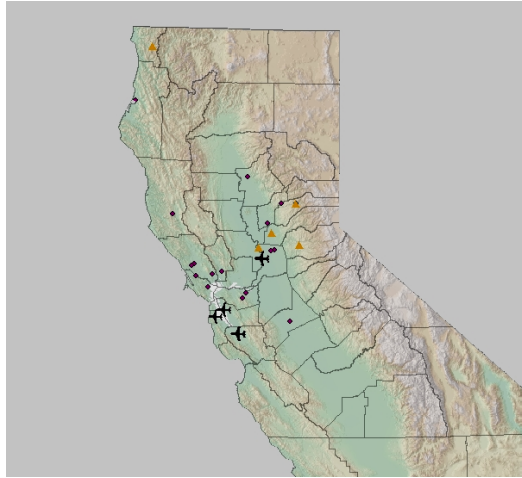


Cluster in Northern California

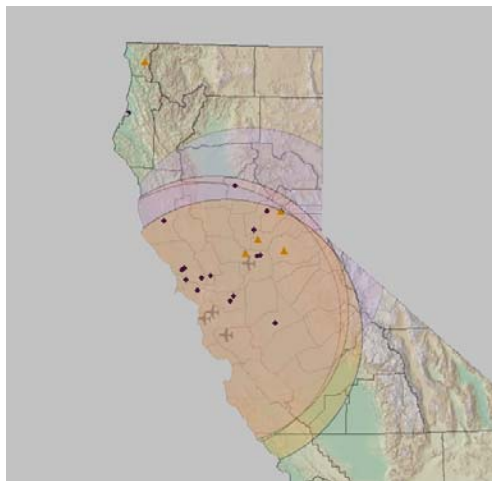
Current clients marked



Airports



Airport Buffers



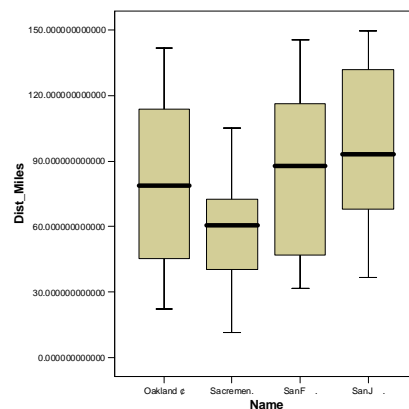
Point-Distance Tool Output

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1	0	7	103902.459256	0
2	0	16	76182.292925	0
3	0	8	65440.914828	0
4	0	22	120147.468889	0
5	0	20	116612.5649	0
6	0	5	116682.829698	0
7	0	13	73283.626502	0
8	0	0	89219.371996	0
9	0	3	19554.762830	0
10	0	18	18815.85498	0
11	0	12	24024.521850	0
12	0	25	66838.392671	0
13	0	17	59453.654840	0
14	0	2	46231.625308	0
15	0	19	168815.422264	0
16	0	14	168815.422264	0
17	0	4	97743.796489	0
18	0	10	108233.572029	0
19	0	6	108233.572029	0
20	0	21	140087.236715	0
21	1	23	116419.465605	0
22	1	7	103685.809215	0
23	1	16	75962.686930	0
24	1	8	65120.868591	0
25	1	22	120038.373976	0
26	1	20	116453.976963	0
27	1	5	116577.896966	0
28	1	13	73110.537912	0
29	1	0	89048.985476	0
30	1	3	19835.656571	0
31	1	18	19080.947287	0
32	1	12	24275.783366	0
33	1	25	67022.662271	0
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Record: 1 1 1 Show: All Selected Records (0 out of 42 Selected.) Options

SPSS Output

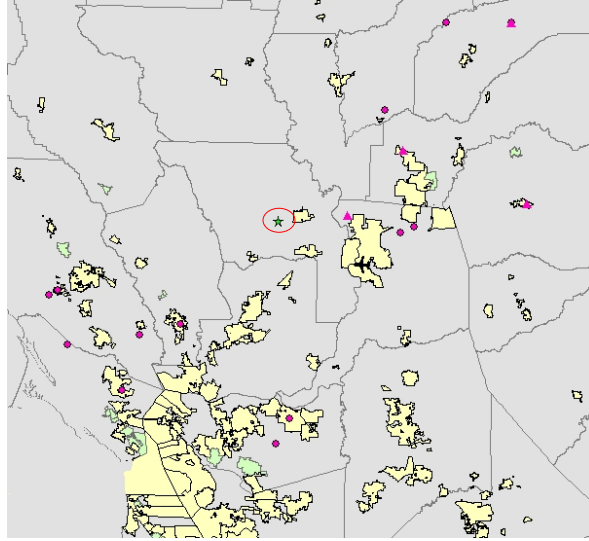
Sacramento Airport is the best choice



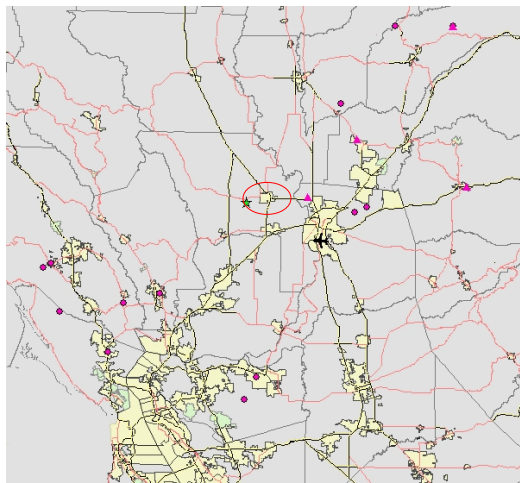
Case Processing Summary

Name	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Dist_Mi Oakland	21	00.0%	0	.0%	21	00.0%
Sacramen	21	00.0%	0	.0%	21	00.0%
SanF	20	00.0%	0	.0%	20	00.0%
SanJ	20	00.0%	0	.0%	20	00.0%

Geographic Mean Center of Schools★



Central City: Woodland, CA



Results

- 553 schools narrowed to 21 for a focused marketing campaign
- Identified a large cluster in Northern California
- Sacramento Airport identified as the airport with the best access to the 21 potential clients
- Woodland, Ca. is the most central city with good interstate and state highway access

Future Consideration

- Geo-code all charter schools
- Classify the schools according to type and grades served
- Repeat process for Oregon

Q & A

