

APPENDIX F-E

Barstow Study – Economic Impact of DesertXpress

Potential Economic Impact of DesertXpress On the City of Barstow



by
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Executive Summary

With the DesertXpress high speed rail link apparently poised to move ahead, the City of Barstow has raised important concerns about the system's economic impact on the community. This analysis is intended to be an independent look at the impacts.

Note: In all cases below, impacts are measured as if they were occurring in 2009. This is the year for which all factors in the analysis were derived including variables like traffic, jobs, passengers, and traveler based retail spending.

Using the methodology outlined below, this analysis estimated the significant positive impact that Barstow would feel during the 2012-2014 construction period for DesertXpress. That work relied on UNLV Professor Thomas Carroll's excellent analysis that used IMPLAN methods similar to those in this report to estimate job and payroll generation throughout San Bernardino and Clark counties. The effects on Barstow would take place because the city is the closest location to where much of the construction will occur. This would be especially true on the 113 mile span from Barstow to Primm, Nevada. Those impacts were estimated at:

- An annual average of 18,361 direct, indirect and induced jobs in San Bernardino County during the three year construction period. Of these, an annual average of 1,600 jobs were estimated to occur in the greater Barstow area. That would be an increase of 15.3% over its 2009 job base of 10,463.
- An annual average of \$1.23 billion of direct, indirect and induced payroll in San Bernardino County during the three year construction period. Of this, an annual average of \$107 million was estimated to occur in Barstow. That would represent a 22.6% gain from the city's base 2008 income level.

In the longer term, the operation of the DesertXpress could have a positive impact on Barstow because the city's labor force includes many people with railroad related skills. That is the case because BNSF operates a major locomotive repair and switching yard in the city. It would be expected that people familiar and skilled in the sector would be among those hired to maintain the DesertXpress equipment from its Victorville hub. The impact would begin when the system starts up with 361 workers and continue when it reaches its full operation with 463 workers.

Exhibit 22 (re-shown).-Summary of Economic Impacts of DesertXpress Diversion Barstow 2009 or Full Operation (Year 0: 2017)

Impact	Loss	Base	% Loss
Economic Activity	\$41,613,859		
Job Activity	542	10,463	-5.18%
Income	\$21,738,559	\$473,339,937	-4.59%
Sales Taxes	\$387,564	\$5,231,016	-7.41%
Property Taxes	\$21,706	\$1,300,598	-1.67%

Meanwhile in 2009 terms, this analysis found that when the high speed system is in its first fully operational year (2017), it would have had the following impacts shown in Exhibit 22 from the analysis:

- \$41.6 million of the funds that would otherwise have flowed into the city's economy because of retail purchases by Las Vegas bound travelers would be lost.
- 542 of the 10,463 jobs in the greater Barstow area would be lost or -5.18%.

- \$21.7 of the \$473.2 million in income in the city would be lost or -4.59%.\$387,564 of the city's \$5.2 million in sales taxes would not be collected or -7.41%.
- \$21,706 of the city's \$1.3 million in property taxes would not be collected or -1.67%.

While these are negative impacts, they do not constitute the devastating impact and urban decay city officials worry will occur based upon their comments on the supplementary draft of the Environmental Impact Report for DesertXpress.¹ Their letter cited the following potential losses:

- 2,295 lost jobs compared to the 542 documented in this analysis.
- \$1,432,342 million in lost sales taxes compared to the \$387,564 documented here.
- 50% to 55% loss in real estate values compared to the lack of connection between job and property value changes explained here.

Even looking out to the year 2024 (*after 7-years of full operation*), when the DesertXpress system will have had the chance to grow faster than freeway travel to Las Vegas without it, the negative impacts are more modest than these levels:

- 636 of the 10,463 jobs in the greater Barstow area would be lost or -6.07%.
- \$454,492 of the city's \$5.2 million in sales taxes would not be collected or -8.69%.

Exhibit 28 (re-shown).-Summary of Economic Impacts of DesertXpress Diversion Barstow 2009 or Full Operation (Year 7: 2024)			
Impact	Loss	Base	% Loss
Economic Activity	\$48,800,090		
Job Activity	636	10,463	-6.07%
Income	\$25,492,555	\$473,339,937	-5.39%
Sales Taxes	\$454,492	\$5,231,016	-8.69%
Property Taxes	\$25,454	\$1,300,598	-1.96%

How these great differences between this analysis and the city's concerns came to be was not the subject of this report. Rather, its intent has been to independently research and document the anticipated impacts of DesertXpress on Barstow. It is therefore important to understand the steps and data sources used in this analysis:

- As an outlying economy, the report analyzed the 2009 role that retail sales play in Barstow's economic base. In particular, it examined the levels of spending in those retail sectors in which funds were clearly flowing into the city from the outside world (*service stations, apparel, eating & drinking, general merchandise, food stores*).
- Since Barstow residents also shop in these sectors, estimates were made of local purchases in them. That work relied heavily on household spending patterns by sector from the U.S. Census for western consumers. Also, a newly created UCLA database allowed estimates of commercial trucking purchases at service stations. With these eliminated, a base was set of the 2009 impact of travelers on the city's retail economy. All other impacts were measured against that base.
- Using 2008-2009 data from Caltrans as well the URS study of DesertXpress, estimates were made of the number of travelers in private vehicles and buses who pass through

¹ Comments on the Supplemental Draft EIR by City Barstow, October 14, 2010

Barstow because of the I-15, I-40 and SR-58 freeways. Together with the data on sales in traveler-dependent retail sectors, this allowed calculation of the average per capita spending of travelers who could be impacting the city's retail economy.

- Using the Caltrans data, as well as the URS study of DesertXpress, an estimate was made of passenger travelers involved in 2009 trips to or from Nevada, as well as the share of those trips that likely involved people going specifically to Las Vegas. Importantly, it was the share of these travelers that would be reduced because of DesertXpress.
- This analysis started with the URS percentage of travelers in private vehicles that would be diverted from Las Vegas to DesertXpress of 20.3%. However, this was lowered by 10% to 18.3%, in accordance with the findings of peer reviewer Steer Davies Gleave supported by peer reviewer Cambridge Systematics that URS overestimated diversion in hours when no trains would be running.
- Day travel to Las Vegas that would be induced and captured by DesertXpress was not included in this analysis since it would not represent a decrease from current travel patterns. That was also the recommendation of Cambridge Systematics.
- The 22.0% estimate of bus traveler diversion by URS was used.
- These calculations allowed estimates of the sales by retail sector that would have been lost to Barstow with DesertXpress in its year 0 or 2017 fully operational mode.
- Given the loss of funds from Barstow's economy base calculated, the standard Implan model used by economists for outlying economies was used to estimate the full direct, indirect and induced effects on economic activity, jobs, income, sales and property taxes of DesertXpress had they occurred on the city in 2009. This was used as the model for the year 0 (2017) level of impact. The results were re-shown in the Exhibit 22 above.
- Prior to that, there would be two ramp-up years in 2015 and 2016, as people become aware of the high speed rail system. The lower levels of impact in those two years were also calculated.
- Looking longer term, traffic data from DMJM Harris, AECOM allowed the calculation that DesertXpress's customer base is forecasted to grow faster than freeway traffic along the I-15 from Barstow to Nevada. Using the I-15 growth factors found by these traffic consultants for a 17 year period, and comparing them with the estimates of the DesertXpress's rate of customer growth, led to calculations of the growing share of private vehicle and bus passengers that would use high speed rail in outlying years. Those estimates were used to calculate the impact of DesertXpress in year 7 (2024), re-shown in Exhibit 28 above and in year 17 (2034).

Two other concerns about the impact of DesertXpress were also examined:

- An analysis of the movement of housing volumes and prices in Barstow was compared to the movement of employment levels in the city since 1991. It found no particular relationship. Essentially, the city's housing market appears to move in response to broader real estate factors affecting all of the High Desert. No likely linkage between the housing market and DesertXpress was therefore found.
- There was concern that Barstow Industrial Park would be adversely affected by the routing of DesertXpress. Since the route has changed, that worry is no longer applicable.

Work done for SCAG was cited indicating that the park's success will be based upon broader geographic trends in logistics, not operations like high speed rail.

In sum, DesertXpress will have a strongly positive influence on the Barstow economy during its construction phase. It will have a modestly negative impact once it starts operation in 2015. That impact will grow slowly over time, but not be the devastating problem feared by some.

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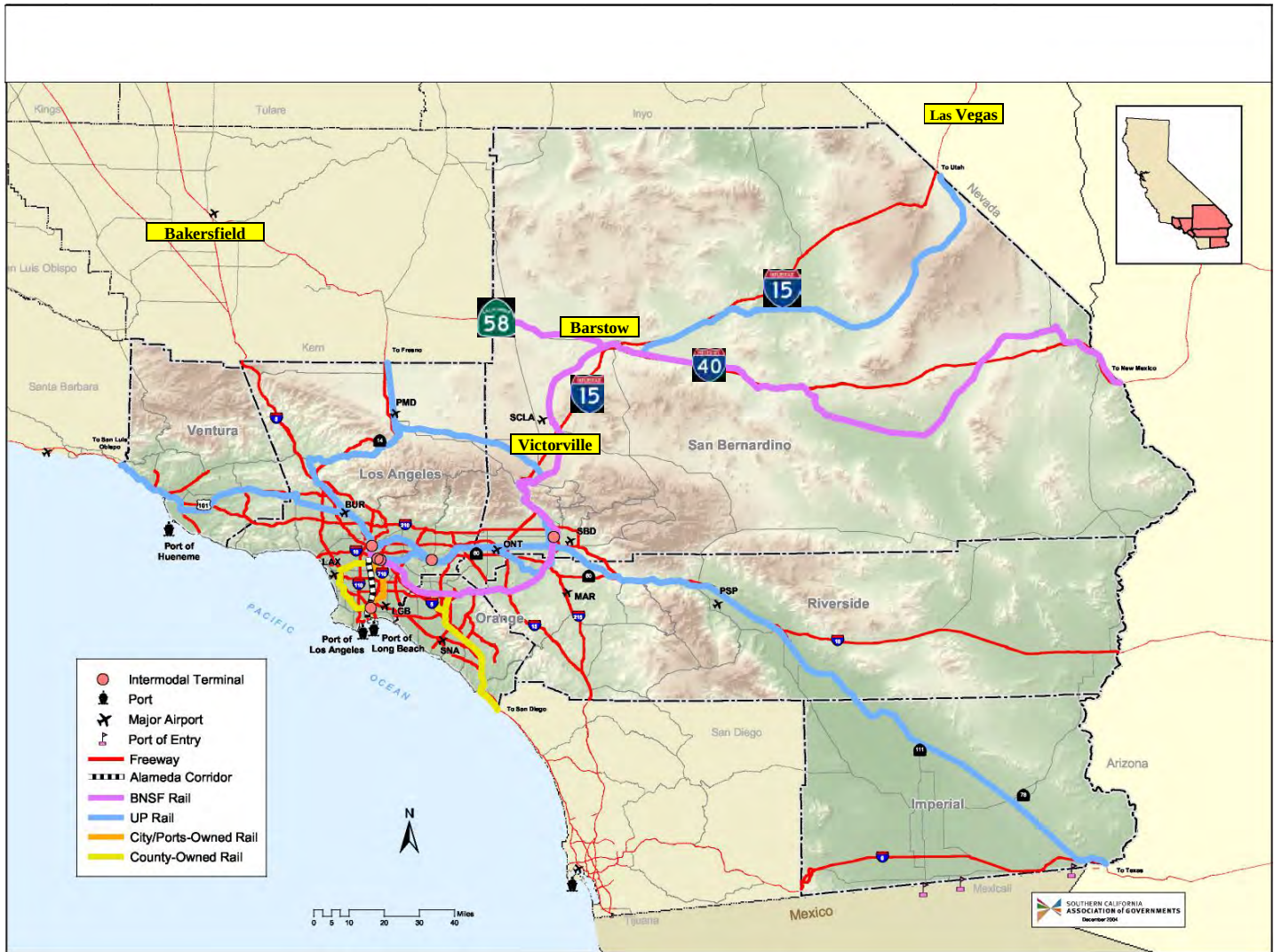
Potential Economic Impact of DesertXpress On the City of Barstow John Husing, Ph.D.

At the request of the U.S. Federal Railroad Administration, the purpose of this report is to take an independent look at the potential economic impact on the City of Barstow regarding the proposed high-speed rail link between Victorville and Las Vegas known as DesertXpress. The methodology for doing so requires the following steps:

1. Determine existing economic conditions in the market area defined as the city of Barstow and/or the Greater Barstow area. Where data is available, the wider area is defined using Southern California Association of Governments (SCAG) transportation analysis zones (TAZ): 500930000, 500940000, 500950000, 501200000, 501030002, 501030003, 501030004, 501160000, 501180000, 501180001, 501190000, 501190001, 501190002. This includes the city of Barstow as well as areas encompassing Daggatt, Lynwood, Nebo, Yermo, Helendale, and Newberry Springs.
2. Estimate the degree to which economic conditions in the market area are the result of money being brought into the market area because of non-truck traffic moving between Las Vegas and Southern California along the I-15 freeway. Calculate this on a per vehicle basis and per passenger basis.
3. Estimate the degree of diversion due to DesertXpress of passengers in non-commercial truck traffic moving between Las Vegas and Southern California along the I-15 freeway that occurred in 2009.
4. Calculate the resulting change in the level of funds entering the Barstow economy in 2009 that would have occurred because of the DesertXpress diversion.
5. Estimate the full economic, job, income, sales tax and property tax impact on the market area, circa 2009, of this loss of money entering its economic base.
6. Discuss the employment and payroll impact on the greater Barstow economy during the construction phase of the DesertXpress project.
7. Estimate the extent to which access to DesertXpress might have an impact on the housing market in Barstow.
8. Forecast the economic effects on the market area over time of #4, #5 and #6. Do so taking into account the anticipated number of non-commercial truck vehicles that would use the I-15 between Las Vegas and Southern California with and without DesertXpress.
9. Estimate the impact of DesertXpress on Barstow Industrial Park.
10. Draw appropriate conclusions about the potential impact of DesertXpress on the city of Barstow.

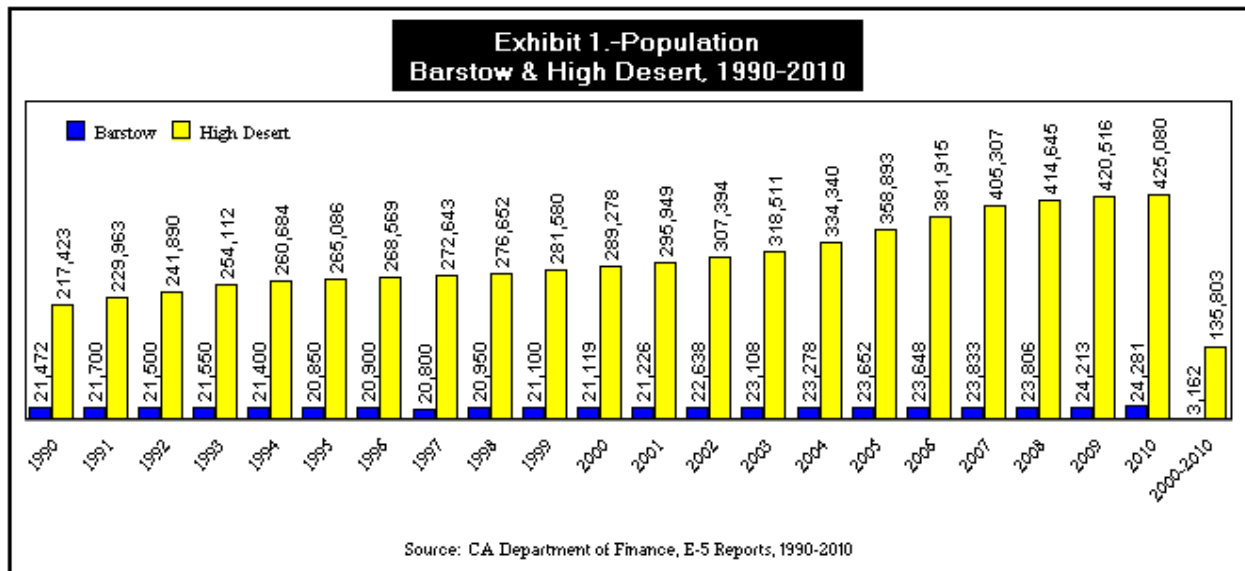
Barstow Demographic Situation

Location. Barstow is located at the junction of the I-15, I-40 and SR-58 freeways in the Mojave Desert, 79 miles from the edge of the Los Angeles Basin in Ontario and 157 miles from Las Vegas. The High Desert city of Victorville is 32 miles to the south.



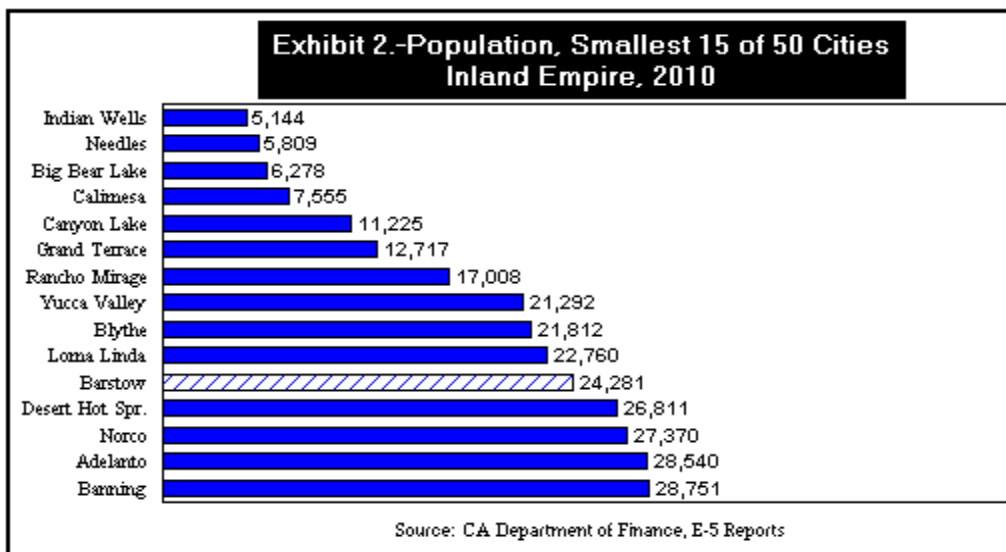
Population. Barstow's population was essentially unchanged from 1990-2000, declining from 21,472 to 21,119. In the current decade, this changed with the city showing a little growth, going from 21,119 to 24,291 by January 1, 2010. That was a gain of 3,162 people or 15.0%. This was a tiny fraction (2.3%) of the growth in the full High Desert (135,803) including the Victor Valley cities of Adelanto, Apple Valley, Hesperia and Victorville plus the surrounding unincorporated properties. In this decade, the larger region went from 289,278 to 425,080 people, up 135,803 or 46.9%. Of this growth, Barstow represented 2.3% (*Exhibit 1*).

Barstow's much slower growth is a natural result of the pattern by which population and economic activity have been migrating to the outlying areas of Southern California since World War II. Step #1 in this process occurs when residential developers begin running out of land on which they can build homes that are affordable to middle income buyers. They thus move into a previously unheralded market and start erecting "affordable" homes. Buyers priced out of the adjacent areas migrate to the new market and a population boom ensues.

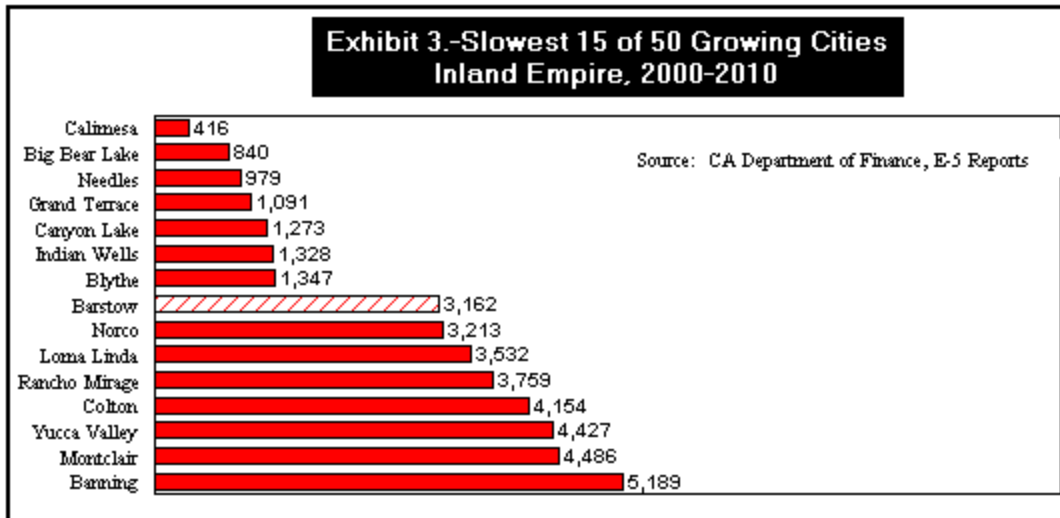


Once enough people have moved, population serving activities begin to emerge, bringing retailing, consumer services and local banking activity to the new area. It becomes characterized by these facts, plus a severe jobs:housing deficit and high levels of commuting since industrial and office jobs have not yet found it in their interest to migrate to Barstow. That awaits Step #2 in the process, at least a decade later, when industrial developers begin migrating as they too begin running out of developable land.

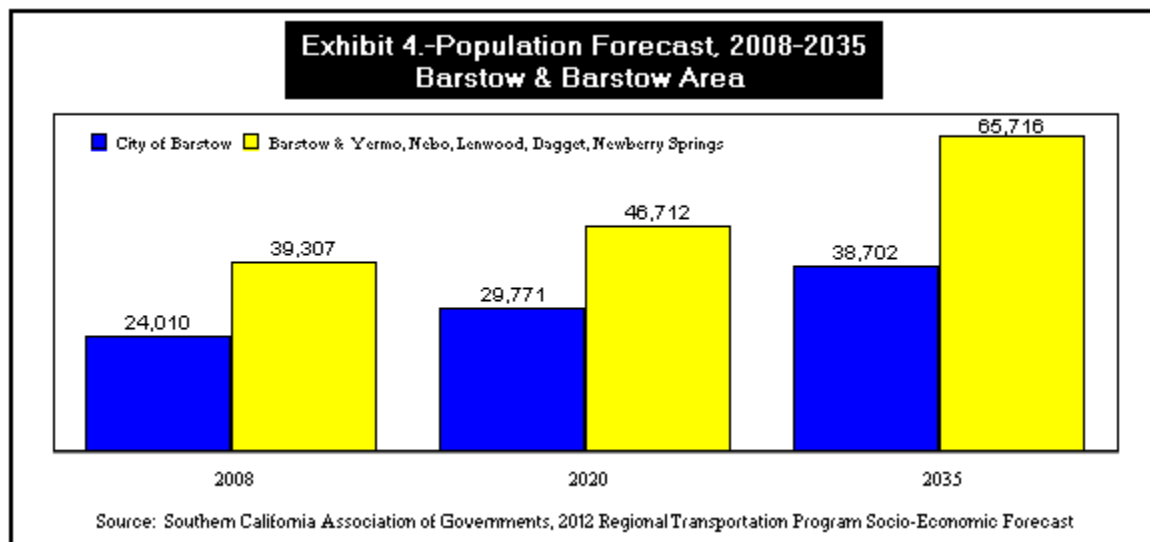
This pattern has been the recent story of the Victor Valley portion of the High Desert. However, until land in that area becomes saturated, aggressive Stage #1 activity will not reach Barstow.



Meanwhile on January 1, 2010, Barstow was the 11th smallest of the 50 cities in the Inland Empire. Among similar outlying cities, Desert Hot Springs was the next largest (26,811). Blythe (21,812) and Yucca Valley (21,292) were the next lowest. In terms of population growth, the absolute increase in the city's population from 2000-2010 of 3,162 people was the 8th lowest of the 50 inland cities. Among similar outlying cities, Blythe was the next slowest at 1,347. Yucca Valley (4,427) and Banning (5,189) were the next fastest (*Exhibit 3*).

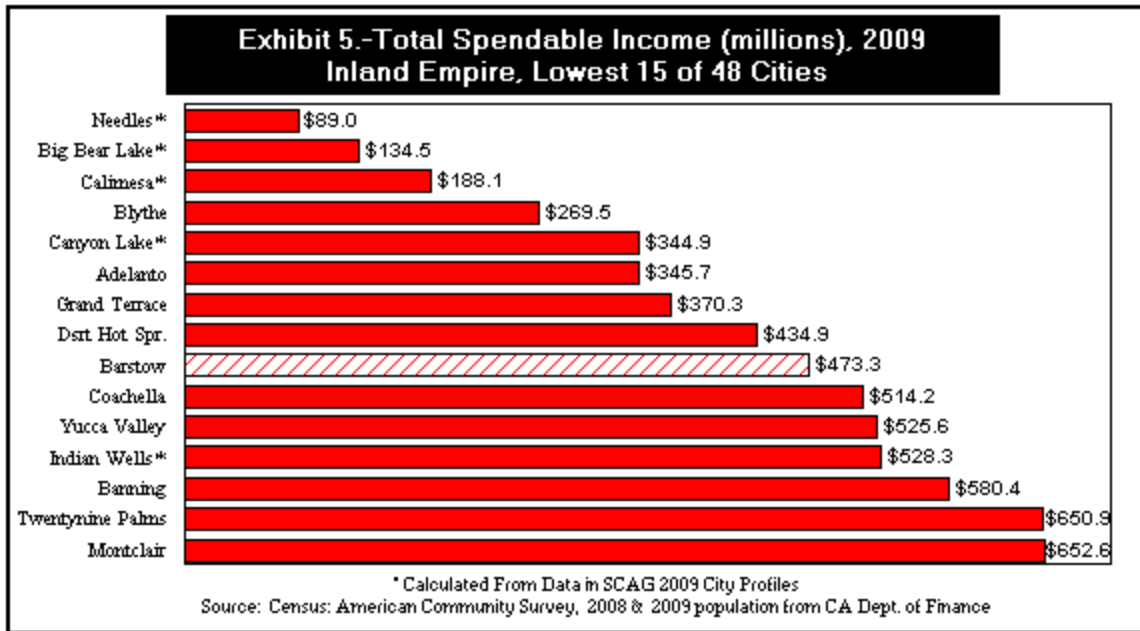


Population Forecast. According to work done by SCAG, the San Bernardino Associated Governments (SANBAG) and the city of Barstow's staff, there were 24,010 people in the city in 2008. That is expected to grow to 29,771 by 2020, up 5,761 people or 1.81% compounded. The greater Barstow area had a population of 39,307 in 2008 and is forecasted to reach 46,712 by 2020, up 7,405 people or 1.45% per year (*Exhibit 2*). This population growth shows some effect of the outward migration of Southern California, but very little.

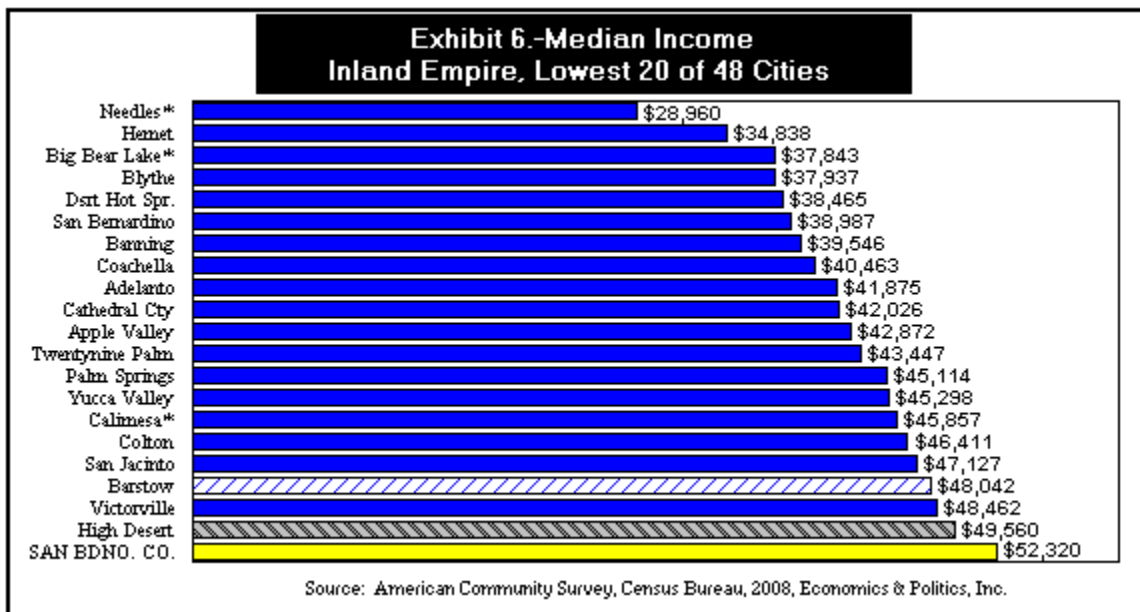


Barstow can thus be thought of as a location that still has a mainly self-contained economy, and one that will likely remain in that condition for a least a decade, if not longer. This means that Barstow's economy will largely be separated from the forces now shaping the Victor Valley area of the High Desert.

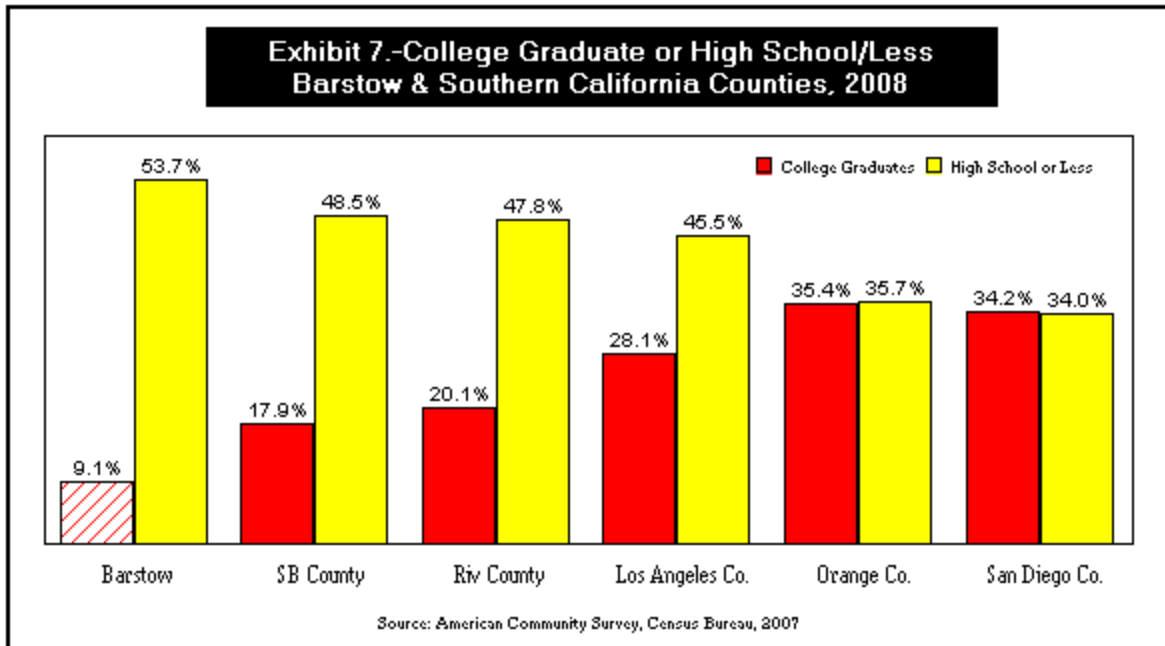
Income. Using 2009 population from the CA Department of Finance and Census data based upon 2006-2008 interviews, the total income of the city of Barstow was \$473.3 million. That ranked 9th lowest among the 48 inland cities for which data was reported. Among similar outlying cities, Desert Hot Springs was the next lowest at \$434.9 million. Coachella was the next highest at \$514.2 million (*Exhibit 5*).



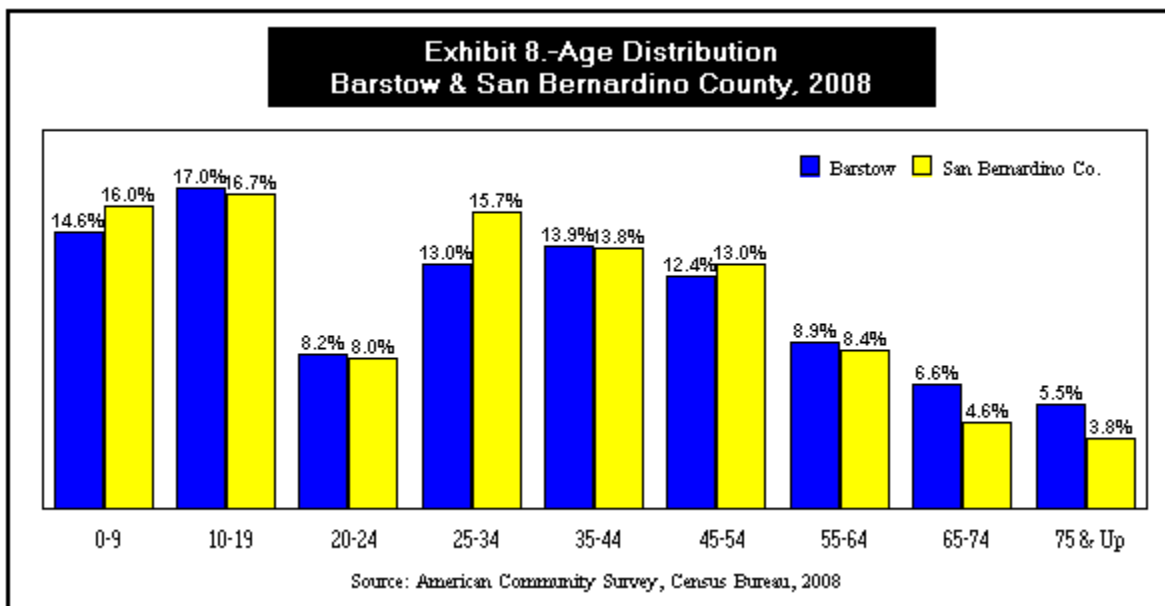
Barstow's median 2008 household income (*half above/below*) was \$48,042. That ranked 19th lowest of the 48 inland cities. Among similar outlying cities, Victorville (\$48,462) was the next highest. Yucca Valley (\$45,298) and Calimesa (\$45,857) were the next lowest. The city's median income was just below the level for the five High Desert cities including Barstow (\$49,560). It was -8.2% below San Bernardino County's median income of \$52,320 (*Exhibit 6*).



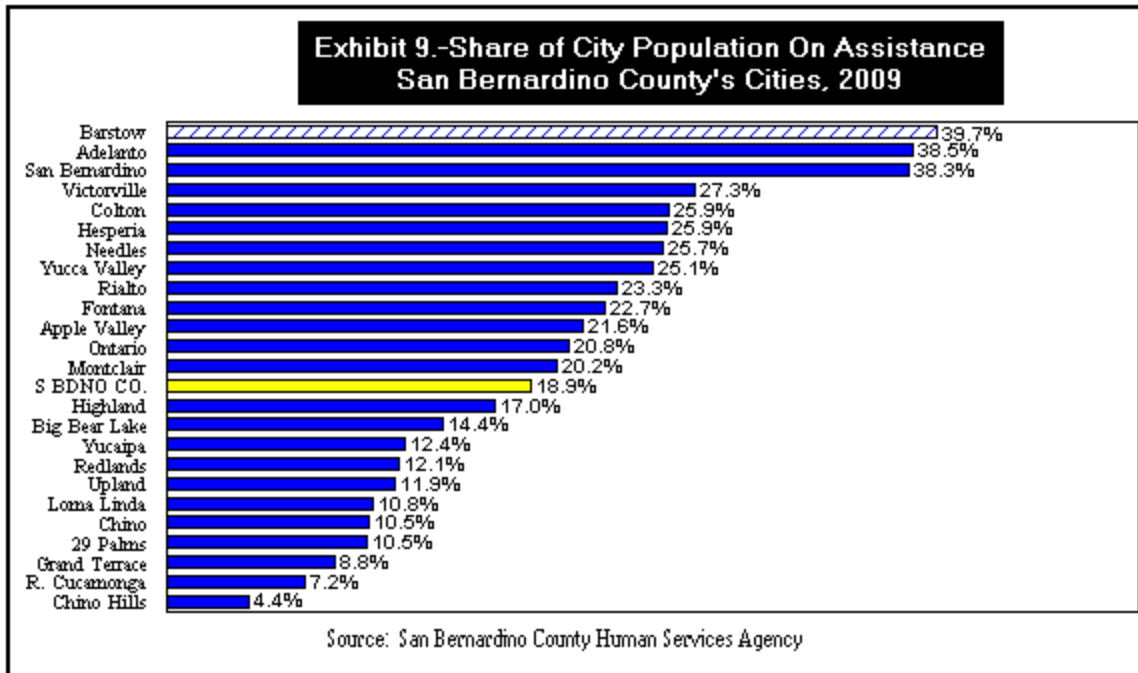
Adult Educational Level. Barstow's adult population is not well educated. In 2008, 53.7% of the city's adults, 25 and over, had not had a single college class. That was well above the averages for the two inland counties: San Bernardino (48.5%) and Riverside (47.8%). In terms of college graduates, only 9.1% of the city's adults had a bachelor's or higher degree. That was just over half the level in San Bernardino County (17.9%) and just under half the level in Riverside County (20.1%).



Age. In 2008, 20.9% of Barstow's population was 55 or over, compared to 16.8% for San Bernardino County, giving the city a much higher share of older baby boomers and retirees than the county. This contrasted with the city having a much smaller share of young adults aged 25-34 at 13.0% vs. 15.7% for the county.



Poverty. The 2006-2008 American Community Survey from the Census Bureau found that the share of Barstow's population below the poverty level in 2008 was 19.9%. That was well above the 10.7% in San Bernardino County. That was constant with the fact that in 2009, San Bernardino County reported that 39.7% of Barstow's population was on some form of public assistance. That was the highest level among the county's 24 cities and more than double the 18.9% average for the county (*Exhibit 9*).



Summary. The demographic and economic data about Barstow show it to be:

- A relatively small, slow growing city that is still largely isolated from the economic forces that began migrating into the High Desert in this decade. That condition is forecasted to persist until at least 2020.
- Total income was relatively small in 2009. The 2008 median household income level was just below that of the High Desert but -8.1% below that for San Bernardino County.
- Educational levels are modest with over half the city's adults (25 and over) not having gone beyond high school and under 10% having college degrees.
- A disproportionately large share of the city's population are aging baby boomers and retirees, while there is an unusually low share of young adults.
- Poverty levels are the high, with the city having the largest share of people receiving public assistance in San Bernardino County, over double the county's average.

DesertXpress and Bartow's Retail Sales & Economic Activity

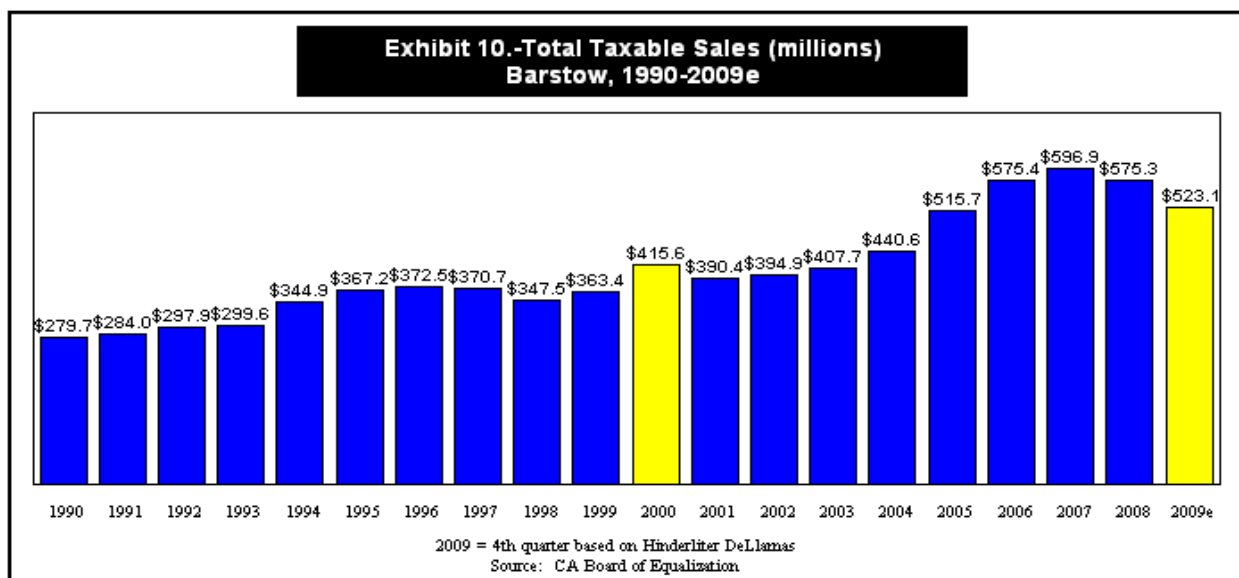
Barstow's economic condition is largely driven by variations in the flow of funds coming into it from the outside world. This is the case because the city has not yet begun to feel the forces that announce the arrival of the ever-expanding edge of Southern California's urban area. That edge is currently in the Victor Valley some thirty-two miles to the south where high speed population growth has been occurring since roughly 2000.

Economic Base. As a remote area, Barstow's economy rises and falls much like a gold mine in the Old West. There, miners dug up gold and shipped it away, bringing fresh injections of money into an area that previously had no economy. Funds such as these, flowing to an isolated economy from the outside world, represent a city's "basic" tier of economy activity. Without them, there would be no economy. Once the money arrives, it moves from the recipients into locally based "secondary" sectors. In the Old West, that was the general stores and saloons. They could not exist without the funds flowing from the gold miners. Similarly, in a modern

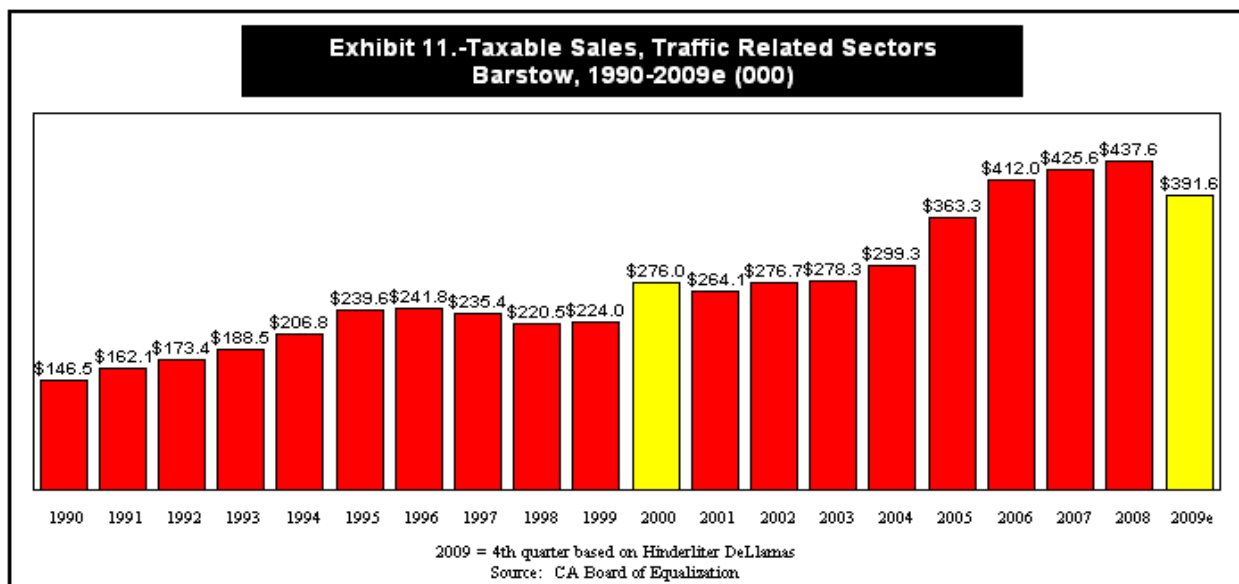
economy, the funds flowing to its “basic” sectors allow locally based secondary activities to exist. Generally, these are sectors like retailing, consumer services, entertainment, local government and personal financial institutions.

To understand the impact of DesertXpress on Barstow, it is necessary to determine the extent that the city is currently dependent upon the flow of dollars into it from travelers on the I-15 freeway between Southern California’s urban areas and Las Vegas. Since activity of this type shows up in retailing, it represents a difficulty since that sector is also propelled by spending from local residents as well as travelers moving east-west on the I-40 and SR-58.

Retail Activity. From 2000-2007, Barstow’s taxable sales grew from \$415.6 million to \$596.9 million, up 159.7 million or 38.4%. They then fell by -\$73.8 million (-12.4%) to \$523.1 million by 2009. For the full 2000-2009 period, sales were up \$107.6 million or 25.9% (*Exhibit 10*).



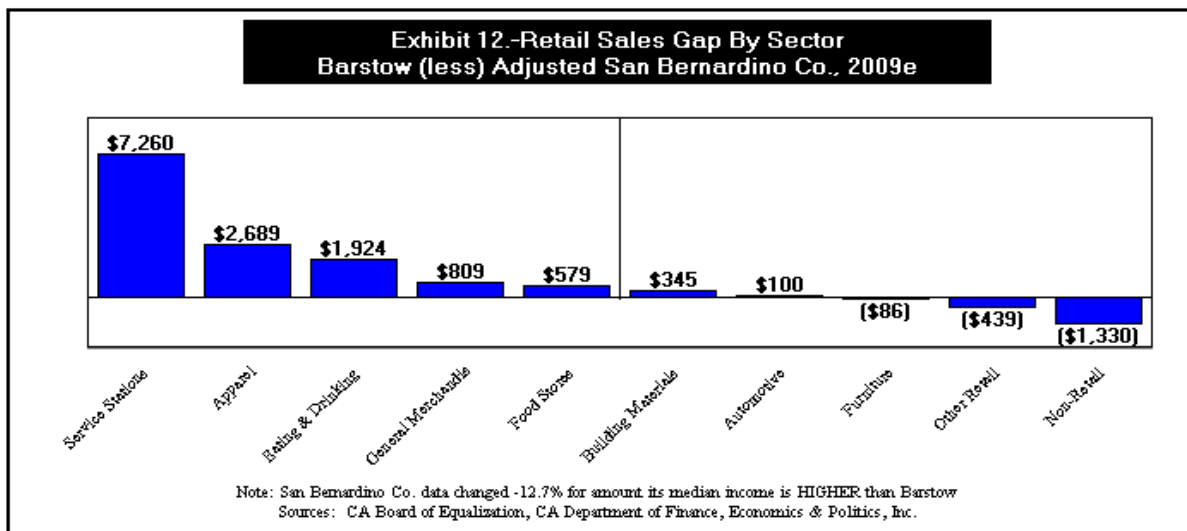
From 2000-2008, Barstow’s retail sales in sectors heavily related to freeway traffic went from \$276.0 to \$437.6 million, up \$151.6 million or 58.6%. They then fell -\$46.0 million (-10.5%) to \$391.6 million by 2009. From 2000-2009, sales grew \$115.6 million or 41.9% (*Exhibit 11*).



Retail activity in freeway related sectors thus outperformed the overall city during the periods of growth (58.6% v. 38.4%) and decline (-10.5 v. -12.4%) as well as for the full 2000-2009 period (41.9% v. 25.9%). Since 2000, these sectors have varied from a low 66.4% of the city's retail activity in 2000 to a high of 76.1% in 2008. There is logic behind these facts as the sectors included are:

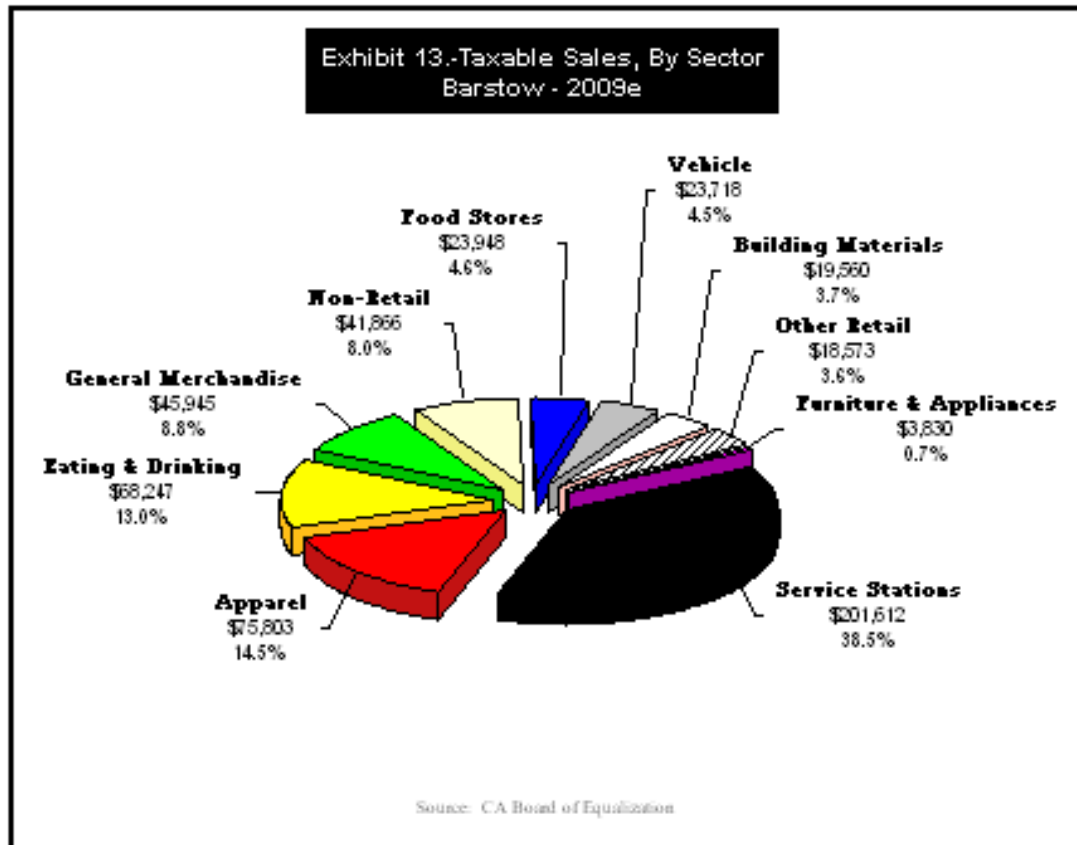
- Service Stations since they cater directly to travelers
- Apparel due to the outlet malls
- Eating & Drinking since a good deal of their business is from travelers
- General Merchandise due to the outlet malls
- Food stores due to purchases by travelers

These were the sectors in which the per capita spending in Barstow during 2009 was over \$500 higher than per capita spending for San Bernardino County. Thus, per capita service station spending in the city was \$7,260 higher than the average for the county after adjusting for the fact that the city's median income was -12.7% lower than for the county. Similarly, very large city advantages were seen in the apparel (\$2,689), eating and drinking (\$1,924) and general merchandise (\$809) sectors (*Exhibit 12*). The next largest positive per capita spending gap for the city was in food sales (\$579). In part this can be explained by the fact that 19.9% of Barstow's families were below the poverty level versus just 10.7% for the county. There would thus be a much greater emphasis on food store purchases as a percentage of spending by city residents than for the county generally. Still, there appears to be an influence of outsiders making purchases in the city. The next sector with a significant sales surplus is building materials (\$345) which is very unlikely to have a relationship to recreational travelers.



In 2009, spending in the five categories most influenced by freeway travelers was (*Exhibit 13*):

- Service Stations \$201.6 million
- Apparel \$75.8 million
- Eating & Drinking \$68.2 million
- General Merchandise \$45.9 million
- Food Stores \$23.9 million
- **Total \$415.6 million**



Those sectors represented 79.4% of the \$523.1 million in taxable sales in the city during 2009 (*Exhibit 13*). However, not all of this spending was from freeway travelers. To estimate the share from local consumers, a three step process was undertaken. First, an estimate was made of the total spending by local consumers in each category. This was done as follows (*see Appendix A*):

Exhibit 14.-Local Share of Freeway Related Taxable Sales, 2009 (000)					
Sector	Taxable Sales	Purchases by Locals	Local Share	Local Purchases	Freeway
Gas Station	\$201,612	\$19,444	90.0%	\$17,500	\$184,112
Apparel	\$75,803	\$14,948	75.0%	\$11,211	\$64,592
Eating & Drinking	\$68,247	\$22,204	85.0%	\$18,873	\$49,373
General Merchandise	\$45,945	\$19,879	60.0%	\$11,927	\$34,018
Food Stores	\$23,948	\$16,368	95.0%	\$15,549	\$8,399
Total	\$415,555	\$92,842		\$75,060	\$340,494

Sources: CA Board of Equalization, 2008-9 U.S. Census Bureau Consumer Expenditure Survey, 2006-2008 U.S. Census Bureau American Community Survey, Economics & Politics, Inc.

- 2008-2009 data was obtained from the U.S. Census Bureau's consumer expenditure survey for families in the western U.S. region. The data were by income group and showed average income and annual expenditures by category for each group.
- Data from the 2006-2008 U.S. Census Bureau's American Community Survey were used to estimate the number of households in Barstow in each of the expenditure categories. Importantly, multiply households by income in each income category yielded a total of

\$489.5 million for Barstow vs. the \$473.3 million estimate of total income (*Exhibit 5*), just a 3.3% difference.

- Total expenditures of \$421.8 million were divided among expenditure categories, with these further divided between taxable and non-taxable spending.
- This allowed an estimate of the total taxable spending by Barstow residents in each income group for each freeway-related retail category. These were summed for all income groups and resulted in the total spending by category for city residents in column three of Exhibit 14, totaling \$92,842,000.
- The share of spending that local residents would make within Barstow, for each category of expenditure category, was then estimated. It included 95% for food, 90% for fuel, 75% for apparel and 60% for general merchandise. These assumptions were made considering Barstow's 32 mile distance from other High Desert cities, the frequency that purchases are made in a category, and the range of choices available in Barstow. They are shown in column four.
- The local purchases based upon those factors of \$75,060,000 were then calculated (*column 5*) and subtracted from the spending in the category to estimate the freeway-related purchases in it. That result is the total of \$340.5 million in column six.

Diesel. Of the \$340.5 million in taxable sales in Barstow's five freeway related sectors, the largest item was service station expenditures of \$184.1 million. Here, a second deduction is necessary since the intent of this study is to determine the economic impact on Barstow if DesertXpress diverts travelers expected to drive between Victorville and Las Vegas. That needed deduction is for Barstow diesel purchases by commercial trucking fleets that would be unaffected by the rail link. This is estimated at \$54.2 million in 2009, based upon the number of gallons purchased each month of 2009 in zip code 92311 (*data from the UCLA-Ceridian Index*²) and the average monthly price of diesel in California during each month of the year³. The result is a net sale to travelers who are not fleet truckers of \$129.9 million. Altogether, freeway related retail sales in Barstow would thus be \$286.2 million (*Exhibit 15*).

Exhibit 15.-Non-Diesel Sales To Travelers In Freeway-Related Sectors Barstow, 2009		
Retail Category	Freeway Related Sales (million)	Share of Sales
Service Stations Gross Sales	\$184,112,286	
Fleet Trucking Petroleum Sales*	<u>-\$54,245,301</u>	
Service Stations	\$129,866,975	45.4%
Apparel	\$64,592,068	22.6%
Eating & Drinking	\$49,373,237	17.2%
General Merchandise	\$34,018,156	11.9%
Food Stores	<u>\$8,398,853</u>	<u>2.9%</u>
Total	\$286,249,289	100.0%

*Fleet trucking deduction increased 20% from Ceridian Index figures since they do not include petroleum data from competitors like Automated Data Processing, Pay Chex, Tri-Net Group

² Ceridian is the nation's largest provider of diesel credit cards to commercial trucking fleets. Information on the index is available at <http://www.ceridianindex.com/>

³ U.S. Energy Administration

The \$286,249,289 in expenditures estimated by freeway travelers represented 55.6% of the Barstow's \$523,101,552 in 2009 total taxable sales. It is this spending that would have been impacted if DesertXpress had diverted consumers off the Victorville-Las Vegas freeway route.

Volume of Traffic. A second important factor is the number of passengers in non-truck vehicles potentially impacting Barstow's economy along the I-15, I-40 and SR-58 highways.

1. Passengers Potentially Impacting Barstow's Economy (*I-15 north-south*)

To estimate traffic flows, 2008 annual average daily two-way vehicle traffic data from Caltrans were used.⁴ The measure is the total volume for the year divided by 365 days. North-south, two locations were used:

Lynwood Road, just south of Barstow, to provide data on traffic on the I-15 moving north and south between Barstow and points south including Victorville.

State Line at Primm, Nevada, to measure traffic on the I-15 moving north and south between Barstow and Nevada, mostly headed for, or coming from Las Vegas. This will be a slight overstatement since some traffic enters or leaves on SR-127 via Death Valley.



- 53,000 was the annual average daily two-way traffic count between Victorville and Barstow. It was 37,000 between Barstow and Primm, Nevada. There was thus a decline of 16,000 vehicles a day for flows north and south of Barstow. This is the result of vehicles originating or ending trips in the city or moving along the I-40 and SR-58 which intersect the I-15 in the city. Meanwhile, Caltrans also counts trucks moving along the I-15 excluding those under 1½ tons with four wheels.⁵ Adjusting for these facts yields (*Exhibit 16*):

⁴ Annual Average Daily Traffic (AADT) for all vehicles on CA State Highways, Caltrans's Traffic and Vehicle Data Systems Unit, 2009 (<http://traffic-counts.dot.ca.gov/index.htm>)

⁵ Annual Average Daily Truck Traffic on CA Highways, Caltrans, 2009 (<http://traffic-counts.dot.ca.gov/index.htm>)

Exhibit 16.-Annual Average Two-Way Daily Traffic Flows on I-15, 2008						
Mile	City	Road	Annual Avg. Daily Two-Way Vehicles	Annual Avg. Daily Truck Count-	Share	Annual Avg. Daily Passenger Vehicles
68.8	Barstow	Lynwood Road	53,000	13,245	25.0%	39,755
186.2	Primm	State Line	37,000	6,645	18.0%	30,355
		Diversion	(16,000)	(6,600)		(9,400)

Source: CalTrans Traffic and Vehicle Data Systems Unit, 2008, All Traffic Volumes on California State Highway System

- 53,000 vehicles moved along the I-15 south of Barstow, 25.0% or 13,245 were commercial trucks and 39,755 were passenger vehicles. Of the 37,000 vehicles heading entering or leaving Nevada, 18.0% or 6,645 were commercial trucks.
- 30,355 private passenger vehicles *a day* moved north-south along I-15 above Barstow.
- 11,075,975 private vehicles *a year* moved north/south above Barstow (30,355 x 365).
- 5,539,788 were one-way north/south passengers assuming equal numbers each way.
- 2.46 is the estimated number of passengers per vehicle from the URS study.⁶
- **13,627,877** private vehicle passengers traversed Barstow north-south on I-15 and potentially impacted the city's economy.

2. Passengers Potentially Impacting Barstow's Economy (I-40 east-west)

Two sites were used to estimate I-40 east-west travelers who potentially impact Barstow's economy (*Exhibit 17*):

West Newberry Road, 18.4 miles east of Barstow, to provide data on I-40 traffic moving east-west between the city and points east like Needles and Arizona.

I-40 Main Street off-ramp and Main Street connection to I-15 in Barstow as this is the route that vehicles moving between the I-40 and the I-15, *above* Barstow, must travel.

Exhibit 17.-Annual Average Two-Way Daily Traffic Flows on I-40, 2008						
Mile	City	Road	Annual Avg. Daily Two-Way Vehicles	Annual Avg. Daily Truck Count-	Share	Annual Avg. Daily Passenger Vehicles
18.4	Newberry	West Newberry Rd.	12,600	5,988	47.5%	6,612
74.2	Barstow	I-40 to Main St. to I-15	2,900	1,378	47.5%	1,523
		Net I-15 Trips Involving Barstow And Not Moving North-South On I-15				5,090

Source: CalTrans Traffic and Vehicle Data Systems Unit, 2008, All Traffic Volumes on California State Highway System

- 12,600 was the average daily two way I-40 traffic at West Newberry Road. Of this, 5,988 was the average daily truck count or 47.5%. Thus, 6,612 passenger vehicles a day moved east-west on the I-40 at W. Newberry Springs Rd. Of these, 2,900 vehicles a day, including 1,378 trucks and 1,523 private passenger vehicles moved along Main Street between the I-40 and the I-15 *above* Barstow.⁷ The estimated 1,523 private passenger vehicles were already counted in #1 which estimated traffic on the I-15 above Barstow.
- 5,090 private passenger vehicles a day from the I-40 are thus estimated to not involve a trip along the I-15 above (*north of*) Barstow.

⁶ Desert Xpress Updated Ridership and Revenue Study, URS, December 22, 2005, Appendix B, Table 16, p. 18

⁷ Ramp Volumes on California State Freeways, Caltrans (<http://traffic-counts.dot.ca.gov/index.htm>)

- 1,857,668 private passengers a year in I-40 vehicles not counted in traffic along the I-15 to or from Las Vegas can thus also potentially impact Barstow's economy ($5,090 \times 365$).
- 928,824 were one-way trips assuming equal numbers each way.
- 2.20 is the estimated number of passengers per vehicle based upon long distance travel.⁸
- **2,043,34** travellers making east-west trips on the I-40 must be added to those potentially impacting Barstow's economy.

3. Passengers Potentially Impacting Barstow's Economy (SR-58 east-west)

Two sites were used to estimate SR-58 east-west travelers who can influence Barstow's economy (*Exhibit 18*):

Kramer Junction (just east of U.S. 395), 18.4 miles west of Barstow, to provide data on traffic on the SR-58 moving east-west between the city and points east like Bakersfield.

I-15 to SR-58 Interchange in the south end of Barstow as this is where vehicles moving between the SR-58 and the north I-15 above Barstow must travel.

Exhibit 18.-Annual Average Two-Way Daily Traffic Flows on SR-58, 2008						
Mile	City	Road	Annual Avg. Daily Two-Way Vehicles	Annual Avg. Daily Truck Count-	Share	Annual Avg. Daily Passenger Vehicles
28.4	Kramer Junction	US-395	10,200	3,949	38.7%	6,251
	Barstow	I-15 to SR-58	7,000	2,710	38.7%	4,290
		Net Sr-58 Trips Involving Barstow And Not Moving North-South On I-15				1,961

Source: CalTrans Traffic and Vehicle Data Systems Unit, 2008, All Traffic Volumes on California State Highway System

- 10,200 was the average daily two way traffic at Kramer Junction. Of this, 3,949 was the daily truck count or 38.7%. Thus, 6,251 passenger vehicles a day moved east-west on the SR-58 at Kramer Junction. Of these, 7,000 vehicles a day, including 2,710 trucks and 4,290 private passenger vehicles moved either direction between the SR-58 and the north I-15 in Barstow. The 4,290 private passenger vehicles were estimated to be already counted in #1 which estimated traffic on the I-15 above Barstow.

Note: the 4,290 vehicle deduction is an over-estimate since SR-58 enters the I-15 south of Barstow and some of these vehicles would not necessary travel north beyond the city.

- 1,961 private passenger vehicles a day from the SR-58 are thus estimated to not involve a trip along the north I-15 above Barstow.
- 715,801 passengers a year in private SR-58 vehicles are not counted as moving along the I-15 above Barstow. They also potentially impact the city's economy ($1,961 \times 365$).
- 357,900 were one-way trips assuming equal numbers each way.
- 2.20 is the estimated number of passengers per vehicle based upon long distance travel.⁷
- **787,381** travellers making east-west SR-58 trips must be added to those potentially impacting Barstow's economy.

⁸ National Household Travel Survey, U.S. Federal Highway Administration, 2009

4. Total Passengers Potentially Impacting Barstow's Economy

From the calculations above, the private freeway travelers potentially impacting Barstow's economy include:

- 13,627,877 total private vehicle passengers traversing Barstow going north & south.
- 2,043,34 passengers making an east-west I-40 trip.
- 787,381 passengers making an east-west SR-58 trip.
- 1,180,227 bus passengers estimated by URS to be traversing Barstow on a Las Vegas trip.⁹
- **17,638,119** total passengers a year able to impact Barstow's economy including those moving along I-40 and SR-58 and bus passengers making the trip to Las Vegas.

Average Spending Per Traveler. A third key variable is average retail spending per traveler in Barstow:

1. Based upon the calculations above, average spending per traveler is calculated as:

- \$286,249,289 was Barstow's freeway-related retail sales (*see Exhibit 15, page 11: service stations, apparel, eating & drinking, general merchandise, food stores*).
- 17,638,119 is the total number of passengers traversing Barstow including the bus passengers making the trip to Las Vegas.
- **\$16.23** is the per capita spending by all passengers potentially impacting Barstow.

2. Another look at traveler impacts comes from data in URS's 2005 study.¹⁰ Using it, average spending per travelers was calculated as:

- \$286,249,289 was Barstow's total freeway-related retail sales (*see Exhibit 15*)
- 20,416,620 is the total number of passengers potentially impacting Barstow's economy. The URS estimate is higher by 2,777,700 people than was calculated above because of higher estimates of:
 - o 6,668,934 vehicles vs. 5,539,788 a year moving north-south above Barstow towards Nevada (*difference of 1,129,147*)
 - o 16,405,578 passengers vs. 13,627,877 a year in those vehicles at 2.46 per vehicle (*difference 2,777,700*)
 - o Otherwise, this estimate uses the same impacts of the I-40, SR-58 and bus travelers:
 - 2,043,34 passengers making an east-west I-40 trip.
 - 787,381 passengers making an east-west SR-58 trip.
 - 1,180,227 bus passengers estimated to be traversing Barstow on a Las Vegas trip.
- **\$14.02** is passenger per capita spending potentially impacting Barstow from URS data.

⁹ URS, p. 1

¹⁰ URS, Table 16, p. 17

Number of Las Vegas Travelers. A fourth key variable, given the total volume of passengers estimated to traverse Barstow north-south, is the estimate of them involved in Las Vegas trips. Using data estimated here, total passengers potentially impacting Barstow's economy, related to Las Vegas trips, are calculated as:

- 5,539,788 is the estimated number of private vehicles a year moving one way north-south between Barstow and Nevada (*see discussion of Exhibit 16, page 13*).
- 80.8% of private vehicles moving north-south on the I-15 above Barstow are assumed to involve a Las Vegas trip based on survey work by URS.¹¹
- 4,746,969 is thus the estimated annual number of vehicles due to Las Vegas trips.
- 2.46 is the estimated number of passengers per vehicle from the URS study.
- **11,013,344** is thus the estimated number of passengers in private vehicles traversing the city because of Las Vegas trips.
- 1,180,227 bus passengers were also estimated to be making the trip to Las Vegas.
- **12,193,571** is thus the estimated total of private vehicle and bus passengers traversing Barstow and potentially impacting its economy because of Las Vegas.

DesertXpress Diversion & Sales Tax Impact. Given these data, the fifth key variable is the share of passenger traffic moving along the I-15 above (*north*) Barstow that would be diverted to high speed rail by DesertXpress. This allows calculation of estimated sales tax losses to the city's economy.

- Private Auto Auto Diversion
 - 11,013,344 estimated number of private vehicle passengers traversing the city because of Las Vegas (*see #1, page 16*).
 - 18.3% of travelers were estimated to be diverted to DesertXpress in 2017 after following its ramp-up phase in 2015 and 2016. The estimate by URS was 20.3%.¹² The Steer Davies Gleave peer reviewers lowered this 10% to 18.3%.
“We do note, however, that in our analysis we have applied a reduction to base demand levels to reflect the number of trips which we believe are undertaken during those hours when, under the presently proposed operating plan, the service is not operated.”¹³
That lowering was endorsed by the second peer reviewer, Cambridge Systematics, stating that “SDG endorsed the URS overall auto estimates, but in their revised forecasting effort they reduced the base demand levels to reflect the number of trips that take place during times-of-day that the proposed rail service would not be available. This reduction is quite reasonable, in our view.”¹⁴
 - **2,012,138** passengers would be diverted using the 18.3% estimate.
- Bus Passenger Diversion

¹¹ URS, p. 17

¹² URS, Table 1, p. 1 for 20.3%

¹³ DesertXpress Ridership & Revenue Audit, September 2007, Steer Davies Gleave, p. 4.

¹⁴ DesertXpress Ridership Forecast Review, February 29, 2008

- o 1,180,227 bus passengers were estimated to make the trip to Las Vegas.
- o 22.0% are estimated by URS to be diverted to DesertXpress.¹⁵
- o **260,187** would not traverse Barstow by bus.
- **2,272,325** is the total estimated diversion of Las Vegas private auto and bus passengers by DesertXpress.
- **\$16.23** is the per capita spending by all passengers potentially impacting Barstow (*see #1, page 15*).
- **\$36,875,921** is the estimated diversion of retail sales from the Barstow economy due to DesertXpress.
- \$523,101,552 was Barstow's total retail sales in 2009 (*see Exhibit 10, page 8*).
- **7.0%** is the loss of Barstow's retail sales from DesertXpress.

Indirect & Induced Impacts. Using the data created here, the \$36,875,921 in sales lost to Barstow's retail sector from passengers being diverted to DesertXpress represents a loss to the city's economic base of funds that would have flowed into it from the outside world. This results in a reduced flow of funds from the retail sector to its local suppliers and service firms (*indirect effect*). In addition, there is a reduction of the flow of funds from the retail sector and its suppliers and service firms to households, lowering their ability to spend (*induced effect*). Earlier, this was described as being analogous to the impact on general stores and saloons of changes in gold mining activity in an Old Western town.

Using the Implan model,¹⁶ assuming losses by sector are proportional to total freeway-related sales in those sectors (*see Exhibit 15*) yields the direct (*gold mine*) losses by sector in 2009 (*Exhibit 19*). The job losses are from the Implan model for San Bernardino County and are based on the relationship between activity in a sector and the number of jobs this affects.

Exhibit 19.-Diversion By Sector & Direct Job Impact Barstow, 2009			
Sector	Diversion	Shares	Direct Job Losses
Apparel	\$8,321,041	22.6%	126
General Merchandise	\$4,382,372	11.9%	71
Food Stores	\$1,081,978	2.9%	16
Eating & Drinking	\$6,360,482	17.2%	117
Service Stations	\$16,730,048	45.4%	171
Total Diversion	\$36,875,921	100.0%	501

Sources: Diversion shares from Exhibit 15, Job Losses from Implan model for San Bernardino County

To estimate the indirect and induced impacts of the direct losses of sales and jobs, the difficulty is that Implan modeling shows these two impacts for all of San Bernardino County, not just Barstow. An allowance must be made for the fact that the county's economy is far larger geographically, and far more diverse economically than Barstow. Monies thus change hands in the secondary tier of the county's economy much more frequently before leaking away than they do for the city.

¹⁵ URS, p. 1

¹⁶ Implan Professional Social Accounting Impact & Analysis Software, Minnesota Implan Group

For the county, the secondary impacts of \$36,875,921 in direct new spending affecting it in 2009 would be \$27,184,443 (*Exhibit 20*). That must be reduced to more closely reflect the secondary impact on a small city like Barstow. In 2009, the greater Barstow area (*including Daggett, Helendale, Hickley, Lynwood, Newberry Springs, Yermo*) had 10,463 wage and salary workers versus the county's 600,307 or 1.43%.¹⁷ If because of Barstow's isolation, it is assumed that the secondary economic activity in the city was 10 times strong than the relationship of its market area's wage and salary jobs to those of the county, then 17.4% of the secondary impact would occur in the city:

Exhibit 20.-Economic Impact on San Bernardino County & Barstow, 2009				
Type of Impact	SB County	Economic Activity	SB County	Jobs
Direct:		\$36,875,921		501
Indirect	\$8,533,107		60	
Induced	<u>\$18,651,336</u>		<u>173</u>	
County Secondary	\$27,184,443		233	
City Factor	17.4%		17.4%	
City Secondary		\$4,737,938		41
City Total Impact		\$41,613,859		542

Sources: Job Losses from Implan model for San Bernardino County

- \$4,737,938 of the economic losses of \$27,184,443 calculated as if the secondary impact was for the entire county, would be the city's secondary economic loss.
- 41 of the job losses of 233 calculated if the secondary impact was for the entire county, would be the city's secondary job impact.

Given these facts, the diversion of travelers to DesertXpress would result in:

- **\$41,613,859** total economic activity lost to Barstow
- **542** jobs lost to Barstow
- **-5.2%** loss of jobs in the city's firms and agencies: 542 of the city's total of 10,463 jobs.

Exhibit 21.-Income Impacts of DesertXpress Diversion, Barstow, 2009					
	Labor/Proprietorship		Property		Total
Direct:		\$13,473,747		\$5,577,541	\$19,051,288
Indirect	\$2,753,722		\$1,748,132		\$2,753,722
Induced	\$7,686,859		\$3,229,801		\$7,686,859
Secondary Impacts	\$10,440,581		\$4,977,933		\$10,440,581
Barstow Factor	17.4%		17.4%		17.4%
Secondary Impact		\$1,819,674		\$867,597	\$2,687,271
Total Economic Impact		\$15,293,421		\$6,445,138	\$21,738,559

Sources: Income Losses from Implan model for San Bernardino County

The Implan model based upon the traveler diversion caused by DesertXpress also found:

- \$13,473,747 direct income impact to Barstow's workers and proprietors (*Exhibit 21*)
- \$1,819,674 in indirect and induced impacts to workers and proprietors based upon a countywide effect of \$10,440,581 with 17.4% occurring within Barstow

¹⁷ CA Employment Development Department, ES 202 data for zip codes 92311 and 92312 for 2009

- \$5,577,541 in direct impact to Barstow's property owners and corporations
- \$867,597 in indirect and induced impact to property owners and corporations based upon a countywide effect of \$4,977,933 with 17.4% occurring in Barstow
- **\$21,738,559** in total income impact on Barstow
- **-4.6%** loss of city income: \$21,738,559 of the \$473,339,937 total (*see Exhibit 5, page 5*)

Exhibit 21A.-Indirect Tax Impacts of DesertXpress Diversion, Barstow, 2009			
	Indirect Taxes	Sales Taxes	Property Taxes
Direct: Loss Due to Diversion		\$368,759	\$0
Indirect	\$144,249		
Induced	\$1,012,342	50.0%	50.0%
Secondary Impacts	\$1,456,591	\$728,296	\$728,296
All SB County Cities Shares		14.8%	17.1%
Funds: All SB County Cities		\$107,896	\$124,539
Barstow Share of Co. Activity		17.4%	17.4%
Barstow Indirect Tax Loss		\$18,805	\$21,706
Barstow Total Loss		\$387,564	\$21,706
Barstow Sales & Property Tax		\$5,231,016	\$1,300,598
Percent Loss		-7.41%	-1.67%

Sources: Indirect Tax Losses from Implan model for San Bernardino Co.; San Bernardion Co. & City Sales Tax Rates; Property Valuation and Tax Rates, San Bernardino Co. 2009-2010, San Bernardino Co, Auditor Controller's Office

Barstow's local sales and property taxes would also be impacted. The Implan model calculated that had the DesertXpress diversions occurred, the 2009 countywide result would have been:

- \$1,456,591 in lower indirect and induced local tax collections if the loss were countywide (*Exhibit 21A*). If this was divided equally between sales and property taxes:
 - o \$728,296 lower sales taxes available to the county's local governmental entities.
 - o \$728,296 lower property taxes to the county's local governmental entities.
- **Sales Tax Loss To Barstow**
 - o \$107,896 in less sales taxes since \$1.00 of \$6.75 (14.8%) in local sales taxes went to the group of all cities at the time the 2009 Implan model was developed.
 - o \$18,805 would be the sales tax loss to Barstow applying the 17.4% factor discussed above to the \$107,896 in lost indirect and induced countywide taxes.
 - o \$368,759 would be the sales tax loss to due to the direct reduction in taxable retail sales of \$36,975,921 (*see Exhibit 19, page 18*) given the 1% tax rate.
 - o **\$387,564** would be Barstow's total sales tax loss due to DesertXpress.
 - o **-7.4%** sales tax revenue loss based upon 2009 sales of \$523,101,552 (*see Exhibit 10, page 8*) and 1% in sales taxes based on that level of \$5,231,016.
- **Property Tax Loss**
 - o \$124,539 in less property tax dollars since 17.1% of San Bernardino County's property tax dollars go to its cities.

- o **\$21,706** would be the property tax loss applying Barstow's 17.4% factor to the \$124,539 in lowered induced and direct property taxes countywide.
- o **-1.7%** would be Barstow's property tax loss based upon the city's 2009-2010 assessed valuation of \$1,300,597,749, which at a tax rate of \$1.00 per \$1,000 of valuation rate would represent a base property revenue of \$1,300,598.

Exhibit 22.-Summary of Economic Impacts of DesertXpress Diversion Barstow 2009 or Full Operation (Year 0: 2017)			
Impact	Loss	Base	% Loss
Economic Activity	\$41,613,859		
Job Activity	542	10,463	-5.18%
Income	\$21,738,559	\$473,339,937	-4.59%
Sales Taxes	\$387,564	\$5,231,016	-7.41%
Property Taxes	\$21,706	\$1,300,598	-1.67%

Source: Calculations made above by Economics & Politics, Inc.

Timing: Ramp-Up. An important consideration is the timing when Barstow would feel the impacts listed in Exhibit 22, as well as what would occur between 2010 and then. Given the delays that have occurred due to the Environmental Impact Study, the first year of full operation of DesertXpress is now forecasted at 2017. Operations will ramp-up in 2015-2016 (see Exhibit 24, below):

- 2015 **45.1%** of full operation I-15 Passenger Diversion 1,025,024
- 2016 **77.6%** of full operation I-15 Passenger Diversion 1,763,617
- 2017 **100.0%** of full operation I-15 Passenger Diversion 2,272,325

Applying these ramp-up shares of passenger diversion to Barstow's 2009 economy, and using the same modeling logic discussed above, the conditions in the 2015 and 2016 ramp-up years are shown in Exhibit 23 and Exhibit 24.

Exhibit 23.-Summary of Economic Impacts of DesertXpress Diversion Barstow Ramp Up Year #1 (2015)			
Impact	Loss	Base	% City Loss
Economic Activity	\$18,771,617		
Job Activity	244	10,463	-2.33%
Income	\$11,618,973	\$473,339,937	-2.45%
Sales Taxes	\$174,826	\$5,231,016	-3.34%
Property Taxes	\$9,791	\$1,300,598	-0.75%

Exhibit 24.-Summary of Economic Impacts of DesertXpress Diversion Barstow Ramp Up Year #2 (2016)			
Impact	Loss	Base	% Loss
Economic Activity	\$32,297,721		
Job Activity	421	10,463	-4.02%
Income	\$16,871,925	\$473,339,937	-3.56%
Sales Taxes	\$300,800	\$5,231,016	-5.75%
Property Taxes	\$16,846	\$1,300,598	-1.30%

Growth Over Time. Over time, the share of Barstow's economy impacted by DesertXpress will slowly grow. In 17 years of growth, without it, total traffic on the I-15 is anticipated to grow at 1.66% from the I-40 to the Nevada State Line (*Exhibit 25*). Adjusting these dates forward to the new starting date for full operation of the project, this would take it from 2017 to 2034.

- Starting with the amount of private vehicle traffic calculated above (*north*) of Barstow in 2017, 1.66% is applied as the growth rate in column 1 of Exhibit 27 (*page 23*) to show total volume through 2034.
- 80.8% is the share of this traffic is assumed throughout 2017 to 2034 to be headed for Las Vegas. In column 2 of Exhibit 27, it thus shows the amount of private vehicle traffic each year headed for that city.
- 2.46 is the average number of people per vehicle. It is assumed throughout the period. In column 3 of Exhibit 27, it shows the number of private vehicle passengers headed for Las Vegas from 2017 to 2034.
- In column 6, Exhibit 27, the total bus passengers on the I-15 north of Barstow starts with the number calculated for year 0 in 2017. It then also increases at 1.66% per year.

Exhibit 25.-Growth of I-15 Traffic Without DesertXpress								
	2013 (<i>new start: 2017</i>)				2030 (<i>adjusted: 2034</i>)			
	AM		PM		AM		PM	
	No. Bound	So. Bound	No. Bound	So. Bound	No. Bound	So. Bound	No. Bound	So. Bound
No. Jct. Stoddard to I-40	3,756	3,147	2,533	5,134	4,777	4,003	3,221	6,529
Jct. I-40 to Nevada State Line	2,842	2,382	1,915	3,881	3,760	3,150	2,537	5,143
No. Jct. Stoddard to I-40					27.2%	27.2%	27.2%	27.2%
Jct. I-40 to Nevada State Line					32.3%	32.2%	32.5%	32.5%
No. Jct. Stoddard to I-40					1.42%	1.43%	1.42%	1.42%
Jct. I-40 to Nevada State Line					1.66%	1.66%	1.67%	1.67%

Source: Traffic Impact Analysis, DesertXpress, DMJM Harris, AECOM, February 2009, Table 3-1, page 3-1

Once DesertXpress reaches its full operational state in 2017, after its ramp-up phase, the anticipation is that its volumes will grow. According to the URS study, the rates of growth of private passengers and bus diversion from the I-15 would be (*Exhibit 26*):

- 4% compound rate from Year 1 to Year 8 (*now: 2017 to 2024*)
- 2.3% from Year 9 to Year 18 (*now: 2025 to 2034*)
- 1.2% from Year 19 to Year 29 (*now: 2035 to 2045*)

Exhibit 26.-Growth of DesertXpress Diversion of Riders From I-15								
Year	Auto	Bus	Year	Auto	Bus	Year	Auto	Bus
2015	45.1%	45.0%	2025	2.3%	2.3%	2035	1.2%	1.2%
2016	77.6%	77.7%	2026	2.3%	2.3%	2036	1.2%	1.1%
2017	100.0%	100.0%	2027	2.3%	2.5%	2037	1.2%	1.1%
2018	4.0%	4.2%	2028	2.3%	2.2%	2038	1.2%	1.3%
2019	4.0%	3.7%	2029	2.3%	2.4%	2039	1.2%	1.1%
2020	4.0%	4.3%	2030	2.3%	2.1%	2040	1.2%	1.3%
2021	4.0%	3.8%	2031	2.3%	2.3%	2041	1.2%	1.1%

Year	Auto	Bus	Year	Auto	Bus	Year	Auto	Bus
2022	4.0%	4.3%	2032	2.3%	2.5%	2042	1.2%	1.3%
2023	4.0%	3.8%	2033	2.3%	2.2%	2043	1.2%	1.3%
2024	4.0%	4.0%	2034	2.3%	2.4%	2044	1.2%	1.0%
						2045	1.2%	1.2%

Source: Calculated growth rates based upon data in Desert Xpress Updated Ridership and Revenue Study, URS, December 22, 2005, Appendix B, Table 15, p. 16; years updated to new forecasted starting date of 2017

- In Exhibit 26, column 4, the number of private auto passengers diverted on to DesertXpress starts at the level calculated for year 0 in 2017. It grows at 4.0% to 2024. The same growth rates apply to bus passengers in column 7.
- DesertXpress auto passenger diversion then grows at 2.3% from 2025 to 2034. Again, the same growth rates apply to bus passengers in column 7.

Exhibit 27.-DesertXpress Traveler Diversion, Year 0 (2017) to Year 17 (2034)									
		1	2	3	4	5	6	7	8
		I-15 No.-So.	Las Vegas	Las Vegas	DesertXpress	DesertXpress	Las Vegas	DesertXpress	DesertXpress
					4.0%	Diversion	Bus	Bus	Diversion
Year	Year	1.66%	80.8%	2.46	2.3%	Auto	See Col. #1	See Col. #4	Bus
Operation	Calendar	Auto	Auto	Passengers	Passengers	Passengers	Passengers	Passengers	Passengers
0	2017	5,539,788	4,476,969	11,013,344	2,012,138	18.3%	1,180,227	260,187	22.0%
1	2018	5,631,748	4,551,287	11,196,165	2,092,623	18.7%	1,199,819	270,594	22.6%
2	2019	5,725,235	4,626,838	11,382,022	2,176,328	19.1%	1,219,736	281,418	23.1%
3	2020	5,820,274	4,703,644	11,570,963	2,263,381	19.6%	1,239,983	292,675	23.6%
4	2021	5,916,890	4,781,724	11,763,041	2,353,917	20.0%	1,260,567	304,382	24.1%
5	2022	6,015,111	4,861,101	11,958,308	2,448,073	20.5%	1,281,493	316,557	24.7%
6	2023	6,114,962	4,941,795	12,156,816	2,545,996	20.9%	1,302,765	329,220	25.3%
7	2024	6,216,470	5,023,829	12,358,619	2,647,836	21.4%	1,324,391	342,388	25.9%
8	2025	6,319,663	5,107,224	12,563,772	2,708,736	21.6%	1,346,376	350,263	26.0%
9	2026	6,424,570	5,192,004	12,772,330	2,771,037	21.7%	1,368,726	358,319	26.2%
10	2027	6,531,218	5,278,191	12,984,351	2,834,771	21.8%	1,391,447	366,561	26.3%
11	2028	6,639,636	5,365,809	13,199,891	2,899,971	22.0%	1,414,545	374,992	26.5%
12	2029	6,749,854	5,454,882	13,419,009	2,966,670	22.1%	1,438,026	383,616	26.7%
13	2030	6,861,901	5,545,433	13,641,765	3,034,904	22.2%	1,461,897	392,440	26.8%
14	2031	6,975,809	5,637,487	13,868,218	3,104,707	22.4%	1,486,165	401,466	27.0%
15	2032	7,091,607	5,731,069	14,098,431	3,176,115	22.5%	1,510,835	410,699	27.2%
16	2033	7,209,328	5,826,205	14,332,465	3,249,165	22.7%	1,535,915	420,145	27.4%
17	2034	7,329,003	5,922,920	14,570,384	3,323,896	22.8%	1,561,411	429,809	27.5%

- Using these data, column 5 of Exhibit 27 shows the percentage diversion of private vehicle passengers to DesertXpress from year 0 (2017) to year 17 (2034). For instance:
 - o 18.3% in year 0 (2017).
 - o 21.4% by year 7 (2024) when growth at 4.0% slows.
 - o 22.8% by year 17 (2034) when the 2.3% growth ends.
- Column 8 shows the share of bus passengers captured by DesertXpress. For instance:
 - o 22.0%

- o 25.9% in year 7 (2024) when growth at 4.0% slows.
- o 27.5% in year 17 (2034) when 2.3% growth ends.

Given these results, it is necessary to look at the longer term impact on Barstow's economy of these changes in the impact of DesertXpress. This is done by re-running the Implan model increasing the retail sales impact caused by the higher shares of Las Vegas bound private vehicle and bus travelers captured by high speed rail. The process looks at Barstow in 2009, but varies the share of Las Vegas bound private vehicle and bus passengers that would be captured, using the 2024 and 2034 factors calculated above.

By way of comparison, when the Implan modeling was used for the first year of "normal" operations, after ramp-up (*year 0: 2017*), the result was Exhibit 22 (*re-shown*).

Exhibit 22 (re-shown).-Summary of Economic Impacts of DesertXpress Diversion Barstow 2009 or Full Operation (Year 0: 2017)			
Impact	Loss	Base	% Loss
Economic Activity	\$41,613,859		
Job Activity	542	10,463	-5.18%
Income	\$21,738,559	\$473,339,937	-4.59%
Sales Taxes	\$387,564	\$5,231,016	-7.41%
Property Taxes	\$21,706	\$1,300,598	-1.67%

Source: Calculations made above by Economics & Politics, Inc.

Running the Implan model again, but using the 21.4% diversion rate for private vehicles and 25.9% for bus passengers that were forecasted for year 7, 2024, when the 4.0% growth period ends results in Exhibit 28.

Exhibit 28.-Summary of Economic Impacts of DesertXpress Diversion Barstow 2009 or Full Operation (Year 7: 2024)			
Impact	Loss	Base	% Loss
Economic Activity	\$48,800,090		
Job Activity	636	10,463	-6.07%
Income	\$25,492,555	\$473,339,937	-5.39%
Sales Taxes	\$454,492	\$5,231,016	-8.69%
Property Taxes	\$25,454	\$1,300,598	-1.96%

Source: Calculations made above by Economics & Politics, Inc.

Running the Implan model year another time, but using the 22.8% diversion rate for private vehicles and 27.5% for bus passengers that were forecasted for year 7, 2024, both the 4.0% growth period and 2.3% growth period have ended results in Exhibit 29.

Exhibit 29.-Summary of Economic Impacts of DesertXpress Diversion Barstow 2009 or Full Operation (Year 17: 2034)			
Impact	Loss	Base	% Loss
Economic Activity	\$51,960,809		
Job Activity	676	10,463	-6.46%
Income	\$27,143,674	\$473,339,937	-5.73%
Sales Taxes	\$483,929	\$5,231,016	-9.25%
Property Taxes	\$27,102	\$1,300,598	-2.08%

Source: Calculations made above by Economics & Politics, Inc.

These model runs lead to the following conclusions:

- **Jobs.** At full operation in 2017, DesertXpress would impact -5.2% of Barstow's jobs. In 2024, 7-years later, that would reach -6.1%. In 2034, 17-years later, it would be -6.5%.
- **Income.** In 2017, DesertXpress would impact -4.6% of Barstow's income. In 2024, 7-years later, that would reach -5.4%. In 2034, 17-years later it would be -5.7%.
- **Sales Tax.** In 2017, DesertXpress would impact -7.4% of Barstow's sales taxes. In 2024, 7-years later, that would reach -8.7%. In 2034, 17-years later it would be -9.3%.
- **Property Tax.** In 2017, DesertXpress would impact -1.7% of Barstow's property taxes. In 2024, 7-years later, it would be -2.0%. In 2034, 17-years later it would be -2.1%.

Summary. Based upon these data, DesertXpress would have a downward influence on Barstow's economy. The magnitude for all variables would be less than 10%, ranging from a low of -1.7% on property taxes in the first full year of operation during 2017 (*six years from now*), to a high of -9.25% on sales taxes in the 17th year of operations in 2034 (*23 years from now*). Importantly, job losses would represent a high of -6.5% of the greater Barstow area's current 10,463 jobs some 23 years into the future.

Construction Job Creation

While there will be some job and income loss in Barstow once DesertXpress begins operating, there will be significant job generation during the project's three year construction phase. An analysis of the overall impact of this activity was conducted by Thomas Carroll & Associates.¹⁸ In San Bernardino County, that firm's analysis found that this would include an average of 9,461 direct jobs per year for three years as well as another 8,900 indirect and induced jobs (*Exhibit 30*). Altogether, that would represent an annual average of 18,361 jobs per year for three years.

Exhibit 30.-Job & Payroll Generation, Construction, DesertXpress on San Bernardino County, 2012-2014						
	Direct		Indirect & Induced		Total	
	Jobs	Payroll	Jobs	Payroll	Jobs	Payroll
2012	5,898	\$432,063,600	5,548	\$307,765,236	11,446	\$739,828,836
2013	14,238	\$1,080,159,000	13,393	\$763,950,588	27,631	\$1,844,109,588
2014	8,248	\$648,095,400	7,758	\$455,791,189	16,006	\$1,103,886,589
Annual Average	9,461	\$720,106,000	8,900	\$509,169,004	18,361	\$1,229,275,004

Source: DesertXpress: Predicted Employment and Economic Impact Analysis, Thomas Carroll & Assoc., October 11,2010

In addition, the analysis found that the project would have an average annual direct payroll of \$720 million, with another \$509 million induced or created indirectly. For the three year period, this would put an extra \$1.2 billion a year of wages and salaries into San Bernardino County's economy.

As Barstow is the nearest city in San Bernardino County to where much of this work will occur, it is realistic to assume that a disproportionate share of this money will flow into the city. This would be especially true on the 113 mile stretch from Barstow to Primm, Nevada. In 2008, the city had 2,139 workers in blue collar sectors (*construction, manufacturing, wholesale trade, trucking, warehousing*). Many of them will likely find work on a project of this magnitude. Also, it should help with the city's unemployment rate which stood at 17.0% in October 2010.

¹⁸ Desert Express: Predicted Employment and Economic Impact Analysis, October 06,2010

Even if half the 17.4% factor applied to Bartow's share of San Bernardino County's economic activity related to its retail sales is used, the impact on the city during the three year construction phase would be significant:

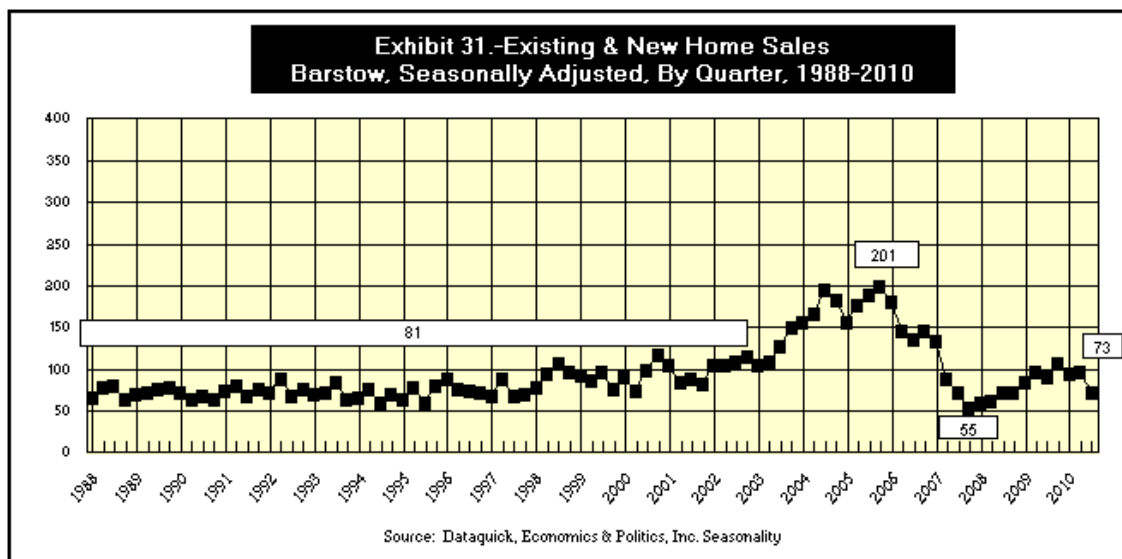
- **1,600** jobs created on average for three years or 8.7% of 18,361 created in the county. That would increase employment in the city area by 19.3% over its 2009 level of 10,463.
- **\$101,678,937** in payroll reaching the city on average for three years or 8.27% of the \$1,229,275,004 paid in the county, a gain of 22.6% over the 2008 level of \$473,339,937.

Barstow Housing Market

Another issue of concern is the potential that the loss of retail sales in Barstow, due to the diversion of freeway travelers to DesertXpress, would affect housing values in Barstow. This would occur if the city's housing market was closely tied to fluctuations in the local economy.

Looking at the data:

- Barstow's housing market was relatively static from 1988 to the end of 2002. During this period, the volume of existing and new home sales barely fluctuated and averaged just 81 sales.
- This shifted during the recent housing bubble as lack of affordability elsewhere in Southern California apparently sent buyers to edge markets. The city's volume thus rose as high as 201 seasonally adjusted sales in fourth quarter 2005.
- From there, the market fell to just 55 sales in fourth quarter 2007, before rebounding to 109 sales in fourth quarter 2009 and falling off to 73.
- That third quarter 2010 figure was roughly back to the city's earlier long term average (*Exhibit 31*).



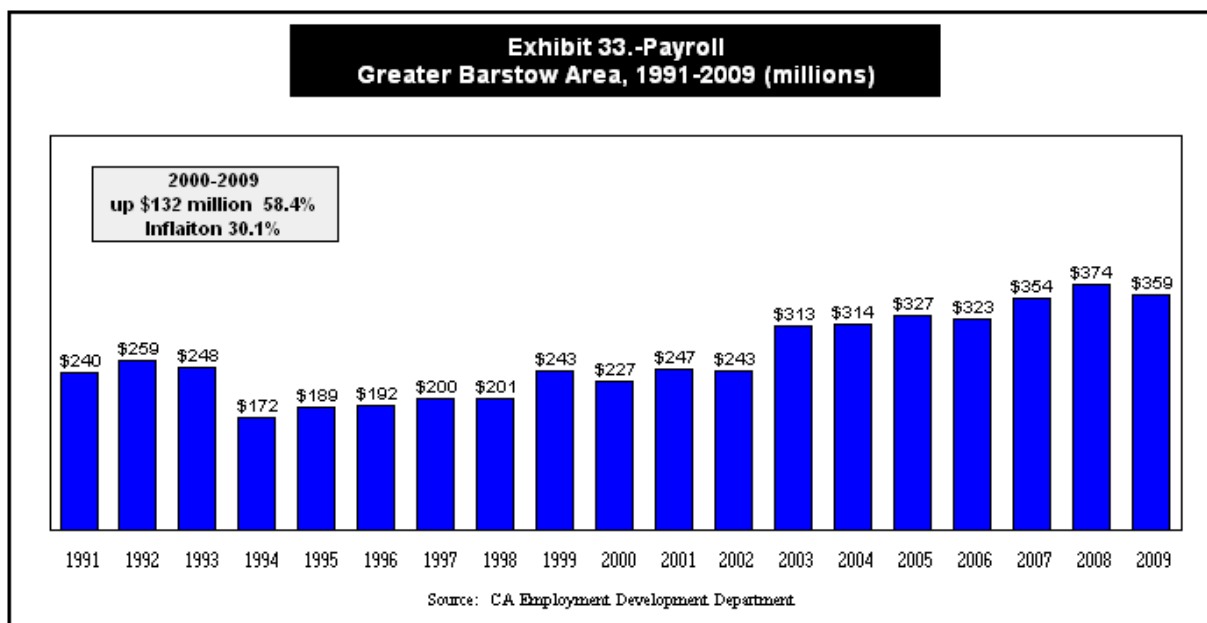
Looking at new and existing home median price in Barstow:

- They were very stable from 1988 to the end of 2003, averaging \$67,353 in this period.
- This changed during the housing bubble with the median price reaching a high of \$199,700 in fourth quarter 2006.

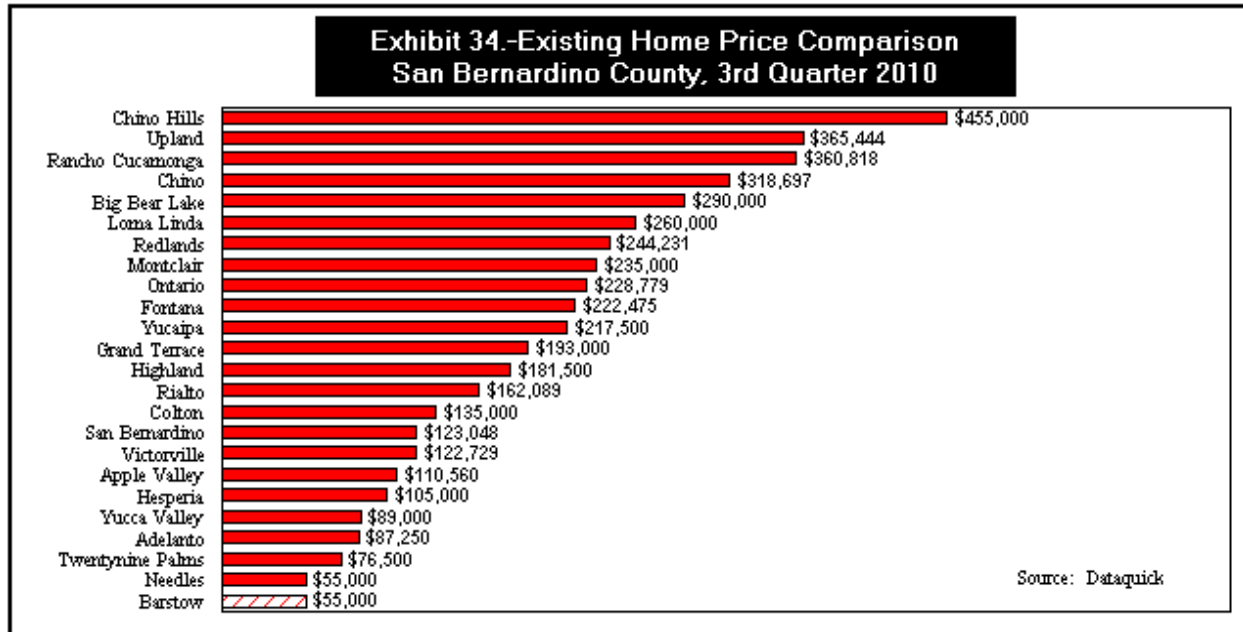
- From there, the median price ultimately plunged back to its prior long term average, reaching a low of \$63,373 in second quarter 2010.
- It rebounded a little to \$68,462 in third quarter 2010 (*Exhibit 32*).



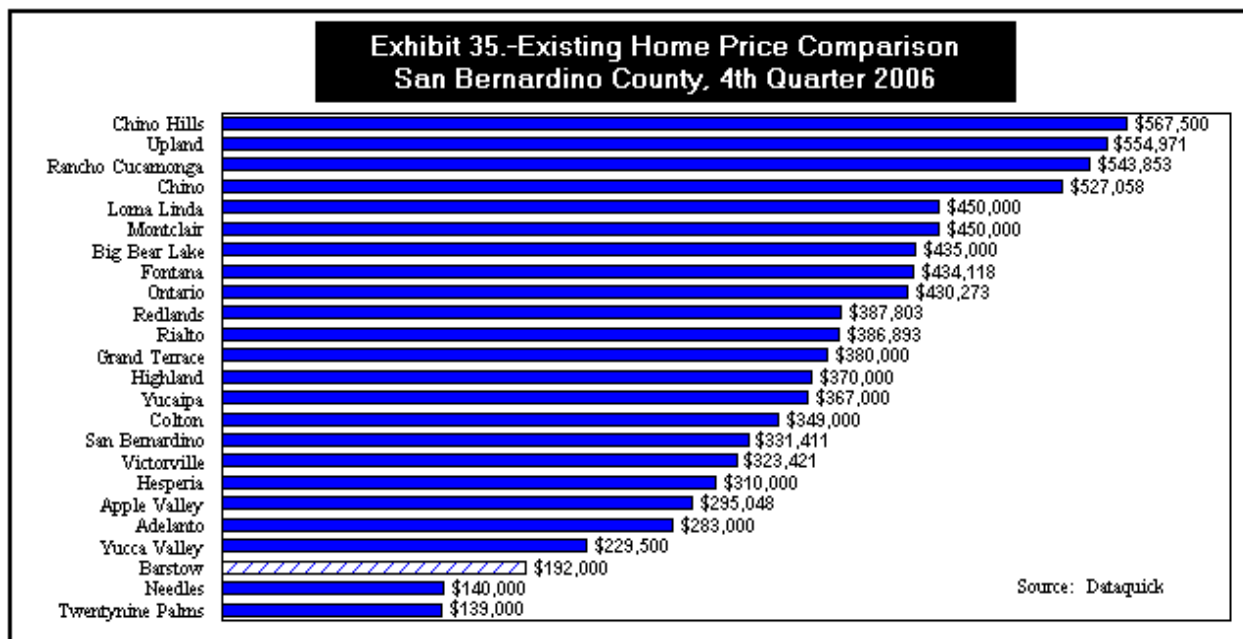
Interestingly, the fluctuations in Barstow's housing market are not reflected in employment among firms and agencies in the greater Barstow area. From 2000-2009, the total number of jobs in Barstow and adjacent unincorporated areas went from 9,747 to 10,439. The job level thus rose slowly by 692 positions, a gain of 7.1%. These gains in employment do not reflect the wide gyrations in the city's housing market from 2003-2009 (*Exhibit 32*). Similarly, the payroll released into the greater Barstow market by employers has grown in a relatively stable fashion in this decade, increasing by \$132 million or 58.4% and exceeding the 30.1% inflation rate (*Exhibit 33*). Again, the movement of payroll is not reflective of the major swings in housing volumes and prices.



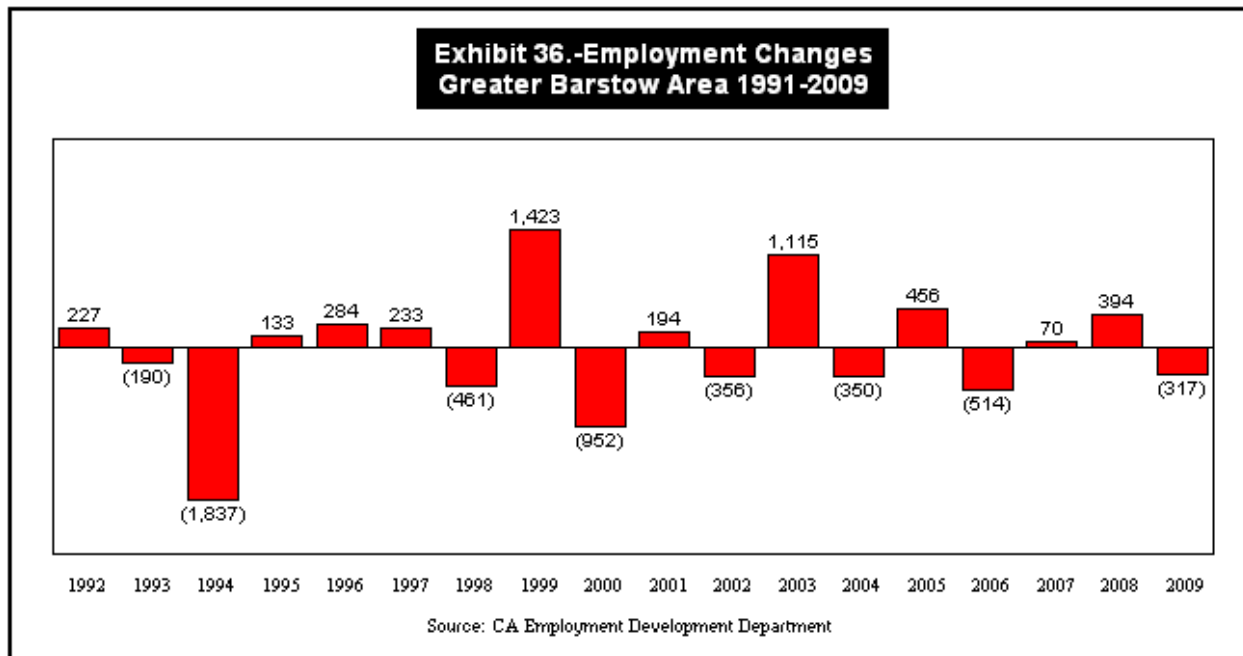
From these facts, the conclusion is that Barstow's housing market behavior has been more influenced by its unusually low housing prices relative to the rest of San Bernardino County than by any movements in the greater Barstow economy. The city's bargain residential prices were seen in third quarter 2010 when its median existing home price was at \$55,000. That tied Needles as the least expensive in San Bernardino County (*Exhibit 34*).



Even when Barstow's prices were at their peak in fourth quarter 2006, the city's median existing home price of \$192,000 was only higher than extreme outlying Needles (\$140,000) and Twentynine Palms (\$139,000) (*Exhibit 35*). It was \$90,000-\$130,000 below the other High Desert cities: Adelanto (\$283,000); Apple Valley (\$295,048); Hesperia (\$310,000), Victorville (\$323,421).



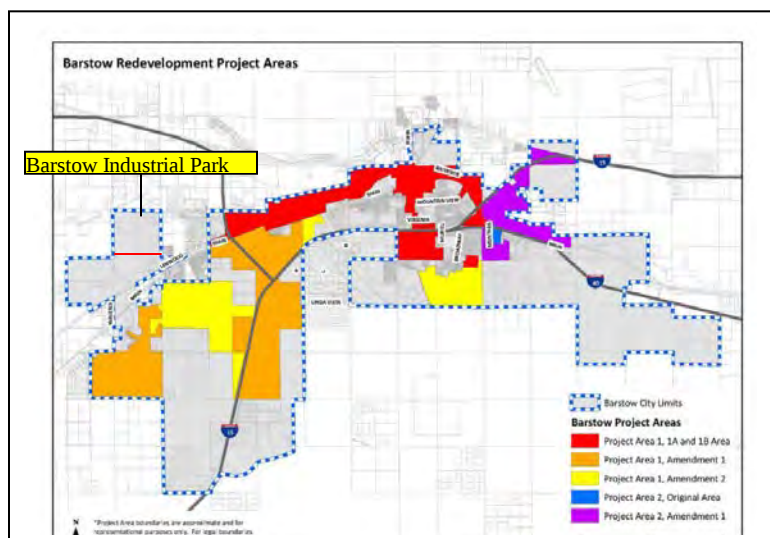
Given these data, the conclusion is that Barstow's housing market is more dependent on its relative price of housing vis-à-vis other county markets than its internal economy. Certainly, the the loss of 676 jobs due to DesertXpress reaching its forecasted level of ridership in 2017 (see *Exhibit 22, page 21*) would not have a major impact on the city's housing market. The same can be said for the 636 jobs forecasted to be lost in 2024 or the 676 by 2034. In fact, the greater Barstow economy has seen gains and losses of jobs of this magnitude and more without the housing market showing any significant influence from them (*Exhibit 36*).



Barstow Industrial Park

An important concern for Barstow has been the creation of a specific plan for the Barstow Industrial Park. This 1,200-acre site is in the northwest of the city and is primarily accessible by Lynwood Road along its eastern side.

It is largely designed for use by distribution, trucking and manufacturers with a rail extension to it. Wal-Mart has already selected 147 acres for a 1,078,000 square foot distribution center and is moving ahead on its development. Eventually, the city hopes to see 10,000 jobs created within the Barstow Industrial Park.



Barstow was concerned that the DesertXpress line would move through the Barstow Industrial Park and therefore interfere with its plans for its development. However, the current plans for the rail line no longer call for it to go through this industrial site. That issue is therefore mute.

Meanwhile, modeling done for the Southern California Association of Governments Multi-County Goods Movement Study,¹⁹ indicate that there will not be a significant flow of distribution facilities into the High Desert until roughly 2022. Special cases will arise where these outlying markets can draw logistics firms. Generally, they will involve companies needing to avoid the Southern California Air Quality Management District, or firms wanting a centralized location to supply the ring of regions including Northern and Southern California, Las Vegas and Phoenix. These factors, far more than DesertXpress, will impact the success of Barstow Industrial Park.

Summary

To ascertain the impact of DesertXpress on Barstow, this report has looked at the city's existing situation as a relatively remote, smaller economy with a somewhat older population and households with very modest income levels and high levels of people on public assistance. To date, the city has seen relatively low levels of population, job and income growth.

As an outlying economy, the report analyzed the 2009 role that retail sales play in Barstow's economic base. In particular, it examined the levels of spending in those retail sectors in which funds were clearly flowing into the city from the outside world (*service stations, apparel, eating & drinking, general merchandise, food stores*). Since Barstow residents also shop in these sectors, estimates were made of their local purchases in them. That work relied heavily on household spending patterns by sector from the U.S. Census for western consumers. Also, a newly created UCLA database allowed estimates of commercial trucking purchases at service stations. With these eliminated, a base was set of the 2009 impact of travelers on the city's retail economy.

Using 2008-2009 data from Caltrans as well the URS study of DesertXpress, estimates were made of the number of passengers in private vehicles and buses who pass through Barstow because of the I-15, I-40 and SR-58 freeways. Together with the data on sales in traveler-dependent retail sectors, this allowed calculation of the average per capita spending of people who could be impacting the city's retail economy.

Using the Caltrans data, as well as the URS study, an estimate was next made of passenger travelers involved in 2009 trips to or from Nevada as well as the share of those trips that likely involved people going specifically to Las Vegas. Very importantly, it was the share of these travelers that URS estimated would be reduced because of DesertXpress.

This analysis used the URS percentage for private vehicles, 20.3%, but lowered it by 10% to 18.3%, in accordance with the findings of peer reviewer Steer Davies Gleave supported by peer reviewer Cambridge Systematics. Day travel to Las Vegas that would be induced and captured by DesertXpress was not included since it would not represent a decrease from current travel patterns. The 22.0% estimate of bus traveler diversion by URS was also used. These calculations allowed estimates of the sales by retail sector that would have been lost to Barstow had DesertXpress been in its year 0, 2017 full operational mode.

Given the loss of funds calculated from Barstow's economy base, the standard Implan model used by economists for outlying economies was used to estimate the full direct, indirect and induced effects on economic activity, jobs, income, sales and property taxes of DesertXpress on

¹⁹ SCAG Goods Movement Task 5, Industrial Space in Southern California: Future Supply and Demand for Warehousing and Intermodal Facilities, Final Draft Report, April 15, 2010

the city had they occurred in 2009. This was used as the year 0, 2017 level of impact. Prior to that, there would be two ramp-up years in 2015 and 2016, as people become aware of the high speed rail system. The lower levels of impact in those two years were thus estimated.

Looking longer term, traffic data from DMJM Harris, AECOM allowed the calculation that DesertXpress's customer base is forecasted to grow faster than freeway traffic along the I-15 from Barstow to Nevada. Using the I-15 growth factors found by these traffic consultants for a 17 year period, and comparing them to URS's estimates of the rate of growth of DesertXpress's customer base, allowed estimates of the growing share of private vehicle and bus passengers that would use high speed rail. Those estimates were used to calculate the impact of DesertXpress on Barstow in year 7 (2024) and year 17 (2034).

In contrast to the impacts of traveler diversion on Barstow's economy during 2015-2017, 2024 and 2034, the analysis also looked at the effect on wage and salary jobs and payroll during the construction phase for DesertXpress. This work relied upon information created by Thomas Carroll & Associates, led by a professor at UNLV.

Two other concerns about the impact of DesertXpress were also examined: its impact on the city's housing market and the city's new Barstow Industrial Park.

[Appendix A](#)
Consumer Spending By Sector

Consumer Use of Income, By Income Group, By Category, Western U.S., 2009

Barstow Households		0	467	890	666	842	771	663	1,665	2,338	8,302
Income Group	Total West	Under \$5,000	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$39,999	\$40,000 to \$49,999	\$50,000 to \$69,999	\$70,000 & More	Taxable
Income before taxes	\$66,678	(\$8,788)	\$7,999	\$12,660	\$17,504	\$24,861	\$34,704	\$44,727	\$59,188	\$129,513	
Income after taxes	\$64,360	(\$9,138)	\$8,174	\$12,942	\$17,548	\$25,260	\$34,741	\$43,969	\$58,227	\$123,335	
Annual expenditures	\$54,226	\$28,348	\$22,256	\$24,998	\$26,559	\$31,977	\$38,290	\$43,112	\$52,524	\$85,133	
Food at home	\$4,081	\$2,665	\$2,485	\$3,105	\$2,658	\$3,159	\$3,162	\$3,764	\$3,893	\$5,482	0.0%
Food away from home	\$2,889	\$1,495	\$1,080	\$1,165	\$1,115	\$1,499	\$1,994	\$2,457	\$2,793	\$4,637	100.0%
Alcoholic beverages	\$524	\$562	\$246	\$271	\$94	\$225	\$381	\$525	\$548	\$794	100.0%
Mortgage interest	\$5,200	\$2,677	\$1,094	\$1,004	\$1,055	\$1,950	\$2,442	\$3,396	\$4,930	\$9,744	0.0%
Property taxes	\$1,562	\$842	\$405	\$571	\$615	\$821	\$887	\$1,145	\$1,413	\$2,693	0.0%
Maintenance, repairs,	\$1,136	\$659	\$485	\$519	\$598	\$802	\$667	\$687	\$1,060	\$1,837	0.0%
Rented dwellings	\$3,951	\$3,489	\$4,683	\$3,946	\$4,697	\$4,552	\$4,827	\$4,643	\$4,033	\$3,133	0.0%
Other lodging	\$700	\$308	\$174	\$135	\$188	\$276	\$295	\$325	\$465	\$1,433	0.0%
Natural gas	\$444	\$277	\$204	\$242	\$248	\$349	\$368	\$439	\$454	\$603	0.0%
Electricity	\$1,148	\$711	\$648	\$725	\$841	\$910	\$1,036	\$1,046	\$1,205	\$1,480	0.0%
Fuel oil & other fuels	\$67	\$89	\$46	\$37	\$73	\$62	\$73	\$42	\$71	\$76	0.0%
Telephone services	\$1,127	\$654	\$630	\$643	\$737	\$880	\$983	\$1,092	\$1,206	\$1,471	0.0%
Public services	\$570	\$347	\$236	\$308	\$344	\$363	\$444	\$524	\$578	\$823	0.0%
Personal services	\$428	\$195	\$62	\$121	\$338	\$161	\$188	\$152	\$398	\$796	0.0%
Other household cost	\$718	\$447	\$234	\$298	\$492	\$414	\$451	\$509	\$558	\$1,204	50.0%
Cleaning supplies	\$153	\$71	\$104	\$129	\$90	\$121	\$120	\$134	\$165	\$198	100.0%
Other household	\$312	\$136	\$181	\$275	\$168	\$182	\$227	\$247	\$304	\$456	100.0%
Postage and stationery	\$172	\$209	\$50	\$114	\$99	\$167	\$115	\$138	\$171	\$231	50.0%
Household textiles	\$148	\$241	\$30	\$81	\$53	\$88	\$58	\$89	\$155	\$241	100.0%
Furniture	\$358	\$116	\$175	\$178	\$217	\$162	\$176	\$240	\$318	\$618	100.0%
Floor coverings	\$32	\$8	\$29	\$5	\$21	\$11	\$17	\$27	\$13	\$63	100.0%
Major appliances	\$219	\$63	\$96	\$92	\$84	\$116	\$131	\$190	\$225	\$354	100.0%
Small appliances, misc.	\$124	\$178	\$47	\$46	\$66	\$73	\$58	\$96	\$80	\$214	100.0%
Other household equip.	\$837	\$347	\$294	\$507	\$390	\$370	\$598	\$857	\$646	\$1,363	100.0%
Apparel and services	\$1,866	\$718	\$609	\$1,777	\$1,120	\$1,137	\$1,233	\$1,411	\$1,744	\$2,818	100.0%
Vehicle purchases	\$2,558	\$895	\$697	\$751	\$934	\$1,679	\$2,487	\$1,833	\$2,920	\$3,845	100.0%
Gasoline and motor oil	\$2,347	\$1,162	\$1,100	\$1,059	\$1,246	\$1,612	\$1,932	\$2,324	\$2,560	\$3,277	100.0%
Vehicle finance charges	\$296	\$65	\$70	\$99	\$73	\$131	\$227	\$307	\$338	\$468	0.0%
Maintenance & repairs	\$860	\$381	\$292	\$316	\$459	\$533	\$670	\$769	\$972	\$1,263	25.0%
Vehicle insurance	\$965	\$106	\$133	\$577	\$827	\$556	\$949	\$843	\$1,279	\$1,224	0.0%
Other Vehicle costs	\$527	\$213	\$156	\$179	\$180	\$289	\$301	\$498	\$453	\$898	0.0%
Public transportation	\$673	\$383	\$602	\$198	\$266	\$271	\$329	\$358	\$531	\$1,234	0.0%
Health insurance	\$1,646	\$1,249	\$802	\$1,035	\$1,233	\$1,255	\$1,522	\$1,465	\$1,653	\$2,156	0.0%
Medical services	\$885	\$437	\$343	\$288	\$405	\$482	\$739	\$748	\$1,095	\$1,287	0.0%
Drugs	\$450	\$371	\$231	\$249	\$408	\$407	\$508	\$446	\$414	\$534	0.0%
Medical supplies	\$112	\$128	\$45	\$50	\$48	\$102	\$56	\$96	\$113	\$163	100.0%
Fees and admissions	\$739	\$429	\$160	\$188	\$178	\$285	\$420	\$499	\$466	\$1,440	0.0%
Audio and visual	\$1,013	\$693	\$413	\$456	\$504	\$609	\$799	\$838	\$1,135	\$1,478	75.0%
Pets, toys, hobbies,	\$861	\$393	\$207	\$336	\$317	\$495	\$444	\$536	\$631	\$1,580	100.0%
Other entertainment	\$584	\$291	\$221	\$138	\$92	\$255	\$399	\$491	\$824	\$888	75.0%
Personal care products	\$687	\$427	\$275	\$326	\$372	\$400	\$462	\$513	\$598	\$1,113	100.0%
Reading	\$131	\$81	\$42	\$64	\$84	\$83	\$81	\$104	\$121	\$204	100.0%
Education	\$960	\$1,098	\$734	\$637	\$324	\$474	\$394	\$438	\$600	\$1,749	0.0%
Tobacco products	\$268	\$212	\$217	\$228	\$264	\$286	\$296	\$296	\$299	\$250	100.0%
Miscellaneous	\$965	\$319	\$222	\$348	\$285	\$539	\$732	\$727	\$1,026	\$1,565	100.0%
Cash contributions	\$1,954	\$847	\$553	\$659	\$839	\$704	\$1,092	\$1,372	\$2,060	\$3,379	0.0%
Life and other insurance	\$263	\$57	\$91	\$70	\$55	\$95	\$122	\$136	\$233	\$512	0.0%
Pensions and SSI	\$5,717	\$607	\$324	\$452	\$764	\$1,583	\$2,396	\$3,301	\$4,776	\$11,866	0.0%
Total	\$54,227	\$28,348	\$22,257	\$24,997	\$26,558	\$31,975	\$38,288	\$43,113	\$52,523	\$85,135	

Source: Table 34. Western region by income before taxes: Average annual expenditures and characteristics, Consumer Expenditure Survey, 2008-2009, U.S. Census Bureau; Taxable shares from Economics & Politics Inc. using CA Board of Equalization definitions

Calculation of Spending By Sector

	Taxable	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$39,999	\$40,000 to \$49,999	\$50,000 to \$69,999	\$70,000 & More	Barstow Estimated	Barstow Actual
Income before taxes											
Income after taxes		\$3,817,258	\$11,518,380	\$11,686,968	\$21,268,920	\$26,785,311	\$29,151,447	\$96,947,955	\$288,357,23	\$489,533,469	\$473,339,937
Annual expenditures		\$10,393,552	\$22,248,220	\$17,688,294	\$26,924,634	\$29,521,590	\$28,583,256	\$87,452,460	\$199,040,95	\$421,852,960	Taxable
Food at home	0%	\$1,160,495	\$2,763,450	\$1,770,228	\$2,659,878	\$2,437,902	\$2,495,532	\$6,481,845	\$12,816,916	\$32,586,246	\$0
Food away from home	100%	\$504,360	\$1,036,850	\$742,590	\$1,262,158	\$1,537,374	\$1,628,991	\$4,650,345	\$10,841,306	\$22,203,974	\$22,203,974
Alcoholic beverages	100%	\$114,882	\$241,190	\$62,604	\$189,450	\$293,751	\$348,075	\$912,420	\$1,856,372	\$4,018,744	\$4,018,744
Mortgage interest	0%	\$510,898	\$893,560	\$702,630	\$1,641,900	\$1,882,782	\$2,251,548	\$8,208,450	\$22,781,472	\$38,873,240	\$0
Property taxes	0%	\$189,135	\$508,190	\$409,590	\$691,282	\$683,877	\$759,135	\$2,352,645	\$6,296,234	\$11,890,088	\$0
Maintenance, repairs,	0%	\$226,495	\$461,910	\$398,268	\$675,284	\$514,257	\$455,481	\$1,764,900	\$4,294,906	\$8,791,501	\$0
Rented dwellings	0%	\$2,186,961	\$3,511,940	\$3,128,202	\$3,832,784	\$3,721,617	\$3,078,309	\$6,714,945	\$7,324,954	\$33,499,712	\$0
Other lodging	0%	\$81,258	\$120,150	\$125,208	\$232,392	\$227,445	\$215,475	\$774,225	\$3,350,354	\$5,126,507	\$0
Natural gas	0%	\$95,268	\$215,380	\$165,168	\$293,858	\$283,728	\$291,057	\$755,910	\$1,409,814	\$3,510,183	\$0
Electricity	0%	\$302,616	\$645,250	\$560,106	\$766,220	\$798,756	\$693,498	\$2,006,325	\$3,460,240	\$9,233,011	\$0
Fuel oil & other fuels	0%	\$21,482	\$32,930	\$48,618	\$52,204	\$56,283	\$27,846	\$118,215	\$177,688	\$535,266	\$0
Telephone services	0%	\$294,210	\$572,270	\$490,842	\$740,960	\$757,893	\$723,996	\$2,007,990	\$3,439,198	\$9,027,359	\$0
Public services	0%	\$110,212	\$274,120	\$229,104	\$305,646	\$342,324	\$347,412	\$962,370	\$1,924,174	\$4,495,362	\$0
Personal services	0%	\$28,954	\$107,690	\$225,108	\$135,562	\$144,948	\$100,776	\$662,670	\$1,861,048	\$3,266,756	\$0
Other household cost	50%	\$109,278	\$265,220	\$327,672	\$348,588	\$347,721	\$337,467	\$929,070	\$2,814,952	\$5,479,968	\$2,739,984
Cleaning supplies	100%	\$48,568	\$114,810	\$59,940	\$101,882	\$92,520	\$88,842	\$274,725	\$462,924	\$1,244,211	\$1,244,211
Other household	100%	\$84,527	\$244,750	\$111,888	\$153,244	\$175,017	\$163,761	\$506,160	\$1,066,128	\$2,505,475	\$2,505,475
Postage and stationery	50%	\$23,350	\$101,460	\$65,934	\$140,614	\$88,665	\$91,494	\$284,715	\$540,078	\$1,336,310	\$668,155
Household textiles	100%	\$14,010	\$72,090	\$35,298	\$74,096	\$44,718	\$59,007	\$258,075	\$563,458	\$1,120,752	\$1,120,752
Furniture	100%	\$81,725	\$158,420	\$144,522	\$136,404	\$135,696	\$159,120	\$529,470	\$1,444,884	\$2,790,241	\$2,790,241
Floor coverings	100%	\$13,543	\$4,450	\$13,986	\$9,262	\$13,107	\$17,901	\$21,645	\$147,294	\$241,188	\$241,188
Major appliances	100%	\$44,832	\$81,880	\$55,944	\$97,672	\$101,001	\$125,970	\$374,625	\$827,652	\$1,709,576	\$1,709,576
Small appliances, misc.	100%	\$21,949	\$40,940	\$43,956	\$61,466	\$44,718	\$63,648	\$133,200	\$500,332	\$910,209	\$910,209
Other household equip.	100%	\$137,298	\$451,230	\$259,740	\$311,540	\$461,058	\$568,191	\$1,075,590	\$3,186,694	\$6,451,341	\$6,451,341
Apparel and services	100%	\$284,403	\$1,581,530	\$745,920	\$957,354	\$950,643	\$935,493	\$2,903,760	\$6,588,484	\$14,947,587	\$14,947,587
Vehicle purchases	100%	\$325,499	\$668,390	\$622,044	\$1,413,718	\$1,917,477	\$1,215,279	\$4,861,800	\$8,989,610	\$20,013,817	\$20,013,817
Gasoline and motor oil	100%	\$513,700	\$942,510	\$829,836	\$1,357,304	\$1,489,572	\$1,540,812	\$4,262,400	\$7,661,626	\$18,597,760	\$18,597,760
Vehicle finance charges	0%	\$32,690	\$88,110	\$48,618	\$110,302	\$175,017	\$203,541	\$562,770	\$1,094,184	\$2,315,232	\$0
Maintenance & repairs	25%	\$136,364	\$281,240	\$305,694	\$448,786	\$516,570	\$509,847	\$1,618,380	\$2,952,894	\$6,769,775	\$1,692,444
Vehicle insurance	0%	\$62,111	\$513,530	\$550,782	\$468,152	\$731,679	\$558,909	\$2,129,535	\$2,861,712	\$7,876,410	\$0
Other Vehicle costs	0%	\$72,852	\$159,310	\$119,880	\$243,338	\$232,071	\$330,174	\$754,245	\$2,099,524	\$4,011,394	\$0
Public transportation	0%	\$281,134	\$176,220	\$177,156	\$228,182	\$253,659	\$237,354	\$884,115	\$2,885,092	\$5,122,912	\$0
Health insurance	0%	\$374,534	\$921,150	\$821,178	\$1,056,710	\$1,173,462	\$971,295	\$2,752,245	\$5,040,728	\$13,111,302	\$0
Medical services	0%	\$160,181	\$256,320	\$269,730	\$405,844	\$569,769	\$495,924	\$1,823,175	\$3,009,006	\$6,989,949	\$0
Drugs	0%	\$107,877	\$221,610	\$271,728	\$342,694	\$391,668	\$295,698	\$689,310	\$1,248,492	\$3,569,077	\$0
Medical equip & supply	100%	\$21,015	\$44,500	\$31,968	\$85,884	\$43,176	\$63,648	\$188,145	\$381,094	\$859,430	\$859,430
Fees and admissions	0%	\$74,720	\$167,320	\$118,548	\$239,970	\$323,820	\$330,837	\$775,890	\$3,366,720	\$5,397,825	\$0
Audio and visual	75%	\$192,871	\$405,840	\$335,664	\$512,778	\$616,029	\$555,594	\$1,889,775	\$3,455,564	\$7,964,115	\$5,973,086
Pets, toys, hobbies,	100%	\$96,669	\$299,040	\$211,122	\$416,790	\$342,324	\$355,368	\$1,050,615	\$3,694,040	\$6,465,968	\$6,465,968
Other entertainment	75%	\$103,207	\$122,820	\$61,272	\$214,710	\$307,629	\$325,533	\$1,371,960	\$2,076,144	\$4,583,275	\$3,437,456
Personal care products	100%	\$128,425	\$290,140	\$247,752	\$336,800	\$356,202	\$340,119	\$995,670	\$2,602,194	\$5,297,302	\$5,297,302
Reading	100%	\$19,614	\$56,960	\$55,944	\$69,886	\$62,451	\$68,952	\$201,465	\$476,952	\$1,012,224	\$1,012,224
Education	0%	\$342,778	\$566,930	\$215,784	\$399,108	\$303,774	\$290,394	\$999,000	\$4,089,162	\$7,206,930	\$0
Tobacco products	100%	\$101,339	\$202,920	\$175,824	\$240,812	\$228,216	\$196,248	\$497,835	\$584,500	\$2,227,694	\$2,227,694
Miscellaneous	100%	\$103,674	\$309,720	\$189,810	\$453,838	\$564,372	\$482,001	\$1,708,290	\$3,658,970	\$7,470,675	\$7,470,675
Cash contributions	0%	\$258,251	\$586,510	\$558,774	\$592,768	\$841,932	\$909,636	\$3,429,900	\$7,900,102	\$15,077,873	\$0
Life and other insurance	0%	\$42,497	\$62,300	\$36,630	\$79,990	\$94,062	\$90,168	\$387,945	\$1,197,056	\$1,990,648	\$0
Pensions and SSI	0%	\$151,308	\$402,280	\$508,824	\$1,332,886	\$1,847,316	\$2,188,563	\$7,952,040	\$27,742,708	\$42,125,925	\$0
Total		\$10,394,019	\$22,247,330	\$17,687,628	\$26,922,950	\$29,520,048	\$28,583,919	\$87,450,795	\$199,045,63	\$421,852,319	\$134,599,293

Green = Sectors Bringing Money Into Barstow
Source: Economics & Politics, Inc.

Calculation of Local Spending By Sector				
Sector	Taxable	Sector	Local Spending	Amount
Food away from	\$22,203,974	Eat & Drinking	100%	\$22,203,974
Alcoholic beverages	\$4,018,744	Food Store	50%	\$2,009,372
Other household cost	\$2,739,984	Food Stores	75%	\$2,054,988
Cleaning supplies	\$1,244,211	Food Stores	100%	\$1,244,211
Other household	\$2,505,475	Food Stores	100%	\$2,505,475
Stationery	\$668,155	Food Stores	25%	\$167,039
Household textiles	\$1,120,752	General Merchandise	95%	\$1,064,714
Furniture	\$2,790,241	General Merchandise	50%	\$1,395,121
Floor coverings	\$241,188	General Merchandise	50%	\$120,594
Major appliances	\$1,709,576	General Merchandise	95%	\$1,624,097
Small appliances,	\$910,209	General Merchandise	100%	\$910,209
Other household	\$6,451,341	General Merchandise	100%	\$6,451,341
Apparel and services	\$14,947,587	Apparel	100%	\$14,947,587
Gasoline and motor	\$18,597,760	Gas Station	100%	\$18,597,760
Maintenance &	\$1,692,444	Gas Station	50%	\$846,222
Medical equip &	\$859,430	General Merchandise	50%	\$429,715
Audio and visual	\$5,973,086	General Merchandise	25%	\$1,493,272
Pets, toys, hobbies,	\$6,465,968	General Merchandise	50%	\$3,232,984
Other entertainment	\$3,437,456	General Merchandise	50%	\$1,718,728
Personal care	\$5,297,302	General Merchandise	75%	\$3,972,977
Tobacco products	\$2,227,694	Food Store	95%	\$2,116,309
Miscellaneous	\$7,470,675	General Merch./Food	25%-25%	\$1,867,669
Total	\$134,599,293			\$92,842,026

Source: Green Sectors from Previous Table

Local Purchases In Traveler Related Sectors	
Freeway Related Sector	Local Purchases
Gas Station	\$19,443,982
Apparel	\$14,947,587
Eating & Drinking	\$22,203,974
Gen Merchandise	\$19,878,729
Food Stores	\$16,367,754
Total	\$92,842,026

Source: Calculations from table above