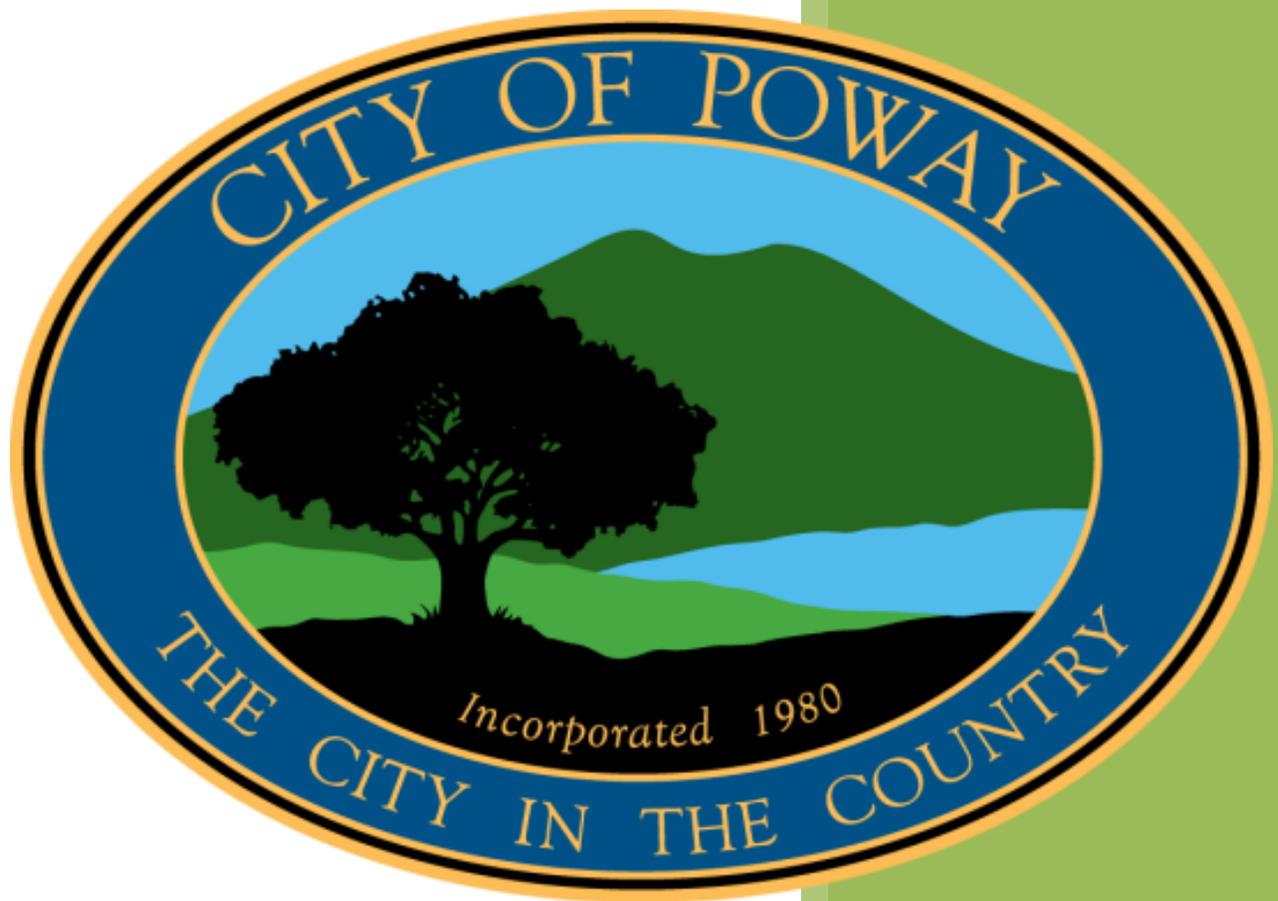




# Spring 2010

## City of Poway Shuttle Project



### Senior Experience Team 1253

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## Executive Summary

City of Poway

### Research and Development

#### Department:

Tony Winney: *Senior Management Analysis*

Steve Kuptz: *Former Economic Developer Administrator*

#### Use of Funds:

Develop a shuttle service to provide significant increases in sales tax revenue, advertise “Going Green” to the community, and reduce automotive traffic along Poway Road

**Mission:** Assessing demand and viability of a shuttle service among business park employees, automotive dealerships, and local hotels.

**The Executive Summary:** The Senior Experience research team of California State University of San Marcos students has gathered surveys from a sample size of thirty-six businesses among the business park area. The team also conducted numerous interviews with the auto association representative, Mr. Mark Abelkopf, the business park employees’ representative, Ms. Jean Bruni, as well as the Hampton Suites and Inn Poway representative, Ms. Stephanie Rodgers, to assess the demands and projected sales tax revenue among their customers in the community.

These surveys were developed through a method of contacting thirty-six businesses in the business park area and gathering a total of two hundred and forty six surveys.

In order to bring the City of Poway substantial gains in tax revenue, reduce automotive traffic along Poway Road, and advertise to the community of “Going Green,” the following key findings have been discovered:

- 1.) *Poway’s automotive dealerships and Hampton Inn & Suites are very interested in a free shuttle program. Yet the costs greatly outweigh the projected sales tax revenue on both of these aspects of the project.*
- 2.) *The interests of the business park employees are moderate, but the feasibility is lacking due to the fact that the projected sales tax revenue increase is not sufficient enough to cover the cost of the program. This is mostly due to lack of riders caused by time constraints at lunch.*
- 3.) *If alternative sources of funding were available cover the costs for the lunchtime aspect of the project, a projected optimum shuttle loop is provided for viewing.*
- 4.) *The City of Poway is projected to have significantly negative initial annual costs if no additional funding were available.*

## Key Objectives

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### *The goal of the project*

The City of Poway has a large business park with over five hundred resident businesses. This business park is located on top of a plateau slightly away from the rest of the community. This geography creates a visual and physical barrier between the business park and the shopping centers, which are located one mile north of the Poway Business Park. Therefore many business park employees are naturally drawn west towards Scripps Ranch to do their purchasing. Losing purchases to Scripps Ranch is unfavorable to Poway because the city loses the tax revenue associated with business park employees buying goods locally. As a way to fix this problem the City of Poway has an idea to provide a free shuttle service that stops at Poway shopping centers which should encourage business park employees to shop within the city limits. Therefore the goal of this project is to assess the viability of a free city shuttle service provided to business park employees (Winney, Tony. Personal communication, January-April, 2010).

### *The objectives*

In order to assess the viability of a free city shuttle service, objectives were written between the City of Poway and a sponsored team of senior business students from California State University, San Marcos. The purpose of creating objectives is to set aside an agreed upon list of questions that will be answered through data collection. These questions help reach the City of Poway's goal of assessing whether or not implementing a free shuttle program is a viable option.

These objectives are stated below:

*1. Assess the demand and viability of a free local shuttle program, which will provide service between Poway's auto dealers, hotels, businesses, and the employees located in the Business-Park.*

Objective one is the broadest of the objectives. It is the most fundamental question of this project. Therefore, it is first and foremost in the set of objectives.

*2. Evaluate the distance a Business-Park employee is willing to walk in order to get to a designated shuttle stop.*

*3. Determine the average time an employee of Poway's Business Park is willing to wait for a shuttle to arrive.*

Objectives two and three address the necessity of designing an optimal shuttle route. It is important to have a solid understanding of these variables, which pertain to determining the schedule and drop locations of the shuttle route.

*4. Identify the optimum shuttle loop, which targets the areas of the highest need and interest for stops and route of travel.*

Objective four can only be determined by computing the data derived from objective two and three. If it is impossible to create a shuttle route that fulfills objectives two and three, then this project is not viable. Therefore, objective four is one of the most critical questions to answer.

*5. Determine how many shuttles are needed to satisfy user timing needs and demand.*

Objective five is also dependent on information gathered while answering the previous objectives. This objective helps to determine the major cost of the shuttle program.

*6. Calculate the estimated cost for providing a shuttle service that fulfills all of the previously stated objectives.*

Objective six is another critical question to answer. If the estimated cost for providing the free shuttle services is too high then all other objective findings are null and the free shuttle service is not viable.

## **Methodology**

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The process required a comprehensive look at the situation and variables affecting the cost and demand of a shuttle program in Poway. While considering transportation needs of the employees of the business park, it was decided to break the project up into three aspects. The first two aspects would assess the highest peaks of demand for transportation and the activity patterns of business park employees during these two aspects. The third aspect exclusively focuses on the guests of the Hampton Inn and Suites Poway.

The first aspect addresses the idea of implementing a morning shuttle route transporting business park employees from auto service centers along Poway Road to their places of employment within the Poway Business Park. At the end of the employees' workday, a shuttle would return the employees to the auto service center for vehicle pickup.

The second aspect focused on a lunchtime route. This shuttle would transport employees from the Poway Business Park to select shopping centers along Poway Road during optimal lunch hours. It was determined this aspect is the most important of the project due to the fact that it has the most potential to create sales tax revenue for the City of Poway.

The third aspect deals with an evening route for the guests of the Hampton Inn and Suites Poway. The Hampton Inn is located in the business park. This shuttle would transport guests of the Hampton Inn to select restaurants along Poway Road and back.

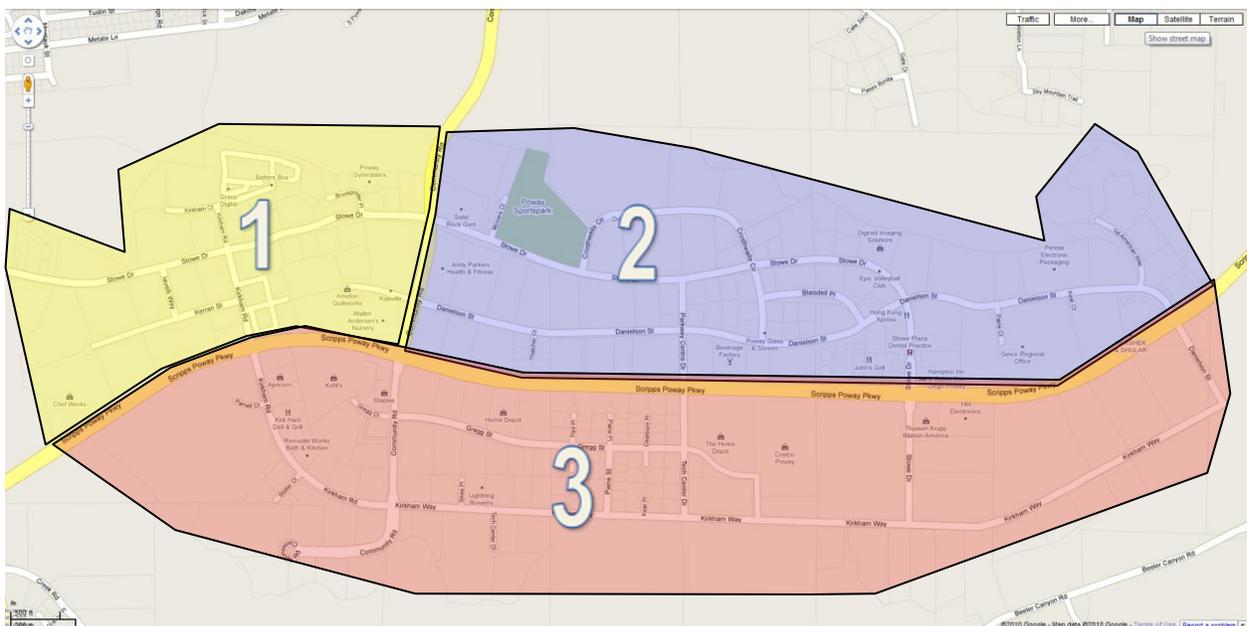
In order to complete the objectives with the focus of considering each aspect as important features to this project, it was determined data collection was necessary. We decided to obtain the data by way of implementing a survey and conducting interviews.

It was determined roughly five hundred surveys were needed to reduce our error of margin to 5% (Burns, William. Personal communication, January-April, 2010). This sample size

would be large enough to represent the entire population of the Poway Business Park; therefore, not everyone had to be surveyed (Groebner, 2006 p. 13). It was also decided it was important to distribute this survey to each company by hand. By doing this it showed how significant their participation would be to completing this project. This strategy, though important in many ways, proved to be difficult.

First, the geography of the business park was broken up into three regions. These three regions were important in assessing demand, proper wait time, amount of shuttles needed, and possible shuttle stops later on. After choosing businesses to survey in each region, contacts provided by the City of Poway were called. Many businesses were unresponsive, or took multiple calls before contact was successful. When a business would agree to take part in the survey, a specified number of physical surveys were dropped off at their business location. Upon returning to receive the surveys, some businesses did not fill out the surveys and others were incomplete. This process of obtaining the data was very difficult and took approximately six weeks to complete.

Figure # 1: Targeted Areas



Jean Bruni, the President of the Business Park Association of Poway, provided the additional help available in this process. She acted as a liaison in instances and helped distribute and collect a portion of the surveys<sup>1</sup>. Then the data was inputted into Microsoft Excel Spreadsheet to analyze the demands and needs specific to each region. The survey results were crucial to fulfilling the objectives of aspects one and two.

The interviews were vital to the data collection process as well. There were two different individuals that were interviewed, Mr. Mark Abelkopf and Ms. Stephanie Rogers.

Mr. Mark Abelkopf, the President of the Auto Dealership Association in Poway, was interviewed. His input was necessary to help understand the average sales per customer. Therefore, this helped with calculation of potential increase in sales tax revenue, which is part of the viability of the shuttle project for aspect one<sup>2</sup>.

The second interview was with Ms. Stephanie Rogers who is the Head of Sales for the Hampton Inn and Suites Poway. The facts and figures of the Inn she provided were necessary in determining the viability of a shuttle route for aspect three<sup>3</sup>.

Lastly, the data was taken without personal bias and created a comprehensive research paper of the findings. In this way the sponsors could make the best decision based on the data and answered objectives to determine whether they want to follow through with the project or not.

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<sup>1</sup> Appendix: B

<sup>2</sup> Appendix: D

<sup>3</sup> Appendix: G

## Limitations

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Along the way there were several factors that limited the scope of this project. These limitations ranged from macro environmental causes down to individual habits.

One limitation encountered was the accuracy of survey answers. It was difficult to obtain un-skewed data because many employees who were not interested in a free shuttle program would not fill out the survey. Without their valuable information the data has the potential to appear more favorable than it really is.

Another limitation to our project was discovered by outside research. This data suggested that people in Southern California prefer using their cars (Americans' Love Affair with their Cars, 2003). Therefore, there is a natural independent behavior that goes against using public transportation. Essentially, most Southern Californians want to have control over their mode of transportation. An example of this is that the business park used to have MTS routes for commuters in the morning. These routes were canceled in 2005 due to lack of use (MTS: Maps & Timetables, 2010). Empty bus stop benches remain as a reminder of this behavior.



Bias was another limitation. The data obtained from the interviews conducted came from individuals who possibly had a personal interest in a free shuttle program. Therefore, there was a slight conflict of interest while conducting these interviews. The information that was gathered from these individuals could possibly be skewed<sup>4</sup>.

The City of Poway as a business entity is extremely complex. In the short time that was spent with the sponsors, it was impossible to assess all of the goals the sponsors hoped to fulfill

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<sup>4</sup> Appendix: D and G

with a free shuttle program. Therefore, the data collected for such a program was based on the affect of the business park employees and probable increases in sales tax revenue from them.

The scope was very narrow for good reasons, but therefore also very limiting in providing the most accurate answers for the proposed project and goals.

## *Findings of Project Aspects*

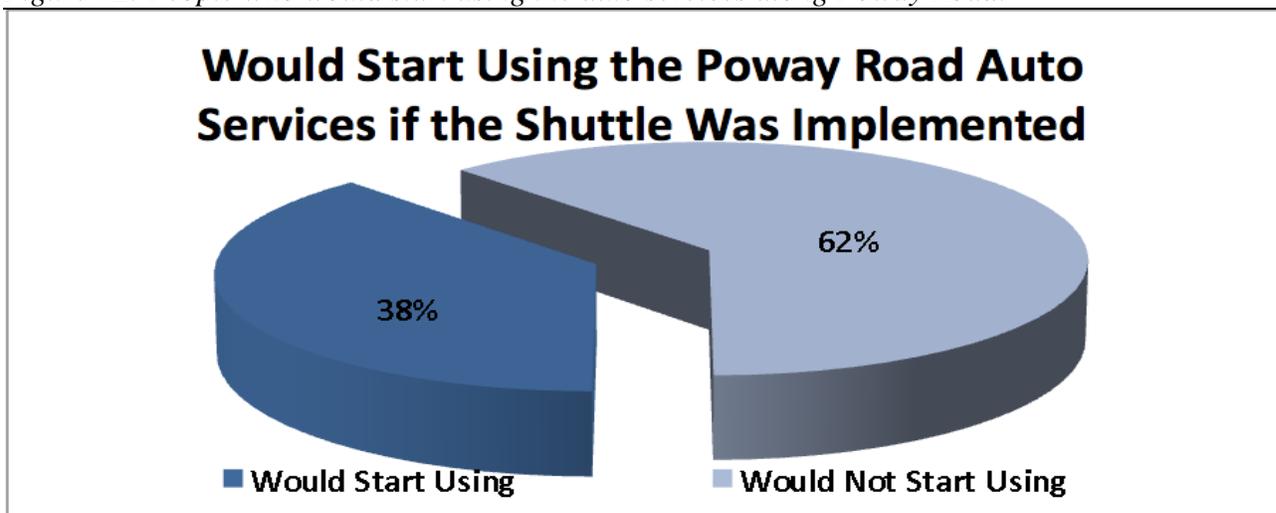
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### **Auto Services Aspect (Answers Objective 1 and 6)**

The first aspect was to assess the feasibility of implementing a shuttle route that would help increase sales tax revenue for Poway. This was through an increase use of the auto service providers along Poway Road. The increase in potential new customers was assessed through a survey that was distributed to the Poway business park employees and by contacts with Mark Abelkopf. The vital data to determine aspect one's viability was obtained through questions #11- 14<sup>5</sup>.

A chart was developed to illustrate the amount of people who would begin to use the auto services along Poway Road if a shuttle service was implemented. This service would provide the customers a ride to their work after dropping off their vehicle in the morning, so that it could be serviced. A ride back after work will be provided to pick their vehicle up. Figure #2 illustrates the people who answered the survey question #14, while only 38% of those people would start to use the auto repair services along Poway Road<sup>6</sup>.

*Figure #2: People who would start using the auto services along Poway Road.*

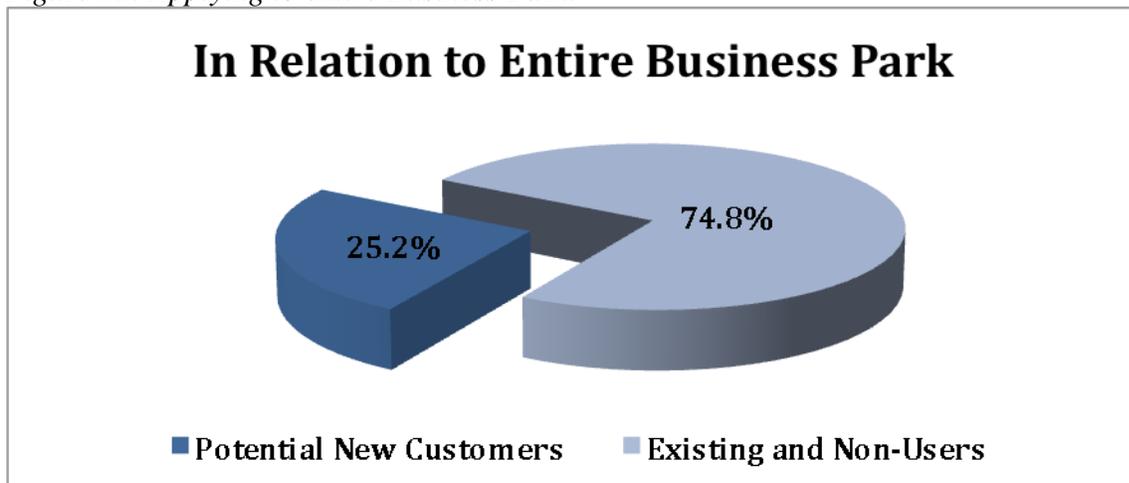


<sup>5</sup> Appendix: I

<sup>6</sup> Appendix: I

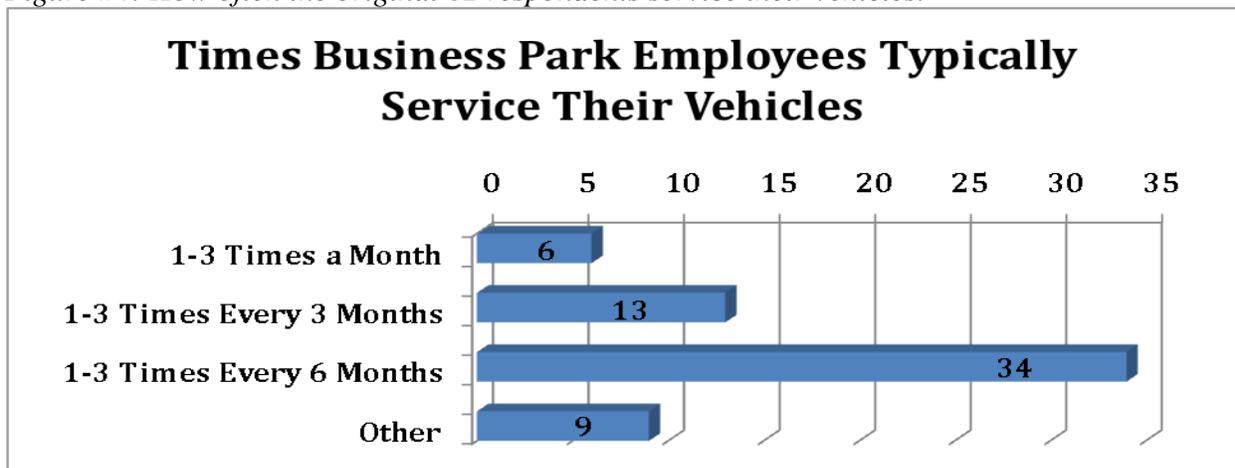
Out of the data collected it is projected that there will be a 25.2% increase in use of the auto service providers along Poway Road if a shuttle is implemented<sup>7</sup>. Applying this to the entire Business Park, with an estimated 20,000 employees, would mean that there is a potential that 5,041 employees would start to use the auto services along Poway Road. This data is presented in figure #3.

Figure #3: Applying to entire Business Park.



Of the 5,041 potential new customers the survey showed that the average person services their vehicle one to three times every six months as shown in figure 4. This finding was then averaged out to become twice every six months, or once every ninety days.

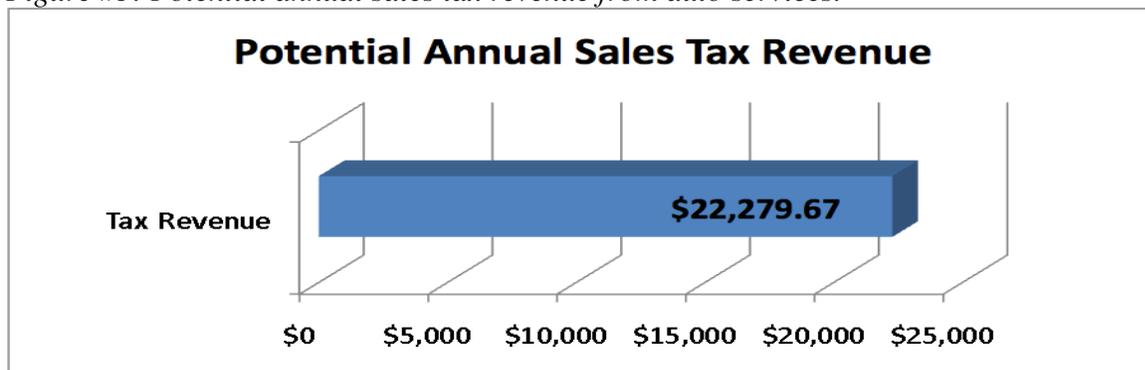
Figure #4: How often the original 62 respondents service their vehicles.



<sup>7</sup> Appendix: I

With the help of Mr. Mark Abelkopf, President of the Poway Auto Dealership Association, it was determined that the average taxable sales revenue on an average repair through the Poway auto dealerships was approximately \$153. Applying this to the preceding data, an optimistic approach was taken to calculate potential annual sales tax revenue for the City of Poway<sup>8</sup>. This amount is shown in Figure #5.

*Figure #5: Potential annual sales tax revenue from auto services.*



Overall, the feasibility of a morning shuttle service is very unlikely due to the fact that the cost to implement this service far exceeds the potential increase in sales tax revenue. The fact is that it would be better left in the hands of the auto service providers who the majority of already offer some form of courtesy service. In addition, due to the difficulty of determining when exactly these new customers would be there to use the shuttle service. Although there is a potential for 56 new customers per day on average does not mean that these people will use the service on specific days. Their use of the shuttle would be spread out through the course of three months. Also, there would likely have to be more than two shuttles that run in the morning and in the afternoon to service the entire business park, which then leads to additional increase in costs. The possibility of implementing a city run shuttle as opposed to a sub-contracted one would still mean more than one shuttle and driver, which paying the drivers alone would far exceed the potential annual revenue of \$22,279.67.

<sup>8</sup> Appendix: D

## **Lunchtime Aspect (Answers objective 1-6)**

This aspect offers the greatest potential in sales tax revenue. In addition this shuttle program can help decrease lunch time traffic along Poway Road, while giving an green image to the city as well (Kuptz, Steve. Personal Communication, January-April, 2010).

In order to determine the significant value of increased sales tax revenue of this aspect, two approaches were created. One of them was based on the most optimistic data findings of the survey. The other was based on conservative findings. Poway's portion of sales tax is currently 1% (Poway Municipal Code, 2010).

### **The Conservative Approach**

In assessing the viability of a free local shuttle program, it was conservatively determined that approximately 11.7% of the business park employees are interested and willing to ride the shuttle for their lunch period. With this approach, several different variables eliminated potential riders. Listed below are these eliminated variables:

- Employees not interested in riding a shuttle
- Employees with thirty minutes or less available for lunch
- Employees who took more than twenty minutes to eat their lunch
- Employees who are not willing to walk or wait more than a minute for the shuttle

These results would then give approximately 2,357 people in the business park willing to ride the shuttle and purchase their lunches along Poway Road, resulting in an incremental annual sales tax revenue increase of \$7,353.84<sup>9</sup>.

The approximate estimation of cost for this aspect of the project is \$144,000 for three shuttles. Therefore based off of this conservative approach the idea is not feasible.

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<sup>9</sup> Appendix: E

**The Optimistic Approach**

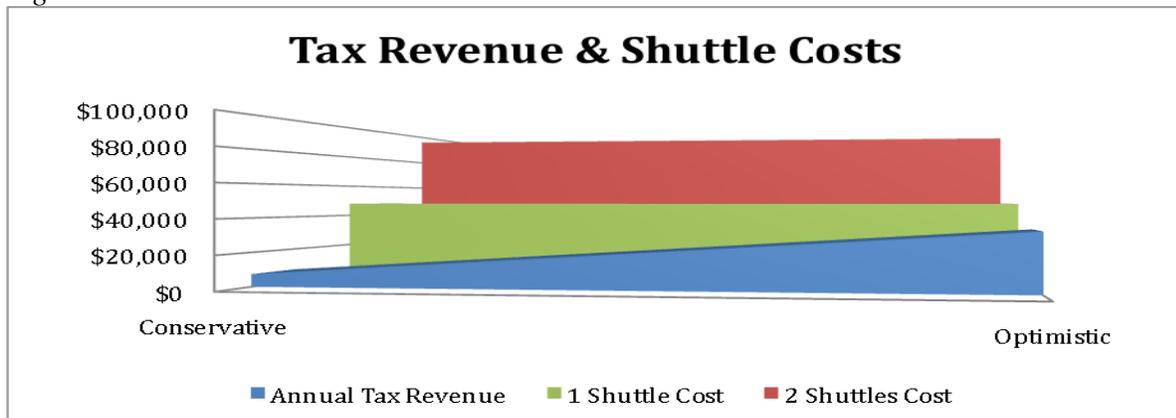
In assessing the viability of a free local shuttle program it was optimistically determined that approximately 54% of the business park employees are able to ride the shuttle for their lunch period. In this approach, only one factor eliminated potential riders. That factor was employees having thirty minutes or less for lunch.

This approach would mean an estimated 10,800 of the total employees in the business park have the potential to ride the shuttle. The survey data showed the average amount of purchases for lunch equaled six per month. In addition the average spent on purchased lunches equaled six dollars per meal<sup>10</sup>.

Optimistically, it was calculated that 10,800 employees doubled the amount of lunch purchases per month, equaling 12 purchases per month. This calculation rendered estimated an incremental sales tax increase of approximately \$33,700. The approximate estimation of cost for this aspect of the project is \$144,000 for three shuttles. Therefore, based off of this optimistic approach the idea is not feasible<sup>11</sup>.

In figure #6, the findings show the feasibility of the lunch portion alone versus the shuttle costs. In both approaches it is shown that neither approach can satisfy the shuttle cost.

*Figure # 6: Tax Revenue versus Shuttle Costs*



<sup>10</sup> Appendix: E

<sup>11</sup> Appendix: E

***Lunchtime Aspect Alternative***

If funding for the shuttle from the local businesses on Poway Road were obtained, then the City of Poway may be able to move forward with this free shuttle service. An overly optimistic hypothetical situation was created to show that the tax revenue projected could not cover the cost of the shuttle program<sup>12</sup>.

The recommended optimal route for the Lunchtime Alternative Aspect consists of seven stops, five of which are located in the business park. This route was chosen because it maximized potential riders and minimized time for the route. In the study, the findings are that logistically region two was more conducive to hosting a route based on the layout of the streets and the interest of the employees in this area. The route should start at 11:00 am and end at 2:00 pm because the findings show this is the time most of the Business Park employees take lunch. These findings are shown in figure #7.

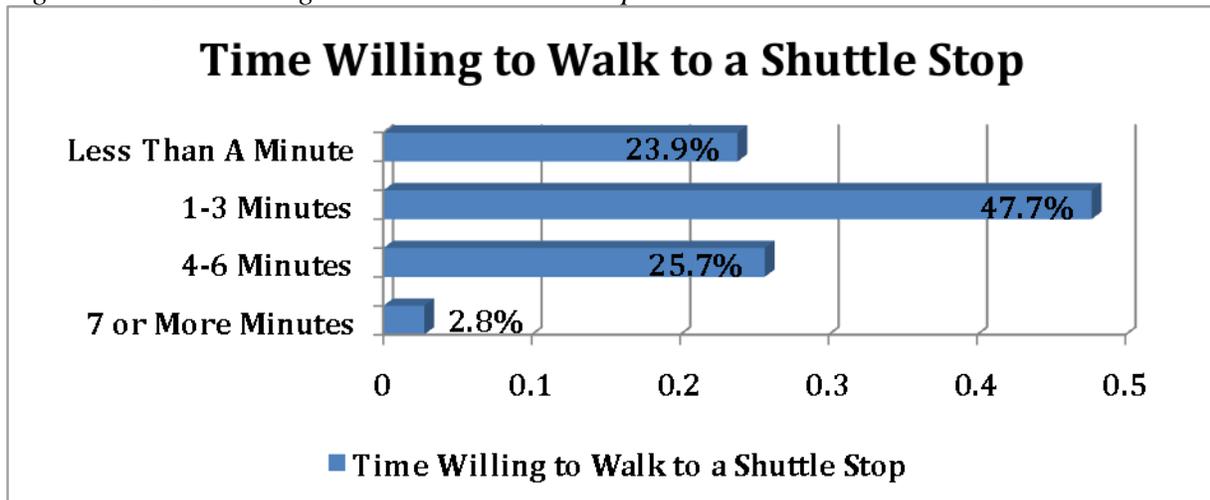
*Figure #7: Employee lunch start time.*



<sup>12</sup> Appendix: F

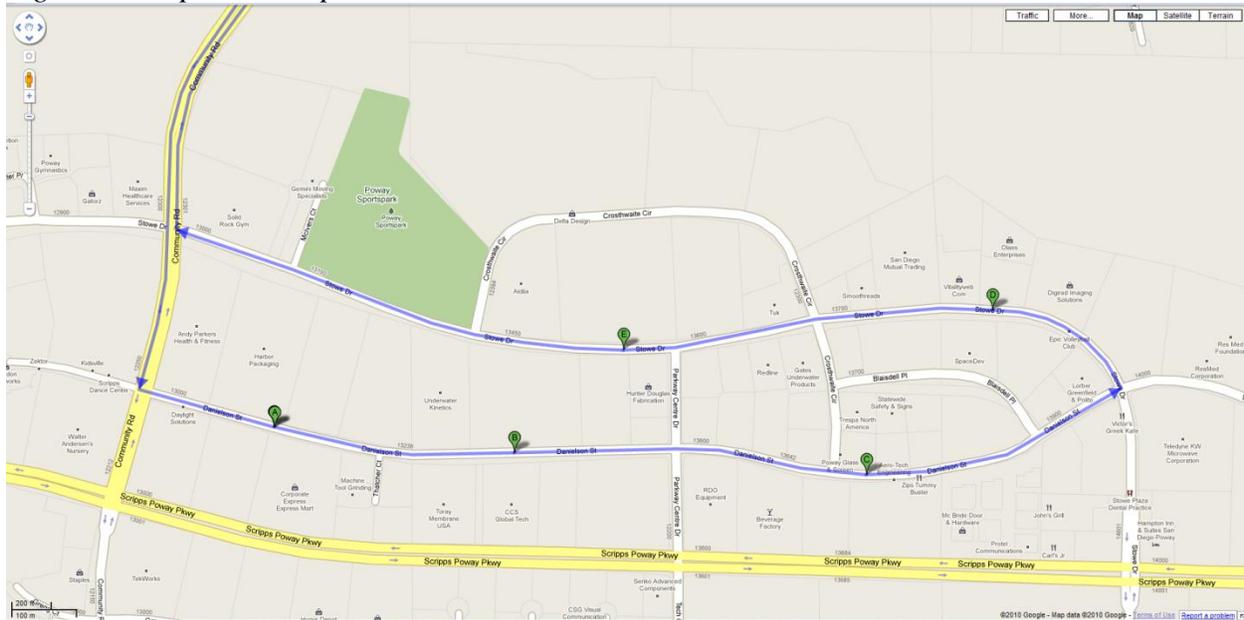
The route takes approximately 20 minutes (including seven 30 second stops and driving 35mph) to make its full loop from the business park, to the shopping centers, and back to the business park. In order to keep costs to a minimum, it is recommended to have one shuttle bus that has scheduled stops. This allows the business park employees to know when they have to be at their stop in order to get picked up; therefore, minimizing their wait time for these busy riders. The five stops that are in the business park are strategically spaced approximately a quarter mile apart so the rider will walk no more than 3 minutes to get to the closest stop (Google Maps, 2010).

Figure #8: Time Willing to Walk to a Shuttle Stop.



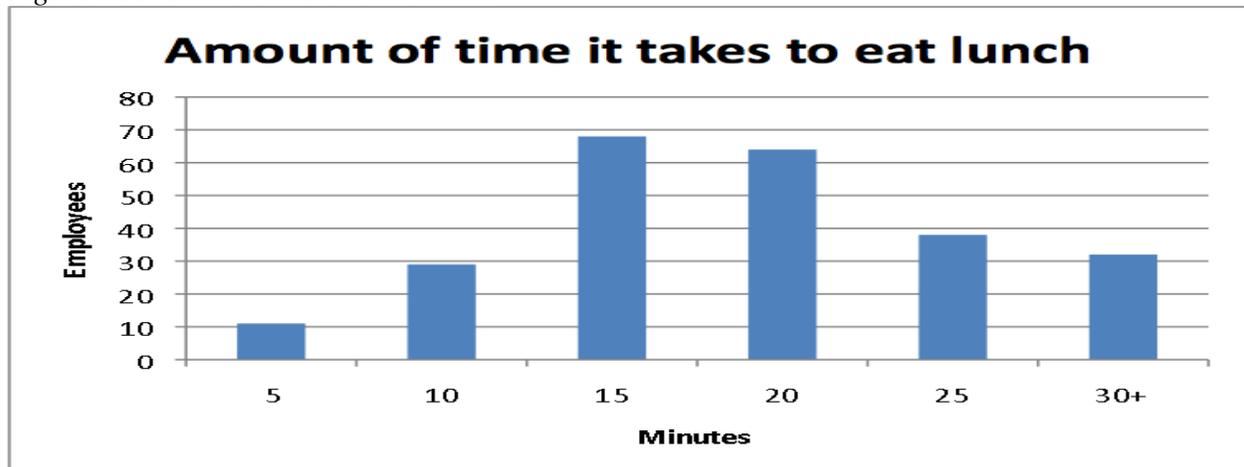
The first three stops are on Danielson Street (marker A, B, & C), since majority of the businesses in region 2 are located on this street, and two stops on Stowe Drive (marker D & E on figure #9).

Figure # 9: Optimum stops in Area 2.



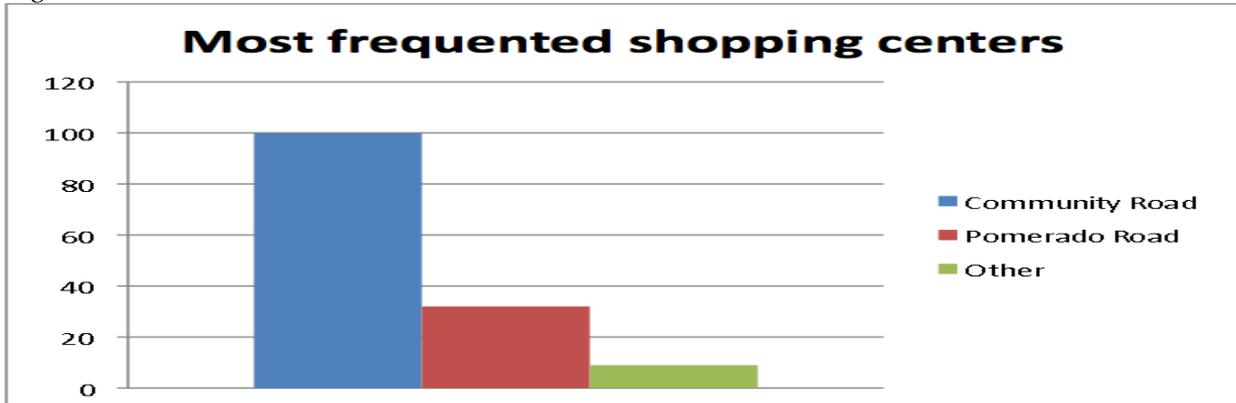
Once the business park employees are picked up, the shuttle will then go north on Community Road and turn right on Civic Center Drive towards the movie theater, and make a drop off stop between Chipotle Mexican Grill and Subway (marker F). By having a stop inside the shopping center, it maximizes the amount of time allowed for the riders to eat. It also minimizes the distance the riders will have to walk to a restaurant, since the findings show that the average employee takes approximately fifteen to twenty minutes to eat their lunch. This is shown in figure #10.

Figure #10: Time it takes to eat lunch.



The shuttle’s next stop will be in the adjacent shopping center in front of Round Table Pizza (marker G), and the shuttle will get there by avoiding the traffic congestion on Poway Road by going onto Midland Road. In the survey, it was discovered that these two shopping centers are the most popular centers during lunchtime. This is show in figure #11.

Figure #11: Most visited areas.



After the riders are dropped off, the riders will have approximately 20 minutes before the shuttle will return to pick them up. From the time the riders step onto the shuttle from work, to stepping out of the shuttle to work, approximately 40 minutes would have passed by (10 minutes to drive down, 20 minutes to eat and pick up, and 10 minutes to drive back up).

Figure #12: Optimum Stops in Poway Road’s Shopping Center.



## **Hampton Inn Guests Aspect (Answers objective 1 & 6)**

Poway's Business Park has had a recent addition in the form of a New Hampton Inn and Suites. The Inn has 108 rooms total, and has played an important role in the housing of business men and women who come to town for meetings (Kuptz, Steve. Personal communication, January-April, 2010).

On the weekends, it has openly welcomed vacationers and occasional sports teams. One of the major setbacks the hotel has experienced is in the amenities department. The hotel does not have a restaurant, so guests are forced to find their own meals.

The City of Poway had the idea of an evening route to take Hampton Inn guests down to restaurants along Poway Road. The hopes of the city are that the incremental sales tax revenue increase as a result of Hampton guests purchasing dinner would exceed the cost of the shuttle. If the increase in sales tax happened to be more than the cost, the idea would be seen as viable, and thus would most likely make sense (Kuptz, Steve. Personal communication, January-April, 2010).

Some of the stats that were required in order to assess whether or not this would be a viable option had to do with occupancy rates and a ballpark percentage of guests that showed up without a vehicle. Ms. Stephanie Rodgers, the head of sales at Hampton Inn and Suites Poway, was contacted via email and through various phone conversations. She stated they experience about an 80-90% occupancy rate Monday through Wednesday. The rest of the week, the occupancy rate drops off a bit. Occasionally, the Inn will sell out completely. Ms. Stephanie Rodgers claims 80% of the Inn guests show up without a vehicle, and a large volume of guests have inquired about a shuttle service (Rodgers, Stephanie. Personal interview. 5 April. 2010).

The calculations for viability of a shuttle route that would run between 6pm and 9pm were calculated optimistically. The thinking behind the calculations was to see if the most generous of calculations could add up to the annual cost of one shuttle<sup>13</sup>. The most optimistic of calculations puts the annual sales tax revenue generated for the City of Poway by this route at about \$7,100. The cost of one shuttle contracted for a year of service would cost the city approximately \$48,000<sup>14</sup>.

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<sup>13</sup> Appendix: E

<sup>14</sup> Appendix: C

## Conclusions

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In conclusion, the findings prove that in each variable aspect there would be significant losses annually for the City of Poway if they were to assume full cost of the shuttles. In the following table, Figure # 13, shows the estimated annual sales tax revenue that the City of Poway will collect. In the auto services aspect, there would be an estimated total loss of \$25,700 for one shuttle. The lunchtime aspect is the most important aspect of the project but it also possesses the most incremental loss for the shuttle service in losing an estimated \$110,300 annually. Aspect three also shows a loss in an estimated \$40,900 annually.

*Figure # 13: Estimated Annual Total Sales Tax Revenue.*

	<b>Minimum Shuttles Needed</b>	<b>Estimated Revenue Increase</b>	<b>Estimated Cost</b>	<b>Profit/Loss</b>
Aspect One (Auto Repair)	1	\$22,300	\$48,000	-\$25,700
Aspect Two (Lunchtime)	3	\$33,700	\$144,000	-\$110,300
Aspect Three (Hotel Guests)	1	\$7,100	\$48,000	-\$40,900
<b>Totals</b>	<b>5</b>	<b>\$63,100</b>	<b>\$240,000</b>	<b>-\$176,900</b>

It has been concluded that the total feasibility of this project of all three aspects does not exist at this time. The projected incremental annual sales tax revenue increase does not cover the cost of such a project even in the most optimistic approaches.

## *Recommendations*

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After thorough evaluation of the objectives, our best recommendation would be for the City of Poway to create a privileges card for all Business Park employees. This privileges card will entitle the holder to a specified percentage off all retail and service based businesses in Poway that are willing to participate.

There would be two major efforts needed to implement this plan. First, all retail and service based businesses would need to be contacted in order to assess the participation level. This implementation would gauge which businesses are willing to participate in giving advertising deals such as discounts and promotions.

The second effort would be that all Business Park employees would need to be issued a privileges card specifically for them and only them. This card would entitle the Business Park employees an incentive to do their shopping in Poway Shopping Centers rather than elsewhere. This recommendation should encourage sales tax revenue to increase greatly in the city limits, while boosting the sales of local businesses as well.

## *Appendix*

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### **Appendix A: City of Poway**

Address:

City of Poway

13325 Civic Center Drive

Poway, California 92064

Development Services

(858) 668-4600

<http://poway.org/Index.aspx?page=1>

### **Appendix B: Survey Returns**

*Hard copies = 191/900 received from drop off surveys*

*Email surveys (assisted by Jean Bruni) = 55/200*

## Appendix C: Shuttle Pricing Quotes

### Coach of America Quote

#### Primary Service – Lunch shuttle

- 3 hours of service per day (Monday thru Friday – 5 days per week)
- 3 routes to be provided
- 3 to 6 shuttles total – mini-coaches to be utilized (24 to 30 passenger capacity each)

It is industry standard for there to be a 4 hour minimum for any shuttle transportation service. The retail cost for the service outlined above would be approx. \$400.00 (per shuttle)

Coach America offers specialized discounted pricing for multiple vehicle contracts and for contracts signed for minimum 1 year duration.

The specialized rate offered would depend on more details. The main details to consider are:

1. Specific number of vehicles
2. # of days of service per week, day, year
3. duration of contract (minimum 1 year)

#### Optional Services – Auto Circle and Hampton Inn dinner shuttles

The same 4 hour minimum rate would apply for these additional shuttle services.

If there is an option to tie the lunch shuttle service with either of these additional shuttle services, it may save in cost. To consider tying these services, there cannot be a conflict with or overlapping of shuttle times. i.e. if the lunch shuttle service runs 3 hours, from 11.00 am until 2.00 pm, and the dinner shuttle service runs from 6.00 pm until 10.00 pm instead of charging a 4 hour minimum for each shuttle period (per shuttle), there may be a flat rate offered from 11.00 am until 10.00 pm. Often times, this flat rate is less than the total cost for two 4 hour minimum shuttle periods.

The pricing given above is based on shuttle provision with existing vehicles in our fleet. Currently, Coach America operates a fleet of 9 mini-coaches ranging in capacity from 24 to 30 PAX. We do have some other contractual obligations at this time, so it may not be possible to accommodate as many shuttles as needed with our existing. If it is to be determined between Coach America and the City of Poway that new vehicles need to be purchased to operate this contract, the cost for the service may vary.

# of Shuttles	Price per Daily Shuttle	Days Operating a Year	Total Annual Cost per Shuttle
1	\$400	260	\$104,000

North County Transit District Quote

In order to run two buses for three hours at lunch, they would be out of the garage four hours total. Two buses at four hours each is eight hours a day of service.

Multiply that times 260 weekdays per year given the holiday calendar, and you end up with 2008 hours a year to fund.

Our base price that we pay for one hour of service is \$42 times 2008 hours equals \$84,336.

Add to that fuel costs which would be about \$12,000 per year, and your total is just over \$96,000 per year for the lunch shuttle concept.

If you want to calculate other types of shuttle services, you can calculate by figuring that buses travel about 13 to 15 miles in one hour (given that they stop a lot), and they get 6 miles per gallon, and gas is about \$3 a gallon. This is how you calculate fuel costs. All other costs are rolled into that \$42 per hour per vehicle price.

# of Shuttles	Days Operating a Year	Total Annual Cost for two Shuttles
2	260	\$96,000

Total Annual Cost per Shuttle (Est.)
\$48,000

SP Plus Transportation

**Specifications**

- Shifts include time to fuel, clean interior and exterior, administrative paperwork, etc
- Monday-Friday: AM: 4 hours (6 vehicles); Lunch: 4 hours (6 vehicles); PM: 4 hours (1 vehicle)
- Billing to be based on Hours of Operation
- Office and Storage is assumed to be accommodated by the client at no charge
- Roundtrips are assumed to be 30 minutes, including loading and unloading of passengers (6 miles roundtrip)
- Ridership: Unknown
- Vehicles: Six 26-passenger vehicles, late model, extra clean; plus one back-up vehicle, for a total of seven (7); One ADA capable

**Hourly Rate:**

- The Hourly Rate includes all expenses except:
  - Vehicle Rental (see below)
  - Vehicle Insurance (fixed fee portion; portion charged on labor is included)
  - Vehicle License & Registration
- Inclusions: Liability & General Liability Insurance; Payroll; Vacation, Holiday and Sick Pay; Payroll Taxes & Burden, Worker’s Compensation, Health Benefits; Uniform; Employment Ads; DMV Pull Notice Program; Random Drug Testing, Random Alcohol Testing; REID Employee Test and Background Checks; Training and Bus Certification; Vehicle Cleaning; and Fuel.

**Hourly Labor Rate:**

- \$35.00 per labor hour per person
- based on 300 billable hours weekly

Assumes 6 full-time drivers, 1 part-time driver, and one 40-hour on-site manager. Hourly Labor Rate increased the greater of 3% or the Consumer Price Index annually on the anniversary date. A fuel surcharge applies if average local fuel increases above \$3.50 per gallon.

**Vehicle Rate:**

- **\$2,300 per month per vehicle**
- Repair & Maintenance assumed by Standard Parking (Storage assumed to be on-site)
- Graphics include four (4) logos (19”h x 45”w); 26 seats (including driver); One ADA vehicle; freshly painted white / detailed; DriveCam to video record any “incidents” (sudden braking, sudden acceleration, accidents); & GPS Tracking System at no extra charge.

**OPTION 2:**

- Change Six (6) vehicles to Three (3) vehicles, plus One back-up; includes One ADA;
- Labor: Assume 20 hours of a manager instead of 40 hours: Total billable hours reduced to 160 per week;
- Hourly Labor Rate: \$37.00 per labor hour per person, based on 160 billable hours weekly;
- \$2,300 per month per vehicle.

# of Shuttles	Price per Shuttle per year (12*2300)	Full Time Driver/ Year (\$37*20hr/week*52week/yr)	Total Annual Cost per Shuttle
1	\$27600	\$38,480	\$66,080

## Appendix D: Auto Repair Aspect

We went ahead and calculated everything overly optimistic to see if the calculations could come near what the projected cost would be.

The formula for sales tax revenue calculations were figured with the following estimated values based on survey findings:

1. 20,000 Estimated total Business Park Employees
2. 25% of potential auto dealership customers from the business park.
3. An estimated one visit every 90 days to the auto dealerships.
4. \$153 of estimated average purchase per auto dealership customer (per Mr. Mark Abelkopf).
5. The City of Poway receives 1% sales tax.
6. 260 business days per year

### Calculations:

62 out of 246 surveys are potential auto dealership customers

The following were filtered out from survey are:

- Those who did not answer Question # 14

Optimistic Approach	
62 out of 246 surveys = 0.252033	= 25.2%
25.2% of 20,000 business park employees	= 5,041 Potential New Customers
5,041 divided by an average of 90 days	= 56 Potential Average New Customers Per Day
\$153 x 56	= \$8,569 Average Daily Spending
\$8,569 x 1% Poway Tax Revenue	= \$85.69 Total Taxable Revenue Per Day
= \$85.69 x 260 business days	= 22,279 in total annual sales tax revenue.

## Appendix E: Lunchtime Aspect

It is estimated that a minimum of three shuttles are required in order for the shuttle program to service the whole business park. There would be one shuttle for each region.

Optimistic and Conservative Approaches:

Optimistic Lunch (Upper Bound)		Conservative Lunch (Lower Bound)	
10,813	Feasible Riders	2,357	Feasible Riders
\$36	Meals/person/month	\$36	Meals/person/month
8.667	Yearly business months	8.667	Yearly business months
1%	Poway Sales Tax Revenue	1%	Poway Sales Tax Revenue
<b>\$33,736.56</b>	<b>Total Annual Tax Revenue</b>	<b>\$7,353.84</b>	<b>Total Annual Tax Revenue</b>

### Calculations:

\$6 per meal x 6 purchased meals per month = \$36 meals/person/month

260 business days per year / 30 days per month = 8.667 yearly business month

# of Lunchtime Shuttles	Estimated Costs
1	\$48,000
2	\$96,000
3	\$144,000

## Appendix F: Lunchtime Alternative Aspect

### Lunchtime Alternative Aspect Figures

#### North County Transit District quote

\$96,000/yr for two 26-passenger shuttles running three hours a day

Since our optimal route only required one shuttle, the cost of the shuttle will be \$48,000/yr (half of NCTD quote).

The formula for sales tax revenue calculations were figured with the following hypothetical scenarios:

1. The shuttle was filled to max capacity every loop.
2. Every rider spent an average of \$6 per meal.
3. The shuttle runs 260 business days a year. (Monday – Friday, except Holidays)

#### **Calculations:**

1. Shuttle runs three hours a day.
2. Shuttle runs three loops every hour.
3. The City of Poway receives 1% sales tax.

26 passengers x \$6 per meal = \$156 revenue per 1 loop of the shuttle

\$156 revenue per loop x 9 loops per day = \$1,404 daily revenue

\$1,404 daily revenue x 260 business days = \$365,040 annual revenue

\$365,040 annual revenue x 1% Poway sales tax = \$3,650.40 Poway sales tax revenue

Poway Sales Tax Revenue		Cost of the Shuttle		
\$3,650.40	-	\$48,000	=	<b>-\$44,349.60</b>

## Appendix G: Hotel Guests Aspect

The formula for sales tax revenue calculations were figured with the following hypothetical scenarios:

1. The Hampton Inn and Suites Poway had 90% occupancy rates 7 days a week, 365 days a year.
2. Every single person in the Inn took the shuttle every night and purchased an average \$20 meal at a restaurant.

### Calculations:

1. 90% occupancy of 108 rooms with a single guest per room (the most typical scenario Mon.-Thurs. business men and women) comes out to approximately 97 guests.
2. The City of Poway receives 1% sales tax.

97 Guests x \$20 per night = \$1,940 spent on Poway Road per night

\$1,940 per night x 365 days per year = \$708,100 spent on Poway Road annually by Hampton guests

\$708,100 annual sales X .01 sales tax kept by Poway = \$7,081

## Appendix H: Industry Report

### *About Poway*

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The City of Poway is a municipal government, not a business. Our contacts are Tony Winney and Steve Kuptz, Economic Development Administrators for the City of Poway.

All businesses in the City of Poway are required to file for the North American Industry Classification System Code.

Poway currently has a population of just over 50,000 people, and it incorporated into a full city in 1980.(1) Before, it was considered an unincorporated area of San Diego County, and thus maintained by the County. Poway is located in the north eastern region of San Diego County.

One of the unique qualities that the city has is a large portion of its 39 square mile area is protected as open land.(1) This has kept developers from coming in and taking up its natural beauty. Poway is a quaint city, but is well known to be largely an upper-middle class community. Apartments and single family homes are always available, but the city renters enjoy a very low 2% vacancy rate.(1)

Thousands of jobs call Poway home. The Business Park (approximately one mile south of Poway's main retail on Poway Road) is home to nearly 20,000 jobs itself.(1) In late 2008, early 2009, General Atomics Aeronautical Systems Inc relocated its nearly 2,000 jobs from Rancho Bernardo to the Business Park in Poway.(3) GA-ASI is just one example of the many high tech companies that call Poway home.

Financial statements available for 2007 show Poway brought in just over \$26 million in taxes.(2) In 2008, just over \$27 million was brought in by way of taxes. It should be noted, the bulk of tax revenue comes in the form of property taxes collected for the year. Sales tax revenue falls under the generic category of "Other Taxes" (which made up 16% of all revenue brought in for the year 2008).(2)

### Key People

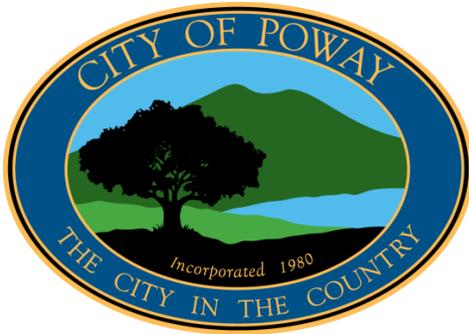
Some of the key individuals in Poway are the Mayor Don Higginson, and the 4 city council members Merrilee Boyack, Jim Cunningham, Carl Kruse, and Betty Rexford. The current Interim City Manager, Penny Riley acts as the CEO of the city. Steve Kuptz works for Ms. Riley, and could be considered an executive.(1)

## **Appendix I: Survey**





## Appendix J: Cover Letter Given to Poway Business Park Businesses



Greetings,

We would like to thank you for taking time out of your busy day to fill out our survey. The purpose of the survey is to evaluate the demand for a shuttle route from the business park area to the nearby businesses on Poway Rd. This shuttle is intended to benefit business park employees during morning hours, lunch time, and after work. Please hand out these surveys to your employees and we will pick the surveys up on March \_\_\_\_\_. If you have any further questions please do not hesitate to give us a call at (858) 442-4115 and ask for Jerel Tolentino. Thank you for your time and patience.

Sincerely,

CSUSM Student Team 1253

## *Acknowledgements*

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Dr. William Burns our academic advisor.

Mr. Tony Winney and Mr. Steve Kuptz our team sponsors for the City of Poway.

Ms. Jean Bruni the President of the Poway Business Association.

Mr. Mark Abelkopf the President of the Poway Auto Dealership Association.

Ms. Stephanie Rodgers Marketing Director of the Hampton Suites and Inn Poway.

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