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The Economic Feasibility of a Car Wash

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# **The Economic Feasibility of a Car Wash**

Conducted for Randel Stringer Partnership, LLP. and First Federal Bank of El Paso

By

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## The Economic Feasibility of a Car Wash

The following report provides an empirical analysis of the economic feasibility of a car wash to be located at the corner of Pebble Hills Boulevard and George Dieter Drive in east El Paso, Texas. The proposed facility would be located in the southeast corner of the intersection and consist of two fully automatic car wash bays, six self-serve service wash bays and eight self-service vacuum stations. The study addresses the basic question: "Will there be sufficient demand in the area to support the construction and operation of a such facility at this location at this time?" In addition, the report considers the impact of the construction and operation of a similar facility 1 1/2 miles from this location.

The first section of this report contains a description of the general location of the proposed car wash. Included in this section are details on the population of the area, traffic counts on the surrounding surface streets and the location of competing operations. The second section describes the result and conclusions of the survey process. The general operating assumptions associated with the operation of the facility are described in section three. This data includes projected customer traffic, customer expenditures and operating expenses. The final section contains the general conclusion and specific recommendation for the study as well as supporting documentation.

### The Location of the Proposed Facility

The proposed site for the new cash wash facility is located in east El Paso in a mature and fully developed neighborhood. The primary market area for the car wash consists of three census tracts (103.03, 103.04, 103.05) that, on December 31, 1999, contained 13,789 housing units and a population of 40,895. Since 1990 the growth rate in housing units and population averaged 7.5% and 5.95% respectively. More of this growth has occurred in the census tract directly east of the proposed location (tract 103.05). Map A shows the location of the proposed facility, adjacent streets, and the primary and combined market service areas.

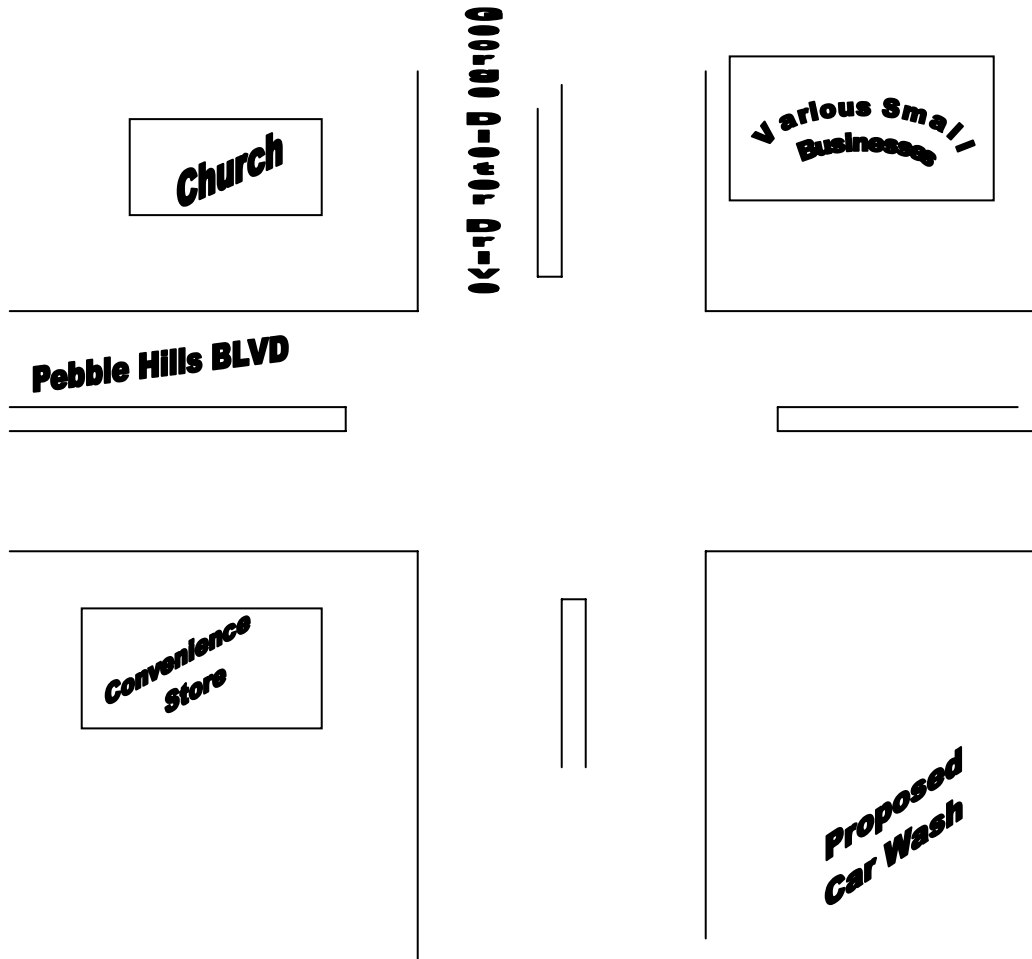
The combined, or secondary, market area of the new car wash facility consists of an area south of Montana, north of I-10, west of Zaragoza, and east of Oil Pipe Line. The area contains thirteen census tracts (43.03, 43.05, 43.06, 43.07, 43.08, 43.09, 43.10, 43.11, 103.03, 103.04, 103.05, 103.06 and 103.07). The combined market area contained 36,944 housing units and a population of 120,595 in December 1999. Over the nine years from 1990 until 1999, the population of the combined market are grew by an average annual rate of 2.7 percent with housing unit growth of 1.8 percent. Given that the population of the City of El Paso is currently 627,556, the population of the primary and combined service areas of the car wash represent approximately 6.5 percent and 19.2 percent of the City's population.

	<b>Housing Units</b>	<b>% of Total</b>	<b>Population</b>	<b>% of Total</b>
<b>Primary Market Area</b>	13,789	7.15%	40,895	6.5%
<b>Combined Market Area</b>	36,944	19.2%	120,595	19.2%
<b>City of El Paso</b>	192,864	100%	627,556	100%

Source: City of El Paso/Juarez Fact Sheet, January 1, 2000

The street traffic in the area reflects the combined market area's total population. The George Dieter Drive and Pebble Hills intersection is one of the region's busier intersections. On April 20, 1999, the City of El Paso Engineering Department estimated the twenty-four hour weekday travel through this intersection at 34,211 vehicles. Of this traffic, 20,141 vehicles, or 58.9 percent, were on George Dieter; the remainder, 14,071 vehicles, or 41.1 percent, was Pebble Hills traffic. (See the Engineer's Report in the Appendix.) Traffic comparisons with two other major intersections on George Dieter indicate the accuracy of this traffic count. Daily traffic estimates for the George Dieter/Montwood intersection and George Dieter/Montana intersection reflected similar volumes of traffic with estimates of 40,756 and 35,016 vehicles respectively. These estimates were made in April 1999; daily traffic in this area has certainly increased since these counts were made.

Given that this intersection has an average daily traffic volume, the proposed street location provides for easy access as well as visibility. The intersection construction with wide streets and dedicated turning lanes permits smooth traffic flow and for the proposed car wash facility. In addition, the proximity to the corner convenience store provides an additional attraction factor for the venture—giving the facility a complementary clientele.



Records at the City Tax Office report that there are four commercial car wash facilities in or around the primary service area of the proposed facility. A fifth facility was opened during this study, while one of the original four was temporarily closed. Although none of the five potential competitors is directly comparable to the proposed facility, each has attributes similar to the proposed operation. (See Map B for locations.) The location of the two competitors closest to the proposed location is at the intersection of Trawood and Montwood, approximately 1½ miles away. One of these car wash facilities is a single automatic process associated with a Phillips 66 gas station/convenience store. The prices for services at this facility range from \$4 per vehicle for a “Classic” wash to \$6 for the “Works”. Surveys of customer traffic for this location indicate that heavy weekend traffic with an average of four cars waiting to be washed. Weekday traffic is much lighter with no waiting and cars arriving at approximately 10-12 minute intervals.

At the same intersection, a new full service car wash has recently opened. This facility is a full service, single automatic operation. The price for their basic service is \$8.75. Weekend customer traffic at this business is very heavy—ranging from 5-7 cars waiting for service. Weekday traffic appears lighter with little or no wait. However, since this is a new operation, customer traffic should gradually increase.

Also in the primary market area is a single automatic cash wash located at Saul Klienfield and Montwood, approximately 2½ miles from the site of the proposed location. Prices at this facility range from \$3 for an “Essentials” wash to \$6 for the “Works”. This operation is also connected to an existing business, a gas station. The observed traffic at this location is also considered light with both weekday and weekend traffic yielding only single vehicular traffic.

At Zaragoza and Montwood, approximately 4 miles from the proposed site, is a second Phillips 66 automatic car wash. This operation is similar to competitor at Montwood and Trawood with similar vehicular traffic. However, at two times during the survey process was this operation closed or “out-of-order”. Prices at this location range from \$4 for the “Express” wash to \$7 for the “Ultimate”.

The competitor with self-service operations similar to the proposed site is located at Village Gate and Zaragoza, approximately four miles away. This facility has six self-service wash bays, six vacuum posts and six drying bays. Prices for the self-service wash are \$1 for four minutes with each additional minute costing \$0.25. Drying was an additional \$0.50. Weekend traffic at this location is very heavy with considerable waiting.

The proposed cash wash operation faces some competition in primary market area. None of this competition is a direct competitor to the proposed operation in that they offer only portions of the services that the new car wash will provide. Also, the scale of the proposed operation will provide an additional incentive to prospective customers. By providing multiple automatic washes and a larger number of self-service bays, customer wait times will be lower and, thus, will attract and maintain a large portion of the impulse clientele. This convenience factor alone will make the facility the most popular self-service, car wash spot in the primary market area.

Of particular importance to this proposed operation is the pending construction of a nearby car wash facility in similar size and structure. This new business will have six self-service and one automatic car wash bays. Completion of this competitor will directly impact the number of vehicles that the proposed facility will attract.

## Survey Results

Estimating traffic counts for this project is made difficult for two reasons. First, the competing locations were surveyed over a two-week period in December 2000. A truly statistical accurate sampling process was not employed and, thus, broad conclusions about customer traffic cannot be drawn from this process. Second, car wash activity is based to some degree on weather and can be classified as seasonal. This report cannot determine whether the car wash activity during the survey period was, in any way, normal or abnormal.

The customer traffic at the five competing locations in the primary market area were observed on six different occasions over a ten day-period in early December. Two observations were made on December 2 and 3 (morning and afternoon); afternoon observations were made on December 4 and 6; and two observations were made on December 9 and 10 (morning and afternoon). Each survey observation consisted of counting customer traffic for over a fifteen-minute interval. Results of these observations are shown below:

### December 2 (10:30 AM)

<u>Location</u>	<u>Number of Customers</u>
Montwood and Trawood	6 vehicles
Saul Kleinfeld and Montwood	2 vehicles
Zaragoza and Montwood	2 vehicles
Zaragoza and Village Gate	8 vehicles

### December 2 (4:30 PM)

<u>Location</u>	<u>Number of Customers</u>
Montwood and Trawood	5 vehicles
Saul Kleinfeld and Montwood	3 vehicles
Zaragoza and Montwood	4 vehicles
Zaragoza and Village Gate	3 vehicles

### December 3 (10:30 AM)

<u>Location</u>	<u>Number of Customers</u>
Montwood and Trawood	4 vehicles
Saul Kleinfeld and Montwood	2 vehicles
Zaragoza and Montwood	5 vehicles
Zaragoza and Village Gate	7 vehicles

### December 3 (4:30 PM)

<u>Location</u>	<u>Number of Customers</u>
Montwood and Trawood	6 vehicles
Saul Kleinfeld and Montwood	4 vehicles
Zaragoza and Montwood	3 vehicles
Zaragoza and Village Gate	7 vehicles

### December 4 (4:30 PM)

<u>Location</u>	<u>Number of Customers</u>
Montwood and Trawood (Premier)	3 vehicles
Montwood and Trawood	1 vehicles
Saul Kleinfeld and Montwood	1 vehicles
Zaragoza and Montwood	closed
Zaragoza and Village Gate	4 vehicles

December 5 (4:30 PM)

<u>Location</u>	<u>Number of Customers</u>
Montwood and Trawood (Premier)	4 vehicles
Montwood and Trawood	0 vehicles
Saul Kleinfeld and Montwood	1 vehicles
Zaragoza and Montwood	closed
Zaragoza and Village Gate	2 vehicles

December 9 (10:30 AM)

<u>Location</u>	<u>Number of Customers</u>
Montwood and Trawood (Premier)	6 vehicles
Montwood and Trawood	3 vehicles
Saul Kleinfeld and Montwood	2 vehicles
Zaragoza and Montwood	closed
Zaragoza and Village Gate	9 vehicles

December 9 (4:30 PM)

<u>Location</u>	<u>Number of Customers</u>
Montwood and Trawood (Premier)	5 vehicles
Montwood and Trawood	3 vehicles
Saul Kleinfeld and Montwood	2 vehicles
Zaragoza and Montwood	closed
Zaragoza and Village Gate	8 vehicles

December 10 (10:00 AM)

<u>Location</u>	<u>Number of Customers</u>
Montwood and Trawood (Premier)	5 vehicles
Montwood and Trawood	2 vehicles
Saul Kleinfeld and Montwood	0 vehicles
Zaragoza and Montwood	closed
Zaragoza and Village Gate	10 vehicles

December 10 (4:30 PM)

<u>Location</u>	<u>Number of Customers</u>
Montwood and Trawood (Premier)	4 vehicles
Montwood and Trawood	3 vehicles
Saul Kleinfeld and Montwood	1 vehicles
Zaragoza and Montwood	closed
Zaragoza and Village Gate	7 vehicles

A review of the survey results indicates that each of the competing facilities supports a large amount of customer traffic. During peak wash periods (afternoons and weekends), these washes are operating at maximum capacity, and, due to waiting times, customers chose not to wait. Also, the additional of the new full-service wash at Montwood and Trawood did not significantly reduce the customer activity at any the above locations. Based on this survey evidence alone, it appears likely that there is unmet demand for cash wash operations in the primary service area.

The survey results will also be used to produce an estimate the potential demand for the proposed facility. The survey process also indicates that the average process time for an automatic wash is approximately 7 to 8 minutes. For the self-service facility, average bay time is 18 to 20 minutes. In December with an 8-9 hour wash day, the activity at the automatic car washes suggest that a

30-car per day assumption for the weekend may be accurate; however, weekday traffic appears much slower possibly in the range of 10 to 15 cars per day. Thus, an assumption of 22 cars per day (per bay) through the automatic car wash appears to be a conservative estimate. The only self-service car wash in the area maintains six wash bays and is constantly busy on the weekends. In fact, all the bays were occupied during each weekend survey period. However, turnover of these bays appears significantly slower than the automatic washes. The survey results indicate that, on weekends, approximately 240 cars would use the facilities six self-serve bays. Weekday usage will be considerably less than this level—at approximately 12 cars per bay, or 96 cars. Thus, a conservative estimate for average daily usage of approximately is 17 vehicles per day per bay or 102 cars. Thus, a conservative estimate of daily auto traffic would be 146 vehicles, 44 using the automatic wash and 102 using the self-serve facility. This total traffic would represent an attraction rate of 0.434 percent of total weekday traffic at the George Dieter/Pebble Hills intersection. Also, these figures would indicate that 70 percent (102/146) of customer traffic would select self-service and 30 percent (44/146) would choose automatic.

However, industry averages suggest a much higher attraction rate for car wash operations. Industry publications and operator experience indicate attraction rates of 0.75 to 1.0 percent. If an attraction of 0.75 percent, the lower end of this range, is assumed (based on a 34,211 traffic count), an average daily traffic volume of 256 vehicles would occur. This can be viewed another way as well. The traffic count based on December 2000 survey was estimated to be 148 vehicles over an 8-hour service window, or approximate 19 cars per hour. If this rate (19 cars per hour) is extended to a 13-hour service day, easily available for six months of the year in El Paso, a total daily vehicular traffic of 247 can be extrapolated. If the lower-end industry estimates of attraction are employed, daily traffic can be estimated at approximately 250 vehicles. The upper-end estimates of customer traffic exceed 340 vehicles per day. The distribution of customer traffic by estimate is shown in following table.

	Conservative	Industry Averages	
	Estimate	Lower-end	Upper-end
Vehicles per day			
Automatic	44	63	102
Self-serve	102	187	240
Total	146	250	342
Attraction Rate	0.434%	0.75%	1.0%
(Based on 34,211 traffic)			

### The Operating Assumptions

Revenue Function The operating revenue of the proposed facility will be generated from three sources: automatic car wash operations; self-service car wash activities; and self-service vacuum sales. Monthly revenue generated by the automatic car wash is defined as the number of vehicle wash multiplied by the average fee charged. First, the proposed standard fee schedule is:

Automatic Wash:	
Basic Wash	\$3.00
Super Wash	\$7.00
Self Service Wash:	
Per Wash Cycle	\$1.00
Wash Cycles Per Vehicle	2 times
Vacuum Service:	\$1.00 per cycle

Each of these prices is compare favorably with competing operations in the primary market area. Survey estimates suggest that the percentage of customers selecting the super wash is approximately 75-80 percent of total automatic traffic and that 50 percent of all traffic will use the vacuum service.

With these basic assumptions (70% self-serve, 30% automatic and 50% vacuum) and the conservative attraction rate estimate (0.424%), the preliminary estimate of average monthly revenue is \$16,748 monthly or \$200,977 annually. Details of this analysis are shown in the Table I. (Tables reflecting the higher attraction rates are shown in the appendix.)

<b>TABLE I</b>					
<b>Assumption Block</b>					
Traffic Count	34,211				
Attraction Rate	0.434%	148	Total Cars per day		
Self-Serve Percentage	70.0%				
Automatic Percentage	30.0%				
Cars per day--Self-serve	104	17	per bay		
Cars per day--Automatic	45	22	per bay		
<b>Revenue Function</b>			<b>Daily</b>	<b>Monthly</b>	<b>Annually</b>
<u>Self-Service Wash Revenues:</u>					
Number of Bays			6		
Daily Average Cars per Bay			17.3		
Price per Cycle			\$1.00		
Cycle per Wash			2		
Days per Month			30		
Self-Service Revenue per Month				\$6,236	\$74,832
<u>Automatic Wash Revenues:</u>					
Number of Bays			2		
Daily Average Cars per Bay			22.3		
Price per Regular Wash			\$3.00		
Price per Super Wash			\$7.00		
Percent of SuperWash Traffic			80%		
Automatic Car Wash Revenues per Month				\$8,285	\$99,419
<u>Vacuum Revenues:</u>					
Number of Vacuums			8		
Price per Cycle			\$1.00		
Cycles per Car			1		
Percent of Usage by Total Traffic			50%		
Vacuum Revenues Per Month				\$2,227	\$26,726
Total Revenue				\$16,748	\$200,977

Monthly and annual revenue forecasts for the industry suggested attraction rates are obviously higher. These higher estimates are shown in the following table.

	Conservative	Industry Averages	
	Estimate	Lower-end	Upper-end
<u>Attraction Rate</u>	0.434%	0.75%	1.0%
Vehicles per day	146	250	342
Revenues per Month	\$16,748	\$28,943	\$38,590
Revenues per Year	\$200,977	\$347,310	\$463,080

As these figures suggest, revenue estimates are directly proportional to the attraction rate. Given the pending completion of the similar car wash in the area, an attraction rate for the proposed facility would probably be between the conservative estimate (0.434%) and the lower-end industry (0.75%), or between \$200,977 and \$347,310 annually.

Cost Function The operating costs of a facility of this type are classified generally as either variable or fixed in nature. Variable costs are directly related to the vehicular traffic and sales where fixed costs are incurred regardless of the level of sales. Variable costs can be subdivided in this instant into utilities (electricity, natural gas, water), parts and supplies, and repairs and miscellaneous expenses. Fixed costs include insurance and taxes, labor and service, and miscellaneous. Table II provides a breakdown of these operating costs for the proposed facility under the conservative revenue forecast.

Estimates of variable costs per dollar of revenue, given in the second column, were provided by industry sources. However, the estimates for utility costs may be understated for the El Paso market. The major components of the fixed component were property taxes and insurance. Property taxes are based on a \$2.868973 assessment rate (applicable for the proposed site) and an appraised value of real and personal property on the improved site of \$418,268. Insurance expense is based on a basic coverage for liability and personal injury with minimum liability caps. Under the conservative attraction rate estimate, total operating costs are estimated to be \$9,799 per month, or \$117,592 annually. This represents 58.4 percent of the estimated total revenue under the conservative estimates. Under this scenario, the operating margin would be approximately \$6,949 monthly or \$83,385 per year, or an operating margin of 41.6 percent. Robert Morris and Associates estimate operating expenses for car washes (SIC code 7542) with annual sales of less than \$1 million to be 86.2 percent of revenues. Their estimates (shown in the appendix) are based on 115 reporting car wash operations with revenues less than \$1 million nationwide. Given this, an operating margin of 41.6 percent (100% - 58.4%) may be very optimistic. (Tables showing the operating expenses at the two higher attraction rates are shown in the appendix.)

TABLE II				
			Monthly	
		Percent	Dollar	
<u>Self-Serve Expenses</u>		<u>of Revenue</u>	<u>Cost</u>	
Electricity		9.00%	561.24	
Water/Utilities		6.00%	374.16	
Natural Gas		4.50%	280.62	
Soap, Wax and Salt		10.00%	623.60	
Parts		2.50%	155.90	
Repairs		3.00%	187.08	
Total Variable Costs for Self-serve		35.00%		\$2,183
<u>Automatic Expenses:</u>				
Electricity		16.00%	\$1,326	
Water/Utilities		6.00%	\$497	
Natural Gas		3.00%	\$249	
Soap, Wax and Salt		20.00%	\$1,657	
Parts		2.50%	\$207	
Repairs		4.00%	\$331	
Total Variable Costs for Automatic		51.50%		\$4,267
Total Variable Expenses				\$6,449
<u>Fixed Expenses</u>				
Accounting & Legal			\$250.00	
Pit Cleaning			\$200.00	
Property Tax Accrual			\$1,000.00	
Insurance			\$600.00	
Labor			\$800.00	
Miscellaneous			\$500.00	
Total Fixed Expenses				\$3,350
Total Operating Costs				\$9,799
				\$117,592

The following table provides estimates of operating revenues, cost and margins for each of the three attraction rates. (These figures exclude consideration of depreciation expense and taxes.)

	Conservative	Industry Averages	
	Estimate	Lower-end	Upper-end
Vehicles per day	146	250	342
Attraction Rate	0.434%	0.75%	1.0%
Annual Revenue	\$200,977	\$347,310	\$463,080
Annual Operating Expense	\$117,592	\$173,842	\$218,523
Operating Profit	\$ 83,385	\$173,368	\$244,557

Depreciation Tax Shield One benefit that will accrue directly to the partners of this venture is the tax benefits of the depreciation allowance on the building and equipment. The building would be depreciated over a 39-year life at approximately 2½ percent per year. With building costs of \$235,000, this will represent an annual expense to the partnership of \$5,875 over the next 39 years. The \$300,000 investment in equipment is classified as 7-year property and would be

depreciated at the rates shown in the following table. Total depreciation expense allocated to the project would be \$17,875 for years 8 through 39.

<u>Year</u>	<u>Rate</u>	<u>Depreciation Expense Equipment</u>	<u>Depreciation Expense Building</u>	<u>Total Depreciation Expense</u>
1	14.00%	\$42,000.00	\$5,875	47,875
2	25.00%	\$75,000.00	\$5,875	80,875
3	17.00%	\$51,000.00	\$5,875	56,875
4	13.00%	\$39,000.00	\$5,875	44,875
5	9.00%	\$27,000.00	\$5,875	32,875
6	9.00%	\$27,000.00	\$5,875	32,875
7	9.00%	\$27,000.00	\$5,875	32,875
8	4.00%	\$12,000.00	\$5,875	17,875

Cash Flow From Operations

The following table indicates the projected cash flow from operations for the proposed cash wash based on an attraction rate of 0.434 percent of intersection traffic—the most conservative estimate of customer traffic. (This analysis assumes an average partnership tax rate of 28 percent.) The estimated cash flows for the attraction rates of 0.75 percent and 1 percent of intersection traffic are shown in the appendix.

<b>TABLE III</b>							
<b>Year</b>	<b>Operating Revenue</b>	<b>Operating Expenses</b>	<b>Depreciation Expense</b>	<b>Operating Profit</b>	<b>Partnership Tax</b>	<b>After-tax Income</b>	<b>After-tax Cash Flow</b>
1	\$200,977	\$83,385	\$47,875	\$69,717	\$19,521	\$50,196	\$98,071
2	\$200,977	\$83,385	\$80,875	\$36,717	\$10,281	\$26,436	\$107,311
3	\$200,977	\$83,385	\$56,875	\$60,717	\$17,001	\$43,716	\$100,591
4	\$200,977	\$83,385	\$44,875	\$72,717	\$20,361	\$52,356	\$97,231
5	\$200,977	\$83,385	\$32,875	\$84,717	\$23,721	\$60,996	\$93,871
6	\$200,977	\$83,385	\$32,875	\$84,717	\$23,721	\$60,996	\$93,871
7	\$200,977	\$83,385	\$32,875	\$84,717	\$23,721	\$60,996	\$93,871
8	\$200,977	\$83,385	\$17,875	\$99,717	\$27,921	\$71,796	\$89,671
9	\$200,977	\$83,385	\$5,875	\$111,717	\$31,281	\$80,436	\$86,311
10	\$200,977	\$83,385	\$5,875	\$111,717	\$31,281	\$80,436	\$86,311
11	\$200,977	\$83,385	\$5,875	\$111,717	\$31,281	\$80,436	\$86,311
12	\$200,977	\$83,385	\$5,875	\$111,717	\$31,281	\$80,436	\$86,311
13	\$200,977	\$83,385	\$5,875	\$111,717	\$31,281	\$80,436	\$86,311
14	\$200,977	\$83,385	\$5,875	\$111,717	\$31,281	\$80,436	\$86,311
15	\$200,977	\$83,385	\$5,875	\$111,717	\$31,281	\$80,436	\$86,311
16	\$200,977	\$83,385	\$5,875	\$111,717	\$31,281	\$80,436	\$86,311
17	\$200,977	\$83,385	\$5,875	\$111,717	\$31,281	\$80,436	\$86,311
18	\$200,977	\$83,385	\$5,875	\$111,717	\$31,281	\$80,436	\$86,311
19	\$200,977	\$83,385	\$5,875	\$111,717	\$31,281	\$80,436	\$86,311
20	\$200,977	\$83,385	\$5,875	\$111,717	\$31,281	\$80,436	\$86,311

### Project Returns

The project's initial startup costs are shown below:

	<b>Cost</b>
Land Costs	\$140,000
Building Cost	\$235,000
Equipment Costs	\$300,000
Total Initial Costs	\$675,000

Given these initial costs and the projected cash flows shown in Table III, the project's estimated internal rate of return is shown below under each of the attraction rate hypotheses.

	Conservative	Industry Averages	
	<u>Estimate</u>	<u>Lower-end</u>	<u>Upper-end</u>
Vehicles per day	146	250	342
Attraction Rate	0.434%	0.75%	1.0%
Annual Revenue	\$200,977	\$347,310	\$463,080
Internal Rate of Return	13%	20%	25%

That is, based on an estimated life of twenty years and the cash flow projections under each of the three scenarios, the internal rate of return on this proposed venture will be between 13 percent (0.434 percent attraction) and 25 percent (1 percent attraction). These returns assume no further reinvestment in equipment is required over the twenty-year life and that intermediate cash flows can be reinvested at the stated internal rate of return.

### **General Conclusions**

This study attempts to assess the demand for a new car wash facility to be located at the intersection of Pebble Hills and George Dieter in east El Paso. It appears that the population and area traffic counts will support a facility of this nature in this area at this time. This analysis is complicated by the pending completion of a similar operation in the general vicinity of this project. Given this uncertainty, the best estimate of the project's cash flows and value to investors lies between the most conservative estimate of attraction (0.434 percent) and the lower industry attraction rate (0.75 percent). Thus, the projected internal rate of return for this proposal would be between 13 and 20 percent. Based on these estimates, the proposed venture will support debt service requirements and provide an adequate rate of return for investors.

**APPENDIX**

<b>Revenue Function</b>	<b>TABLE IA</b>				
Traffic Count	34,211				
<b>Attraction Rate</b>	<b>0.750%</b>	257	Total Cars per day		
Self-Serve Percentage	70.0%				
Automatic Percentage	30.0%				
Cars per day--Self-serve	180	30	per bay		
Cars per day--Automatic	77	38	per bay		
<b>Revenue Function</b>			<b>Daily</b>	<b>Monthly</b>	<b>Annually</b>
<u>Self-Service Wash Revenues:</u>					
Number of Bays			6		
Daily Average Cars per Bay			29.9		
Price per Cycle			\$1.00		
Cycle per Wash			2		
Days per Month			30		
Self-Service Revenue per Month				\$10,776	\$129,318
<u>Automatic Wash Revenues:</u>					
Number of Bays			2		
Daily Average Cars per Bay			38.5		
Price per Regular Wash			\$3.00		
Price per Super Wash			\$7.00		
Percent of SuperWash Traffic			80%		
Automatic Car Wash Revenues per Month				\$14,317	\$171,808
<u>Vacuum Revenues:</u>					
Number of Vacuums			8		
Price per Cycle			\$1.00		
Cycles per Car			1		
Percent of Usage by Total Traffic			50%		
Vacuum Revenues Per Month				\$3,849	\$46,185
Total Revenue				\$28,943	\$347,310

<b>Revenue Function</b>	<b>TABLE IB</b>				
Traffic Count	34,211				
<b>Attraction Rate</b>	<b>1.000%</b>	342	Total Cars per day		
Self-Serve Percentage	70.0%				
Automatic Percentage	30.0%				
Cars per day--Self-serve	239	40	per bay		
Cars per day--Automatic	103	51	per bay		
<b>Revenue Function</b>			<b>Daily</b>	<b>Monthly</b>	<b>Annually</b>
<u>Self-Service Wash Revenues:</u>					
Number of Bays			6		
Daily Average Cars per Bay			39.9		
Price per Cycle			\$1.00		
Cycle per Wash			2		
Days per Month			30		
Self-Service Revenue per Month				\$14,369	\$172,423
<u>Automatic Wash Revenues:</u>					
Number of Bays			2		
Daily Average Cars per Bay			51.3		
Price per Regular Wash			\$3.00		
Price per Super Wash			\$7.00		
Percent of SuperWash Traffic			80%		
Automatic Car Wash Revenues per Month				\$19,090	\$229,077
<u>Vacuum Revenues:</u>					
Number of Vacuums			8		
Price per Cycle			\$1.00		
Cycles per Car			1		
Percent of Usage by Total Traffic			50%		
Vacuum Revenues Per Month				\$5,132	\$61,580
Total Revenue				\$38,590	\$463,080

<b>Cost Function</b>	<b>Table IIB</b>			
<b>0.75% Attraction Rate</b>			Monthly	
		Percent	Dollar	
<u>Self-Serve Expenses</u>		<u>of Revenue</u>	<u>Cost</u>	
Electricity		9.00%	969.88	
Water/Utilities		6.00%	646.59	
Natural Gas		4.50%	484.94	
Soap, Wax and Salt		10.00%	1,077.65	
Parts		2.50%	269.41	
Repairs		3.00%	323.29	
Total Variable Costs for Self-serve		35.00%		\$3,772
				\$45,261
<u>Automatic Expenses:</u>				
Electricity		16.00%	\$2,291	
Water/Utilities		6.00%	\$859	
Natural Gas		3.00%	\$430	
Soap, Wax and Salt		20.00%	\$2,863	
Parts		2.50%	\$358	
Repairs		4.00%	\$573	
Total Variable Costs for Automatic		51.50%		\$7,373
				\$88,481
Total Variable Expenses				\$11,145
				\$133,742
<u>Fixed Expenses</u>				
Accounting & Legal			\$250.00	
Pit Cleaning			\$200.00	
Property Tax Accrual			\$1,000.00	
Insurance			\$600.00	
Labor			\$800.00	
Miscellaneous			\$500.00	
Total Fixed Expenses				\$3,350
				\$40,200
Total Operating Costs				\$14,495
				\$173,942

<b>Cost Function</b>	<b>Table IIC</b>			
<b>1.0 % Attraction Rate</b>			Monthly	
		Percent	Dollar	
<u>Self-Serve Expenses</u>		<u>of Revenue</u>	<u>Cost</u>	
Electricity		9.00%	1,293.18	
Water/Utilities		6.00%	862.12	
Natural Gas		4.50%	646.59	
Soap, Wax and Salt		10.00%	1,436.86	
Parts		2.50%	359.22	
Repairs		3.00%	431.06	
Total Variable Costs for Self-serve		35.00%		\$5,029
				\$60,348
<u>Automatic Expenses:</u>				
Electricity		16.00%	\$3,054	
Water/Utilities		6.00%	\$1,145	
Natural Gas		3.00%	\$573	
Soap, Wax and Salt		20.00%	\$3,818	
Parts		2.50%	\$477	
Repairs		4.00%	\$764	
Total Variable Costs for Automatic		51.50%		\$9,831
				\$117,975
Total Variable Expenses				\$14,860
				\$178,323
<u>Fixed Expenses</u>				
Accounting & Legal			\$250.00	
Pit Cleaning			\$200.00	
Property Tax Accrual			\$1,000.00	
Insurance			\$600.00	
Labor			\$800.00	
Miscellaneous			\$500.00	
Total Fixed Expenses				\$3,350
				\$40,200
Total Operating Costs				\$18,210
				\$218,523

	<b>Table IIIB</b>						
	<b>Operating</b>	<b>Operating</b>	<b>Depreciation</b>	<b>Operating</b>	<b>Partnership</b>	<b>After-tax</b>	<b>After-tax</b>
<b>Year</b>	<b>Revenue</b>	<b>Expenses</b>	<b>Expense</b>	<b>Profit</b>	<b>Tax</b>	<b>Income</b>	<b>Cash Flow</b>
<b>1</b>	\$347,310	\$173,368	\$47,875	\$126,067	\$35,299	\$90,768	\$138,643
<b>2</b>	\$347,310	\$173,368	\$80,875	\$93,067	\$26,059	\$67,008	\$147,883
<b>3</b>	\$347,310	\$173,368	\$56,875	\$117,067	\$32,779	\$84,288	\$141,163
<b>4</b>	\$347,310	\$173,368	\$44,875	\$129,067	\$36,139	\$92,928	\$137,803
<b>5</b>	\$347,310	\$173,368	\$32,875	\$141,067	\$39,499	\$101,568	\$134,443
<b>6</b>	\$347,310	\$173,368	\$32,875	\$141,067	\$39,499	\$101,568	\$134,443
<b>7</b>	\$347,310	\$173,368	\$32,875	\$141,067	\$39,499	\$101,568	\$134,443
<b>8</b>	\$347,310	\$173,368	\$17,875	\$156,067	\$43,699	\$112,368	\$130,243
<b>9</b>	\$347,310	\$173,368	\$5,875	\$168,067	\$47,059	\$121,008	\$126,883
<b>10</b>	\$347,310	\$173,368	\$5,875	\$168,067	\$47,059	\$121,008	\$126,883
<b>11</b>	\$347,310	\$173,368	\$5,875	\$168,067	\$47,059	\$121,008	\$126,883
<b>12</b>	\$347,310	\$173,368	\$5,875	\$168,067	\$47,059	\$121,008	\$126,883
<b>13</b>	\$347,310	\$173,368	\$5,875	\$168,067	\$47,059	\$121,008	\$126,883
<b>14</b>	\$347,310	\$173,368	\$5,875	\$168,067	\$47,059	\$121,008	\$126,883
<b>15</b>	\$347,310	\$173,368	\$5,875	\$168,067	\$47,059	\$121,008	\$126,883
<b>16</b>	\$347,310	\$173,368	\$5,875	\$168,067	\$47,059	\$121,008	\$126,883
<b>17</b>	\$347,310	\$173,368	\$5,875	\$168,067	\$47,059	\$121,008	\$126,883
<b>18</b>	\$347,310	\$173,368	\$5,875	\$168,067	\$47,059	\$121,008	\$126,883
<b>19</b>	\$347,310	\$173,368	\$5,875	\$168,067	\$47,059	\$121,008	\$126,883
<b>20</b>	\$347,310	\$173,368	\$5,875	\$168,067	\$47,059	\$121,008	\$126,883

	<b>TABLE III C</b>						
	<b>Operating</b>	<b>Operating</b>	<b>Depreciation</b>	<b>Operating</b>	<b>Partnership</b>	<b>After-tax</b>	<b>After-tax</b>
<b>Year</b>	<b>Revenue</b>	<b>Expenses</b>	<b>Expense</b>	<b>Profit</b>	<b>Tax</b>	<b>Income</b>	<b>Cash Flow</b>
<b>1</b>	\$463,080	\$244,557	\$47,875	\$170,648	\$47,781	\$122,866	\$170,741
<b>2</b>	\$463,080	\$244,557	\$80,875	\$137,648	\$38,541	\$99,106	\$179,981
<b>3</b>	\$463,080	\$244,557	\$56,875	\$161,648	\$45,261	\$116,386	\$173,261
<b>4</b>	\$463,080	\$244,557	\$44,875	\$173,648	\$48,621	\$125,026	\$169,901
<b>5</b>	\$463,080	\$244,557	\$32,875	\$185,648	\$51,981	\$133,666	\$166,541
<b>6</b>	\$463,080	\$244,557	\$32,875	\$185,648	\$51,981	\$133,666	\$166,541
<b>7</b>	\$463,080	\$244,557	\$32,875	\$185,648	\$51,981	\$133,666	\$166,541
<b>8</b>	\$463,080	\$244,557	\$17,875	\$200,648	\$56,181	\$144,466	\$162,341
<b>9</b>	\$463,080	\$244,557	\$5,875	\$212,648	\$59,541	\$153,106	\$158,981
<b>10</b>	\$463,080	\$244,557	\$5,875	\$212,648	\$59,541	\$153,106	\$158,981
<b>11</b>	\$463,080	\$244,557	\$5,875	\$212,648	\$59,541	\$153,106	\$158,981
<b>12</b>	\$463,080	\$244,557	\$5,875	\$212,648	\$59,541	\$153,106	\$158,981
<b>13</b>	\$463,080	\$244,557	\$5,875	\$212,648	\$59,541	\$153,106	\$158,981
<b>14</b>	\$463,080	\$244,557	\$5,875	\$212,648	\$59,541	\$153,106	\$158,981
<b>15</b>	\$463,080	\$244,557	\$5,875	\$212,648	\$59,541	\$153,106	\$158,981
<b>16</b>	\$463,080	\$244,557	\$5,875	\$212,648	\$59,541	\$153,106	\$158,981
<b>17</b>	\$463,080	\$244,557	\$5,875	\$212,648	\$59,541	\$153,106	\$158,981
<b>18</b>	\$463,080	\$244,557	\$5,875	\$212,648	\$59,541	\$153,106	\$158,981
<b>19</b>	\$463,080	\$244,557	\$5,875	\$212,648	\$59,541	\$153,106	\$158,981
<b>20</b>	\$463,080	\$244,557	\$5,875	\$212,648	\$59,541	\$153,106	\$158,981

**Map A**

**Map B**