San Diego- Riverside

INTERREGIONAL TRANSIT, VANPOOL, & BUSPOOL STUDY

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Project Background

The I-15 Interregional Partnership Phase II Report (January 2007) confirmed the jobs/housing imbalance between the San Diego and southwestern Riverside counties. The report identified key issues as:

- Increasingly significant interregional commute patterns
- Limited new employment opportunities in southwestern Riverside County
- Insufficient housing opportunities in San Diego County
- Need to address the increasing congestion on the I-15 corridor

Two key strategies were recommended, focusing on:

- Addressing the imbalance in housing and employment between San Diego and southwestern Riverside counties
- Reducing the impacts of Interregional commuting

Many San Diego County workers continue to reside in southwestern Riverside County where more affordable new housing has been available over the last two decades. Previous studies have estimated over 90 percent of these interregional commuters prefer owning a single-family detached home and over 60 percent are former San Diego County residents.

While the imbalance in housing-jobs may be adjusted favorably through the efforts of the Interregional Partnership and other factors, it is likely that commuting to San Diego from at least the most southern communities of Temecula and Murrieta will remain significant, even with the recession temporarily slowing housing demand. Examining alternatives for this commute, including vanpools, bus pools and transit service is the focus of this study.

Description of Project Area

The general project residential area catchment includes both San Diego and Riverside counties, covering as far as 45 miles north and 30 miles south of the county line, centered on Interstate 15 and Highway 215.

This two-county commute corridor extends as far north as the cities of Corona and Norco on the I-15 as well as Perris, Hemet and San Jacinto around the I-215 and SR74 highways. Other key cities/areas include Lake Elsinore, Canyon Lake, Murrieta, Temecula, Wildomar, and Sun City/Menifee.

Employment destinations of interest are scattered across San Diego County, including Escondido and Oceanside/Camp Pendleton and Carlsbad in North County, University City/UCSD/Sorrento Mesa, Kearny Mesa, downtown San Diego and Naval Base San Diego.

Section One:

Southwestern Riverside County Growth

Section 1: Southwestern Riverside County Growth

Growth in the Southwestern Riverside County is outlined below in terms of population, households, and employment over the period 2000 to 2030.

1.1 Population Growth

Population growth in Southwestern Riverside County as shown in Riverside County Projections (2006) shows an overall expectation of continued growth, but with a gradual decline in the rate of growth over the period to 2030. Overall population was expected to grow from 1.2 million in 2000 to an estimated 1.9 million by 2015 and 2.4 million by 2030:

- 2000-05: 25 percent
- 2005-10: 15 percent
- 2010-15: 10.5 percent
- 2015-20: 9 percent
- 2020-25: 8 percent
- 2025-30: 7 percent

Table 1.1.1 below shows estimated population growth in the communities of southwestern Riverside County.

Table 1.1.1 — 2006 Population Projections

Community	2000	2005	% Change	2015	% Change	2030	% Change
Canyon Lake	9952	11019	**10.7%**	11277	**2.3%**	11618	**3.0%**
Corona	127,151	145,628	**14.5%**	154,631	**6.2%**	165,260	**6.9%**
Hemet	58,871	68,589	**16.5%**	100,832	**47.0%**	132,580	**31.5%**
Lake Elsinore	28,928	39,856	**37.8%**	61,045	**53.2%**	85,376	**39.9%**
Murrieta	50,866	89,785	**76.5%**	109,715	**22.2%**	123,549	**12.6%**
Norco	24,167	27,265	**12.8%**	30,693	**12.6%**	34,531	**12.5%**
Perris	36,202	46,264	**27.8%**	64,221	**38.8%**	84,881	**32.2%**
San Jacinto	23,779	30,008	**26.2%**	68,731	**129.0%**	92,176	**34.1%**
Temecula	66,650	92,382	**38.6%**	103,150	**11.7%**	121,495	**17.8%**
Unincorporated	333,117	435,178	**30.6%**	592,744	**36.2%**	783,621	**32.2%**
Riverside	255,735	288,977	**13.0%**	312,924	**8.3%**	372,782	**19.1%**
Moreno Valley	142,381	171,417	**20.4%**	206,657	**20.6%**	246,804	**19.4%**
Calimesa	7,139	7,460	**4.5%**	15,193	**103.7%**	25,504	**67.9%**
Beaumont	11,565	21,242	**83.7%**	45,029	**112.0%**	74,687	**65.9%**
Banning	23,562	28,283	**20.0%**	42,120	**48.9%**	59,392	**41.0%**
TOTAL	**1,200,065**	**1,503,353**	**25.3%**	**1,918,962**	**27.6%**	**2,414,256**	**25.8%**

Key cities at the southern end of the County with significant expected growth are:

- Temecula: almost doubles from 66,000 in 2000 to over 120,000 by 2030, with over 100,000 people by 2015.
- Murrieta: more than doubles in population, from 50,000 in 2000 to over 120,000 in 2030. Almost 110,000 by 2015; as with Temecula, most growth occurs in the period through 2015.

- Lake Elsinore: More than doubles from 30,000 in 2000 to over 85,000 by 2030, with over 60,000 people by 2015. This community has more even distribution of growth through 2030.
- Perris, Hemet and San Jacinto also show substantial growth, from 118,000 combined in 2000 almost doubling to 233,000 by 2015, and to 309,000 by 2030.
- Unincorporated areas (not all in the study area) also grow substantially, from 333,000 in 2000 to 592,000 by 2015, and over 783,000 by 2030.

Temecula, Murrieta, Lake Elsinore, Perris, Hemet and San Jacinto will also have densities as high as 2,500 – 5,000 persons per square mile by 2030.

1.2 Housing Growth

Table 1.2.1 shows growth in housing for communities of southwestern Riverside County, as shown in Riverside County Projections (2006).

Table 1.2.1 —Riverside County Housing Projections

Community	2000	2005	% Change	2015	% Change	2030	% Change
Canyon Lake	4047	4341	**7.3%**	4481	**3.2%**	4625	**3.2%**
Corona	40,019	44,365	**10.9%**	48,058	**8.3%**	50,593	**5.3%**
Hemet	29,429	33,297	**13.1%**	48,148	**44.6%**	65,898	**36.9%**
Lake Elsinore	9,505	12,716	**33.8%**	19,566	**53.9%**	28,704	**46.7%**
Murrieta	17,574	30,246	**72.1%**	38,203	**26.3%**	42,499	**11.2%**
Norco	6,283	7,080	**12.7%**	8,211	**16.0%**	9,362	**14.0%**
Perris	10,555	13,089	**24.0%**	18,359	**40.3%**	24,615	**34.1%**
San Jacinto	9,476	11,608	**22.5%**	26,608	**129.2%**	35,755	**34.4%**
Temecula	21,748	29,490	**35.6%**	34,567	**17.2%**	38,939	**12.6%**
Unincorporated	119,049	151,692	**27.4%**	207,176	**36.6%**	274,900	**32.7%**
Riverside	86,157	94,236	**9.4%**	107,596	**14.2%**	127,747	**18.7%**
Moreno Valley	41,431	48,459	**17.0%**	58,521	**20.8%**	72,909	**24.6%**
Calimesa	3,248	3,303	**1.7%**	6,003	**81.7%**	10,736	**78.8%**
Beaumont	4,317	7,755	**79.6%**	16,925	**118.2%**	29,463	**74.1%**
Banning	9,671	11,439	**18.3%**	15,990	**39.8%**	24,643	**54.1%**
TOTAL	**412,509**	**503,116**	**22.0%**	**658,412**	**30.9%**	**841,388**	**27.8%**

Growth in housing in southwestern Riverside County tends to follow the same pattern as that for population growth. Significant growth in housing occurs in Temecula and Murrieta in the shorter term to 2015 (possibly delayed by the current recession). Consistent growth is also seen in other communities such as Lake Elsinore, Perris, Hemet and San Jacinto, and the unincorporated areas across the full period to 2030.

1.3 Employment Growth

Table 1.3.1 below shows employment estimates for the communities of southwestern Riverside County, as shown in Riverside County Projections (2006).

Table 1.3.1 —Riverside County Employment Projections

Community	2005	2015	% Change	2030	% Change
Canyon Lake	1919	2556	**33.2%**	3142	**22.9%**
Corona	63,892	77,460	**21.2%**	97,751	**26.2%**
Hemet	24,248	37,107	**53.0%**	58,134	**56.7%**
Lake Elsinore	10,508	13,525	**28.7%**	18,012	**33.2%**
Murrieta	18,894	23,008	**21.8%**	29,616	**28.7%**
Norco	11,381	14,510	**27.5%**	18,844	**29.9%**
Perris	14,750	19,300	**30.8%**	25,370	**31.5%**
San Jacinto	5,456	16,284	**198.5%**	25,315	**55.5%**
Temecula	47,284	60,098	**27.1%**	80,806	**34.5%**
Unincorporated	89,249	155,519	**74.3%**	258,430	**66.2%**
Riverside	154,278	195,554	**26.8%**	262,218	**34.1%**
Moreno Valley	28,792	49,414	**71.6%**	80,667	**63.2%**
Calimesa	2,212	2,574	**16.4%**	3,147	**22.3%**
Beaumont	4,647	11,480	**147.0%**	22,745	**98.1%**
Banning	7,475	12,871	**72.2%**	21,726	**68.8%**
TOTAL	484,985	691,260	**42.5%**	1,005,923	**45.5%**

Large population centers in the study area have employment growth projections of:

- Temecula: Ratio of jobs to population increases from 0.51 (2000) to 0.67 (2030).
- Murrieta: Ratio of jobs to population increases from 0.21 (2000) to 0.24 (2030).
- Lake Elsinore: Ratio of jobs actually declines from 0.34 (2000) to 0.21 (2030).
- Perris, Hemet, San Jacinto: Together these areas increased the ratio of jobs to population slightly from 0.31 (2000) to 0.35 (2030)
- Unincorporated: Ratio of jobs to population increased, 0.21 (2000) to 0.33 (2030)

While areas such as Murrieta and Lake Elsinore show less growth in employment per capita, areas such as Temecula show stronger employment growth, which may be a factor influencing future levels of commuting to San Diego County.

Section 2:

Interregional Travel Demand

Section 2: Interregional Travel Demand

2.1 Overall Commute

It was estimated by the Interregional Partnership that 29,000 interregional commuters travel the I-15 from southwestern Riverside County to jobs scattered over San Diego County. Of these, approximately 60 percent originate from the cities of Temecula and Murrieta or the adjacent unincorporated area.

Over 40 percent of interregional commuters are bound for northern San Diego County jobs, located in Camp Pendleton, Carlsbad and Escondido. Other key destinations include Rancho Bernardo, Kearny Mesa, Sorrento Mesa and downtown San Diego.

Commute distances are significant, Temecula to downtown San Diego being over 60 miles and Corona to there being almost 100 miles.

2.2 Mode Shares

From a 2002 survey of interregional commuters, 85 percent regularly drove alone, 13 percent carpooled and only 2 percent used transit or other options.

The low share for transit is partly due to the limited supply of transit options, as well as the long commutes involved. The extensive vanpool program is also somewhat a replacement for transit.

2.3 Traffic Conditions

The I-15 corridor is a heavily traveled corridor between the Riverside and San Diego regions. Average daily traffic at the county line has previously been estimated at 135,000 (2005). While some of this volume is interregional and international truck and auto traffic, potential demand for transit is likely to expand beyond the traditional commute periods.

Current I-15 commute travel conditions are currently satisfactory at the county line and very severe (LOS F) south of SR-78 in Escondido in San Diego County. However, traffic on an average day at the Riverside-San Diego county line is projected to increase from 135,000 (2005) to 250,000 by 2030. Capacity at the county Line is expected to be reached by 2012 on the existing road (4 lanes each direction).

SANDAG has plans (unfunded) for two HOV/managed lanes for I-15 from Escondido to the county line. Likewise, Riverside County is also planning to expand the road, adding two general purpose and one HOV lanes in each direction from the I-15/I-215 junction to the San Diego county line, as well as the same extra capacity for I-215 north to Nuevo Road Perris. Other options include eastern and western bypass highways around Temecula, as well as truck lanes uphill to the inspection point at the county line.

Given the unfunded status of these projects, and the time to implement, if current predictions of traffic volume growth are accurate, expanded transit options may play an important congestion mitigation role.

2.4 Detailed Travel Demand

Original Estimates

A separate estimation of the existing I-15 commute market from southwestern Riverside County to San Diego County was conducted in 2005 as part of the development of an operating plan for SANDAG's I-15 Bus Rapid Transit initiative. Estimated key interregional commuter numbers were developed for two planned BRT corridors:

- Escondido – Downtown San Diego (I-15/SR-94)
  - Serving Kearny Mesa, SDSU, Downtown San Diego
  - Estimated 4083 commuters in 2005; 12,441 commuters by 2030 (Note: Mission Valley omitted due uncertainty of station).
- Escondido – UCSD (I-15/Mira Mesa Blvd/La Jolla Village Drive)
  - Serving Mira Mesa, Sorrento Mesa, University City, UCSD
  - Estimated 2260 commuters in 2005; 5724 commuters by 2030.

These travel demand estimates shown in Table 2.4.1 below were derived from a zip-code survey of employment and student enrollments, expanded to match existing (2005) employment levels for each employment location, as estimated by SANDAG, as well as expanded for future employment growth by location and population growth in southwestern Riverside County.

North San Diego County and other employment centers were excluded as they were considered unlikely to be captured by the BRT as then planned (such as Escondido, Rancho Bernardo, Poway).

Table 2.4.1 — Original Travel Demand Estimates 2006/2007 - Southwestern Riverside County to Destinations

Location	2005	2015	2030	Change 2005 to 2015	Change 2015 to 2030
Mira Mesa	525	1,108	1,664	111%	50%
Kearny Mesa	1,793	3,192	4,805	78%	51%
SDSU	728	1,514	2,228	108%	47%
Downtown San Diego	1,037	2,147	3,744	107%	74%
Sorrento Mesa	618	1,131	1,594	83%	41%
University City	612	1,111	1,648	82%	48%
UCSD	1,030	1,772	2,482	72%	40%
TOTAL:	6,343	11,975	18,165	89%	52%

As with the other study, a significant proportion of estimated demand in 2005 originated from the Temecula, and Murrieta. A further volume came from surrounding areas such as Lake Elsinore, Perris, Hemet and San Jacinto and unincorporated areas, and the remaining small amount came from other parts of southwestern Riverside County.

In order to derive transit demand, the travel demand estimates were adjusted based on mode shares ranging from:

- 5 percent for less transit friendly destinations (dispersed, free parking) such as Mira Mesa, Kearny Mesa, Sorrento Mesa and University City.
- 15 percent for areas more orientated to transit (downtown San Diego, UCSD).

These reflect mode shares apparent for existing Commuter Express services at the time.

Table 2.4.2 —Original Transit Demand Estimates 2006/2007 - Southwestern Riverside County to Destinations

Location	2005	2015	2030	Change 2005 to 2015	Change 2015 to 2030
Mira Mesa	26	55	83	112%	51%
Kearny Mesa	90	160	240	78%	50%
SDSU	55	114	167	107%	46%
Downtown San Diego	156	322	562	106%	75%
Sorrento Mesa	31	57	80	84%	40%
University City	31	56	82	81%	46%
UCSD	155	266	372	72%	40%
TOTAL:	544	1,030	1,586	89%	54%

Even in 2005, commuter transit demand estimates equate to 12 over-the-road coach loads, by 2030, it is as many as 34.

New Estimates

As part of an update for the SANDAG's I-15 Bus Rapid Transit initiative, new calculations and estimates show a more accurate I-15 commute market from southwestern Riverside County to San Diego County.

The new database is a 100 percent population of employees for all key work locations rather than a small sample for each location (which were subject to sampling error). The mode shares approach remains the same, though the mode shares applied have also been changed.

Estimated key interregional commuter numbers were developed for both planned BRT corridors:

- Escondido – Downtown San Diego (I-15/SR-163/SR-94)
    - Serving Kearny Mesa, SDSU, Downtown San Diego
    - Estimated 3760 commuters in 2005, 7172 commuters in 2015, and 11,357 commuters by 2030
- Escondido – UCSD (I-15/Mira Mesa Blvd/La Jolla Village Drive)
    - Serving Mira Mesa, Sorrento Mesa, University City, UCSD
    - Estimated 2085 commuters in 2005, 3914 commuters in 2015, and 5652 commuters by 2030.

The table below (Table 2.4.3) shows the new travel demand estimates derived from zip-code data as estimated by SANDAG. Results show near 20 percent reductions in travel demand

compared to the original forecast. This simply relates to sampling error from the original data set and should not be interpreted as a fundamental change in market conditions.

Table 2.4.3 —Updated Travel Demand Estimate (completed 2010)

Location	2005	2015	2030	Change 2005 to 2015	Change 2015 to 2030
Mira Mesa	299	631	948	111%	50%
Kearny Mesa	2125	3783	5695	78%	51%
SDSU	436	907	1334	108%	47%
Downtown San Diego	1199	2482	4328	107%	74%
Sorrento Mesa	587	1074	1514	83%	40%
University City	729	1401	2057	97%	46%
UCSD	470	808	1133	72%	40%
TOTAL:	5845	11086	17009	83%	46%

A significant proportion of this demand continues to originate from Temecula and Murrieta, as was the case in the original sample. In order to derive transit demand, the travel demand estimates were adjusted based on low mode shares ranging from:

- 1 percent for less transit friendly destinations (dispersed, free parking) such as Mira Mesa and Kearny Mesa.
- 2 percent for slightly higher transit friendly destinations such as Sorrento Mesa, UTC, and University City.
- Universities are moderately transit friendly and were estimated with a 3 percent mode share for SDSU and 5 percent for UCSD.
- 7.5 percent was estimated for the most transit orientated area, downtown San Diego.

These reflect mode shares apparent for existing Commuter Express services at the time, while also reflecting the improved travel demand data set. These mode shares and their associated Park and Ride access assumptions were reviewed, modified, and endorsed by SANDAG and MTS management. Overall, mode share for transit for the interregional commute is estimated at just over three percent, reflecting a low end estimate.

Table 2.4.4 – Updated Transit Demand Estimate (completed 2010)

Location	2005	2015	2030	Change 2005 to 2015	Change 2015 to 2030
Mira Mesa	3	6	9	100%	50%
Kearny Mesa	21	38	57	81%	50%
SDSU	13	27	40	108%	48%
Downtown San Diego	90	186	325	73%	40%
Sorrento Mesa	12	21	30	75%	43%
University City	15	28	41	87%	46%
UCSD	24	40	57	67%	43%
TOTAL:	177	347	559	78%	43%

In 2005, commuter transit demand estimates equate to approximately:

- 4 fully seated over-the-road coach loads.
- 8 coach loads by 2015
- Over 12 coach loads by 2030.

Based on these projections a minimum of 30 minute service over 3 hours could be supported in 2015 with at least one extra trip at the peak of the peak. By 2030, over 15 minute service is warranted. The downtown San Diego corridor is twice to over three times the level of demand as the corridor to UCSD.

The total projections are much lower than the original estimates completed in 2006/2007. This relates to reduced mode shares. Destinations such as Mira Mesa, SDSU, and UCSD showed 50% reductions in travel demand, though destinations such as downtown San Diego, University City, and Kearny Mesa showed increased travel demand (up around 15-20%).

Overall the demand assessment presented is the most conservative low estimate based on mode shares reflecting moderate growth rates for existing ridership experience within San Diego County on commute express services in the I-15 corridor. It is easily possible that these estimates could be exceeded should Riverside County demand be more responsive to a transit initiative than the overall three percent mode share presented here.

2.5 Existing Public Transit

Currently, Riverside Transit Agency (RTA) operates two transit options which cross the county line in the I-15 corridor. Line 202 provides service from Murrieta/Temecula to Oceanside (connects with Sprinter and Coaster commuter rail services), and Line 217 links Hemet, San Jacinto, and Temecula with Escondido.

Line 202, as shown in Table 2.5.1 below, recorded ridership in FY2009 and FY 2010 Year-to-Date:

Table 2.5.1 – Line 202 Ridership

Month	Average Weekday Ridership	Average Saturday Ridership	Average Sunday Ridership
June 2009	114	76	30
July 2009	162	74	49
August 2009	108	52	54
September 2009	64	66	30
October 2009	58	-	-

Weekday service on Line 202 consists of four round trips in the AM peak, and three round trips in the PM peak. Additional midday weekday and weekend service is provided only provided during summer months.

RTA recently launched Line 217 linking Hemet, San Jacinto and Temecula with Escondido, with stops at Hemet Valley Mall, Promenade Mall, and Escondido Transit Center. Line 217 weekday service includes four round trips in both AM and PM peaks weekdays. No service on weekends.

Table 2.5.2 shows ridership for Line 217:

Table 2.5.2 – Line 217 Ridership

Month	Average Weekday Ridership
June 2009	38
July 2009	42
August 2009	48
September 2009	57
October 2009	58

There are also three Greyhound coach services each way daily between downtown San Diego and Riverside-San Bernardino via the I-15/I-215 corridor, including stops at Temecula and Escondido. These services are primarily intended to link with the wider Greyhound network, and do not operate at times attractive to commuters.

2.6 Planned Transit (facilities, BRT, rail etc.)

Transit Centers A new transit center is being planned in Temecula, just west of I-15, south of the Winchester exit. The center will include ten bus bays and 250+ parking spaces. A new freeway access will also be provided adjacent to this facility. Provision of this facility is timely given the transit planning occurring for the region at present. A second facility is planned for Lake Elsinore/Murrieta. Projected demand is expected to be approximately 347 riders in 2015 from southwest Riverside County so there may be a need to expand parking supply beyond the 250 spaces currently planned if this demand is realized. It is expected that park-and-ride would be the dominant form of access to transit service.

BRT SANDAG, the Metropolitan Transit System (MTS), and North County Transit District (NCTD) have developed an I-15 Bus Rapid Transit service which will operate in new managed lanes on the I-15, serving stations at new park and rides adjacent to the corridor. This service is planned to commence in 2012. As mentioned above, two services are planned, one from Escondido to downtown San Diego, the other from Escondido to Sorrento Mesa/University City/UCSD.

Rail Metrolink is planning to extend rail service to Perris, over an existing freight alignment. This would link with the Los Angeles area and the Inland Empire.

RCTC undertook a Rail Corridor Feasibility Study in 2005. This identified extensions from Perris to Hemet/San Jacinto and south to Temecula as worthy of further study. It also added corridors north from Temecula to Corona, and south from Temecula to San Diego for study.

The RCTC study found a very high cost for establishing the Temecula – San Diego corridor rail service, which could not be justified for commuter operations alone. However, the California

High Speed Rail Initiative has plans to link Riverside and Murrieta with San Diego, Inland Empire, Los Angeles and northern California regions, all along one alignment. Consideration will be given to allowing access for commuter train operations on this network. Construction could start as soon as 2011, with full completion expected by 2030.

SANDAG is also looking to undertake a regional rail network plan, including options such as Maglev.

2.7 Summary

The above data suggests a good opportunity to expand transit on the I-15 to serve interregional demand. SANDAG, RCTC, WRCOG, RTA and NCTD have been working together on coordinated strategies to develop public transportation alternatives for the I-15 corridor.

This study will build upon the work of the I-15 Interregional Partnership and the I-15 BRT Operations Plan findings to expand the coordinated efforts of the regions' planning and transit agencies. A detailed transit service operating plan is outlined in Section 5 below.

Section 3:

Interregional Vanpool Program Overview

Section 3: Interregional Vanpool Program Overview

3.1 Introduction

As of January 2010, there were 293 vanpools operating daily between southwestern Riverside County and San Diego County employment destinations. These carried an estimated 2,506 Riverside County commuters. In mid-2008 there were 242 vanpools carrying an estimated 1,645 Riverside County commuters. The program has therefore expanded by over 20 percent in van count and 50 percent in rider count (with more focus on larger vans) in around 18-months.

A bridge program has existed where RCTC utilizes its start-up incentive as a means of streamlining existing vans into the Regional Vanpool Program to San Diego County employment sites. SANDAG funding has allowed for growth of six additional vanpools to join the Program each month. After a period in recent years where demand outpaced supply, the program is currently meeting all demand.

Many of these existing vanpools travel to common destinations that may be better served by using more efficient and higher capacity modes, such as buspools and regularly scheduled transit service. Success transferring existing vanpool users to new transit services will free up vanpool resources to serve additional future vanpool patrons who are bound for destinations which cannot be served effectively by traditional fixed route transit service.

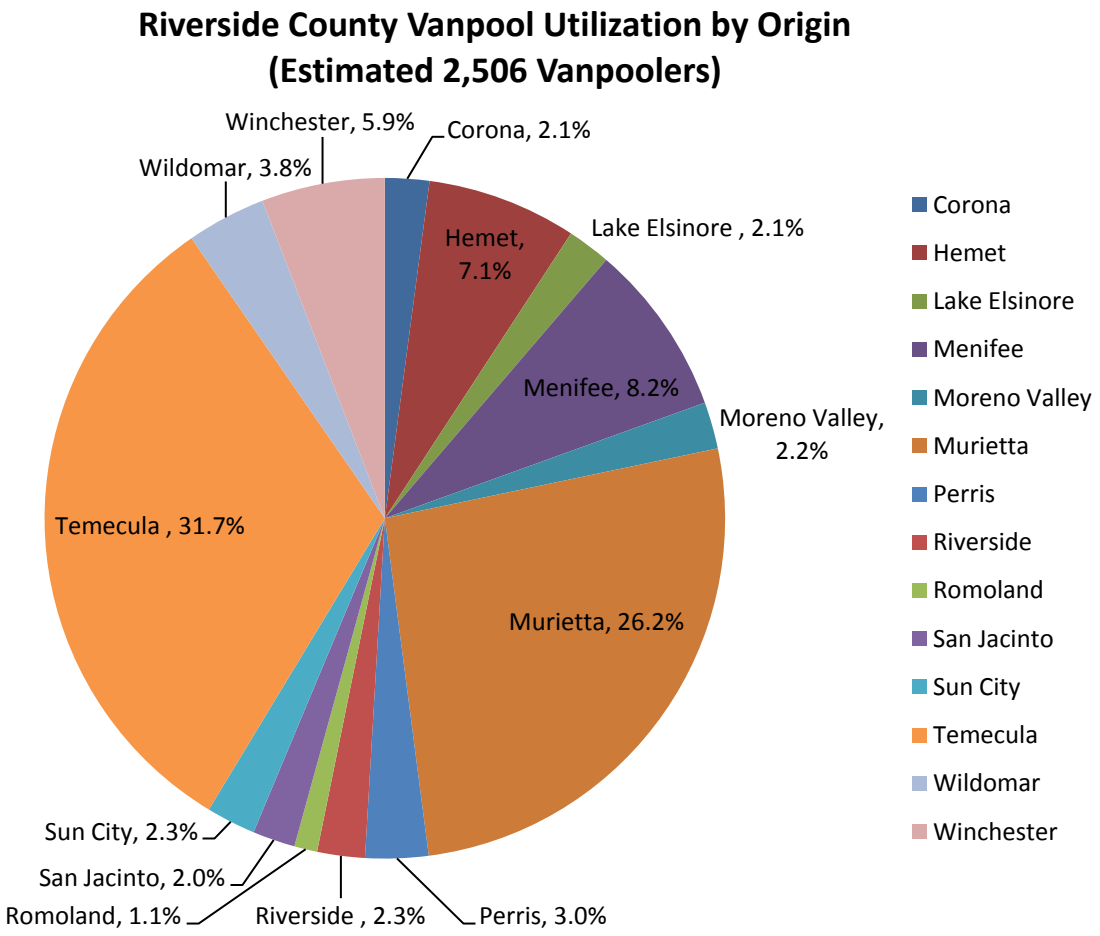
3.2 Detailed Interregional Vanpool Summary

As of January 2010, there were 293 vanpools originating in Riverside County, with destinations in San Diego County.

Origins Interregional vanpools originate in 15 southwestern Riverside County communities. However, four of these communities account for over 70 percent of vanpoolers and vans.

- Temecula: 92 vanpools, estimated 785 vanpoolers (32% of total riders).
- Murrieta: 80 vanpools, estimated 649 vanpoolers (26% of total riders).
- Menifee: 23 vanpools, estimated 203 vanpoolers (8% of total riders).
- Hemet: 22 vanpools, estimated 176 vanpoolers (7% of total riders).

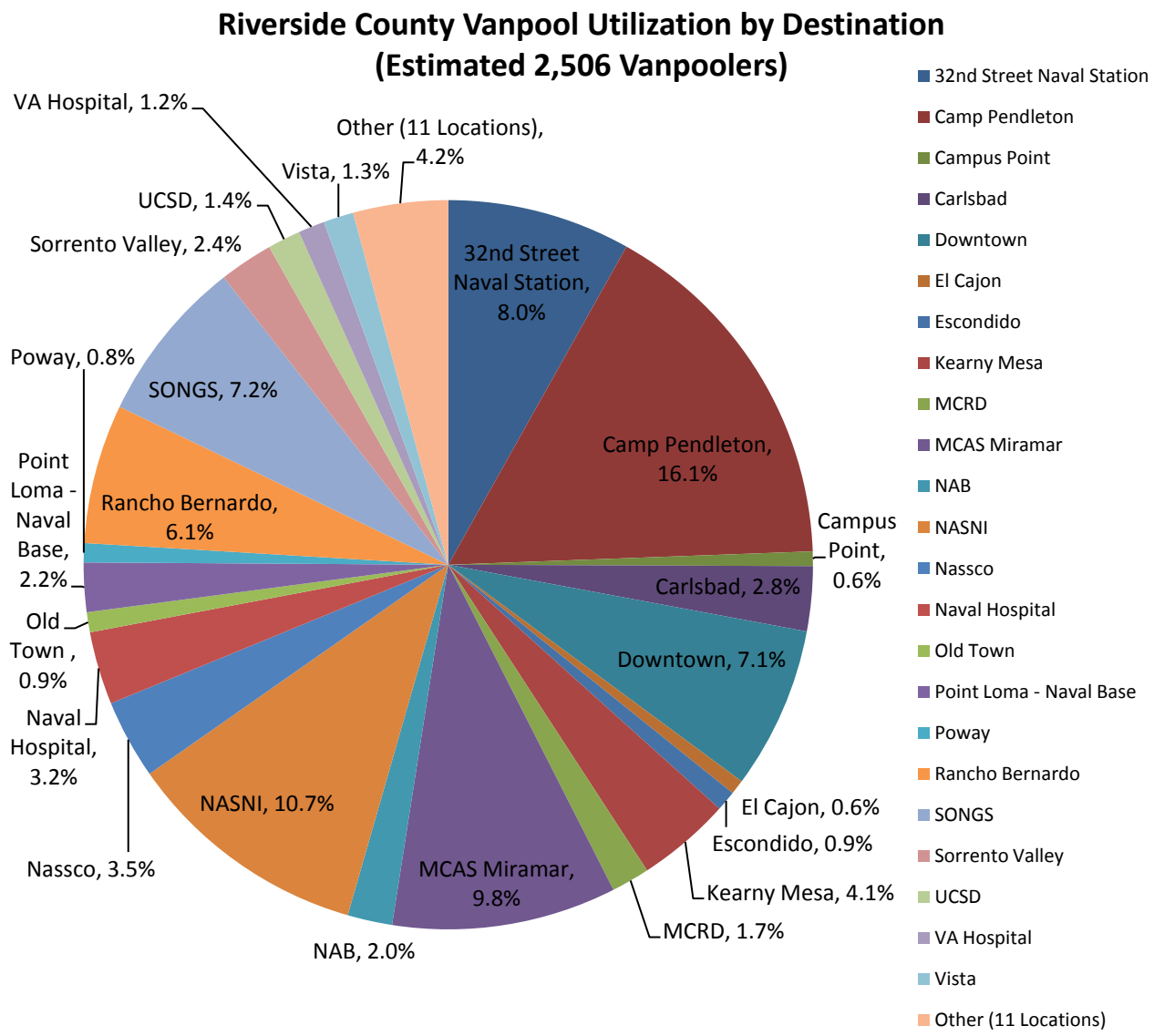
Chart 3.2.1 – Riverside County Vanpool Utilization by Origin



Destinations Vanpool destinations are more dispersed, with 36 individual vanpool destinations. The top 5 destinations accounting for over 50 percent of riders:

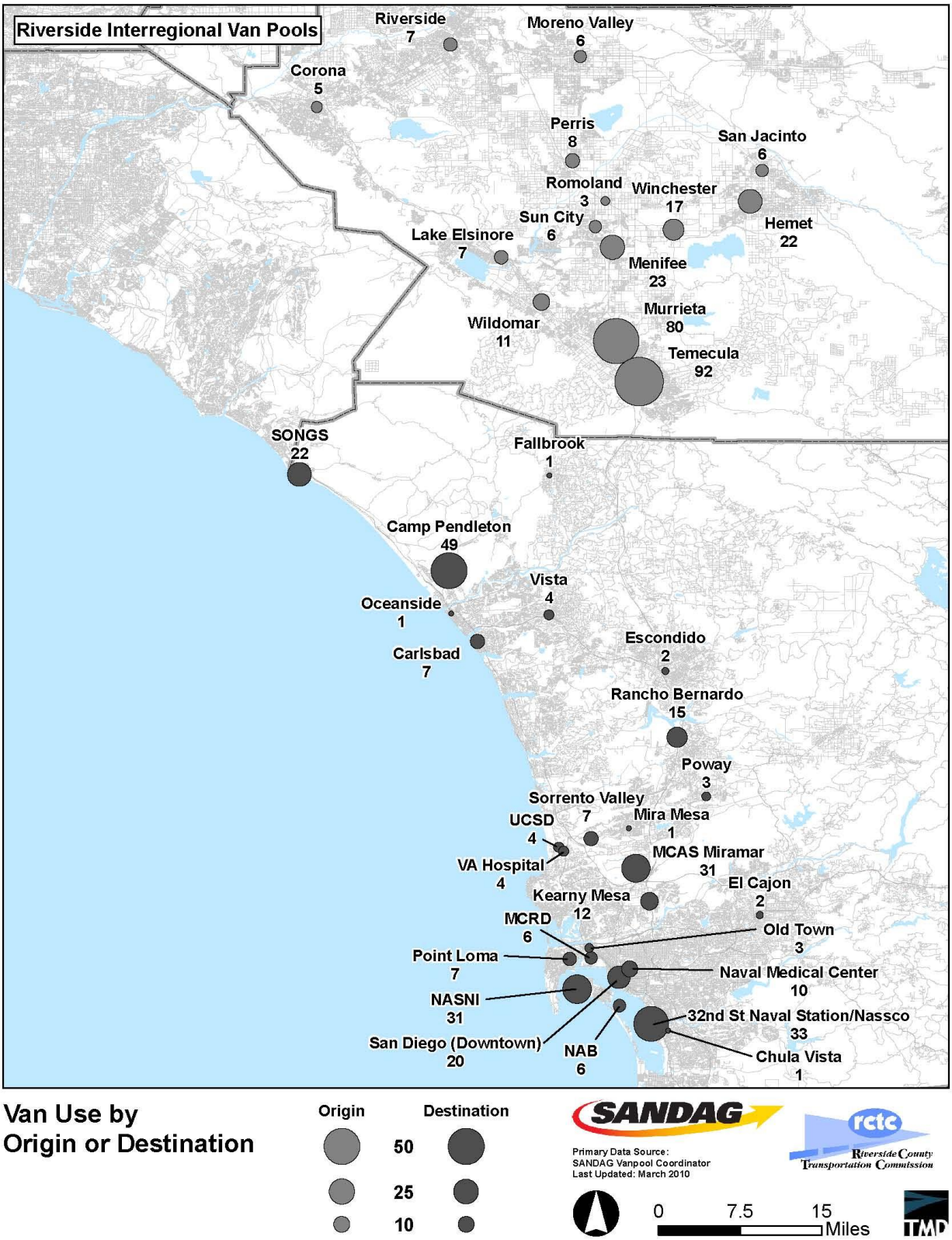
- Camp Pendleton: 49 vans, 403 riders (16.1%)
- Naval Air Station North Island: 31 vans, 268 riders (10.7%)
- Miramar MCAS: 31 vans, 246 riders (9.8%)
- 32nd Street Naval Station San Diego/NASSCO: 33 vans, 288 riders (11.5%)
- San Onofre Nuclear Generating Station (SONGS): 22 vans, 181 riders (7.2%)

Chart 3.2.2 – Riverside County Vanpool Utilization by Destination

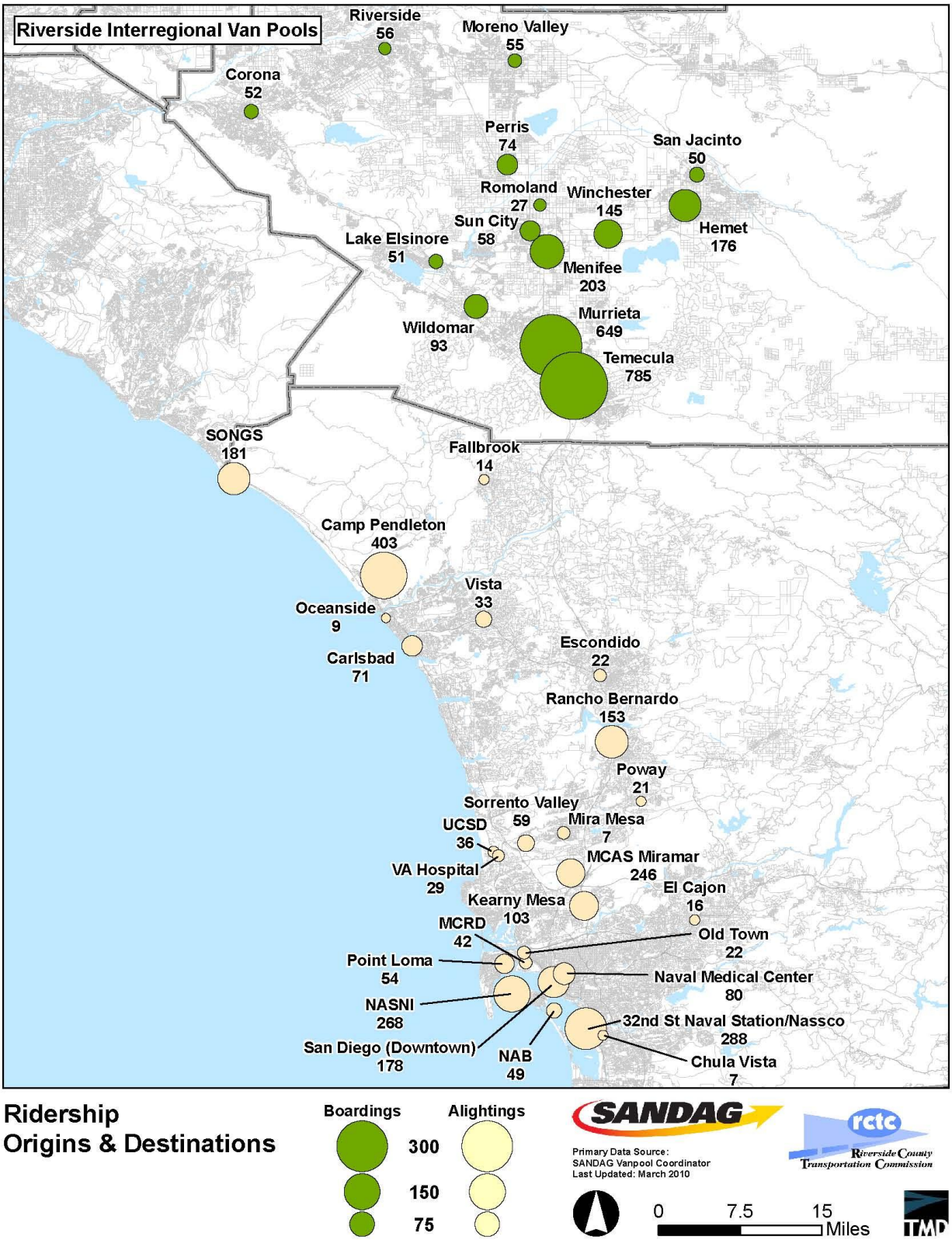


Pick ups Within the communities served, pick up locations are dispersed but also are commonly close to the highway. Many vanpools report the challenge of finding suitable parking.

Map 3.2.1 – Van Use by Origin or Destination



Map 3.2.2 – Ridership Origins and Destinations



Origin-Destination Pairs The highest O-D pairs for the vanpools are:

- Murrieta/Camp Pendleton: 12 vans, 101 riders
- Temecula/Downtown San Diego: 10 vans, 84 riders
- Murrieta/NASNI (North Island): 10 vans, 84 riders
- Temecula/ Camp Pendleton: 10 vans, 78 riders
- Temecula/ Miramar USMC: 10 vans, 78 riders

3.3 Vanpool Findings

The vanpools as at January 2010 were focused primarily on serving military destinations, with 199 of 293 vans (just over two-thirds) serving these. In a previous review in 2008 vanpools to military destinations accounted for just over half of all vanpools, 124 out of 242 vans.

Employment arrangements are likely to be well structured at these facilities, suiting a regular daily schedule of a vanpool. Moreover, the trend in growth for the last 18 months suggests the potential for additional future growth, especially when the economy recovers.

Growing the regional vanpool program assists both consumers and transportation agencies. The consumer benefit increases as more people become aware of and utilize the program. The program itself is relatively cost effective for the sponsoring agency, though the increased number of vans does expand the annual subsidy (from around $1.15 to 1.4 million in 18-months, an increase of around $250,000). The vanpool program also helps the transportation planning agencies in examining demand for “high volume” fixed-route transit projects, BRT etc.

The next section explores the feasibility of consolidating a portion of the vanpool segment into interregional buspools.

Section Four:

BuspoolProgram - Concept & Feasibility

4.1 Introduction

Section 3 documented the size, diversity and growth of the existing Vanpool program. The purpose of this section is to explore the possibility of developing regional buspools as an additional transportation option. If feasible, the buspool option could potentially:

- Expand interregional transportation alternatives to the private vehicles
- Improve vanpool program resource efficiency

Approach: The interregional vanpool program was reviewed to identify vanpools with the same origin communities, work destinations and work hours. These would suggest opportunities where separate vans could be merged as a single bus load.

The top five vanpool destinations were identified as Camp Pendleton, Naval Air Station North Island, Naval Base San Diego, San Onofre Nuclear Generation Station (SONGS), and Downtown San Diego. Origin – destination pairs with matching work hours were mapped for each destination and grouped based on the following criteria for buspools:

- Reaching a minimum of 19 but not exceeding 30 riders (approx. 2 x 14 seat vans etc.)
- No more than three pickups (including origin)
- No out of direction alignments
- Pickups generally close to the I-15 or I-215 highways

Findings:

- There were a total of 27 vanpools with various sets of matching origin, destination, and work hours
- 9 potential buspools from the 27 above vanpools reached or exceeding 19 passengers, a lower limit set for consideration of a buspool
- Implementation of these 9 buspools would see up to 25 interregional vans replaced with up to 9 buses, freeing up 25 vans for new vanpools

Table 4.1.1 below illustrates the number of existing vanpools and the potential number of buspools by destination.

Table 4.1.1 —Top 6 Destinations Existing Vanpools and Potential Buspools

Destination	Existing Number of Vanpools	Proposed Number of Buspools
Rancho Bernardo	6	3
NASNI	12	2
Camp Pendleton	16	1
SONGS	8	1
MCAS Miramar	8	1
NASSCO	2	1

These illustrate the most practical combinations of vanpools as buspools. These would be the first candidate vanpools to further examine for the feasibility of establishing pilot buspools.

4.2 Buspool Pilot Concept Operational Feasibility

Background Section 4.1 established a target group of interregional vanpools to combine into single buspools. This expands the range of options for interregional transportation between southwestern Riverside County residential communities and employment locations in San Diego County, as well as potentially improving the productivity of the existing vanpool program.

This section discusses the operational feasibility of implementing buspools in place of existing vanpools. Included is a short discussion of peer buspool systems.

4.2.1 Peer Buspool Examples

1) **Kitsap Transit** is located in Washington State and operates a worker/driver buspool program transporting passengers from around Kitsap County to the Puget Sound Naval Shipyard and the Naval Station at Bremerton. These buses are driven by full time employees of the local military facilities who are also part-time Kitsap Transit (the local transit provider) employees.

   The vehicles are owned and maintained by Kitsap Transit. They have almost as many back up drivers as regular drivers (21 back ups for 28 regular drivers) as each buspool route has a lead driver as well as a backup driver. Each driver is trained by Kitsap Transit and obtains a Commercial Driver's License. The program utilizes 35' and 40' Gillig urban transit buses with a seat capacity of 37 and 47 respectively.

2) **Bauer's Intelligent Transportation** is a company in the San Francisco Bay Area that operates luxury shuttles for local companies such as Google and Yahoo.

   In March 2009 they launched a new service available to the general public that will use their shuttles to transport commuters between Marin County, San Francisco, and San Jose. Each route will only have a handful of stops that will be located near prominent companies or transit hubs. One-way fares run about $8.20 each way on most routes and if a customer chooses to buy a monthly ticket, the price comes down to $7.38 one-way on most routes.

   The service uses the same high-end luxury buses used for its company shuttles that include such amenities as padded leather seats, televisions screens, free Wi-Fi, power outlets, and coffee and breakfast available for purchase. The service hopes to draw passengers with its luxury amenities not found on other public transit options who would otherwise drive to work.

   The new service also gives San Francisco companies another way to comply with the city's new commuter benefits ordinance, which requires businesses with 20 or more workers to reimburse employees transit fares. The Bauer program provides another

example of a buspool program with a paid driver, rather than the vanpool approach of volunteer drivers.

3) **Riverside County Transportation Commission (RCTC)** launched a buspool program in October 1990, providing funding support ($35 per seat per month) to buspools used by Riverside County residents. There are now three buspools that operate between Riverside County and Los Angeles County. The buspools average 41 riders per day per buspool. In this program the buspool is driven by a paid driver. The driver and vehicle are supplied by a small private bus operating company.

Each of these programs demonstrates successful implementation of buspools. They do, however, demonstrate that buspools typically involve a paid driver. One of the three programs demonstrated the successful training of a worker/driver for the buspool, though these staff are paid for their driving time (rather than being volunteer drivers), and all demonstrate successful provision of required vehicles.

If adopted by SANDAG, a buspool program would need to identify vanpool passengers willing and able to volunteer to be trained as bus drivers. California vehicle code states that anyone transporting 15 or more passengers in a vehicle must obtain a Commercial Driver's License. Since no vanpool currently carries more than 15 passengers this has not been an issue for the existing program. If SANDAG were to use buspool riders as drivers, it will need to ensure all potential drivers obtain a Commercial Driver's License. SANDAG or/and another party (employer, etc.) would need to subsidize the training costs for these passengers to obtain and maintain a Commercial Drivers License (including items like required medicals). Insurance arrangements would also need to be made for this new program, which is not provided for under existing vanpool programs.

4.2.2 Buspool Fleet Selection

The current fleet of vanpools operating interregional trips is primarily 7-passenger vans, with a capacity of 7 or 14 passengers. These vehicles are able to run comfortably at highway speeds, and are offered in two levels of comfort (bench versus individual seating, varied amenities).

Larger vehicles selected for buspools are targeted for around 28-passenger capacity, offering the opportunity to merge up to four existing van pools with close origins and matched destinations/trip times. However, the selected bus will need to operate comfortably at highway speeds and with equivalent seating comfort and amenities to be competitive (operator license and operating costs are discussed in sections two and three below). If SANDAG were to use vanpool participants as drivers, this may also impact the vehicle selection, in terms of selecting vehicles with more ease of training.

A catalog of various bus models that can seat 20-30 passengers is provided as an appendix to this report. The bus models considered range from standard 35 foot transit buses with air operating system to 27 foot buses based off a truck chassis with hydraulic operating system.

The catalog also includes the first and only low floor access bus without a lift based off a conventional GM cutaway chassis built by Arboc Mobility. SANDAG's existing van providers, VPSI and Enterprise, currently do not lease buses with 20-30 passenger capacities, nor were any other providers identified from the private bus companies or transit agencies for use by volunteer drivers. SANDAG would need to find alternative vehicle arrangements for buspool vehicles, possibly through other leasing companies or most likely through local transit agencies.

All three area transit operators, MTS, NCTD, and RTA, have some small buses in their fleets. MTS currently uses the ElDorado National Aerotech 290 Type VII bus model on its Sorrento Valley Coaster Connection as well as other lower demand community circulator routes. The buses have a gasoline engine and cost about $113,000 each when purchased in 2007. RTA currently uses the ElDorado National Aerolite Type VII bus model on Route 202 to Oceanside and Route 217 to Escondido. These buses are available in models ranging between 27 and 32 passengers and were priced up to $86,700 each for the RTA order in 2005. NCTD is in the process of procuring a 19 seat bus. These vehicles are all possible buspool options for any pilot buspool program. Either agency could be funded to provide such a vehicle for the pilot buspool, if agreeable.

As the above transit agency buses are all purchased with federal monies, they must be used for open access general public transit services. Therefore, the buspools these vehicles might be used for would have to be open to the general public (this can still be on a reservation arrangement), in order to meet federal requirements. Otherwise, the buspool participants will have to meet the full capital cost of the bus.

4.2.3 Buspool Operating Cost – Revenue Scenarios

As with the vanpools, the buspool model must be financially attractive to its riders. It was originally expected that a buspool would be more attractive to riders than a vanpool because volunteer drivers carrying a larger group reduces the cost per rider, potentially enhancing the benefit to riders of an already financially attractive vanpool service. Otherwise there would be no incentive to switch to the buspool from an existing vanpool.

Of the 293 total interregional vanpools, nine potential buspool opportunities were identified from vanpools with the same origin communities, work destinations, and work hours. The 9 buspools would replace 25 vans.

Based on the peer buspool analysis, a buspool model with a paid driver appears to be the only feasible operation for SANDAG. This model is about to be approved for operation for the US Navy within San Diego County. Under the proposed model, a bus and paid driver are provided for the buspool by San Diego MTS, avoiding the need to train volunteer buspool drivers. Riders will pay $124 dollars per month, which in the case of Navy staff is covered by their military TIP funding (currently up to $230 per month). For this short distance (20 mile) trip, the pricing is in line with existing commuter bus and rail transit fares if a rider had to pay this each day on their own (the service is open to the public so some riders will pay fares). Longer buspool trips are

more expensive to provide (cost is driven by in-service miles). The following section will examine comparative costs for a 60-mile interregional buspool trip.

Comparative Cost Analysis The analysis of vanpool and buspool model costs in this section examine whether a buspool with a paid driver (or volunteer driver) model can be more financially attractive than a vanpool to current interregional vanpool riders.

A buspool with volunteer drivers is far cheaper than a buspool with paid drivers, but is not as cost effective as a vanpool until the passenger load increases to a level commensurate with the higher capital costs of a bus. A range of interregional buspool operators with paid driver cost structures were reviewed to determine if any model was sustainable, though none was expected to be more financially attractive than an existing vanpool. There might be models sustainable for riders with TIP funding. The buspool operators compared included the average price for:

- Option 1: Private supplier (including driver) under a full operating contract. Price per day for a round trip varies between $450 - $1000, and $700 was used for this comparison. This price includes the full cost (including all operational and vehicle - 28-seat cutaway or similar - ownership costs). This is also equivalent to MTS Contracted Service rate (though the MTS price does not include vehicle ownership).
- Option 2: Volunteer driver, with SANDAG funding and other agency providing/maintaining the bus and insurance. Costs outlined below are based on estimated $70 per day (120 miles at 6 miles per $3.50 gallon), as well as $100 per day bus lease costs (10 year life, $250,000 cost) per buspool, minus the $800 per month SANDAG subsidy. This is listed for comparative purposes but there is no demonstrated peer example for such an operation (due to the complications of training volunteers and providing insurance and support).
- Options 3 and 4 are for a transit agency operation of the buspool, using operating costs from the NCTD agency for both a standard (40 seat) bus (at $3.50 per revenue mile) and for a small (19-seater) bus (at $2.20 per revenue mile). Buspool subsidy from SANDAG is included in the comparison Based on $800 per month ($400 per ten riders). It is assumed the 19-seater NCTD bus would attract the $800 subsidy). Opening service to the public allows these buspools to operate with federally funded vehicles (no capital cost included).
- Options 5 and 6 provide costs for 7 and 14 seat vanpool trips per rider respectively for comparative purposes. Option 7 provides the cost of a single occupant car trip for comparison. Cost for Options 5, 6, and 7 were based on information provided by SANDAG.

The tables on the next page shows cost comparisons per day per rider for the options. All options are for a 21 day month.

Of the paid operator options, only the NCTD small bus come close to matching the $10.95 military TIP subsidy per day (based on $230 TIP funding per month per rider for 21 days) to be attractive to riders with TIP funding (though higher than existing vanpool pricing). However, it

is likely that the TIP subsidy will revert back to $120 per month in 2011, making even the lowest paid operator cost unattractive even to riders with TIP funds.

Table 4.2.3.1 —Comparative Buspool Cost per Passenger Options 1 - 4

	Option 1		Option 2		Option 3		Option 4	
Number of Passengers per Vehicle	Private Operator Total Cost to Riders		Volunteer Driver Total Cost to Riders		North County Transit District Total Cost to Rider (40 Passenger Vehicle)		North County Transit District Total Cost to Rider (19 Passenger Vehicle)	
	Monthly	Daily	Monthly	Daily	Monthly	Daily	Monthly	Daily
1								
6-7								
12-14								
15-19							$4,620.00	$11.58
20-40	$13,900.00	$33.10	$2,770.00	$6.60	$8,020.00	$19.10		

Table 4.2.3.2 —Comparative Vanpool and Single Occupant Car Cost per Passenger Options 5 - 7

	Option 5		Option 6		Option 7	
Number of Passengers per Vehicle	7 Passenger Vanpool Total Cost to Rider		14 Passenger Vanpool Total Cost to Rider		Single Occupant Car Total Cost to Rider	
	Monthly	Daily	Monthly	Daily	Monthly	Daily
1					$536.76	$25.56
6-7	$1,435.00	$9.76				
12-14			$1,740.48	$5.92		
15-19						
20-40						

4.3 Conclusion

Based on the analysis conducted, no interregional paid driver buspool model can be implemented in a manner that would be attractive to existing vanpool riders to transition to the buspool. For the reasons of complications of providing a bus (with appropriate insurance and training) for volunteer drivers, a volunteer buspool also appears impractical at this time.

There is no reason to pursue buspools with an unsustainable model when vanpools are currently operating sustainably and meeting travel needs.

Section 5:

Riverside – San Diego County Interregional Transit Options

Section 5.1 Background and Framework

Background This section provides background on the likely travel demand and fixed-route transit options to serve trips between southwestern Riverside County and employment centers in San Diego County. These flows are estimated at as high as 29,000 commuters per day crossing the county line, and will continue to grow (beyond the current economic downturn) as growth in housing continues to outpace growth in jobs in southwestern Riverside County and the reverse in San Diego County.

Past Studies This effort is an outgrowth of both the Interregional Partnership between Riverside and San Diego County agencies as well as the BRT planning efforts on the I-15 corridor in San Diego County, and was made possible through a Caltrans grant to develop plans for alternative modes to the interregional private auto commute in the I-15 corridor.

The BRT planning work undertaken by SANDAG for the I-15 corridor also recognized the significant travel demand originating from southwestern Riverside County and traveling the I-15 corridor to San Diego County employment. It is reasonable to assume a proportion of these commuters would consider using a transit service if available if the service meets their needs (destination, travel time, price, reliability, comfort, etc.).

Transit Today As of June 2010, RTA offers two peak period fixed-route transit services to San Diego County, as outlined earlier in this report, with generally low ridership:

- Route 202 to Oceanside
- Route 217 to Escondido

Ridership reflects the lack of direct trips (one seat ride, no transfer needed) to key San Diego County work locations such as downtown San Diego and the Sorrento Mesa/University City/ UCSD.

Intercepting Transit Demand The I-15 BRT explored the option of intercepting the large source of potential transit demand from southwestern Riverside County. The key question was raised of whether these potential riders would drive the 30 miles to access the BRT at its northern terminus, Escondido Transit Center, located a mile off the I-15 at Escondido. By this stage, many drivers have already driven around half their trip distance. There is a higher probability of the BRT successfully intercepting riders at Temecula at the southern end of Riverside County.

An alternative intercept location of the I-15/SR-76 junction west of Bonsall/Fallbrook was considered. This still requires an additional ten mile drive from Temecula and is considered less attractive as an intercept location (more remote, no additional trip chaining opportunities). It is not recommended as a BRT terminal but could be included as an on-line station and associated Park and Ride for such a service.

Commute Distances There is some question as to the transit potential of commuter travel over long distances of up to 60 miles. Examples exist today in California, such as Metrolink rail from Riverside and San Bernardino to downtown Los Angeles and over-the-road coaches from

Antelope Valley (Lancaster/Palmdale) and Santa Clarita to downtown LA. Other examples exist in the Bay Area.

The above examples are attracting reasonable ridership, though they all generally rely on some pickups en route. There is nothing amongst these examples that suggests Temecula to downtown San Diego or UCSD transit options would be precluded from being successful if they can achieve an appropriate travel time of less than 90 minutes. A summary table of such services is included in the report appendix.

The corridor alignments that transit would likely follow through San Diego County are quite direct, and could generally follow the same alignments as private autos would, such as I-15/SR-163 to downtown San Diego.

Travel Times Travel time will largely be based on the level of priority offered by the I-15 managed lanes and other transit priority measures in locations such as downtown San Diego and Mira Mesa Boulevard. The choice of vehicle and performance will also be critical for this length of journey, in terms of speed, reliability and comfort/amenity. These factors will each need careful management.

Service Alternatives
The following sections will review travel and transit demand as well as concepts for fixed route transit in this interregional corridor. Vanpool and buspool options have also been reviewed elsewhere in this report. These generally serve more condensed, often governmental agency hubs with destinations outside of the I-15 corridor. These would not generally compete for the same markets, and would complement each other.

5.2 Travel and Transit Demand Estimates

Demand Estimates Estimated travel and transit demand for 2015 is shown in Table 5.1 on the following page, reflecting continuing population growth in and commutes from southwestern Riverside County to employment opportunities in San Diego County.

The demand primarily originated from southwestern Riverside County communities adjacent to San Diego County such as Temecula and Murrieta, and with a lesser number (less than 40 percent) from communities such as Perris, Hemet, San Jacinto, and Lake Elsinore.

Table 5.2.1 – 2015 Estimated Travel and Transit Demand to I-15 BRT Destinations

San Diego County Destination	Estimated Travel Demand 2015	Estimated Transit Demand 2015
San Diego Downtown	2,482	186
SDSU	907	27
Kearny Mesa	3,783	38
Downtown SD Corridor Total	**7,172**	**251**
Mira Mesa/Miramar	631	6
Sorrento Mesa	1,074	21
University City	1,401	28
UCSD	808	40
UCSD Corridor Total	**3,914**	**95**

Mode Shares The following mode shares for transit usage were applied to the travel demand: from southern Riverside County was estimated as:

- 1 percent for less transit friendly destinations (highly dispersed, low density, commercial, free parking) such as Mira Mesa and Kearny Mesa.
- 2 percent for slightly higher transit friendly destinations such as Sorrento Mesa, UTC, and University City (paid parking, more condensed office areas).
- Universities are moderately transit friendly and were estimated with a 3 percent mode share for SDSU (requires connecting transit) and 5 percent for UCSD (possible one-seat ride).
- 7.5 percent was estimated for the most transit orientated area, downtown San Diego.

Transit demand overall is just over 3% of all work commutes identified through the Census data set used, as outlined above.

Trip Loads Allocated across a 30 minute service for 3 peak hours, ridership per trip estimated for 2015 from Temecula averaged:

- 31 (to I-15/downtown)
- 16 (to Mira Mesa/Miramar, Sorrento Mesa/University City UCSD)

This data suggests that only one route can be supported from southwestern Riverside County to San Diego County, with the downtown San Diego destination appearing to have more favorable demand by a factor of two to three times that of the UCSD corridor. Riders bound for the Sorrento Mesa, University City, UCSD area would be able to connect with other services at Escondido or Mira Mesa to reach these destinations.

Future Growth Travel and transit demand from Southwestern Riverside County to San Diego County destinations can be expected to grow significantly over the next two decades. This growth can help sustain higher frequency service to San Diego County.

Temecula and Murrieta current populations (already 100,000) are expected to exceed 120,000 by 2030. Similarly growth is expected for Lake Elsinore, Hemet, San Jacinto, Perris and unincorporated area populations. Demand for travel to San Diego County for these residents will still be high while the housing/jobs imbalance remains (even if reduced).

5.3 Defining Service Option

The following new option linking Temecula with downtown San Diego is suggested as the most viable trial of interregional transit service on the I-15 corridor:

- Temecula – Escondido – Mira Mesa- Kearny Mesa - Downtown San Diego

Operating Costs Per Round Trip Based on $5.72 operating cost per revenue mile (MTS Contracted Service rate), the cost per peak round trip (AM southbound, PM northbound) would be $686 per day or $175,000 per annum. This is based on an existing rate which may increase due to the high level of deadheading required for each trip. There may be benefit (efficiency and consistency of operations) in having all I-15 BRT services under one operator and consistently branded.

Fares and Operating Ratio The following analysis examines likely cost recovery and subsidy levels, based on assumptions on costs, fares, and ridership.

Based on 31 riders per average trip in 2015 to downtown San Diego and the above costs, these riders would need to pay around $22 to fully cover costs (excluding vehicle capital). This would require a monthly pass of around $465 (based on 21 days use).

The cost of $22 is less than the estimated full cost of running a single occupant car, but is high compared to the cost of fuel (around $12 per day) for a fuel efficient car. San Diego county riders currently pay $100 per passenger per month for Commuter Express travel, from Escondido (half the distance) suggesting a pass around $12 per day and about $250 may be more attractive to potential riders. However, pricing at this lower rate would generate an approximately 50 percent cost recovery (consistent with other Commuter Express routes) and annual operating subsidy of about $80,000 per vehicle round trip, or $480,000 for six trips to meet estimated demand.

Cost Impacts RTA contracted service costs could be considered for this service, and any reduction to existing RTA Route 217 service between Temecula and Escondido could offset costs. The ability to store buses in the Temecula Transit Center or other local location overnight may help keep contract costs lower and avoid unproductive deadheading, though this would only be relevant once the service concept has been proven as viable and a significant fleet is deployed.

Fleet The proposed service level requires additional fleet of six to operate, plus at least one spare vehicle. This fleet is above and beyond existing fleets and would need funding at least to match federal funding for new vehicles. This could be as much as $3.5 - $5.0 million depending on the vehicle selected.

Given the distances being traveled, the best type of vehicle for this type of service would be the over-the-road coaches, with a range of amenities such as WiFi, tables etc. Distances involved are well beyond that suitable for urban transit vehicles. With travel times of around 90 minutes, an onboard restroom may be required, which may rule out the use of the 2007 MTS over-the-road coaches which do not have restrooms.

Cost Sharing The concept of operating six peak trips to/from San Diego downtown is suggested as a pilot test for interregional fixed-route transit. This could be operated by either the MTS and RTA agencies (or NCTD as a third option), and funded by SANDAG and RCTC planning agencies. Ideally the two planning agencies might each fund half the $720,000 subsidy estimated for 18-months pilot operation. A test period of 18-months would be sufficient to test market response. However, the implication of a successful test is an ongoing annual funding requirement of around $0.5 million. A commitment among the parties should be reached for ongoing funding prior to initiating the pilot service.

5.4 Facilities and Fleet

Riverside County Transit Centers

A number of options are available for originating interregional commuter express service on the I-15 corridor in South West Riverside County. I-15 BRT planners had assumed Temecula was as far as appropriate for San Diego Transit services to extend to.

Temecula is ideally placed for intercepting riders. The proposed Temecula Transit Center (expected to be built in 2011) is adjacent to I-15 in central Temecula. It is well placed to act as the intercept point for demand flowing south into San Diego County. Its only limiting factor is the 250 parking spaces planned may be inadequate to meet demand by 2015 if most riders access service by parking their car at the center. The problem only gets worse over the period to 2030, with the growth expected in southwestern Riverside County. The RTA local transit network will also provide access to the transit center but these are unlikely to capture significant demand.

There may also be relevance in including a stop at the I-15/SR-76 junction where a Park and Ride exists today. This intermediate stop approximately 10 miles south of Temecula would require buses to leave the I-15 corridor and either serve ramp-based stops or a new bus turnaround would need to be constructed at the Park and Ride lot. Having to divert to the Park and Ride may negatively impact travel times for those passengers already on the bus. Ramp based stops are therefore favored.

5.5 Conclusions

Short Term Action A prudent first step would be to test a commuter express service from the proposed new Temecula transit center to downtown San Diego, by introducing a pilot new service as outlined above. This route could serve Escondido, Mira Mesa, and Kearny Mesa, but

would not serve other I-15 BRT stations. This option fully responds to the identified travel markets, including those accessed through connecting transit. It would test the strength of the market if trialed for at least 18-months. Based on the success of an initial test of service, a decision could be taken on continued operation. It is suggested that SANDAG and RCTC jointly fund such a pilot and potentially ongoing initiative.

Long Term Options

California High Speed Rail Initiative, recently approved in a ballot measure, would provide service through from Northern California to San Diego, serving UTC, Escondido, Temecula, Riverside and San Bernardino areas. This service or other rail services options being investigated by RCTC would impact on the Commuter Express service. However, these initiatives are at least a decade away and minimal investment required such as Temecula Transit Center would still have local use. The Park and Ride lot would serve car and vanpools.

Section Six:

Key Findings

Section 6.1 Summary of Key Findings

Section 1: Southwestern Riverside County Growth

- Southwestern Riverside County is estimated to grow from 1.2 million people in 2000 to 1.9 million by 2015 and 2.4 million by 2030.
- Employment growth is expected to more than population growth, to reduce the population to jobs imbalance in southwestern Riverside County. However, future levels of commuting to San Diego County are still expected to be significant.

Section 2: Interregional Travel Demand

- There is strong travel demand currently and forecast for the future between Southwestern Riverside County and San Diego County, with over 11,000 travel demand and an estimated 347 transit riders based on an overall mode share of around 3 percent in 2015.
- Transit and van pool options may grow in response to increasing travel demand, as alternatives to the single occupant vehicles in the I-15 corridor.
- Few transit options are currently available between San Diego and Riverside Counties today.
- RTA Route 202 is the only transit option between the two counties on the I-15 corridor (Temecula – Oceanside), with a second route (217) due to start operation in June 2009, linking Temecula with Escondido.

Section 3: Interregional Vanpool Program Overview

- The existing interregional Vanpool program is significant, with 293 operating in January 2010.
- A number of the existing vanpools travel from the same areas to common destinations, and have common work hours. Many of these vanpools are to military establishments.
- These trips may be better served by using higher capacity modes, such as buspools (explored in Section 4).

Section 4: Riverside County Buspool Options

- Analysis identified 9 buspool options, consolidating 25 vans (subject to a feasdible buspool operating model).
- Comparison of cost models for buspools was completed, including private operator and public agency paid driver operation and volunteer driver operation. This analysis concluded that only a volunteer buspool could be competitive with van pools (subject to high enough load factor). Even with riders entitled to Military TIP funding, no buspool option with paid driver can be attractive to existing vanpool riders.
- Peer analysis suggests volunteer operator option is not practical due to complicated training and insurance requirements. There is no existing peer buspool with volunteer drivers.
- It is concluded that buspools are not practical within the existing interregional vanpool market.

Section 5: Riverside – San Diego County Interregional Transit Options

- Reasonable potential demand exists for a commuter transit service linking southwestern Riverside County to downtown San Diego.
- Temecula appears a good location at the base of southwestern Riverside County to intercept interregional commuters.
- A first potential step would be to operate a new commuter express service from the proposed new Temecula transit center (due to open in 2011) to downtown San Diego, serving Escondido, Mira Mesa, and Kearny Mesa. Six trips (30 min. service) in each peak are suggested as matching estimated demand.
- Funding for such a pilot and ongoing service might be best arranged through a partnership between RCTC and SANDAG planning agencies. Operation could be either by the RTA, MTS, or even NCTD transit operating agencies. Annual operating subsidy funding required is estimated at approximately $0.5 million.

Appendix A: Peer Buspool Examples

Kitsap Transit Worker/Driver Program

http://www.kitsaptransit.org/WorkerDriverBusProgram.html

- Originated during WWII, with the need to transport thousands of Puget Sound Naval Shipyard (PSNS) employees to and from work.
- Kitsap Transit operates 28 routes to PSNS and Naval Station Bremerton
- Buses are driven by full time employees of the military facilities who are also part time employees of Kitsap Transit ("drivers")
- Ridership made of both civilian and military personnel
- 28 buspools following routes ranging from under 10 to over 40 miles, averaging 15-20 miles
- Average load of 24 riders per buspool
- Buspool carrys about 5% to 8% of Puget Sound Naval Shipyard civilian employees
- Design and alter Worker/Driver routes to meet needs of passengers whenever feasible
- Kitsap Transit has a Guaranteed Ride Home program
- 40' and 35' Gillig buses used
- Drivers are fully trained and licensed with one lead driver and one back up driver per route
- Buspool ridership 388,860 in FY 2008
- Ridership fluctuates with employment at Naval Shipyard and with other sites served

Seattle Custom Bus Program

http://transit.metrokc.gov/tops/accessible/access-other.html#custom

- Provides Custom Bus service for employers and schools.
- Routes are designed to meet the specific needs of the business or educational facility.
- Fares are based on the length of the trip
- 1998 annual ridership was 434,300 unlinked trips with average bus loading of 26 riders
- Fares in 1999 ranged from $50 to $90 per month, depending on travel time, and were designed to achieve 80% cost recovery ratio
- Custom Bus program steadily declined from the late 1990's till 2003, when 140,700 trips served on a little more than ¼ as many routes
- Service to large employers have been subject to same economic and employment shifts as Metro's vanpools
- Decline in service to educational facilities
- Private schools must pay full cost of service and rate increase caused them to look elsewhere

Oklahoma

- Transit agency serving Talihina, OK and OK Department of Human Services developed a connecting transit service to poultry processing plants in Fort Smith, AR, as a welfare-to-work project
- As of 1996, the 60-mile shuttle was responsible for employment of over 100 residents of the town
- Workers using service were trained as drivers