SAN BERNARDINO ASSOCIATION OF GOVERNMENTS (SANBAG)

Victor Valley Commuter Needs Study

Tech Memo #3: Service Alternatives Analysis

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1.1. Victor Valley Commuters Analysis

The following section continues the analysis of the Victor Valley Household Survey results presented in Technical Memorandum #2. In particular, it analyzes responses by crosstabulating key characteristics of the commute and commuter profiles with employment destination areas. Major employment areas identified outside the Victor Valley include:

- The San Bernardino Valley
- Los Angeles County
- Riverside County
- Orange County

Key characteristics of the commute and commuter profiles in the Victor Valley Household Survey include:

- Travel mode split
- Ease of the commute
- Satisfaction with available commute options
- AM departure time
- Door-to-door travel time
- Household income
- Gender

Also included is a crosstab analysis by employment destination area of what options or conditions would make commuters switch from their current mode to other alternative modes.

Household Survey Mode Split Results

Mode split is the percentage of commuters who use various travel modes – single occupant autos, transit, rideshare, vanpool, etc. – to make their trip. The household survey asked respondents to state their most important commute-to-work travel mode from a list of options.

If respondents indicated more than one mode, they were asked to choose the mode for which they spent the longest time traveling on. Multiple mode responses were discouraged and in theory not allowed, however results show that a significant number of respondents stated two and up to three different commute modes in their daily travel-to-work routines. The figures below present a comparative analysis of responses by treating multiple mode responses in two different ways – stated mode split and adjusted mode split. The 'stated mode split' takes into account all responses as single mode responses, where respondents stating more than one mode or multiple modes were counted as individual entries, thus each mode was counted as a single trip mode. The 'adjusted mode split' takes into account multiple mode responses as one discrete group or mode option. Multiple mode responses were not included as an option in the survey questionnaire, so mode split responses were adjusted to create a new group. By comparing mode split responses in these two-ways we can more effectively track single mode use, and understand what mode combinations commuters are using to go to work by employment destination area. It is worth noting that multiple mode responses are likely under-represented in the response sample given that respondents were discouraged to state them in the first place. Had they had the option to state all that apply, we may be seeing a bigger percent of people using multiple modes.

Victor Valley Mode Split

The stated mode split responses for all Victor Valley workers commuting outside of the area show that 64% of respondents drive alone, 26% carpool, 3% vanpool, 3% use transit, and 2% telecommute. All together, the alternative commute modes add up to 32% of all workers in the Victor Valley area.

The adjusted mode split responses show that 65% of respondents drive alone, 14% carpool, 3% vanpool, 0.5% use Metrolink, 0.5% use other (most likely telecommute), and 17% of respondents take multiple modes. The interesting finding from this data is that most commuters utilizing multiple modes appear to be combining drive alone with carpool/vanpool, and only a small portion combines drive alone with transit.

Figure 1: Victor Valley Area Mode Split – Stated and Adjusted

Stated – Each part of multiple modes counted separately

Mode Utilized (all)	Count	Percent
Drive alone	184	64%
Carpool with friends/family	27	9%
Carpool with coworkers	50	17%
Vanpool	10	3%
Omnitrans	4	1%
Metrolink	6	2%
Telecommute	5	2%
Other	1	0%
Total	**287**	**100%**

Adjusted – Multiple mode trips counted as a category

Mode Utilized (adjusted)	Count	Percent
Drive alone	157	65%
Carpool with friends/family	13	5%
Carpool with coworkers	22	9%
Vanpool	7	3%
Metrolink	1	0%
Other	1	0%
Multiple modes	40	17%
Total	**241**	**100%**

San Bernardino Valley Mode Split

Figure 2 below shows the comparative mode split analysis for workers going to the San Bernardino Valley. The stated mode split shows that 71% of respondents drive alone, 26% carpool, 1% takes transit, 1% telecommutes, and 1% uses other modes. All told, the alternative commute modes add up to 27% of commuters to San Bernardino.

Figure 2: San Bernardino Valley Mode Split – Stated and Adjusted

Stated – Each part of multiple modes counted separately

Mode Utilized (all)	Count	Percent
Drive alone	82	71%
Carpool with friends/family	13	11%
Carpool with coworkers	17	15%
Omnitrans	1	1%
Telecommute	1	1%
Other	1	1%
Total	**115**	**100%**

Adjusted – Multiple mode trips counted as a category

Mode Utilized (adjusted)	Count	Percent
Drive alone	77	74%
Carpool with friends/family	8	8%
Carpool with coworkers	10	10%
Other	1	1%
Multiple modes	8	8%
Total	**104**	**100%**

The adjusted mode split shows that 74% of respondents drive alone, 18% carpool, 1% uses other modes, and 8% use multiple modes. It appears that most commuters utilizing multiple modes are combining drive alone with carpooling. Figure 3 in the next page, shows the adjusted mode split by employment area within the San Bernardino Valley.

Figure 3: Adjusted Mode Split by San Bernardino Valley Area

Work Location	Drive Alone	Carpool w/ Friends & Family	Carpool w/ Coworkers	Other	Multiple Modes	Work Location Total
San Bernardino / Highland	75%	7%	7%	0%	11%	100%
Redlands / Loma Linda	64%	9%	18%	0%	9%	100%
Fontana	79%	7%	7%	0%	7%	100%
Rialto / Colton	57%	14%	29%	0%	0%	100%
Ontario	74%	5%	5%	5%	11%	100%
Rancho Cucamonga / Upland / Montclair	84%	5%	5%	0%	5%	100%
Chino / Chino Hills	60%	20%	20%	0%	0%	100%
Total	**74%**	**8%**	**10%**	**1%**	**8%**	**100%**

Los Angeles County Mode Split

Figure 4 below shows the comparative analysis for those commuters going to Los Angeles County. The stated mode split shows that 53% of respondents drive alone (much lower than the 71% going to San Bernardino), 28% carpool, 10% vanpool, 7% take transit, and 1% telecommutes. All told, alternative commute modes add up to 45% of commuters to Los Angeles County. These results reaffirm initial findings of the household survey that indicated a higher propensity of carpooling, and vanpooling when commutes were longer in distance, had higher congestion levels, and therefore alternative commute modes afforded tangible gains in travel time and cost.

Figure 4: Los Angeles County Mode Split – Stated and Adjusted

Stated – Each part of multiple modes counted separately

Mode Utilized (all)	Count	Percent
Drive alone	36	53%
Carpool with friends/family	6	9%
Carpool with coworkers	13	19%
Vanpool	7	10%
Omnitrans	2	3%
Metrolink	3	4%
Telecommute	1	1%
Total	**68**	**100%**

Adjusted – Multiple mode trips counted as a category

Mode Utilized (adjusted)	Count	Percent
Drive alone	27	52%
Carpool with friends/family	3	6%
Carpool with coworkers	4	8%
Vanpool	4	8%
Multiple modes	14	27%
Total	**52**	**100%**

The adjusted mode split table shows that 52% of commuters to Los Angeles County drive alone, 14% carpool, 8% vanpool, and 27% utilize multiple modes. It appears from the analysis that most multiple mode commuters combine primarily drive alone with carpool and a small proportion combine drive alone with transit. Vanpool seems to be a standalone mode for the most part, where there is door-to-door pick-up and drop-off, and no other commute modes are involved. Figure 5 on the next page, shows the adjusted mode split by major employment destination in Los Angeles County.

Figure 5: Adjusted Mode Split by Los Angeles County Area

Work Location	Drive Alone	Carpool w/ Friends & Family	Carpool w/ Coworkers	Vanpool	Multiple Modes	Work Location Total
I-210 Freeway	60%	20%	20%	0%	0%	100%
I-10 Freeway	44%	0%	0%	0%	56%	100%
Downtown Los Angeles	36%	14%	0%	29%	21%	100%
Other LA County	63%	0%	13%	0%	25%	100%
Total	**52%**	**6%**	**8%**	**8%**	**27%**	**100%**

Riverside County Mode Split

Figure 6 below shows the comparative analysis for those commuters going to downtown Riverside and other locations in Riverside County. The stated mode split shows that 68% of commuters drive alone and that the other 32% carpool either with friends or family or with a coworker. No other mode was reported most likely due to the limited number of respondents in the sample (25 cases).

The adjusted mode split shows that 71% of commuters drive alone (similar to the drive alone mode split to San Bernardino), 10% carpool, and 19% utilize multiple modes. From the sample data, all commuters utilizing more than one mode are combining drive alone with carpool.

Figure 6: Riverside County Mode Split – Stated and Adjusted

Stated – Each part of multiple modes counted separately

Mode Utilized (all)	Count	Percent
Drive alone	17	68%
Carpool with friends/family	2	8%
Carpool with coworkers	6	24%
Total	25	100%

Adjusted – Multiple mode trips counted as a category

Mode Utilized (adjusted)	Count	Percent
Drive alone	15	71%
Carpool with coworkers	2	10%
Multiple modes	4	19%
Total	21	100%

Orange County Mode Split

Figure 7 below shows the comparative mode split analysis for VV long-distance commuters going to Orange County. The stated mode split shows that 48% drive alone, 24% carpool, 5% vanpool, 14% use Metrolink, and 10% telecommute. All told, alternative commute modes add up to 43% of commuters. Although the sample cases are limited the results appear consistent with the pattern observed for Los Angeles County and they confirm the attractiveness of carpool, vanpool, and transit for commutes that are longer in distance and that travel on high congestion corridors like the I-10, I-210, and SR 91 freeways.

The adjusted mode split shows that 40% of commuters drive alone, 14% carpool, 7% vanpool, 7% take Metrolink, and 33% utilize multiple modes. Multiple mode commuters are combining primarily drive alone with carpool and to a lesser extent drive alone with transit (Metrolink). As we saw for the results in Los Angeles County, vanpool is a standalone mode, but most importantly the prevalence of multiple-mode commutes increases when commutes are longer in distance and on high congestion conditions.

Figure 7: Orange County Mode Split – Stated and Adjusted

Stated – Each part of multiple modes counted separately

Mode Utilized (all)	Count	Percent
Drive alone	10	48%
Carpool with friends/family	2	10%
Carpool with coworkers	3	14%
Vanpool	1	5%
Omnitrans	0	0%
Metrolink	3	14%
Telecommute	2	10%
Total	21	100%

Adjusted – Multiple mode trips counted as a category

Mode Utilized (adjusted)	Count	Percent
Drive alone	6	40%
Carpool with friends/family	1	7%
Carpool with coworkers	1	7%
Vanpool	1	7%
Metrolink	1	7%
Multiple modes	5	33%
Total	15	100%

Summary of Findings

- Drive alone rates are higher for commuters going to the San Bernardino Valley and Riverside County
  - Carpooling rates are higher than average to San Bernardino Valley, most likely due to presence of large employers scattered throughout the valley, and active ridesharing programs coordinated by SANBAG
- Drive alone rates are lower for commuters going to los Angeles County and Orange County
  - Carpool and Vanpool combined rates are higher for commuters going to Los Angeles and Orange Counties, due to the higher incidence in vanpools This may reflect the subsidies being offered to vanpool users by the Los Angeles County and Orange County metropolitan transportation authorities
  - Most vanpools are going to these two counties, most likely due to traffic congestion, distance, and the savings in travel time that vanpools afford by traveling on HOV lanes
- Multiple modes (i.e. drive alone and Metrolink or drive alone and carpool/vanpool) rates are higher going to Los Angeles, Riverside, and Orange Counties
  - Most likely due to traffic congestion on major freeways connecting the region (i.e. I-10, SR-60, SR 91, I-15, I-210, and I-215)
- Lower drive alone rates and higher carpool/vanpool rates are also explained by higher employment concentrations at faraway destinations (such as downtown Los Angeles, the Irvine Spectrum Triangle, and downtown Riverside), and higher restrictions on parking
- The differences observed confirm that distance, travel time, and congestion characteristics influence mode choice
  - Drive alone is preferred for trips were traffic congestion is less significant, making faster travel possible
  - Carpool is preferred for trips where traffic congestion is a factor and sharing a ride is perceived as a significant benefit in terms of travel time savings or cost savings
  - Vanpool is preferred for trips were traffic congestion and distance are significant factors and sharing a ride is perceived as a significant cost savings benefit
  - Transit (Metrolink in particular) is also preferred under these same conditions

Figure 8 below summarizes the findings of this analysis. As stated before alternative commute modes to drive alone increase when commute conditions in the form of distance, travel time, and congestion increase. The use of multiple commute modes also increases under these conditions.

Figure 8: Alternative Commute Modes by Employment Destination Area

Commuter Group	Sample Cases	Non-SOV Modes	Carpool	Vanpool	Transit	Multiple Modes
Victor Valley Area	287	32%	26%	3%	3%	17%
San Bernardino Valley	115	27%	26%	0%	1%	8%
Los Angeles County	68	45%	28%	10%	7%	27%
Riverside County[1]	25	32%	32%	0%	0%	19%
Orange County[1]	21	43%	24%	5%	14%	33%

1. Sample cases for Riverside and Orange Counties are small and likely not statistically significant

Commute Characteristics and Commuter Profile Results

Figures 9 to 15 on the following pages provide a comparative analysis of household survey results for each commuter group (or employment destination area) for selected characteristics of the commute and commuter profile characteristics, including:

- Ease of the commute (how easy)
- Satisfaction with available commute options
- AM departure time
- Door-to-door travel time
- Household income
- Gender

Also included is a crosstab analysis by employment destination area of what options or conditions would make commuters switch from their current mode to other alternative modes.

A summary of findings by employment destination area is included at the end of this section.

Figure 9: Commute Ease

San Bernardino Valley – all areas

Work Location	Easy	Moderate	Difficult	Total
San Bernardino / Highland	36%	54%	11%	100%
Redlands / Loma Linda	27%	64%	9%	100%
Fontana / Rialto / Colton	38%	43%	19%	100%
Ontario / Chino / Chino Hills	33%	46%	21%	100%
R. Cucamonga / Upland / Montclair	42%	47%	11%	100%
Total	36%	49%	15%	100%

Los Angeles County – all areas

Work Location	Easy	Moderate	Difficult	Total
I-210 Freeway	20%	60%	20%	100%
I-10 Freeway	22%	56%	22%	100%
Downtown Los Angeles	36%	36%	29%	100%
Other LA County	21%	46%	33%	100%
Total	25%	46%	29%	100%

Riverside County – county wide

Work Location	Easy	Moderate	Difficult	Total
Riverside	17%	67%	17%	100%
Moreno Valley	33%	50%	17%	100%
Corona	25%	63%	13%	100%
Total	24%	62%	14%	100%

Orange County – county wide

Work Location	Easy	Moderate	Difficult	Total
Irvine Spectrum Triangle	0%	50%	50%	100%
Airport / South Coast Plaza	0%	67%	33%	100%
North Orange County	14%	57%	29%	100%
Total	13%	53%	33%	100%

Figure 10: Commute Options Satisfaction

San Bernardino Valley – all areas

Work Location	Satisfied	Neutral	Dissatisfied	Refused / Don't Know	Total
San Bernardino / Highland	43%	25%	25%	7%	100%
Redlands / Loma Linda	27%	18%	55%	0%	100%
Fontana / Rialto / Colton	33%	33%	33%	0%	100%
Ontario / Chino / Chino Hills	29%	46%	25%	0%	100%
R. Cucamonga / Upland / Montclair	26%	47%	26%	0%	100%
Total	33%	35%	31%	2%	100%

Los Angeles County – all areas

Work Location	Satisfied	Neutral	Dissatisfied	Refused / Don't Know	Total
I-210 Freeway	60%	20%	20%	0%	100%
I-10 Freeway	22%	11%	67%	0%	100%
Downtown Los Angeles	43%	29%	29%	0%	100%
Other LA County	8%	33%	54%	4%	100%
Total	25%	27%	46%	2%	100%

Riverside County – county wide

Work Location	Satisfied	Neutral	Dissatisfied	Refused / Don't Know	Total
Riverside	17%	17%	67%	0%	100
Moreno Valley	67%	0%	33%	0%	100
Corona	13%	63%	13%	13%	100
Total	29%	33%	33%	5%	100

Orange County – county wide

Work Location	Satisfied	Neutral	Dissatisfied	Refused / Don't Know	Total
Irvine Spectrum Triangle	0%	0%	75%	25%	100%
Airport / South Coast Plaza	67%	0%	33%	0%	100%
North Orange County	14%	29%	57%	0%	100%
Total	20%	13%	60%	7%	100%

Figure 11: Commute Departure Times

San Bernardino Valley – all areas

Work Location	Before 5:00am	5:00 - 5:59am	6:00 - 6:59am	7:00 - 7:59am	8:00 - 9:59am	10:00 – 11:59am	12:00 - 5:59pm	6:00pm or later	Total
San Bernardino / Highland	7%	7%	54%	7%	14%	0%	7%	4%	100%
Redlands / Loma Linda	9%	9%	36%	18%	9%	0%	18%	0%	100%
Fontana / Rialto / Colton	38%	10%	14%	14%	10%	0%	10%	5%	100%
Ontario / Chino / Chino Hills	38%	13%	17%	8%	13%	0%	8%	4%	100%
R. Cucamonga / Upland / Montclair	11%	26%	42%	11%	11%	0%	0%	0%	100%
Total	21%	13%	34%	11%	12%	0%	8%	3%	100%

Los Angeles County – all areas

Work Location	Before 5:00am	5:00 - 5:59am	6:00 - 6:59am	7:00 - 7:59am	8:00 - 9:59am	10:00 – 11:59am	12:00 - 5:59pm	6:00pm or later	Total
I-210 Freeway	20%	60%	20%	0%	0%	0%	0%	0%	100%
I-10 Freeway	33%	11%	33%	0%	22%	0%	0%	0%	100%
Downtown LA	57%	0%	14%	0%	7%	0%	21%	0%	100%
Other LA County	38%	38%	8%	8%	0%	8%	0%	0%	100%
Total	40%	25%	15%	4%	6%	4%	6%	0%	100%

Riverside County – county wide.

Work Location	Before 5:00am	5:00 - 5:59am	6:00 - 6:59am	7:00 - 7:59am	8:00 - 9:59am	10:00 – 11:59am	12:00 - 5:59pm	6:00pm or later	Total
Riverside	17%	17%	17%	50%	0%	0%	0%	0%	100%
Moreno Valley	0%	50%	17%	33%	0%	0%	0%	0%	100%
Corona	25%	13%	25%	0%	25%	0%	13%	0%	100%
Other	0%	100%	0%	0%	0%	0%	0%	0%	100%
Total	14%	29%	19%	24%	10%	0%	5%	0%	100%

Orange County – county wide

Work Location	Before 5:00am	5:00 - 5:59am	6:00 - 6:59am	7:00 - 7:59am	8:00 - 9:59am	10:00 – 11:59am	12:00 - 5:59pm	6:00pm or later	Total
Irvine S. Triangle	25%	0%	50%	0%	0%	25%	0%	0%	100%
Airport / South Coast Plaza	33%	67%	0%	0%	0%	0%	0%	0%	100%
N. Orange County	86%	0%	0%	0%	0%	0%	14%	0%	100%
Total	60%	13%	13%	0%	0%	7%	7%	0%	100%

Figure 12: Door-to-Door Commute Time

San Bernardino Valley – all areas

Work Location	16 - 30 minutes	31 - 45 minutes	46 - 60 minutes	61 - 90 minutes	Over 90 minutes	Total
San Bernardino / Highland	14%	59%	23%	5%	0%	100%
Redlands / Loma Linda	0%	38%	25%	25%	13%	100%
Fontana / Rialto / Colton	13%	50%	31%	0%	6%	100%
Ontario / Chino / Chino Hills	5%	42%	37%	11%	5%	100%
R. Cucamonga / Upland / Montclair	25%	38%	19%	19%	0%	100%
Total	12%	48%	27%	10%	4%	100%

Los Angeles County – all areas

Work Location	16 - 30 minutes	31 - 45 minutes	46 - 60 minutes	61 - 90 minutes	Over 90 minutes	Total
I-210 Freeway	0%	0%	67%	33%	0%	100%
I-10 Freeway	0%	13%	50%	13%	25%	100%
Downtown Los Angeles	0%	0%	0%	33%	67%	100%
Other LA County	5%	5%	26%	26%	37%	100%
Total	3%	6%	31%	25%	36%	100%

Riverside County – county wide

Work Location	16 - 30 minutes	31 - 45 minutes	46 - 60 minutes	61 - 90 minutes	Over 90 minutes	Total
Riverside	0%	0%	33%	50%	17%	100%
Moreno Valley	0%	0%	50%	25%	25%	100%
Corona	17%	0%	50%	17%	17%	100%
Total	6%	0%	41%	35%	18%	100%

Orange County – county wide

Work Location	16 - 30 minutes	31 - 45 minutes	46 - 60 minutes	61 - 90 minutes	Over 90 minutes	Total
Irvine Spectrum Triangle	0%	0%	25%	50%	25%	100%
Airport / South Coast Plaza	0%	0%	50%	50%	0%	100%
North Orange County	0%	25%	0%	50%	25%	100%
Total	0%	10%	20%	50%	20%	100%

Figure 13: What would make you change?

San Bernardino Valley – all areas[1]

Work Location	Cash Incentive	New Bus Service	New Rail Service	More HOV Lanes	Other	Total
San Bernardino / Highland	36%	5%	23%	5%	32%	100%
Redlands / Loma Linda	0%	13%	50%	13%	25%	100%
Fontana / Rialto / Colton	6%	13%	44%	6%	31%	100%
Ontario / Chino / Chino Hills	11%	5%	42%	16%	26%	100%
R. Cucamonga / Upland / Montclair	25%	19%	19%	6%	25%	100%
Total	20%	10%	33%	9%	28%	100%

Los Angeles County – all areas

Work Location	Cash Incentive	New Bus Service	New Rail Service	More HOV Lanes	Other	Total
I-210 Freeway	0%	0%	33%	0%	67%	100%
I-10 Freeway	0%	0%	38%	13%	50%	100%
Downtown Los Angeles	17%	0%	50%	0%	33%	100%
Other LA County	21%	11%	32%	5%	32%	100%
Total	14%	6%	36%	6%	39%	100%

Riverside County – county wide

Work Location	Cash Incentive	New Bus Service	New Rail Service	More HOV Lanes	Other	Total
Riverside	33%	0%	50%	0%	17%	100%
Moreno Valley	75%	0%	0%	0%	25%	100%
Corona	0%	0%	50%	0%	50%	100%
Total	29%	0%	41%	0%	29%	100%

Orange County – county wide

Work Location	Cash Incentive	New Bus Service	New Rail Service	More HOV Lanes	Other	Total
Irvine Spectrum Triangle	0%	25%	50%	0%	25%	100%
Airport / South Coast Plaza	0%	0%	50%	0%	50%	100%
North Orange County	0%	0%	75%	0%	25%	100%
Total	0%	10%	60%	0%	30%	100%

[1] For the four counties combined, a total of 60 people responded “Other”

- 62% said “nothing” would make them change. Of these, about 10 of the respondents said that they require a vehicle for their jobs.
- 18% said that moving their job closer to them might make them consider changing
- 5% said all of the above
- 15% - various reasons, including need to build more freeways

Figure 14: Household Income

San Bernardino Valley – all areas

Work Location	Under $15k	$15 to $25k	$25 to $35k	$35 to $50k	$50 to $75k	$75 to $100k	$100 to $150k	$150k +	Total
San Bernardino / Highland	0%	4%	11%	21%	21%	11%	14%	14%	100%
Redlands / Loma Linda	9%	0%	0%	9%	18%	9%	36%	0%	100%
Fontana / Rialto / Colton	0%	5%	14%	19%	19%	29%	5%	10%	100%
Ontario / Chino / Chino Hills	0%	4%	4%	21%	29%	17%	17%	0%	100%
R. Cucamonga / Upland / Montclair	5%	5%	11%	5%	32%	11%	11%	5%	100%
Total	**2%**	**4%**	**9%**	**16%**	**24%**	**16%**	**14%**	**7%**	**100%**

Los Angeles County – all areas

Work Location	Under $15k	$15 to $25k	$25 to $35k	$35 to $50k	$50 to $75k	$75 to $100k	$100 to $150k	$150k +	Total
I-210 Freeway	0%	20%	20%	0%	20%	0%	40%	0%	100%
I-10 Freeway	0%	0%	11%	0%	11%	11%	22%	11%	100%
Downtown LA	0%	0%	0%	14%	50%	7%	21%	0%	100%
Other LA County	4%	4%	8%	13%	13%	42%	17%	0%	100%
Total	**2%**	**4%**	**8%**	**10%**	**23%**	**23%**	**21%**	**2%**	**100%**

Riverside County – county wide

Work Location	Under $15k	$15 to $25k	$25 to $35k	$35 to $50k	$50 to $75k	$75 to $100k	$100 to $150k	$150k +	Total
Riverside	0%	0%	0%	0%	33%	50%	17%	0%	100%
Moreno Valley	0%	17%	17%	17%	0%	17%	17%	17%	100%
Corona	0%	0%	0%	25%	25%	13%	25%	0%	100%
Total	**0%**	**5%**	**5%**	**14%**	**24%**	**24%**	**19%**	**5%**	**100%**

Orange County – county wide

Work Location	Under $15k	$15 to $25k	$25 to $35k	$35 to $50k	$50 to $75k	$75 to $100k	$100 to $150k	$150k +	Total
Irvine S. Triangle	0%	0%	0%	25%	0%	0%	50%	25%	100%
Airport / South Coast Plaza	0%	0%	0%	33%	0%	0%	0%	33%	100%
N. Orange County	0%	0%	0%	14%	29%	43%	0%	0%	100%
Total	**0%**	**0%**	**0%**	**20%**	**13%**	**20%**	**20%**	**13%**	**100%**

Figure 15: Gender

San Bernardino Valley – all areas

Work Location	Male	Female	Total
San Bernadino / Highland	46%	54%	100%
Redlands / Loma Linda	45%	55%	100%
Fontana / Rialto / Colton	67%	33%	100%
Ontario / Chino / Chino Hills	67%	33%	100%
R. Cucamonga / Upland / Montclair	47%	53%	100%
Total	**55%**	**45%**	**100%**

Los Angeles County – all areas

Work Location	Male	Female	Male
I-210 Freeway	60%	40%	100%
I-10 Freeway	78%	22%	100%
Downtown Los Angeles	71%	29%	100%
Other LA County	54%	46%	100%
Total	**63%**	**37%**	**100%**

Riverside County – county wide

Work Location	Male	Female	Total
Riverside	50%	50%	100%
Moreno Valley	83%	17%	100%
Corona	38%	63%	100%
Total	**57%**	**43%**	**100%**

Orange County – county wide

Work Location	Male	Female	Total
Irvine Spectrum Triangle	75%	25%	100%
Airport / South Coast Plaza	67%	33%	100%
North Orange County	57%	43%	100%
Total	**60%**	**40%**	**100%**

Summary of Findings

This section summarizes the analysis of household survey results by identifying employment destination group differences in terms of commute characteristics, commuter profile, and likely preferences for potential transit service and/or rideshare strategies.

San Bernardino Valley (all areas)

San Bernardino/Highlands

- Moderate to easy commute, generally satisfied with available options
- High drive alone rates, average carpooling rates
- Over 80% of all one-way trips are less than 1 hour, a small portion 5% over 90 minutes
- AM departure times highly concentrated at 6-7 am, more than 50%
- More discretionary market, less bound by strict work shifts
- Relatively higher paying jobs, about 60% over $50k, close to 30% over $100k
- Largely female group
- Cash incentives for carpool/vanpool and other options (i.e. telecommute)
- Low support for bus or HOV, moderate support for rail

Redlands/Loma Linda

- Moderate to easy commute, but generally dissatisfied with available options
- Lower than average drive alone rates, and high carpooling rates
- One-third of trips are over 1 hour (dissatisfaction) with 13% over 90 minutes
- AM departure times are mostly within the regular peak 6-8 am, with some trips in the midday
- Less discretionary market, highly bound by work shifts
- High proportion 36% of high paying jobs (over $100k) and lower middle of the road salaries 27% between 50-100k
- Largely female group working in health, services and education
- High support for rail service and other options
- Higher support for bus and HOV

Fontana/Rialto/Colton

- Moderate to easy commute, evenly split between satisfied, neutral, and dissatisfied
- Relatively high drive alone rates and high carpooling rates
- Over 80% of trips are made within 1 hour, only 6% are over 90 minutes
- Departure times are highly concentrated at pre-dawn, before 6 am (48%), with relatively higher number of trips during midday and evening (14%)
- Market highly bounded by work shift hours
- Higher proportion (38%) of low paying jobs (less than 50k), with 48% of jobs in the 50-100k bracket

- Largely male group working in industrial/manufacturing jobs
- Low support for incentives and higher support for bus
- High support for rail and other options

Ontario/Chino/Chino Hills

- Mostly moderate to easy commute, although difficult group not small
- Generally OK and neutral about available options
- Slightly smaller drive alone rates, and slightly larger carpool, and multiple mode
- About 80% commute times within 30-60 minutes, with 16% over 90 minutes (slightly higher than average)
- 50% of commuters departing before 6 am, only 25% in the regular AM Peak (6-8 am), 12% midday/off-peak
- Market highly bounded by work shift hours, less discretionary
- About 30% of low-paying jobs ($50k or less), with 8% below 35k. $45% in the 50-100k bracket
- Male dominated market at industrial/manufacturing jobs
- High support for rail service and HOV lanes, and other
- Low support for bus and cash incentives

Rancho Cucamonga/Upland/Montclair

- Moderate to easy commute, with respondents generally neutral or satisfied with their options
- High drive alone rates and lower carpool and multiple mode rates
- 62% of trips take less than 45 minutes with 25% less than 30 minutes. 80% take less than 1 hour
- Majority of trips 53% depart within traditional peak 6-8 am, with 37% departing at pre-dawn
- More discretionary market, high proportion bounded by schedules, but significant group avoiding traffic
- Household income evenly distributed across brackets, mixed job market (retail, services, industrial)
- Largely female group in retail and services jobs
- High support for bus service and cash incentives, and other options
- Lower support for rail and HOV lanes

Los Angeles County (all areas)

I-210 Freeway Corridor

- Mostly moderate commute and highly satisfied with commute options
- High carpooling rates and relatively high drive alone
- Commute times mostly within 45-60 minutes (67%)
- Departure times mostly before 6:00 am (80%)

- Market evenly distributed between traffic and fixed schedule
- Even mix of job classes and household incomes
- Male dominated market
- Support for rail but mostly other options

I-10 Freeway Corridor

- Mostly moderate commute, however highly dissatisfied with available options
- High rates of multiple modes (drive alone/carpool and drive alone/rail)
- Trip durations mostly within 1 hour (63%) but 25% over 90 minutes
- Majority of trips departing before 7:00am (77%) and significant portion departing in the between 7-9 am 23%
- Less discretionary and high rates of fixed schedule jobs
- Mixed job market and income groups
- Highly male dominated due to distance and type of job (industrial)
- High support for new rail service, other options and HOV lanes
- Low support for bus or incentives

Downtown Los Angeles

- Evenly split between easy, moderate, difficult, although easy group is proportionally higher, which explains general satisfaction with commute options
- Low drive alone rate, high carpooling, vanpooling, and multiple mode rates
- All trips over 1 hour long, with 67% over 90 minutes
- Majority of trips departing before 5:00am (57%) and significant portion departing in the afternoon (21%) possibly to janitorial/kitchen service jobs
- Traffic is major reason for departure times, largely flexible market
- Most household incomes in the $50-100k bracket (57%), with over 20% high paying jobs (over $100k)
- Largely male dominated, distance, corporate, government jobs
- High support for rail service, other options and slightly higher support for incentives

Other LA County Areas

- Moderate to difficult commute and highly dissatisfied with commute options
- High drive alone rate, carpooling and multiple mode rates
- 63% of trips beyond 1 hour with 37% beyond 90 minutes
- 75% of commuters depart home before 6:00am
- Largely driven by work shifts and less discretionary than expected
- Relatively higher proportion 29% of low paying jobs (less than $50k) and 60% middle income bracket

- Higher female participation, due to wider mix of jobs (retail, services, health, other)
- High support for other options and rail, but proportionally bigger for bus and cash incentives

Riverside County (county wide)

Riverside, Moreno Valley, Corona

- Mostly moderate and easy to all areas of the county
- Evenly split between satisfied, neutral, and dissatisfied, higher satisfaction to Moreno Valley, high dissatisfaction to Riverside
- High drive alone rate 71% and high multiple modes rate 19%, carpool about average 10%
- Long commute times 41% within 45-60 minutes, 53% over 1-hour, and 18% over 90 minutes. Longer to Riverside and shorter to Corona
- 43% depart before 6:00am and another 43% depart between 6-8 am. Riverside mostly within 6-8 am while Moreno Valley mostly before 6 am, higher midday group to Corona
- Combination of discretionary and fixed work shift schedules, higher fixed shift in Riverside and more discretionary in Corona
- Evenly distributed, 24% in low paying jobs (less than $50k), 47% in the middle income bracket, and 24% in the high income bracket. Higher middle-income in Riverside, higher low income in Moreno Valley, mixed in Corona
- Even gender split in Riverside, largely male in Moreno Valley (industrial/manufacturing), and largely female in Corona (services, distribution centers)
- High support for rail service, cash incentives, and other options. More inclined to incentives in Moreno Valley, and more inclined to other options in Corona

Orange County (county wide)

Irvine Spectrum, Airport/South Coast Plaza, North Orange County

- Moderate to difficult commute, particularly difficult to Airport/South Coast Plaza and Irvine Spectrum Triangle
- High level of dissatisfaction with available options (60%) in all areas
- Low drive alone rate (40%) and high multiple mode, carpool, vanpool, and Metrolink rates. Carpool/vanpool significantly higher in North Orange County. Multiple modes high at Irvine
- Commute times mostly over 1 hour (70%) with 20-25% over 90 minutes in all areas, but particularly in South Orange County
- 87% departures before 7:00am with 60% before 5:00am, the other 13% travel in the midday. North Orange County is high in early shifts and midday shifts. Irvine is big in discretionary riders departing between 6-7 am
- Even split between traffic and work shift. Irvine is highly about traffic while North Orange County is highly bounded by work shifts
- Even split across income categories with Irvine commuters in the high income bracket and North County commuters in the middle income bracket
- High male participation in all areas, specially Irvine, due to corporate jobs, and distance

- High support for new rail service and other options. Higher support for rail in north county, higher support for bus in Irvine, high support for other options at Airport/South Coast Plaza

Potential for Alternative Commute Strategies

Figure 16 below provides a condensed summary of the findings by destination area listed in the previous section. A scoring methodology was utilized to filter through the characteristics of the commute, commuter profiles, and potential support for alternative commute programs and service strategies. Each characteristics was given a value of 1 to 4 and then condensed into two separate scores: a market potential score (based on commute characteristics and commuter profile), and a alternative commute support score based on stated program preferences.

Figure 16: Potential for Transit Service and/or Rideshare Strategies

Employment Destination	**Satisfaction with Commute Options**	**Drive Alone Mode Split**	**Non-SOV Mode Split**	**Door-to-Door Commute Time**	**Departure Times Clustering**	**Household Income Clustering**	**Gender**	**Support for Cash Incentives and HOV Lanes**	**Support for Bus and Rail**	**Market Score for Potential Service**	**Alt. Commute Options Support**
San Bernardino Valley											
San Bernadino / Highland	3	3	1	2	3	2	2	3	1	🔴	🟡
Redlands / Loma Linda	2	1	3	3	2	1	1	2	3	🟡	🟢
Fontana / Rialto / Colton	2	2	2	2	3	3	3	1	3	🔴	🟡
Ontario / Chino / Chino Hills	2	2	2	1	3	2	3	2	2	🔴	🟡
R. Cucamonga / Upland / Montclair	2	3	1	1	2	2	1	2	2	🔴	🟡
Los Angeles County											
I-210 Freeway	3	2	3	2	3	2	3	3	2	🟡	🟢
I-10 Freeway	1	1	3	3	4	2	3	1	3	🟡	🟡
Downtown Los Angeles	2	1	4	4	3	1	3	3	3	🟢	🟢
Other LA County	1	2	2	4	4	2	2	3	3	🟡	🟢
Riverside County	2	3	1	3	3	2	2	3	3	🟡	🟢
Orange County	0	1	4	4	4	2	3	3	3	🟢	🟢

Satisfaction with Commute Options: 1 = low satisfaction; 4 = high satisfaction

Drive Alone Mode Split: 1 = low % mode split; 4 = high % mode split

Non-SOV Mode Split: 1 = low % mode split; 4 = high % mode split

Door-to-Door Commute Time: 1 = high % of trips under 1 hour; 4 = high % of trips over 1.5 hours

Departure Time Clustering: 1 = spread over a long AM peak period 5-8 am; 4 = concentrated on a short AM peak period 5-6 am

Household Income Clustering: 1 = high % of high income brackets (over $100k); 4 = high % of low income brackets (less than $50k)

Gender: 1 = high % of females; 4 = high % of males. Industry research has found that males are more likely to travel longer distances and use alternative modes for that trip than females. Females are more likely to drive alone to be able to juggle work/family roles.

Support for Cash Incentives and HOV Lanes: 1 = low level of support; 4 = high level of support

Support for New Bus and/or Rail Service: 1 = low level of support; 4 = high level of support

Market Score for Potential Services: balance need for commute alternatives with attitudinal conditions by adding 'green' columns and subtracting 'red' columns for overall score. Overall score bracketed in 3 percentiles (less than 33%, 33% to 66%, and more than 66%)

Alternative Commute Options Support Score: add support for all alternative programs 'yellow' columns. Overall score bracketed in 3 percentiles

1.2. Commuter Market Demand Estimates

This section presents *revised* demand estimates for commuter transit service to and from the Victor Valley. Preliminary estimates were first developed for 2010 in Technical Memorandum #1. Following an evaluation of the VV long-distance commuter household survey, stakeholder interviews and a review of SCAG's travel demand model, revised demand estimates were developed. Demand estimates are developed for transit service and non-transit modes (carpool and vanpool), both assumed to be based out of park and ride facilities in the Victor Valley. As noted earlier, existing park and ride capacity in the Victor Valley is limited, so additional park and ride capacity, or informal park and ride or home pick-up activity, is assumed in order to ensure adequate capacity for transit, carpool or vanpool services.

Methodology

The revised demand estimates were conducted in essentially the same steps as the preliminary demand estimates with several adjustments. It will be noted where adjustments were made to the preliminary demand estimates.

Step 1: Determine Victor Valley Population in 2010

Utilizing projected population data from SCAG, an estimate of total population in the Victor Valley was developed (see Figure 18 on page 24). Because projections are not developed for Phelan and Wrightwood, the population in these communities was estimated from other sources.

REVISION: Preliminary demand estimates in Tech Memo #1 included the community of Lucerne Valley. This community was taken out of this revised demand estimates since it is located outside of the Victor Valley and was not surveyed as part of the VV long-distance commuter household survey.

Step 2: Estimate the Percent of Workers in the Victor Valley

This step involves three separate filters to arrive at an estimate of how many people in the Victor Valley are employed (see Figure 18 on page 24):

- The percent of the total population in the Victor Valley that is over 16 (working age) was determined using 2000 US Census data.
- The percent of all people over 16 that are in the labor force was determined from the 2007 American Community Survey. People who are not in the labor force include those that are retired or are not looking for employment.
- The estimated unemployment rate in the Victor Valley (11.8%) was estimated from the Quarterly Economic Report developed for SANBAG. This rate is an average from January 2009 data for the entire Inland Empire area.

REVISION: Instead of using the age distribution for each community from the 2000 US Census, the age distribution data for the revised demand estimates are from the more recent 2005-2007 American Community Survey.

Step 3: Estimate the Number of Victor Valley Workers Who Work Outside of the Victor Valley

This step utilizes the 2009 Victor Valley Household Survey as opposed to the 2000 Census Journey-to-Work data to estimate how many Victor Valley residents are employed outside of the Victor Valley.

On average, approximately 50 percent of all workers in the Victor Valley commute outside of the area for their jobs (see Figure 18 on page 24).

Step 4: Estimate Distribution of Victor Valley Workers Outside of the Victor Valley

This step utilizes 2000 Census Journey-to-Work data as well as data from the VV household survey to estimate where Victor Valley workers who work outside of the Victor Valley are commuting for their jobs (see Figure 19 and Figure 20 on pages 25 and 26). Employment destinations outside of the Victor Valley were grouped based on their proximity. Workers outside of the Victor Valley were segmented into the following 17 geographic areas:

- Los Angeles County
- Ontario
- San Bernardino / Highland
- Barstow area
- Moreno Valley/Riverside
- Fontana
- Rancho Cucamonga / Upland / Montclair
- Orange County
- Redlands / Loma Linda
- Chino / Chino Hills
- Rialto / Colton / Grand Terrace
- Southwest Riverside County (Corona / Norco area)
- San Bernardino Mountains
- Needles / Yucca Valley / Twentynine Palms
- Yucaipa / Banning Pass
- Coachella Valley
- San Diego County

REVISION: The revised demand estimates use the household survey and the Journey-to-Work data to develop a blended trip distribution rate to each of the geographic areas listed above.

Step 5: Estimate a "Base" Mode Split for Commuter Transit Service and Shared-Ride Commuters

Transit Mode Split

Because it is difficult to estimate a mode split for a service that does not exist, other transit operations set in urban contexts similar to that of the Victor Valley can help estimate what percent of commuters might be willing to utilize a commute-oriented transit service if it were available. The percent of workers who used commuter rail was compiled from five cities in California that are located in the periphery (exurbs) of the Los Angeles and San Francisco Urban Regions and that have experienced rapid growth in the last two decades (boomburgs) just like the Victor Valley area.

Commuter rail was used as a proxy for commute-oriented transit service towards the main urban centers in the region, because it is possible to isolate this mode split using US Census 2000 data. The average mode split for the six peers was about 1 percent. Thus, the base mode split estimate for new commuter transit service from the Victor Valley area was set at 1 percent. The six peers analyzed and the data behind the mode split estimate are presented in Figure 17 below.

Figure 17: Base Mode Split for Commuter Transit Service

Peer City	**Total Workers** (excluding those who "work at home")	Commuters who said they got to work by "railroad"	Mode Split
Lancaster	41,254	220	0.5%
Palmdale	41,120	274	0.7%
Oxnard	68,100	44	0.1%
Santa Clarita	71,624	676	0.9%
Redwood City	38,033	887	2.3%
Gilroy	18,286	309	1.7%
Average for Six Peer Cities			**1.0%**

Carpool / Vanpool Mode Split

Since Victor Valley residents are actively commuting in shared ride situations (carpools and vanpools), the Victor Valley Household Survey provides the most accurate and up-to-date information on commute modes made outside of the Victor Valley. Based on this survey, 16 percent of all commuters who work outside of the Victor Valley carpool to their jobs, while another 3 percent of commuters commute in a vanpool.

> **REVISION:** Instead of using the 2005-2007 American Community Survey to estimate carpool / vanpool mode splits (17.8% combined for the Victor Valley area), the household survey conducted specifically for this study was used, which identified a combined 19% mode split.

Step 6: Adjust Base Mode Split for Each Geographic Area Outside of the Victor Valley

The next step was to adjust the base mode split (1% for transit, 16% for carpool and 3% for vanpool) for each of the geographic areas listed above. The base mode split was adjusted using the following factors (see Figure 21 on page 27):

- **Traffic Congestion.** Because congestion is a key driver of transit demand and ridesharing arrangements around the region, the base mode split was adjusted up as much as 2 percent depending on the severity of traffic congestion in the primary corridor between the Victor Valley and each major employment destination area.
- **Employment Density.** Because some of the geographic areas are smaller and have varying levels of employment density, the base mode split was adjusted up as much as 1 percent if employment density was high in the destination area. For example, downtown areas received a higher percent adjustment than industrial/warehousing areas due to the inherent employment densities involved.
- **Distance/Travel Time.** Distance to final destination is also a contributing factor in determining demand for a commute oriented transit service and/or ridesharing arrangement. Generally, people with longer commutes are more attracted to commuter mode alternatives to driving alone due to the cost reduction benefits and travel time reduction benefits of high occupancy vehicles. As much as 1.5 percent adjustments were made for areas that are a significant distance from the Victor Valley, such as Los Angeles and Orange Counties.
- **Connecting Transit Service.** The level of transit service connections available in the destination area can also enhance transit demand for commuter transit. The base mode split in areas with good connecting transit service was adjusted up as much as 0.5 percent.

Step 7: Estimate the Number of Non-SOV Commuters

Once the transit, carpool and vanpool base mode split has been adjusted for all areas outside of the Victor Valley, an estimate was developed of the total number of commuters who are potential users of transit, carpool or vanpool from the Victor Valley. This estimate is simply a calculation of the adjusted mode split for each area outside of the Victor Valley times the number of Victor Valley workers who work in that area. A “low” and “high” range (plus or minus 20%) was then developed based on this figure.

Figure 18 through Figure 24 on the following pages summarize the potential demand estimates of alternative commute modes by employment destination area.

Figure 18: Preliminary Demand Estimates (Steps 1-3)

Source/Estimate	Adelanto	Apple Valley	Hesperia	Victorville	Phelan / Wrightwood	Total
2010 Estimated Population *(from the Southern California Association of Governments)*	40,742	71,630	102,895	106,649	25,000	346,916
% 2010 Population 16 years and older *(from 2005-2007 American Community Survey)*	67.0%	62.0%	64.0%	62.0%	64.0%	
2010 Population 16 years and older	27,093	44,339	65,441	66,229	15,881	218,984
% in labor force[1] *(from 2005-07 American Community Survey)*	54.3%	56.5%	60.0%	55.1%	56.5%	
2010 Population in labor force	14,712	25,045	39,275	36,485	8,969	124,486
Estimated 2010 unemployment *(from Jan 2009 Quarterly Economic Report)*	11.8%	11.8%	11.8%	11.8%	11.8%	
2010 Population Employed	12,976	22,090	34,640	32,180	7,910	109,797
% of workers employed outside of the Victor Valley[2] *(2009 Victor Valley Household Survey)*	50.0%	50.0%	50.0%	50.0%	50.0%	
Workers Employed Outside of the Victor Valley	**6,488**	**11,045**	**17,320**	**16,090**	**3,955**	**54,898**

1. From the 2005-07 American Community Survey, the percent of Victor Valley population in the labor force (57% on average for the entire valley) is consistent with the findings of the Household Survey reported in Tech Memo #2, where 50 percent of households had at least one member employed full-time.
2. From US Census 2000 Journey to Work data, the percent of workers employed outside of the Victor Valley (39% of workers and 22% of the population) appears to be lower than the findings reported in the Household Survey, where on average 50 percent of all Victor Valley households with at least one member fully employed were employed outside the area (25% of all households).

Figure 19: Percent of Victor Valley Residents Working Outside of the Victor Valley (Step 4)

	Live in ↓				
Work in ↓	**Adelanto**	**Apple Valley**	**Hesperia**	**Victorville**	**Phelan / Wrightwood**
Los Angeles County	27%	20%	26%	10%	21%
Ontario	10%	13%	6%	9%	10%
San Bernardino / Highland	10%	10%	16%	13%	12%
Barstow	8%	9%	3%	21%	10%
M. Valley/Riverside	5%	4%	8%	6%	6%
Fontana	5%	7%	3%	6%	5%
Rancho Cucamonga / Upland / Montclair	8%	8%	17%	8%	10%
Orange County	6%	6%	5%	5%	6%
Redlands / Loma Linda	5%	5%	2%	5%	4%
Chino / Chino Hills	4%	2%	3%	3%	3%
Rialto / Colton / Grand Terrace	5%	5%	6%	6%	5%
SW Riverside Co.	4%	5%	0%	2%	2%
San Bern. Mtns.	1%	1%	1%	2%	1%
Needles / Yucca Valley / Twentynine Palms	1%	1%	1%	2%	1%
Yucaipa / Banning Pass	1%	1%	1%	1%	1%
Coachella Valley	1%	1%	1%	1%	1%
San Diego County	0%	1%	1%	1%	1%

Source: US Census 2000 Journey to Work data

These percentages are consistent with the results of the Victor Valley Household Survey, where 60% of commuters stay within San Bernardino County, 23% of commuters go to Los Angeles County, 10% got to Riverside County, and 7% to Orange and San Diego Counties.

Figure 20: Victor Valley Residents Working Outside of the Victor Valley (Step 4)

	Live in ↓					
Work in ↓	**Adelanto**	**Apple Valley**	**Hesperia**	**Victorville**	**Phelan / Wrightwood**	**Total**
Los Angeles County	1,777	2,196	4,541	1,621	826	10,962
Ontario	622	1,458	1,069	1,487	378	5,014
San Bernardino / Highland	641	1,125	2,796	2,162	491	7,216
Barstow	500	1,007	602	3,366	408	5,883
M. Valley/Riverside	345	480	1,444	953	237	3,459
Fontana	347	780	448	916	205	2,695
Rancho Cucamonga / Upland / Montclair	508	888	2,918	1,260	401	5,974
Orange County	412	624	932	837	223	3,029
Redlands / Loma Linda	299	586	415	855	174	2,330
Chino / Chino Hills	278	202	471	415	113	1,481
Rialto / Colton / Grand Terrace	335	594	971	899	215	3,013
SW Riverside Co.	228	504	37	248	97	1,115
San Bern. Mtns.	50	150	114	276	45	635
Needles / Yucca Valley / Twentynine Palms	42	105	211	255	44	657
Yucaipa / Banning Pass	46	136	99	203	37	521
Coachella Valley	38	142	114	173	36	502
San Diego County	20	66	136	164	27	413
Total	**6,488**	**11,045**	**17,320**	**16,090**	**3,955**	**54,898**

Source: US Census 2000 Journey to Work data

Figure 21: Adjustments to Base Transit Mode Split (Step 6)

Geographic Area	Base Mode Split	Adjustments to Base Mode Split: Congestion Levels (0.50%)	Employment Density (0.50%)	Distance (0.50%)	Connecting Transit Service (0.50%)	Total Adjustments	Modified Mode Split
Los Angeles County	1.00%	2.50%	1.50%	2.00%	1.00%	7.00%	8.00%
Ontario	1.00%	0.50%	0.50%	0.50%	0.00%	1.50%	2.50%
San Bernardino / Highland	1.00%	1.50%	1.00%	1.00%	0.50%	4.00%	5.00%
Barstow	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%
M. Valley/Riverside	1.00%	2.00%	0.50%	1.50%	0.50%	4.50%	5.50%
Fontana	1.00%	0.50%	0.50%	0.50%	0.50%	2.00%	3.00%
Rancho Cucamonga / Upland / Montclair	1.00%	1.00%	0.50%	0.50%	0.50%	2.50%	3.50%
Orange County	1.00%	2.50%	1.50%	2.00%	1.00%	7.00%	8.00%
Redlands / Loma Linda	1.00%	2.00%	0.50%	1.50%	0.50%	4.50%	5.50%
Chino / Chino Hills	1.00%	0.50%	0.00%	0.50%	0.00%	1.00%	2.00%
Rialto / Colton / Grand Terrace	1.00%	0.50%	0.50%	0.50%	0.50%	2.00%	3.00%
SW Riverside Co.	1.00%	1.50%	0.00%	1.00%	0.00%	2.50%	3.50%
San Bern. Mtns.	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%
Needles / Yucca Valley / Twentynine Palms	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%
Yucaipa / Banning Pass	1.00%	1.00%	0.00%	1.00%	0.00%	2.00%	3.00%
Coachella Valley	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%
San Diego County	1.00%	2.50%	1.50%	2.00%	1.00%	7.00%	8.00%

Figure 22: Adjustments to Base Carpool Mode Split (Step 6)

Geographic Area	Base Mode Split	Adjustments to Base Mode Split				Total Adjustments	Modified Mode Split
		Congestion Levels (0.50%)	Employment Density (0.50%)	Distance (0.50%)	Connecting Transit Service (0.50%)		
Los Angeles County	16.00%	2.50%	1.50%	2.00%	1.00%	7.00%	23.00%
Ontario	16.00%	0.50%	0.50%	0.50%	0.00%	1.50%	17.50%
San Bernardino / Highland	16.00%	1.50%	1.00%	1.00%	0.50%	4.00%	20.00%
Barstow	16.00%	0.00%	0.00%	0.00%	0.00%	0.00%	16.00%
M. Valley/Riverside	16.00%	2.00%	0.50%	1.50%	0.50%	4.50%	20.50%
Fontana	16.00%	0.50%	0.50%	0.50%	0.50%	2.00%	18.00%
Rancho Cucamonga / Upland / Montclair	16.00%	1.00%	0.50%	0.50%	0.50%	2.50%	18.50%
Orange County	16.00%	2.50%	1.50%	2.00%	1.00%	7.00%	23.00%
Redlands / Loma Linda	16.00%	2.00%	0.50%	1.50%	0.50%	4.50%	20.50%
Chino / Chino Hills	16.00%	0.50%	0.00%	0.50%	0.00%	1.00%	17.00%
Rialto / Colton / Grand Terrace	16.00%	0.50%	0.50%	0.50%	0.50%	2.00%	18.00%
SW Riverside Co.	16.00%	1.50%	0.00%	1.00%	0.00%	2.50%	18.50%
San Bern. Mtns.	16.00%	0.00%	0.00%	0.00%	0.00%	0.00%	16.00%
Needles / Yucca Valley / Twentynine Palms	16.00%	0.00%	0.00%	0.00%	0.00%	0.00%	16.00%
Yucaipa / Banning Pass	16.00%	1.00%	0.00%	1.00%	0.00%	2.00%	18.00%
Coachella Valley	16.00%	0.00%	0.00%	0.00%	0.00%	0.00%	16.00%
San Diego County	16.00%	2.50%	1.50%	2.00%	1.00%	7.00%	23.00%

Figure 23: Adjustments to Base Vanpool Mode Split (Step 6)

Geographic Area	Base Mode Split	Adjustments to Base Mode Split				Total Adjustments	Modified Mode Split
		Congestion Levels (0.50%)	Employment Density (0.50%)	Distance (0.50%)	Connecting Transit Service (0.50%)		
Los Angeles County	3.00%	2.50%	1.50%	2.00%	1.00%	7.00%	10.00%
Ontario	3.00%	0.50%	0.50%	0.50%	0.00%	1.50%	4.50%
San Bernardino / Highland	3.00%	1.50%	1.00%	1.00%	0.50%	4.00%	7.00%
Barstow	3.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.00%
M. Valley/Riverside	3.00%	2.00%	0.50%	1.50%	0.50%	4.50%	7.50%
Fontana	3.00%	0.50%	0.50%	0.50%	0.50%	2.00%	5.00%
Rancho Cucamonga / Upland / Montclair	3.00%	1.00%	0.50%	0.50%	0.50%	2.50%	5.50%
Orange County	3.00%	2.50%	1.50%	2.00%	1.00%	7.00%	10.00%
Redlands / Loma Linda	3.00%	2.00%	0.50%	1.50%	0.50%	4.50%	7.50%
Chino / Chino Hills	3.00%	0.50%	0.00%	0.50%	0.00%	1.00%	4.00%
Rialto / Colton / Grand Terrace	3.00%	0.50%	0.50%	0.50%	0.50%	2.00%	5.00%
SW Riverside Co.	3.00%	1.50%	0.00%	1.00%	0.00%	2.50%	5.50%
San Bern. Mtns.	3.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.00%
Needles / Yucca Valley / Twentynine Palms	3.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.00%
Yucaipa / Banning Pass	3.00%	1.00%	0.00%	1.00%	0.00%	2.00%	5.00%
Coachella Valley	3.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.00%
San Diego County	3.00%	2.50%	1.50%	2.00%	1.00%	7.00%	10.00%

Figure 24: Summary of Demand Estimates (Steps 7)

Geographic Area	Estimated Transit Commuters	Estimated Carpool Commuters	Estimated Vanpool Commuters	TOTAL Estimated Non-SOV Commuters	PERCENT Estimated Non-SOV Commuters	Demand Estimate Range	
						LOW Estimated Non-SOV Commuters	HIGH Estimated Non-SOV commuters
Los Angeles County	877	2,521	1,096	4,495	41.0%	3,596	5,393
Ontario	125	878	226	1,229	24.5%	983	1,474
San Bernardino / Highland	361	1,443	505	2,309	32.0%	1,847	2,771
Barstow	59	941	176	1,177	20.0%	941	1,412
M. Valley/Riverside	190	709	259	1,159	33.5%	927	1,390
Fontana	81	485	135	701	26.0%	561	841
Rancho Cucamonga	209	1,105	329	1,643	27.5%	1,314	1,971
Orange County	242	697	303	1,242	41.0%	994	1,490
Redlands / Loma Linda	128	478	175	780	33.5%	624	937
Chino / Chino Hills	30	252	59	341	23.0%	272	409
Rialto	90	542	151	783	26.0%	627	940
Colton / Grand Terrace	39	206	61	307	27.5%	245	368
Upland	6	102	19	127	20.0%	102	152
SW Riverside Co.	7	105	20	131	20.0%	105	158
San Bern. Mtns.	16	94	26	135	26.0%	108	163
Needles / Yucca Valley / Twentynine Palms	5	80	15	100	20.0%	80	120
Yucaipa / Banning Pass	33	95	41	169	41.0%	135	203
Total	**2,498**	**10,733**	**3,596**	**16,827**	**30.7%**	**13,462**	**20,193**
Mode Split (Out of all VV Commuters)	**5%**	**20%**	**7%**	**31%**		**25%**	**37%**

Demand estimates across modes are consistent with the comparative mode split analysis by employment area presented at the beginning of this chapter. In general, 32% of Victor Valley residents commute outside of the area on modes other than drive alone; 26% of them carpool, 3% vanpool, and 3% take transit. The estimates herein assume that new transit services and vanpool programs will be available which explains increases in mode share for transit and vanpool, but at the expense of carpool. The drive alone mode split remains the same.

Chapter 2. Commute Alternatives

2.1. Identification of Service Strategies

The following chapter identifies a full range of potential service alternatives for Victor Valley long-distance commuters based on the findings of the household survey, analysis by employment destination area, and demand estimates by travel mode. Two major strategies have been utilized for the identification of alternatives:

- Developing a full range of potential service options by destination market, including commuter rail, express bus, and ridesharing programs along the I-15 and I-215 corridors going to the San Bernardino Valley, Riverside County and Orange County, and along the I-10 and I-210 corridors going to Los Angeles County
- Emphasizing a combination of these transit service supply strategies with other transportation demand management strategies such as developing satellite office centers in the Victor Valley Area for those that can telecommute and/or work remotely.

Commuter Rail Service

The first set of options is to develop new commuter rail service along the Amtrak passenger rail line connecting San Bernardino with Victorville. This service mode could be implemented to the following market destinations:

- **San Bernardino:** Victorville Amtrak Station to San Bernardino Amtrak/Metrolink Station, along existing Amtrak Southwest Chief Line
- **Riverside:** Victorville Amtrak Station to Riverside Amtrak/Metrolink Station via San Bernardino, along existing Amtrak Southwest Chief Line
- **Redlands:** Victorville Amtrak Station to Redlands Station via San Bernardino Amtrak/Metrolink Station, assumes new rail service between San Bernardino and Redlands currently under study

Both the San Bernardino and Riverside stations connect with commuter rail service to Los Angeles and Orange County. Commuter rail service to Los Angeles is provided on the Metrolink San Bernardino and Riverside Line and to Orange County is provided on the Metrolink 91 and Inland Empire Lines.

No direct commuter rail service is proposed from Victorville to Los Angeles or Orange County given that Metrolink serves these markets adequately and that travel times from Victorville would not be competitive with other modes (i.e. Express Bus).

It must be noted that due to the elevation change between Victorville and San Bernardino the rail route is necessarily circuitous to achieve a gradient that can be traversed by trains. As a result, the travel time between Victorville and San Bernardino is currently at 70 to 75 minutes. Given the current alignment and track speed restrictions caused by the grade this is unlikely to change without a very significant investment in a new rail alignment with new track.

In addition, the capital cost of acquiring new rolling stock equipment and the cost of operating minimal service (two AM trips and two PM trips) at current Metrolink cost rates (over $500 per hour) make this option prohibitively expensive – well over $1 million per year in operating costs.

Express Bus Service

The second set of options identifies a full range of new express bus service routes – point to point connections with a very limited number of stops (no more than two), to a number of employment and transit destinations in the San Bernardino Valley area as well as a few critical connections to Los Angeles and Riverside County employment and transit centers. The following markets have been identified for evaluation of potential express bus service:

- **Downtown San Bernardino:** Victor Valley to Downtown San Bernardino, stopping at the Transit Mall, and with distribution to locations outside downtown via Omnitrans buses, in particular via the sbX BRT service up and down the E Street corridor
- **Downtown Riverside:** Victor Valley to downtown Riverside, stopping at the Downtown Terminal and the Riverside Metrolink Station, with distribution via Riverside Transit buses and University of California Riverside shuttles
- **Loma Linda:** Victor Valley to Loma Linda with stops at the San Bernardino Transit Mall and the VA Hospital and Loma Linda University
- **Redlands:** Victor Valley to Redlands Transit Center with stops at the VA Hospital and Loma Linda University and distribution to Redlands University and locations outside downtown via Omnitrans buses
- **Rancho Cucamonga:** Victor Valley to Rancho Cucamonga Metrolink station with no intermediate stops, but circulation and distribution to employment sites north and east of the station
- **Ontario Mills:** Victor Valley to the Ontario Mills Transit Center with no intermediate stops, but circulation and distribution to employment sites east and south of the mall and connections to Omnitrans buses
- **Ontario Airport:** Victor Valley to Ontario Airport Industrial Area with stops at the East Ontario Metrolink Station and circulation and distribution to employment sites east and south of the station
- **East Ontario:** Victor Valley to East Ontario (Jurupa & Etiwanda Avenues) with no intermediate stops but circulation and distribution to employment sites north and south of this intersection
- **Montclair:** Victor Valley to Montclair Metrolink Station and Transit Center, stopping at the Ontario Mills Transit Center and with possible extension to downtown Claremont. Distribution is provided by Omnitrans buses and with connections to Foothill Silver Streak service
- **South Fontana:** Victor Valley to South Fontana Transit Center (Kaiser Foundation Hospital), stopping at Fontana Metrolink and Transit Center, with distribution via Omnitrans buses
- **Colton:** Victor Valley to Colton (Arrowhead Medical Center), stopping at South Fontana Transit Center and distribution via Omnitrans buses
- **Pomona:** Victor Valley to Pomona Metrolink Station and Transit Center, stopping at Montclair Metrolink Station and distribution via Omnitrans buses and Metro Express Bus 484
- **Corona:** Victor Valley to Corona, stopping at the North Main Corona Metrolink Station and distribution via Riverside Transit

- **Moreno Valley:** Victor Valley to Moreno Valley Mall, stopping at the Riverside Downtown Terminal and distribution via Riverside Transit and circulation to employment sites
- **El Monte Bus Station:** Victor Valley to El Monte Bus Station, stopping at Ontario Mills TC and Montclair Metrolink and TC, and offering connections to Omnitrans buses, the Foothill Silver Streak, and several express bus services operated by Metro and Foothill at the El Monte Bus Station to downtown Los Angeles via the El Monte Busway

Figure 25: Commuter Rail and Express Bus Alternatives

Commute Program	Market Size Estimate	Distance in Miles	SOV Travel Time	SOV with Traffic	Mode Travel Time
Commuter Rail					
Rail Service to San Bernardino (Metrolink)	361	40.3	38	67	74
Rail Service to Riverside (Downtown Metrolink)	551	50.5	49	86	93
Rail Service to Redlands	489	49.6	47	83	94
Express Bus					
Express Bus to San Bernardino Transit Mall	361	40.4	39	69	49
Express Bus to Riverside Downtown Terminal	551	50.4	49	86	62
Express Bus to Loma Linda VA Hospital	425	46.4	48	84	60
Express Bus to Redlands TC (Mall)	489	49.7	48	84	60
Express Bus to R. Cucamonga Metrolink	209	42.7	43	76	65
Express Bus to Ontario Mills	230	43.2	42	74	63
Express Bus to E. Ontario Metrolink	125	46.4	47	83	71
Express Bus to Jurupa/Etiwanda Avenue	125	49.4	50	88	75
Express Bus to Montclair Metrolink	658	52.4	51	90	64
Express Bus to S. Fontana TC	120	40.0	46	81	58
Express Bus to Colton Arrowhead MC	80	46.0	44	77	55
Express Bus to Pomona Metrolink (Downtown)	30	56.6	57	100	86
Express Bus to N. Corona Metrolink	242	56.1	55	97	69
Express Bus to Moreno Valley Mall	190	55.5	52	91	78
Express Bus to El Monte Bus Station	877	72.6	69	121	104

SOV Travel Time is measured in minutes at free flow conditions
SOV with Traffic is measured in minutes at typical congestion conditions (35 mph speed)
Mode Travel Time (in minutes) assumes a time penalty factor between 1.25 to 1.50 for added circulation and distribution at destination
Market Size Estimate is derived from the mode split estimates developed in Chapter 1, Figure 24, by employment destination

All express bus services listed above assume departure from the Victor Valley Transportation Center (170 spaces) and stops at the Bear Valley Road/I-5 Park & Ride (230 spaces), and the Joshua Street/Highway 395 Park & Ride (150 spaces).

On the destination end, all express bus routes are assumed to connect with regional transit services and infrastructure and to provide varying levels of circulation and distribution to the final site of employment. More bus circulation and distribution is assumed at industrial/warehousing areas (i.e. East Ontario) where jobs are more dispersed, and less distribution is assumed at downtown employment centers (i.e. San Bernardino) where jobs are more concentrated.

The major challenge for any express bus service from the Victor Valley is that it would collect passengers from dispersed residential locations and distribute them to dispersed employment locations. It is a many-to-many model that appears better suited for vanpools and carpools than for bus-pools. For example, recent commuter express bus implementations such as the Microsoft Connector service in Seattle, WA collect riders from dispersed residential locations but distribute to a highly concentrated employment location. Any viable express services from the Victor Valley would likely have to replicate this model and look for destination areas where employment sites are relatively clustered generating a medium-to-high levels of employment density (jobs per acre) that can be accessible by a short walk or by a short bus route deviation (no more than 20 minutes) to provide adequate passenger distribution.

Other Programs and Strategies

Alternative programs and strategies include the promotion, administration, and marketing of ridesharing – carpooling and vanpooling, a Park & Ride development and capacity expansion program, and transportation demand management strategies such as telecommuting and development of satellite business centers.

Carpool & Vanpool Ridesharing Service

A third set of options was to augment current ridesharing matching and promotion programs at SANBAG. In particular, the data shows that a large group of commuters utilize carpool and vanpool to get to work, and it suggests that a much larger group of solo drivers and/or infrequent carpoolers could switch to more frequent carpool and vanpools. As it has been observed previously, vanpools' attractiveness as a travel mode increases with distance, congestion, and perceived savings in travel time and costs. The options considered include:

- Launch (or re-launch) an aggressive ridesharing program that encourages major employers (i.e. 50 employees or more) to subsidize vanpools and transit usage. Local rideshare agencies already promote the modest benefits that accrue to employers that participate in vanpool subsidy programs – lower parking costs, improved employee recruitment, and some modest tax breaks. Given the lack of incentives for local employers to support alternates to single occupant vehicles, it has proven difficult for the county to gain significant financial participation by local employers.

  UC Riverside is an example of an organization that sponsors vanpools. It provides a vanpool service for staff, faculty, and all students that serves designated locations throughout the South Coast Air Basin. Participants sign up online and are placed in a vanpool based on their addresses. The cost per person is $79 a month, which is adjusted annually to cover the costs of leasing and operating the vehicles. Each vanpool has an assigned driver who must pass a physical every two years as well as an alternate driver.

  Vanpool vehicles may park at no cost in unreserved faculty/staff lots. Like carpoolers, faculty and staff participants receive 24 complimentary daily parking permits per year, and are eligible for the university's Guaranteed Ride Home program. In just two years the university has nearly doubled the number of vans, which currently carry about 200 passengers daily.

San Bernardino County also provides a major vanpool program for its employees, which is described in detail in Technical Memorandum 1.

- Launch a parallel program, directed towards potential riders, that encourages individuals to join carpools and vanpools.
- Provide a monthly subsidy for all vanpool participants. This could be modeled on the Orange County/Los Angeles County programs that provide incentives to vanpool vehicles or to individuals participating in the program.
- Provide a full monthly pass subsidy for transit

In Seattle, King County Metro has instituted the In Motion program, which may serve as a model for similar efforts in the Victor Valley. It is a community-based Transportation Demand Management program that has been rolled out in more than a dozen neighborhoods in King County. In contrast to employer-based programs, In Motion specifically targets non-work trips. For each In Motion program, King County Metro partners with neighborhood groups, non-profits, and other stakeholders to tailor the messaging, incentives, and outreach plan to the specific characteristics of that community. Residents register and pledge to eliminate a certain number of drive-alone trips each week by using some other mode. Then, participants log the trips they make by taking the bus, walking, bicycling, or carpooling instead of driving alone. Registrants earn points for each SOV trip saved, and win prizes such as gift certificates to neighborhood businesses or vouchers for use toward transit fare. All participants receive information, maps, and free bus tickets to encourage trying new travel modes to explore their community. Because the trip logs include round-trip miles traveled, King County Metro can estimate the number of gallons of gas saved and pounds of CO_2 kept out of the atmosphere by each In Motion neighborhood. This evidence quantifies for residents both the financial and environmental impact of their actions. Combined with ongoing newsletters and the opportunity to win prizes, In Motion messaging and incentives work together to encourage individuals' transportation behavior change. While this program focuses on local travel, efforts in Victor Valley that build off neighborhood groups to encourage long-distance commute travel could be organized.

Current technology developments allow the promotion of casual ridesharing through web-based and cellular phone-based social interaction networks, and these are becoming possible by the rapid spread of smart phones and reduced costs of software applications and reduced costs and administrative burden of hosting and updating ridesharing databases.

While vanpool programs and subsidies can be expensive, they may still entail less cost than providing express bus services. This is illustrated in the financial analyses presented later in this report.

Park & Ride Development Program

For any of these programs – commuter rail, express bus, and carpool, to be successful a necessary expansion of park and ride capacity will be needed. The three existing park and ride lots in the area are operating at or above capacity today and any increase in demand product of new express buses and renewed promotion of ridesharing will likely require new capacity. The options considered include:

- Increase capacity at the current park & ride locations via enlargement of park & ride lots where land is available or via construction of parking structures where additional land is not available.

  - The current locations provide the best and most centrally located opportunities to attract and capture the majority of potential users. Developing new park & rides at locations inside the community will likely have limited impacts given the low residential density and high level of dispersion of commuters in the valley area.
- Building up to 1,000 new spaces to accommodate future demand. This number is based on potential daily demand estimates on the recommended service strategies that are provided in the next section (2.2. Screening of Alternatives).

Telecommute & Satellite Business Center Program

A fourth set of options is to develop a strong telecommuting program that could include at least these two strategies:

- Promote flexible schedules and telecommute from home. Develop a program that encourages or requires employers to provide a technology subsidy for purchasing a home computer, or a monthly broadband internet connection.
- Launch a Satellite Business Center program where Victor Valley commuters can go and work remotely. The business center could provide:
  - Private office space and access to phone, internet, faxing, printing, copying teleconferencing and video conferencing resources
  - And they could be used also as central locations for express bus, carpool, and vanpool activity.

2.2. Screening of Alternatives

Definition of Screening Criteria

A set of screening criteria was defined to select from the transit service alternatives – commuter rail and express bus, described in the previous section. Three screening criteria were utilized:

- **Competitive Travel Time with Solo Driving.** For each transit service alternative identified the distance from the Victor Valley Transportation Center to its final destination was measured in miles and time (minutes) utilizing Google Maps (see Figure 25 above).
  - As footnoted in Figure 25, the transit mode travel time was measured in minutes assuming a time penalty factor between 1.25 to 1.50 for added circulation and distribution at the final destination
  - A measure of SOV driving in typical traffic congestion conditions (35 mph speed) was also developed
  - Alternatives were then filtered by comparing Mode Travel Time versus SOV with Traffic travel times. Whenever the Mode Travel Time was less than SOV with Traffic that alternative got a “YES” or a passing mark.

Figure 26: Commuter Rail and Express Bus Alternatives Screening

Commute Program		Filter 1 Travel Time	Filter 2 Commute Profile & Commuter Support	Filter 3 Estimated Daily Demand	Daily Passenger Demand	Daily Seat Utilization
Commuter Rail						
	Rail Service to San Bernardino (Metrolink)	NO			217	27%
	Rail Service to Riverside (Downtown Metrolink)	NO			331	41%
	Rail Service to Redlands	NO			293	37%
Express Bus						
	Express Bus to San Bernardino Transit Mall	YES	NO		152	51%
	Express Bus to Riverside Downtown Terminal	YES	YES	YES	231	77%
	Express Bus to Loma Linda VA Hospital	YES	YES	NO	179	60%
	Express Bus to Redlands TC (Mall)	YES	YES	YES	205	68%
	Express Bus to R. Cucamonga Metrolink	YES	NO		88	29%
	Express Bus to Ontario Mills	YES	NO		96	32%
	Express Bus to E. Ontario Metrolink	YES	NO		53	18%
	Express Bus to Jurupa/Etiwanda Avenue	YES	NO		53	18%
	Express Bus to Montclair Metrolink	YES	YES	YES	276	92%
	Express Bus to S. Fontana TC	YES	NO		50	17%
	Express Bus to Colton Arrowhead MC	YES	NO		33	11%
	Express Bus to Pomona Metrolink (Downtown)	YES	NO		13	4%
	Express Bus to N. Corona Metrolink	YES	YES	NO	154	51%
	Express Bus to Moreno Valley Mall	YES	YES	NO	80	27%
	Express Bus to El Monte Bus Station	YES	NO		368	123%

- **Commute Profile and Commuter Support.** From the comparative analysis of household survey results by employment destination area a set of two scores were developed to measure commute characteristics and commuter profiles, and stated preferences and/or support for alternative commute programs and services (see Figure 16). These two scores were utilized as a proxy to filter transit service alternatives for their commute profile conditions and for their support of transit service alternatives.
  - Whenever a transit service alternative served a market that had a medium or better score on both measures (33% or 66% percentile approval) that alternative was given a “YES” or passing mark.

- **Market Need and Estimated Daily Demand.** The final screening criteria measured the market viability and potential demand for each remaining transit service alternative. The following method was utilized to establish a viable market demand:
  - Definition of a Minimum Service Level. For transit services to be effective a minimum of 3 trips in the AM and 3 trips in the PM are required to provide adequate span of service during peak periods. For example, 1 trip every 30 minutes for markets where departure times are highly clustered (i.e. 5:00-6:00am) and 1 trip every hour for those that are less clustered (i.e. 6:00-8:00am).

– Definition of a Service Utilization Threshold. A minimum service utilization threshold of 60% of seats occupied was established to ensure adequate performance and demand viability for each transit service alternative.

– Daily Demand Estimate. In order to estimate seat utilization a daily demand estimate was developed based on the Market Size Estimate in Figure 25 (which was derived from the mode split estimates by employment destination developed in Chapter 1, Figure 24). Daily Demand Estimates were established by calculating an average use of 3 times per week roundtrip for every commuter in the market.

– Transit Coverage Factor. A factor of one-third (or 0.35) was established, based on previous demand projection experience and survey overstatement of actual mode split, to account for the limited coverage of express bus services when distributing to the final destination of employment and the likely transfer penalty for those ending their trip on a different mode.

– A passing mark or a "YES" was given to transit service alternatives that met or surpassed the 60% seat utilization threshold.

Figure 26 above shows that three express bus services met the screening criteria and show potential for successful performance, these services include:

- **Downtown San Bernardino/Riverside:** Victor Valley to downtown Riverside, stopping at the San Bernardino Transit Mall, Riverside Downtown Terminal and the Riverside Metrolink Station, with distribution via Omnitrans buses, Riverside Transit buses and University of California Riverside shuttles
- **Loma Linda/Redlands:** Victor Valley to Redlands Transit Center with stops at the San Bernardino Transit Mall, the VA Hospital and Loma Linda University and distribution to Redlands University and locations outside downtown via Omnitrans buses
- **Montclair Metrolink Station:** Victor Valley to Montclair Metrolink Station and Transit Center, direct service with no intermediate stops. Distribution is provided by Omnitrans buses and with connections to Foothill Silver Streak service

2.3 Identification of Alternative Strategies

Three alternative strategic approaches have been selected for analysis. Each emphasizes a different approach towards satisfying the long-distance commute needs of Victor Valley residents. They are intended to be progressive, where the county could move from the first to second, and then on to the third, as resources and demand allow. With some modification, each package of services could also be implemented separately.

Strategy 1 continues and expands current transportation initiatives. It includes support for carpooling, vanpool matching, Transportation Demand Management activities, and expansion of park-and-ride capacity.

Strategy 2 would include each of the strategies identified above and supplements these with three regional express routes linking the Victor Valley with San Bernardino, Riverside, Redlands, and the Montclair Metrolink Station. If implemented independently from Strategy 1, additional park-and-ride capacity would need to be added.

Strategy 3 would provide more frequent service on the routes identified within Strategy 2, and add several new destinations. It also expands the amount of park-and-ride capacity within the system.

Each alternative is described more fully below. These are intended to be conceptual alternatives that provide general descriptions of approaches that would address the transportation needs of Victor Valley residents. Each would need further refinement.

Figure 27: Commuter Service Alternatives

	Initiative	Activity
1	Rideshare Matching	Maintain current program
	Vanpool Matching	Maintain current program. Institute aggressive program that encourages employers to subsidize vanpool/transit usage. As the technology becomes available, support and promote casual vanpooling.
	Vanpool Subsidy	Provide a $50 monthly subsidy for all vanpool participants.
	TDM Activities	Maintain current program
	Park-and-Ride Expansion	Expand current Victorville and Hesperia Park-and-Ride lots, adding 500 additional stalls. This will be done by adding service parking at the Hesperia lot and leased space at the Victorville lot.
2	Worker Driver (WD) Program	To reduce costs, utilize 30 passenger vehicles along with part time operators. Design flex routes that combine 1-3 fixed stops with variable drop-off locations within a defined destination zone.
	Express Small Bus	**Victorville to Downtown Riverside** – 3 trips morning and evening with an intermediate stop at the San Bernardino Transit Center. **Victorville to the Redlands Transit Center** – 3 trips morning and evening with intermediate stops in San Bernardino and Loma Linda. **Victorville to the Montclair Metrolink Station and Transit Center** – 3 trips morning and evening with no stops.
	Park-and-Ride Expansion	If done independently of Strategy 1, expand the current Victorville and Hesperia Park-and-Ride lots, adding 500 additional stalls.
3	Express Bus	**Expanded Operations** – Operate the San Bernardino, Riverside and Redlands routes described in Strategy 3 as large-scale express routes, operating on a 30-minute headway. This would provide allow 6 morning and 6 evening trips.
	Express Small Bus (WD Routes)	**Victorville to the Corona Metrolink Station** – 3 trips morning and evening with an intermediate stop at Ontario Mills Shopping Center. **Victorville to the Ontario Mills Shopping Center** – 3 trips morning and evening.
	Park-and-Ride Expansion	If done in conjunction with Strategy 1, the continued expansion of the commute travel market will necessitate a second expansion, again 500 stalls. If done independently of the vanpool improvements identified in Strategy 1, expand the current Victorville and Hesperia Park-and-Ride lots, adding 500 additional stalls. .

These alternatives include several new approaches to satisfying long-distance commute travel demands, including:

- Casual Vanpooling – Traditionally, vanpools have been limited to a regular rider base that sign up in advance, ride almost every day, and pay a monthly fee. This would expand vanpool options to individuals who only ride occasionally. They would reserve space on a van only for the days they intend to ride. Special computer software would search for vans, matching the origin-destination and travel time request to determine whether a seat is available. This concept would require some support staff, new computer software, and the active support of the vanpool providers.
- Pass Subsidies – As illustrated in the cost-benefit analysis later in this report, vanpools tend to be the most cost-effective public transportation alternatives. Reducing the customer's cost of vanpooling, as a form of incentive, is a way of cost-effectively encouraging alternate modes. A pass subsidy program would extend the new user subsidy program already in place, making the public subsidy permanent. It could be enacted countywide or conducted as a demonstration project limited to the Victor Valley area.
- An intriguing variation of the pass subsidy concept is an employer matching program, designed to encourage local employers to subsidize vanpool usage. As a means of encouraging vanpool subsidies, SANBAG would match any employer subsidy up to a limit. For example, if an employer provides a $25 subsidy, SANBAG would match that amount. This may be a strategy for enhancing existing partnerships while expanding the vanpool program's reach.
- Employer Outreach – While SANBAG already has an extensive program of employer outreach, the addition of casual vanpooling and pass subsidy programs would place new burdens on this effort. Accordingly, we suggest additional staffing will be needed to keep up with demand.
- Worker-Driver Buses - Worker driver routes are a strategy for reducing the cost of long-distance commuter services. Much of the cost of these services is typically associated with deadheading buses over long distances. Because commute traffic is often highly directional, a bus may transport a full load of passengers to their worksite. Then, for the sole reason of getting the operator back to the garage, the bus deadheads back. A few hours later, the bus repeats its deadhead, returning to the employment site where customers are now waiting to return home. It is inefficient and drives up the costs of express services.

  Worker-driver services attempt to reduce these costs by using part-time operators who have regular jobs at the destination end of the routes. In this case, the worker-driver operator would pick a bus up at the VVTA maintenance facility, deadhead to the route's starting location, operate the service route and then park at the final destination, leaving the bus parked for the day. Kitsap Transit, in Washington State, operates an extensive worker-driver program to the Bremerton Naval Shipyard and may provide a good resource about how such programs operate.
- Flex Express Routes – Deviated fixed route services are common service design strategies for local transit services. They are less common for express services but may be a way to overcome the 'many to many' travel demand pattern described in the previous section. Under a flex express system, major destinations would be noted on schedules and always served by the transit route. Other locations would be served on demand. In the morning, a customer would simply ask the operator to deviate to the 'off route' stop. In the afternoon, he/she would need to call in, asking the operator for the deviated service.

These concepts are offered as a way of starting a conversation about which non-traditional public transportation options may be appropriate for the Victor Valley.

Consideration of Commuter Rail Service

Recognizing that commuter rail service has significant appeal to Victor Valley residents, the project team performed a conceptual review of the likely costs and patronage associated with commuter rail service linking Victorville with San Bernardino.

This service would likely entail significant capital costs. Assuming that a one-way trip via commuter rail would take about 74 minutes, a minimum of two complete train sets would be required. If purchased new, the locomotives would cost about $4.5 million each, with an additional $1.3 million for rail cars. Together, two train sets consisting of an engine and two cars each would cost about $14.2 million. In addition, the operating authority would need to secure operating rights from the rail operator, which would likely entail additional costs.

Commuter rail operating costs are typically measured in terms of the cost of operating a single rail car for one hour. During 2007, the four commuter rail services operating in California experienced an average cost of $507.58 per rail car hour. Accordingly, a two car train operating from Victorville to San Bernardino, a trip that Amtrak schedules to take 74 minutes, would entail about $1,250 daily operating cost. If 50 people rode, the operating cost per rider would be about $25.

A final consideration about commuter rail is the travel time. As noted above, Amtrak schedules 74 minutes for the trip from Victorville to San Bernardino. The same trip can be accomplished by private auto in about 38 minutes. Adding to the inconvenience, because Metrolink does not plan to extend its services to Victorville, continuing rail passengers would be compelled to transfer trains. Most people going to destinations in and around San Bernardino would need to transfer to local buses. All this would make the service very inconvenient, likely reducing its market potential to a point where it would prove extremely difficult to attract 50 riders per train. For all these reasons – relatively high cost combined with long travel times – the project team does not consider commuter rail to be a viable short-term service option unless significant track improvements, aimed at decreasing travel times, are undertaken.

2.4 Cost Benefit Analysis

Demand Estimates

Each component of the three service alternatives outlined above was evaluated to determine likely patronage that would result from its implementation. The table below summarizes the conclusions of that analysis.

Figure 28: Patronage Impacts of Alternatives

Initiative	Total Market	Existing Patronage	Added Market from Initiative
Strategy 1 Alternatives			
Expanded Vanpool Matching	6,226*	3,190	3,036
Vanpool Subsidy			
Strategy 2 Alternatives			
Victorville to Riverside WD Express	551	0	231
Victorville to Redlands WD Express	489	0	205
Victorville to Montclair WD Express	658	0	276
Strategy 3 Alternatives			
Victorville to Riverside Full Express	551	231	166
Victorville to Redlands Full Express	489	205	147
Victorville to Montclair Full Express	658	276	198
Victorville to Corona Metrolink WD Express	367	0	154
Victorville to Ontario Mill Center WD Express	230	0	96

Notes:

Expansion of park-and-ride capacity, while not listed separately, would be an essential component of most individual strategies.

As express buses are implemented, there will likely be some movement away from vanpools and rideshare options. These have not been estimated.

Total demand based upon the estimates contained in Figure 23.
Vanpool market estimates have been doubled in this table to account for total daily trip making, where one morning and one evening trip is assumed. This is done to allow comparison with estimates of transit patronage.

Fixed route cost estimates

The table below summarizes the likely operating costs associated with the fixed route services that were outlined in each of the strategies. The last column on the form, titled 'Cost Above Strategy 2' is the amount of additional cost above Strategy 2 that would be needed to implement the Strategy 3 service levels (more frequent service combined with the routes' operation as traditional express, not worker driver route).

:**Figure 29: Patronage Impacts of Alternatives**

	One-Way Travel Time	Daily Trips	Daily Revenue Hours	Non-Revenue Service	Daily Service Hours	Annual Service Hours	Annual Cost	Cost Above Strategy 2
Worker Driver Routes								
Riverside Downtown Terminal	1.03	6	6.20	0.93	7.13	1,818	$ 108,875	
Redlands TC (Mall)	1.00	6	6.00	0.90	6.90	1,760	$ 105,363	
Montclair Metrolink	1.07	6	6.40	0.96	7.36	1,877	$ 112,387	
Corona	1.15	6	6.90	1.04	7.94	2,023	$ 121,167	
Ontario Mills	1.05	6	6.30	0.95	7.25	1,847	$ 110,631	
Full Express Routes								
San Bernardino Transit Mall	0.82	12	9.80	7.84	17.64	4,498	$ 269,363	$ 160,488
Riverside Downtown Terminal	1.03	12	12.40	9.92	22.32	5,692	$ 340,826	$ 235,463
Redlands TC (Mall)	1.00	12	12.00	9.60	21.60	5,508	$ 329,832	$ 217,445

A number of assumptions were employed in developing these operating cost estimates. They include:

- Travel times are based upon drive time estimates contained in Google Maps.
- Worker driver routes assume that services will be operated by individuals working at or near the destination location, as described earlier. This analysis assumes that non-revenue hours will comprise 15 percent of daily revenue hours.
- Non-revenue hours (time buses are not in revenue service, primarily going to and from the garage) will be 80% of daily revenue hours (the time buses are in passenger service) on traditional express services.
- All express services will operate on weekdays only.
- Operating costs will total $59.88 per total service hour, VVTA's average operating cost per service hour in 2007 (NTD number), for all express services. Service hours include both revenue and non-revenue hours.
- Strategy 1 includes one additional employee will be retained by SANBAG to solicit employer subsidies for the vanpool program and to support casual vanpooling. While both initiatives would support multi-modal transportation efforts county-wide, they would significantly benefit the Victor Valley efforts and are accordingly included in these estimates. We estimate that the salary, benefits, and associated administrative costs of this position would be approximately $100,000 per year.
- Strategy 1 also includes a $50 per month subsidy for vanpools. This could be done as a match to participating employers (our recommended approach) or as a subsidy to individuals. While such a program would need to be implemented countywide, the maximum cost associated with Victor Valley is illustrated below.

Total Victor Valley Vanpool Market (See Figure 21)	3,113
Monthly Subsidy	$50
Annual Program Cost (Maximum for Identified Market)	$1,867,100

- This estimate does likely represent a maximum program cost, and could be reduced through program eligibility requirements or employer participation in the subsidy.

Capital cost estimates

- Vehicle Requirements – Given the limited demand on some corridors, it may be possible to reduce some capital costs by utilizing a smaller capacity vehicle. In doing this, SANBAG will need to trade off the capacity, service reliability, and relative comfort of a larger vehicle against the cost savings associated with a smaller vehicle. Similarly, while used buses would entail short-term savings, they would not have the life expectancy of a new bus. Taking these factors into consideration, buses of differing capacity, road worthiness, and life expectancy could be purchased for between $75,000 and $550,000. This analysis assumes that SANBAG will employ standard transit 30 or 35 foot vehicles with a 30-person capacity. We estimate the cost to be about $375,000 per bus.

Strategy 1 Costs - $0
Strategy 2 Costs – (9 needed for service plus 2 spares) - $4,125,000
Strategy 3 Costs above those identified in Strategy 2 – (15 plus 2 spares) - $6,373,000
Thus, full implementation of Strategy 3 would cost about $10.5 million.

- Anticipated capital facilities – The other major capital cost that any commuter program will need to consider is expanded park-and-ride facilities. Occasionally, transit agencies are willing and able to grade and sign excess right of way, calling it a park-and-ride facility with almost no cash outlay. At the other extreme, new structured park-and-ride capacity can easily cost $35,000 per stall. Without performing a full scale market analysis, there is no way to determine where Victor Valley will fall on this continuum.

  For bus operations, long-term operational efficiencies will be served if existing park-and-ride facilities are expanded rather than constructing new facilities at other locations. No matter how convenient, there is always a cost associated with deviating services into the facility and waiting while passengers board. These costs can quickly dwarf the capital costs associated with adding onto an existing lot. (These considerations do not apply as strongly to vanpool and rideshare services.)

  This analysis assumes that additional park-and-ride capacity can be developed for about $10,000 per stall. That may be accomplished by the purchase and development of parcels adjacent to one of the three existing lots in Victor Valley or by securing a long-term lease. (The lease cost would work out to about $42 per stall per month.)

- Equipment and amenities – Strategy 1 includes development and promotion of casual vanpooling. While software to facilitate this approach is still being developed, and no pricing has yet been announced, we estimate it will cost roughly $200,000.

  Figure 30 below summarizes project capital costs by strategy.

Figure 30: Capital Costs

	Strategy 1	Strategy 2	Strategy 3
Buses		$ 4,125,000	$ 6,373,000
Vehicle Life (Years)		15	15
Cost per Year		$ 275,000	$ 424,867
Park-and-Ride Expansion	$ 5,000,000		$ 5,000,000
Projected Facility Life (Years)	20		20
Cost per Year	$ 250,000		$ 250,000
Casual Vanpooling Software	$ 200,000		
Projected Life of Software	$ 6		
Cost per Year	$ 33,333		
Total Projected Capital Costs	$ 283,333	$ 275,000	$ 674,867
Cumulative Annual Costs (All Phases)	$ 283,333	$ 558,333	$ 1,233,200

The final table summarizes the estimated annual cost per additional one-way trip provided under each strategy. It suggests that the vanpool measures contained within Strategy 1 would likely be the most cost-effective strategies. Because of their lower cost structure, the express small bus measures identified in Strategy 2 would cost somewhat more. Traditional express services appear to be the most expensive.

Figure 31: Cost per Rider

	Strategy 1	Strategy 2	Strategy 3
Express Bus Services		$ 300,284	$ 871,534
Employer Outreach Coordinator	$ 100,000		
Vanpool Subsidy	$ 1,867,100		
Capital Costs	$ 283,333	$ 275,000	$ 674,867
Total Annual Costs (Single Strategy)	$ 2,250,433	$ 575,284	$ 1,546,401
Total Annual Costs (All Strategies)	$ 2,250,433	$ 2,825,717	$ 4,372,118
Patronage (One-Way Trips)			
Vanpools	3,036		
Express Bus Services		712	761
Annual Cost per New One-Way Trip	$ 741.25	$ 807.98	$ 2,032.06

If the express bus strategies considered in strategies 2 and 3 are considered together, the annual cost per new one-way trip is $1473. In short, vanpool strategies appear to be the most cost effective strategy that was considered.

2.5 Evaluation of Alternative Strategies

As noted at the beginning of the last chapter, the three outlined strategies are intended to illustrate the way that several improvements might be combined to generate significant shifts in commute patterns. At the same time, most of the measures they contain could also be implemented individually, or the strategies could be combined to provide a mix of transportation needs, each designed to address different commuter needs.

The cost-benefit analysis clearly suggests that vanpool strategies will be the most cost-effective service option. Their relatively low cost structure more than compensates for the costs of a subsidy program, even if a majority of subsidy costs would reimburse existing riders. The market analysis also suggests that the pool of likely vanpool riders is larger than the pool of likely transit patrons (3,596 potential vanpool patrons compared to 2,498 potential transit), meaning that more SOV trips reductions are possible through vanpool strategies.

Still, the likely transit market is substantial, if dispersed over the entire metropolitan region. The visibility and market acceptance of regional express bus services provides clear long-term benefits, even if they are difficult to quantify. While costly, a program that combines vanpool with regional express bus services clearly has the greatest long-term ridership generation potential.

The popularity of the three Victor Valley park-and-ride facilities illustrates the importance of added park-and-ride capacity. Before any meaningful vanpool or transit improvements are undertaken, expanded park-and-ride capacity will be essential. As such, this should the first priority in any long distance commuter transportation program. Without such capacity, the prospects for any express bus or vanpool program will be limited.

Chapter 3. Community Outreach Plan (Revised 8/17/09)

3.1 Introduction

The Victor Valley region is large, with commuters spread out across a sizeable area. Many workers are long distance commuters who spend considerable travel time in the car, leaving limited hours for other activities during the work week. Given that commuters are not well concentrated and likely have little availability for in-person public participation in a planning process, we project that more traditional community forums would suffer very low rates of participation. Because the cost to coordinate and administer such efforts is high, regardless of attendance, the public involvement effort for this project is focused on a more effective web-based approach that will reach more people at times and places that are convenient for them. Effective community outreach should aim for maximum opportunity in disseminating public information and gathering public comment. To achieve this, a combination of efforts is more effective than any one method.

Accordingly, this public outreach effort will utilize dissemination of a fact sheet that contains project information and website addresses, a simple web page, Survey Monkey, and, potentially a simple on-line discussion forum. This chapter will explore the web-based strategy in greater depth and discuss additional options that could be employed if resources are available.

3.2 Outreach Strategy

The strategy includes creating a and fact sheet for public dissemination of project information, website addresses, a Survey Monkey questionnaire, and potentially a simple on-line discussion forum. Note that the drawback of this strategy is that it assumes a good level of computer literacy and computer access within the community to be successful. The strategy will be a challenge for anyone with low literacy and lack of English proficiency. Many people commuting outside the Victor Valley area do not work with computers at their place of employment, and although they may have access to a computer at home, they may not have enough time in their daily routines to surf the web for information on the plan or to respond to even the most rudimentary on-line survey.

The plan is to launch the public involvement effort in early September. The site will be active and maintained for throughout the month of September 11th. As with past experiences, we expect the most responses to occur within the two weeks. Note that early September is a tentative date and may be pushed back if issues arise that need resolution prior to launch.

Web Page

A special URL will be purchased for the project, www.victorvalleycommute.com, and hosted through a third party. The web page would be simple and contain the following:

- **Home page:** Basic description of the project, project sponsors, timeline, etc.
- **Downloads:** Here we would have a very brief description of each tech memo and a link to a downloadable PDF.

- **Scenarios:** Here we would have a brief description of each scenario and a map (all in HTML). At the bottom of the page, we would ask people to respond to each scenario by taking the survey (link to survey monkey, see below)
- **Contact: (optional)** A feature that would include a name and e-mail address that can be contacted for more information.
- **Discussion Forum: (optional)**. There is a forum feature through the hosting company which is being investigated. Alternatively, could create a link to a new blog using Blog Spot (www.blogger.com), which is totally free and pretty easy to set up.

It is assumed the member cities, VVTA, and San Bernardino County would have links to the website prominently placed on each of their respective home pages.

Survey Monkey

On the "scenarios" tab there will be a link to the Survey Monkey questionnaire. Survey Monkey is a free web-based survey service. Nelson/Nygaard will provide the domain that will host the Survey Monkey questionnaire.

On the survey pages participants will answer a number of questions related to their opinions of long distance commute alternatives we specify as well as details of their personal commute patterns. The format will consist of multiple-choice questions. Where appropriate, there may be fill-in the blank at the end for additional feedback, but that will be minimized as to allow for quicker data collection and analysis. While the survey design has not yet been designated, it will take no longer than 5-10 minutes to complete.

We will require responders to establish a password and will restrict responses by IP address to a maximum of two people (allowing up to two people per household), thus preventing one person responds more than once to further a particular agenda.

Our target is to have 400 total responses to the survey. We expect about 250 in the first week.

Advertising Web Page & Survey Monkey

To alert and advise the community of the web page, we will need to disseminate information containing a link to the website. This is the critical piece of our outreach effort. Because the website will be active and maintained for a limited period, it is important that distribution of the website information is timely and not delayed – and sent to as many people as possible.

Below we identify two methods in which such a campaign can be carried out.

Fact Sheet

The fact sheet explains the project, goals, and provides information on how to access the project website. The fact sheet is intended to do the following:

- Explain the purpose and goals of the study.
- Reach out specifically to long distance commuters traveling outside the Victor Valley area.
- Include a small graphic, such as a map and SANBAG / VVTA logos.

- Enumerate the alternative program solutions we propose based on initial community outreach efforts and other project research.
- Solicit feedback, telling community members their input is critical.
- List the various methods by which they may give feedback.
- Provide the deadline for giving feedback.
- Include a phone number and/or email for questions (optional).

The fact sheet will be printed, likely black and white, double-sided on letter size paper. The fact sheet will be distributed to the public. This is a challenging and time consuming component for any outreach plan. Our suggestions combine electronic and non-electronic distribution:

- Distribute printed fact sheet to, city halls, libraries, human service organizations, job training agencies, and major employers. Ask that major employers distribute the flier to all employees via e-mail (a pdf version will be provided for electronic distribution) .
- Send printed fact sheet to municipalities and ask they include it in newsletters, energy bills, and other regular notices.
- Put printed fact sheet on all cars in the three Victor Valley Park and Rides lots.
- Post an electronic fact sheet message on Craig's List.
- Email an electronic fact sheet to the Victor Valley Stakeholder list. Ask they forward the flier to all their contacts and employees.

We anticipate assistance from SANBAG, and VVTA staff in distribution of the flier throughout the community.

Submit Small Newspaper Article or Press Release

In addition to the Fact Sheet, Nelson\Nygaard or SANBAG or VVTA will also submit a press release to local newspapers. The text would include information from the fact sheet. In previous and similar projects, such efforts have proven to generate 1,000 responses within 24 hours. That, of course, depends on the circulation and frequency of the newspaper. The *Victorville Daily Press, Hesperia Star, Lucerne Valley Leader, Desert Dispatch, The Review, El Mojave,* and Victor Valley Community College *RamPage* are all good options. The *Victorville Daily Press* is a daily paper, the *RamPage* is semi-monthly, and the rest are issued weekly. However, there is no guarantee when and if the release will be published.

Fact Sheet Content DRAFT

Are you a long distance commuter?

The San Bernardino County Association of Governments (SANBAG) and the Victor Valley Transit Authority (VVTA) are exploring commute alleviation strategies for Victor Valley residents who go to work 'down the hill' in the San Bernardino Valley, Riverside, Los Angeles, Orange, or San Diego Counties.

About one-half of all workers in the Victor Valley area go to work 'down the hill' at employment sites that are at least 40 miles away – with many people traveling more than 100 miles each way, every day to work in downtown Los Angeles, Orange County, or San Diego County. Most people going 'down the hill' drive their cars alone contributing to congestion in the I-15 corridor and the Cajon Pass, but most importantly spending a big portion of their day commuting and away from their families, which affects the quality of life and strength of our Valley communities.

If you are commuting outside the Victor Valley, traveling long distances for work, and wish there were other options for your daily commute; we want to hear from you!

We Need Your Input!

The information you provide will help us determine which strategies are best for future investment in transportation infrastructure and commute options for the Victor Valley

Examples of Alternative Commute Options in the Victor Valley

There are a variety of strategies and investment programs that could be implemented to improve your commute, these include:

- New Park & Ride facilities
- Vanpool and Carpool formation support and subsidies
- Cash incentives through your employer for not driving alone
- Express Bus service

What do you think is best for the Victor Valley and your community?

We have put together a list of potential programs to improve your commute. These programs are based on current commute conditions and locations of employment. We want to evaluate our ideas with you, so we can make the right decision for the Victor Valley community.

We have created a web page where you can get information about the study, provide your comment and thoughts, and evaluate our programs by filling out a brief on-line survey.

Please visit:

www.VictorValleyCommute.com

If you have further questions or would like more information about our study, please contact a project representative at 1-800-000-0000 or send an email to info@??????.

Many thanks for taking the time to participate and provide your input!