

REPORT TO SHASTA COUNTY RTPA

SUBJECT	MEETING DATE	ITEM NUMBER
Receive Presentation and Accept Travel Demand Forecasting Model	6/26/07	7

RECOMMENDATION

It is recommended that the Agency:

1. Receive a presentation from Dowling Associates; and
2. Accept updated Shasta County Travel Demand Forecast Model

SUMMARY

The Shasta Travel Demand Forecast Model has been accepted by the Shasta Model Users Group (SMUG) and provided to Caltrans, the cities, county and a number of consulting firms for their use in regional transportation planning. The core data for growth in the region should be accepted as the official forecast for transportation planning for Shasta County. Mike Aronson of Dowling Associates will provide a brief presentation regarding the update process and be available to answer questions.

DISCUSSION

On January 23, 2007, the Shasta Model Users Group (SMUG) unanimously accepted the Shasta County Travel Demand Forecasting Model as the official forecast for the region. SMUG is comprised of representatives from all Shasta County jurisdictions for the purpose of updating and enhancing the model. Approximately two years of development went into the most recent update. It is the third major update since the model's inception.

This item was presented at the April 17, 2007, Agency meeting (staff report attached). The Agency requested additional information regarding the employment and housing forecast and may have other questions concerning the process at this time.

The process to update the model was done collaboratively with all agency partners who were highly involved with data collection, calibration, validation and final approval. Approximately 50 meetings with area land use and traffic experts were held in the process. Attachment #3 details the update process and who was involved.

Attachment # 2 is a memorandum that summarizes the land use assumptions for the Shasta County Travel Demand Model. Mike Aronson of Dowling and Associates will present an overview.

The land use forecasts for the Shasta County travel model were developed using detailed information on individual planned development in each jurisdiction, overall growth forecasts for Shasta County from recognized sources, and growth forecasts prepared by economic firms for specific areas (Redding and South County).

The economic consulting firm of Strategic Economics met with planning staff from Shasta County and the cities. They prepared comprehensive lists and maps of known "pipeline" development projects in each jurisdiction.

Population and housing forecasts to the year 2030 were compiled from several sources. For the overall county, the California Department of Finance population projections were used. The Economic Science Corporation (ESC) projection for the Redding Electric Utility was used for the City of Redding. The population and household forecasts for Anderson, Cottonwood and South County were based on forecasts prepared by Pacific Municipal Consultants (PMC) for the current South County transportation studies. Growth rates for other areas were based on historic growth rates from the 1990 and 2000 Census, adjusted upwards for areas with known development proposals. The forecasts result in an increase of 33,000 housing units between 2005 and 2030, from 68,200 to 101,200 (48 percent increase or 1.93 percent annually).

Overall employment forecasts by economic sector were initially based on commercial forecasts prepared by the private national firm Woods and Poole. These were adjusted upwards to be consistent with the assumed Shasta County population forecasts, which were higher than those assumed by Woods and Poole. The forecasts result in an increase of 34,000 employees between 2005 and 2030, from 69,600 to 103,800 (49 percent increase).

The actual inputs to the travel modeling process were developed on a parcel basis, starting with the known pipeline development and adding assumed development in other likely areas (based on general plans) to match the control totals as closely as possible. In some cases, pipeline development alone would exceed the growth totals, and therefore a slower phasing of development and occupancy was assumed for certain development areas.

It is recommended that the Agency accept these forecasts for transportation planning purposes including traffic studies, the Regional Transportation Plan and ShastaFORWARD>>.

ALTERNATIVES

The Agency may choose not to accept the forecast. This is not recommended as the model has undergone extensive technical review by all entities involved in its development.

OTHER AGENCY INVOLVEMENT

This update has been coordinated with all affected agencies. The approval by the Agency brings closure to the model update project. The Technical Advisory Committee (TAC) concurs with the staff recommendation.

FINANCING

There is no financial impact. Planning funds and SMUG staff time have already been expended; the project costs of \$199,669 were within its budget.

Daniel S. Little, AICP, Executive Officer

DSL/TLH/jac

Attachments: April 17, 2007 Staff Report
June 4, 2007 Land Use Forecast Assumptions
Meeting and SMUG Listing

REPORT TO SHASTA COUNTY RTPA

SUBJECT	MEETING DATE	ITEM NUMBER
Accept Travel Demand Model Forecast and Receive Caltrans I-5 Forecast Presentation	4/17/07	8

RECOMMENDATION

It is recommended that the Agency:

- 1) Accept updated Shasta County Travel Demand Forecast Model; and
- 2) Receive a presentation from Caltrans regarding the Transportation Concept Report (TCR) for Interstate 5

SUMMARY

The Shasta Travel Demand Forecast Model has been accepted by the Shasta Model Users Group (SMUG) and provided to Caltrans, the cities, and a number of consulting firms for their use in regional transportation planning. The core data files that account for growth in the region should be accepted as the official forecast for transportation planning for Shasta County. On a related matter, Caltrans will be making a presentation regarding these forecasts in relation to future Interstate 5 congestion.

DISCUSSION

On January 23, 2007, the Shasta Model Users Group (SMUG) unanimously accepted the Shasta County Travel Demand Forecasting Model as the official forecast for the region. SMUG is comprised of representatives from all Shasta County jurisdictions for the purpose of updating and enhancing the accuracy of the existing model. Approximately two years of development went into the most recent update. It is the third major update since the model's inception.

An up-to-date travel model is a required component to support the Regional Transportation Plan (RTP). Federal transportation planning legislation requires all Metropolitan Planning Organizations to develop an RTP with a 20-year minimum planning horizon [23 U.S.C. 134 (g) and 49 U.S.C. 5303 (f)]. Forecasts from the Shasta County Travel Demand Model will be used to update the next RTP.

Other uses of the model include:

- o Interstate 5 Transportation Concept Report - Travel demand forecasts for Interstate 5 will be utilized by Caltrans to determine future year level of service and the effectiveness of various improvement strategies.
- o Air Quality Conformity Determinations - Although the region is currently in "attainment" for air quality standards, the updated travel model satisfies all required specifications for use in air quality conformity determinations if needed.
- o ShastaFORWARD>> - Model output will be used to determine the impacts of various growth scenarios for Shasta County.
- o Fix 5 Partnership - Model output will help quantify the cumulative impacts of new development on Interstate 5 and provide the legal basis for required mitigation activities.
- o Traffic Impact Fees Programs - Model forecast is used to account for future trips and level of service calculations on existing and proposed transportation facilities.

The attached tables contain the underlying assumptions and metrics the Agency is asked to accept. These assumptions include 1) future road improvements organized in 5 year bands; 2) future land use based on overall residential, employment, and phased development projections; and 3) an overall summary of land use for 2005 and 2030.

Additionally, attached are four graphs of key data sets from the modeling effort. Two of the graphs detail the cumulative growth in employment and households by jurisdiction from 2005 to 2030. A graph in five year bands quantifying the expected hours of travel delay by facility category (freeway, arterial, etc) is attached. Lastly, a pie chart is provided that indicates the relative percentage share of vehicle miles traveled (VMT) by facility category in the year 2005.

In summary, the model provides the following forecast to 2030.

MODEL OUTPUTS	2005	2030	Average Annual % Increase
Population	179,189	244,468	1.95%
Households	69,629	103,843	1.93%
Employment	90,068	123,875	1.96%
Hours of Delay	5,169	14,768	7.43%
Daily Trips	1,195,865	1,729,557	1.72%
Daily Vehicle Miles of Travel	5,556,413	8,522,261	2.14%
Daily Vehicle Hours of Travel	133,939	208,211	2.01%

ALTERNATIVES

The Agency may choose not to accept the forecast. This is not recommended as the model has undergone extensive technical review by all entities involved in its development.

OTHER AGENCY INVOLVEMENT

This update has been coordinated with the affected agencies. The approval by the Agency brings closure to the model update project. The Technical Advisory Committee (TAC) concurs with the staff recommendation.

FINANCING

There is no financial impact. Planning funds and SMUG staff time have already been expended; the project costs of \$199,669 are within its budget.

Daniel S. Little, AICP, Executive Officer

DSL/TLH/jac

Attachments: Forecast Assumptions (2/12/07) Tables 1 - 4
2005 and 2030 Land Use Summaries by Area
Population, Housing, Employment Trends and Daily Vehicle
Miles of Travel Charts
Interstate 5 Transportation Concept Report: Summary Working
Paper B



Date: June 4, 2007

Memorandum

To: Thomas Hays, Shasta RTPA

cc: Shasta Model Users Group

From: Mike Aronson

Reference: Shasta RTPA Model Update

P01114

Subject: Land Use Forecast Assumptions

This memorandum summarizes the land use assumptions for the Shasta County travel model.

Summary

Forecast Process

The land use forecasts for the Shasta County travel model were developed using a combination of:

- Detailed information on individual planned development in each jurisdiction
- Overall growth forecasts for Shasta County from several sources
- Growth forecasts prepared by economists for specific areas (Redding and South County)

The overall forecasts for all of Shasta County and for individual jurisdictions were compiled for each five-year increment between 2005 and 2030.

The actual inputs to the travel modeling process were developed on a parcel basis, starting with the known pipeline development and adding assumed development in other likely areas to match the control totals as closely as possible. In some cases, pipeline development alone would exceed the growth totals, and therefore a slower phasing of development and occupancy would be assumed for certain development areas.

Pipeline Development

The economic consulting firm of Strategic Economics met with planning staff from Shasta County and the cities of Anderson, Redding and Shasta Lake. They prepared comprehensive lists and maps of known “pipeline” development projects in each jurisdiction.

Population Forecasts

Population and housing forecasts to the year 2030 were compiled from the following sources:

- Overall County: California Department of Finance population projections
- Redding: Economic Science Corporation (ESC) projection for the Redding Electric Utility, adjusted for available residential land supply
- Anderson, Cottonwood and South County: Forecasts prepared by Pacific Municipal Consultants (PMC) for South County transportation studies
- Other areas: Historic growth rates from 1990 and 2000 Census, adjusted upwards for areas with known development proposals

The forecasts result in an increase of 48 percent in housing units between 2005 and 2030,

Employment Forecasts

There are no official State of California forecasts of employment by jurisdiction or county. Overall employment forecasts by economic sector were initially based on commercial forecasts prepared by Woods and Poole. These were adjusted upwards to be consistent with the assumed Shasta County population forecasts, which were higher than those assumed by Woods and Poole.

The forecasts result in an increase of 49 percent in total employment between 2005 and 2030.

Residential Projections

Projections for residential growth were documented by Strategic Economics in a memorandum dated November 10, 2005 (Figure 1 and Table 1). These projections were used as the control total targets for residential growth during the parcel-based allocation process. The individual assumptions by jurisdiction and subarea were also noted (Table 2).

Previous Residential Projection

For the 2000 Transportation Model, Economic and Planning Systems (EPS) developed a projection of growth in Shasta County. As is done in this current analysis, EPS compared the historic performance of multiple projections sources before developing the preferred projection for the County. Ultimately, it was determined that the high-migration Economic Sciences Corporation projection for the City of Redding would be the appropriate base for a countywide projection. The projection demonstrated an accurate history of projecting population growth in the City, and was the basis for the City's General Plan update being completed concurrently with the transportation model.

Figure 1: Shasta County Subareas for Residential Projections

Legend

-  Other Unincorporated County
-  Bella Vista Water/NE of Redding
-  Palo Cedro/SE of Redding
-  Happy Valley/North Fork
-  Shingletown
-  North Central Shasta County
-  East Shasta County
-  Redding
-  Anderson
-  Shasta Lake
-  Hwy 44/Dersch Corridors
-  Cottonwood
-  Other South County Incl. Parts of Vineyards

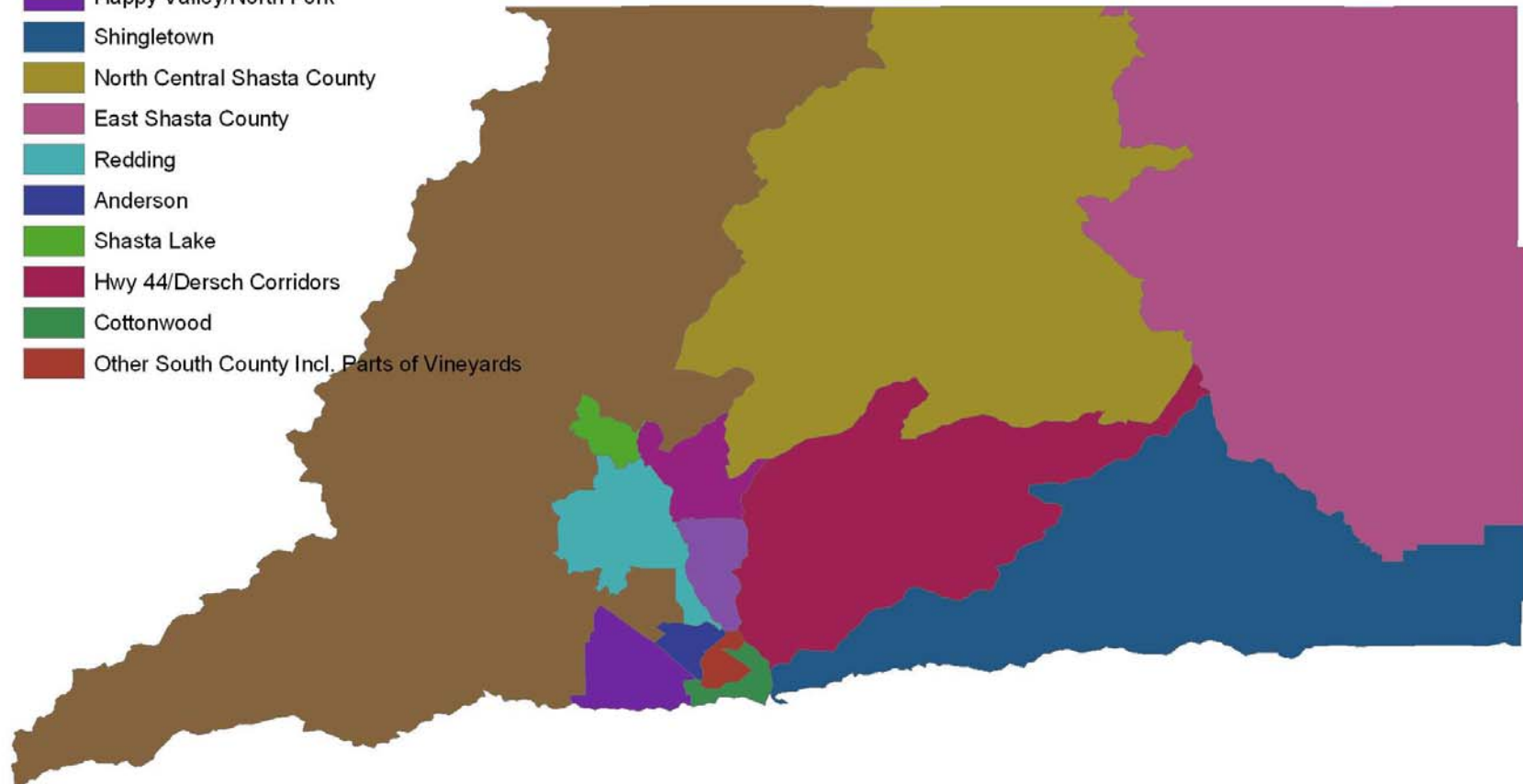


Table 1: Shasta County Residential Projection Targets

PROJECTION OF OCCUPIED RESIDENTIAL UNITS BY SUBAREA, SHASTA COUNTY 2005-2030

			2005 base year (DOF occupied housing units)	2010	2015	2020	2025	2030	Estimated Incremental Household Growth	Estimated Percent Household Growth	Net Remaining	Land Capacity (Est. Units) ¹
Projected Units Countywide			68,220	75,158	81,656	88,154	94,652	101,150	32,930	48.3%	32,930	43,962
	Redding at Midpoint Densities, Assume 75% Buildout		34,612	39,109	43,115	46,603	49,587	52,044	17,432	50.4%	15,497	17,432
	Anderson (OmniMeans/PMC)		3,847	5,191	6,531	7,765	8,553	9,193	5,346	139.0%	10,151	5,346
	Shasta Lake		3,786	4,286	4,786	5,286	5,786	6,286	2,500	66.0%	7,651	3,917
	Total Unincorporated County		25,975	26,572	27,224	28,499	30,726	33,626	7,651	29.5%	7,651	17,503
	Urban:	Cottonwood (OmniMeans/PMC)	1,160	1,368	1,614	1,904	2,247	2,651	1,491	128.5%	6,160	1,492
		Other South County (OmniMeans/PMC)	932	1,020	1,104	1,188	1,830	2,482	1,550	166.3%	4,610	444
		Palo Cedro and Southeast of Redding, 70% Buildout	1,562	1,592	1,624	1,715	1,839	2,024	462	29.6%	4,149	924
		Happy Valley (Incl. North Fork)	845	919	998	1,219	1,524	1,977	1,132	134.0%	3,017	2,724
	Rural:	North Central Shasta County (Big Bend, Montgomery)	1,240	1,253	1,268	1,308	1,363	1,444	204	16.5%	2,812	----
		East Shasta County (Burney, Fall River, McArthur, C)	3,365	3,399	3,436	3,538	3,680	3,889	524	15.6%	2,288	
		Shingletown and Highway 44 Dersch Road Corridor	1,811	1,890	1,974	2,211	2,536	3,020	1,209	66.8%	1,079	5,770
		Other	10,856	10,881	10,908	10,984	11,088	11,242	386	3.6%	693	
		Bella Vista Water/Northeast of Redding	4,204	4,249	4,298	4,433	4,620	4,897	693	16.5%	0	1,095

PROJECTION OF OCCUPIED RESIDENTIAL UNITS BY SUBAREA, SHASTA COUNTY, 5-YEAR INCREMENTS

			2005 base year (DOF occupied housing units)	2005 to 2010	2010 to 2015	2015 to 2020	2020 to 2025	2025 to 2030
Projected Units Countywide			68,220	6,938	6,498	6,498	6,498	6,498
	Redding at Midpoint Densities, Assume 75% Buildout		34,612	4,497	4,006	3,488	2,983	2,458
	Anderson (OmniMeans/PMC)		3,847	1,344	1,340	1,234	788	640
	Shasta Lake		3,786	500	500	500	500	500
	Total Unincorporated County		25,975	597	652	1,276	2,227	2,900
	Urban:	Cottonwood (OmniMeans/PMC)	1,160	208	246	290	343	404
		Other South County (OmniMeans/PMC)	932	88	84	84	642	652
		Palo Cedro and Southeast of Redding, 70% Buildout	1,562	30	32	90	124	185
		Happy Valley (Incl. North Fork)	845	74	79	221	305	453
	Rural:	North Central Shasta County (Big Bend, Montgomery)	1,240	13	14	40	55	82
		East Shasta County (Burney, Fall River, McArthur, C)	3,365	34	37	103	141	210
		Shingletown and Highway 44 Dersch Road Corridor	1,811	79	84	236	326	484
		Other	10,856	25	27	76	104	155
		Bella Vista Water/Northeast of Redding	4,204	45	48	135	187	277

Source: Strategic Economics, November, 2005

Table 2: Residential Projections Assumptions

			2005 Base Year Assumptions	Projection Assumptions
Projected Units Countywide			Occupied housing units as reported by the CA Department of Finance	From DoF population projections by age group, worked into households using household formation rates from 2000 U.S. Census
	Redding at Midpoint Densities, Assume 75% Buildout TOTAL HOUSEHOLDS		Occupied housing units as reported by the CA Department of Finance	Years 2005-2015 correspond to growth rates from ESC Projection. Growth rate gradually decreases over time from 2015 to 2030, and total estimated incremental growth reflects 75 percent of Redding's land capacity estimate. This number falls short of the E
	Anderson (OmniMeans/PMC)		Occupied housing units as reported by the CA Department of Finance	OmniMeans/PMC Memorandum
	Shasta Lake		Occupied housing units as reported by the CA Department of Finance	Assumed absorption rate of 100 units/year. This is higher than historic rate of 78 units/year in last 5 years but reflects strong showings in pipeline development, including estimated 1500 units Mountain Gate Meadows
	Total Unincorporated County		Occupied housing units as reported by the CA Department of Finance	County net of Cities
	Urban:	Cottonwood (OmniMeans/PMC)	From PMC/OmniMeans Projection for South County	From PMC/OmniMeans Projection for South County
		Other South County (OmniMeans/PMC)	From PMC/OmniMeans Projection for South County	From PMC/OmniMeans Projection for South County
		Palo Cedro and Southeast of Redding, 70% Buildout	Applied constant growth rate from 1990 and 2000 Census for Households. Census Tracts:	From 2005-2030, change at double its historic 10 year average annual growth rate from 1990-2000 Census.
		Happy Valley (Incl. North Fork)	Applied constant growth rate from 1990 and 2000 Census for Households. Census Tracts:	Control total for 2030 accommodates major pipeline development + 20 percent additional development
	Rural:	North Central Shasta County (Big Bend, Montgomery Creek, Round Mountain)	Applied constant growth rate from 1990 and 2000 Census for Households. Census Tracts:	Assumed to develop at 25 year average annual growth rate for the total unincorporated county of 0.61%
		East Shasta County (Burney, Fall River, McArthur, Cassel)	Applied constant growth rate from 1990 and 2000 Census for Households. Census Tracts:	Assumed to develop at tract 10 year average annual growth rate from 1990-2000, or 0.58%
		Shingletown and Highway 44 Dersch Road Corridor	Applied constant growth rate from 1990 and 2000 Census for Households. Census Tracts:	Assumed to develop at tract 10 year average annual growth rate from 1990-2000, or 2.07%
		Other	Total DOF for Uninc county minus all other unincorporated areas	Assumed to develop at tract's 10 year average annual growth rate for the total unincorporated county of 0.14%. Assume this rate because growth in these areas will be the slowest, and more likely to reflect unincorporated rate
		Bella Vista Water/Northeast of Redding	Applied constant growth rate from 1990 and 2000 Census for Households. Census Tracts:	Assumed to develop at 25 year average annual growth rate for the total unincorporated county of 0.61%

Source: Strategic Economics, November, 2005

EPS extrapolated the Redding projection to Shasta County by assuming that the City of Redding would continue to capture the same share of the County's population over time. Incorporated areas would continue to grow faster than the unincorporated areas and Redding would continue to grow faster than Anderson and Shasta Lake. The final county projection was adjusted to conform to current and projected population estimates from the State of California. Ultimately there was some concern that this projection did not accurately project growth in other cities and the unincorporated areas of Shasta County; in fact, the EPS projection overestimated the county population and households in the year 2000 when compared with the U.S. Census.

Residential Projections Sources

Several projection series were evaluated and compared based on projected residential growth through 2030. The modeling techniques, historic accuracy, and applicability to the 2000-2030 time frame were considered. Reviews of these projection series follow.

Woods & Poole 2004

Woods & Poole is a national private projection of population by age group and/or housing units. This projection is only available at the countywide level. Woods & Poole is developed through modeling efforts tracking birth, death, and migration rates over time for the entire United States. County population projections are then developed based on sub-county analysis areas "economic areas" as the reference area. Growth in one county is linked to growth in other counties in order to maintain the national projected population. Total population is primarily informed by employment and earnings projections in the Woods & Poole model.

Based on our research, a fairly sizeable portion of the population in Shasta County is not working or is not working in Shasta County, therefore Woods & Poole, which is driven primarily by employment may not be an accurate source of population projections for Shasta County. When compared to the US Census, Woods & Poole underestimated total population growth from 1990 to 2000

Economic Sciences Corporation

Economic Sciences Corporation (ESC) completes a projection of Redding households and population for Redding Electric Utility each year. This projection is not available at the countywide level, and is only available for the City of Redding. Because this projection is based on actual customer records from the Redding Electric Utility, it appears to be the most accurate projection of Redding's population and household trends, at least in the short term.

While this population projection has historically been very accurate and appears accurate in the short term (5-10 years), the model does not take into account the available supply of land when determining its projections. Data from the City of Redding Planning Department indicates that the barring any further annexation, the City of Redding will exhaust its residential land supply by approximately 2015. At this point, much of the additional growth projected for the City of Redding in the ESC projection will likely be diverted into nearby unincorporated areas of the County as well as the City of Anderson.

Economic and Planning Systems

Economic and Planning Systems' (EPS) projection for the previous regional transportation model is based on Economic Sciences Corporation's projection for the City of Redding, and extrapolated to the Countywide level on a proportional population growth basis.

Since EPS used the ESC Redding projection as its base, this projection series has the same limited land supply issue that the ESC Redding projection has. Additionally, the EPS projections also assumed that Redding would continue to attract the largest share of the growth in the County through 2025. For this forecast update, this projection was considered to be a very aggressive estimate as it also fails to take Redding's land supply constraints into consideration.

California Department of Finance

The California Department of Finance (DOF) is the state projection of population by age group, available through the year 2050. There has been some concern that the DOF projection places an emphasis on its projections for major metropolitan areas, resulting in less accurate projections for non-urban areas such as Shasta County. The largest inaccuracies are likely in the method with which the DOF calculates net migration.

Historically, the DOF projections have been the most accurate for the County when compared to the Census. The DOF projections also represent a mid-range scenario; its population projections are higher than Woods & Poole, but lower than the EPS projections.

Preferred Residential Projection

Based on the information available regarding the historical accuracy of the various projection sources, the methodology with which these projections are calculated and information regarding the availability of land in the City of Redding, the following projection sources have been used in the residential projections.

Economic Sciences Corporation

While these projections were deemed to be overly aggressive in the long term, they are very accurate for the City of Redding in the short-term. Therefore, Redding's long-term projections were adjusted downward based on information regarding the availability of land.

Department of Finance

Given the historical accuracy and the DOF's position as a mid-range scenario among all available population projections, the Department of Finance projections for the County were used as the base for the population projections. However, the total county population was adjusted with input from the stakeholders.

Additional Adjustments

The basic residential projections were modified based on input from stakeholders in late 2005, particularly in the following ways:

- Growth rates for Anderson, Cottonwood and South County were made consistent with other land use forecasts prepared for transportation studies in those areas
- Pipeline activity was assumed to phase in over time;

- Historic growth rates were reflected in areas where constant growth is expected to occur;
- Projections were adjusted to accommodate both large scale development projects, such as North Fork, the Vineyards, and Mountain Gate Meadows, as well as some increment of additional development where appropriate.

Employment Projections

The overall employment projection targets are based on growth rates by sector developed by Woods & Poole, adjusted to correspond to the higher rate of population growth assumed for Shasta County (Table 3).

Employment Projections Sources

Several projection series were analyzed for the projection of jobs in Shasta County through 2030. Whereas the residential projection focuses generally on housing unit growth, the employment projection also divides the projected jobs into separate sectors. Generally, jobs are grouped in the following sectoral categories: Manufacturing, Retail, Services, Construction, and Agriculture. Some of the projection series described below provide a general jobs projection, while others provide a sectoral breakdown.

Sources of employment data were compared on a decade-by-decade basis. Unlike the population projections, no one source can be considered a comprehensive, Census-type base for employment projections. Employment projections use varying sectoral categories and collect a variety of data that frequently omits employment in the government sector, or the self-employed. Strategic Economics evaluated each projection series with the following criteria:

- The projection series must include all categories of workers including self-employed and unpaid family members
- The projection series must allow the employment to be spatially located

The sources are compared below.

Woods & Poole

Woods & Poole (W&P) 2004 is a national private projection of jobs by sector. The W&P projection is based on a modified “export base” model incorporating national trends in sectoral growth and decline, and accounting for the effect of employment trends of adjacent areas on each other.

Woods & Poole is considered an excellent source of employment projections, in that it includes employment information for categories of workers not included in other projection series including the self-employed, proprietors, domestic workers, unpaid family workers, railroad workers, and members of the armed forces.

Table 3: Shasta County Employment Projection Targets

Total County	2005	2010	2015	2020	2025	2030
Retail	14,719	15,943	17,121	18,403	19,790	21,300
Service	29,669	33,229	36,798	40,706	44,950	49,531
Government	11,147	11,892	12,588	13,331	14,112	14,924
Other	14,094	14,947	15,673	16,442	17,249	18,087
Total Employment	69,629	76,011	82,180	88,882	96,101	103,843
Anderson + Anderson SOI	2005	2010	2015	2020	2025	2030
Retail	1,183	1,281	1,376	1,479	1,591	1,712
Service	1,403	1,571	1,740	1,925	2,126	2,342
Government	483	515	545	578	611	647
Other	1,713	1,817	1,905	1,998	2,096	2,198
Total Employment	4,782	5,185	5,567	5,980	6,424	6,899
Redding + Redding SOI	2005	2010	2015	2020	2025	2030
Retail	11,417	12,366	13,280	14,275	15,350	16,522
Service	23,748	26,598	29,454	32,582	35,979	39,647
Government	8,069	8,609	9,112	9,650	10,215	10,803
Other	9,156	9,710	10,182	10,681	11,205	11,750
Total Employment	52,390	57,282	62,028	67,188	72,750	78,722
Shasta Lake	2005	2010	2015	2020	2025	2030
Retail	493	534	573	616	663	713
Service	678	759	841	930	1,027	1,132
Government	576	615	651	689	729	771
Other	577	612	641	673	706	740
Total Employment	2,324	2,520	2,706	2,909	3,125	3,357
Cottonwood	2005	2010	2015	2020	2025	2030
Retail	278	301	323	347	373	402
Service	297	333	369	408	451	496
Government	341	364	386	408	432	457
Other	302	321	336	353	370	388
Total Employment	1,219	1,319	1,414	1,516	1,626	1,744
Rural East (Burney, Fall River, McArthur, Cassel)	2005	2010	2015	2020	2025	2030
Retail	484	524	563	605	650	700
Service	977	1,094	1,212	1,341	1,480	1,631
Government	387	413	437	462	490	518
Other	443	470	493	517	543	569
Total Employment	2,291	2,501	2,704	2,925	3,163	3,418
Shasta County Other	2005	2010	2015	2020	2025	2030
Retail	864	936	1,005	1,080	1,162	1,250
Service	2,567	2,875	3,184	3,522	3,889	4,286
Government	1,290	1,376	1,457	1,543	1,633	1,727
Other	1,902	2,017	2,115	2,219	2,328	2,441
Total Employment	6,623	7,204	7,761	8,364	9,012	9,704

Based on Woods & Poole, growth rates adjusted in proportion to population projections

California Employment Development Department

The California Employment Development Department (EDD) provides a projection of employment by industry for Shasta County through 2008, as well as current data. Its projection is based on unemployment and tax data reported to the State. This data is analyzed and projected by a local branch of the EDD, ensuring the greatest projection accuracy of local conditions. The Shasta County Economic Development Corporation (Shasta EDC) uses this local projection for its analysis and policy development.

While the EDD is considered a fairly reliable projection of employment, it does not include employment information for categories of workers including the self-employed. In addition, current employment data from EDD is available spatially to local governments through a confidentiality agreement, but does not always have accurate place information for its currently reported jobs, making it difficult to accurately locate employment within the county.

InfoUSA

Info USA is a private source of employment data estimated by gathering data from the Yellow Pages, Business White Pages Directory, phone calls, county courthouse, Secretary of State data, business magazines and newspapers, annual reports, 10K's and other SEC filings, new business registrations and incorporations and postal service information.

InfoUSA does not provide a projection of employment, but is a reasonably accurate spatial picture of current employment in Shasta County. For this travel model update, InfoUSA was used as the initial source for 2004 base year employment, with considerable additional consultant effort to fill in and correct the employment information.

Selected Projection Source

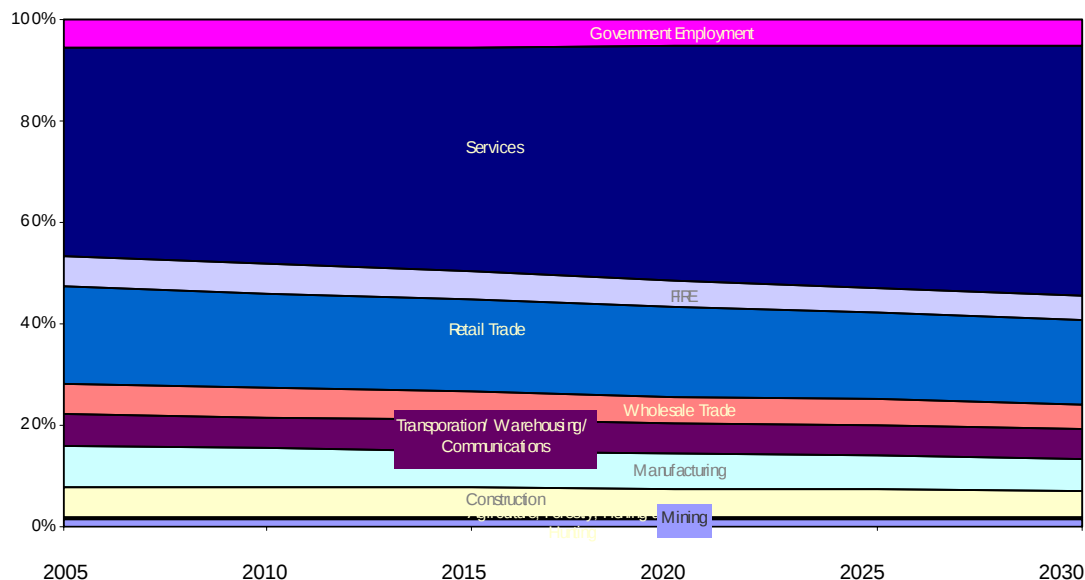
Woods & Poole was used as the projection source because it provides five year increments of employment by sector at the County level, and was determined to be the most comprehensive source of job estimates for the governmental sector and for domestic workers.

Employment Sectors

Figure 2 shows how the employment sectors are projected to shift over time within Shasta County. As anticipated in the previous 2000 EPS Projection, the Services sector is anticipated to become a larger share of total jobs in the County, while Manufacturing and Wholesale Trade become a declining share of total jobs. All sectors are anticipated to increase their total absolute number of jobs.

The 2000 EPS projection anticipated that retail jobs would increase proportionally with residential population growth. This assumption was retained for this employment forecast. The Woods & Poole projections had retail employment increasing by 21 percent between 2005 and 2030, while overall employment would grow by 37 percent. This compares to an assumed housing growth of 48 percent during the same period. For this forecast, retail employment was adjusted to increase by 45 percent, with an overall employment increase of 49 percent between 2005 and 2030.

**Figure 2: Shift in Sectors as a Percent of Total Employment, Shasta County
2005-2030**



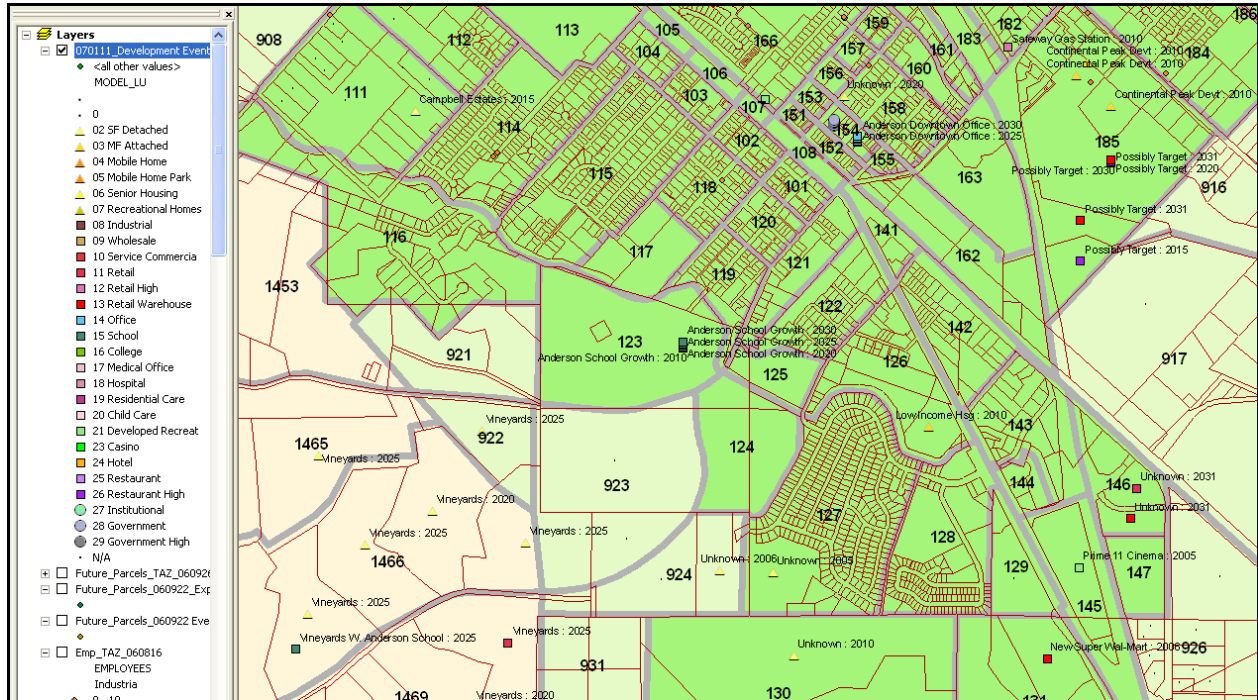
Subarea Allocation

Employment growth was allocated to the Cities and unincorporated county using a proportional formula. In this estimate, Cities maintain their current share of jobs in each of the given sectors. It is expected that land capacity limitations in Anderson and Cottonwood, as well as anticipated large scale development projects such as Oasis Road and Stillwater Business Park will shift a larger share of the projected job growth to Redding, and possibly to Shasta Lake, while Anderson's share of growth decreases. This shift would be most likely to occur in the Manufacturing, Warehousing, and Transportation/ Communications sectors.

Geographic Allocation

Future land uses were allocated to individual parcels and aggregated to the transportation analysis zones (TAZs) used in the Shasta County travel model. A geographic information systems (GIS) process was used to track the various development assumptions (Figure 3).

The initial geographic allocations were based on the pipeline development projects and expected development years provided by each of the jurisdictions. Several major projects, such as Vineyards, provided detailed phasing expectations for residential and non-residential land uses.



Locations for additional development beyond pipeline development were assumed based primarily on proximity to other similar development. The City of Redding provided extensive information on zoning and expected likelihood of development for each vacant parcel. In other areas, residential development was assumed to occur near recent development activity (based on 2000 to 2004 building permit data), while non-residential development was assumed to occur near similar existing non-residential uses.

Employment in health services, education and government was projected to grow, but specific development areas were not identified for these uses (with the exception of several new school sites). Therefore, most of the growth in these sectors were assumed to occur in the vicinity of existing concentrations of employment, such as existing medical centers, government offices and school administration sites.

Phased Development Projects

The development years for major projects provided by jurisdictions were adjusted in order to fit within the overall Shasta County growth projections (Table 4). In particular, several development areas are not projected to be fully built out by 2030.

Model Land Use Inputs

Summaries of the final land use totals used in the Shasta County travel model for each five year increment are attached (Table 5) These totals may not exactly match the residential and employment projections targets, as they are based on specific developments and parcels, and were not “smoothed out” to precisely match the control totals.

Table 4: Shasta County Development Phasing Assumptions

Development	Land Use	Units	2005	2010	2015	2020	2025	2030	After 2030	TOTAL	Percent by 2030
Anderson Potential Target Site	Retail	SF	0	0	0	130,000	0	130,000	66,000	326,000	80%
	Fast Food	SF	0	0	2,500	0	0	2,500	0	5,000	100%
City of Redding (7251 Eastside)	Industrial	SF	0	0	0	198,000	0	298,000	496,000	992,000	50%
Clover Creek (3901 Airport)	Office	SF	0	0	72,700	0	0	0	0	72,700	100%
	Retail	SF	0	0	0	72,700	0	0	0	72,700	100%
Cobblestone Business Park	Office	SF	0	187,000	0	0	0	0	0	187,000	100%
Lasata	MF Attached	DU	0	0	150	151	0	0	0	301	100%
Manor Crest (Cottonwood Hills)	SF Detached	DU	0	64	64	0	0	0	0	128	100%
McConnell Land (350 Old Oregon)	SF Detached	DU	0	0	223	1,165	0	0	0	1,388	100%
Mountain Gate Meadows	SF Detached	DU	0	0	0	0	250	500	250	1,000	75%
	MF Attached	DU	0	0	0	250	250	0	0	500	100%
	Service Commercial	SF	0	0	0	100,000	0	0	0	100,000	100%
North Fork	SF Detached	DU	0	47	47	460	314	532	0	1,400	100%
	Retail	SF	0	0	0	0	180,000	290,000	472,000	942,000	50%
	Office	SF	0	0	0	145,000	0	0	0	145,000	100%
	Equestrian Center	Emps	0	0	0	0	10	0	0	10	100%
Oak Ranch Estates	SF Detached	DU	0	66	66	0	0	0	0	132	100%
Oasis Road Specific Plan	SF 1-5 DU/Acre	DU	0	0	6	3	3	0	0	12	100%
	SF 2-3.5 DU/Acre	DU	0	0	16	0	16	0	0	32	100%
	SF 6-10 DU/Acre	DU	0	0	30	30	0	0	0	60	100%
	MF 15 DU/Acre	DU	0	0	593	296	296	0	0	1,185	100%
	MF 18 DU/Acre	DU	0	0	448	280	168	0	0	896	100%
	Regional Commercial	SF	0	188,500	188,500	188,500	377,000	0	1,342,222	2,284,722	41%
	General Commercial	SF	0	0	143,500	143,500	0	143,500	143,500	574,000	75%
	Shopping Center	SF	0	0	0	0	0	113,500	113,500	227,000	50%
	General Office	SF	0	0	0	0	19,800	0	0	19,800	100%
	Limited Office	SF	0	0	13,100	0	0	0	0	13,100	100%
Palo Cedro Silverbridge Oaks	SF Detached	DU	0	0	0	100	200	0	0	300	100%
Palomar Davis Ridge	SF Detached	DU	0	197	197	0	0	0	0	394	100%
	MF Attached	DU	0	56	0	0	0	0	0	56	100%
Park Marina Drive Specific Plan	SF Detached	DU	0	22	0	0	0	0	0	22	100%
	MF Attached	DU	0	0	99	14	10	0	0	123	100%
	Retail	SF	0	0	50,000	39,200	42,500	55,500	0	187,200	100%
	Office	SF	0	0	0	0	42,500	0	0	42,500	100%
	Hotel	SF	0	0	0	55,500	42,500	0	0	98,000	100%
Shasta Gateway Industrial Park	Industrial	SF	0	49,000	49,000	94,000	94,000	94,000	1,590,000	1,970,000	19%
	Office	SF	0	24,500	24,500	24,500	24,500	0	0	98,000	100%
Shastina Ranch	SF Detached	DU	0	328	0	94	0	0	0	422	100%
	School	Emps	0	0	50	0	0	0	0	50	100%
Shingletown Sierra Pacific	SF Detached	DU	0	66	66	0	0	0	0	132	100%

Table 4 (continued): Shasta County Development Phasing Assumptions

Development	Land Use	Units	2005	2010	2015	2020	2025	2030	After 2030	TOTAL	Percent by 2030
Stillwater Business Park	Industrial	SF	0	0	0	224,000	224,000	199,000	3,554,000	4,201,000	15%
	Office	SF	0	0	205,200	563,900	223,600	593,900	510,900	2,097,500	76%
VA Home Property (Knighton)	Industrial	SF	0	365,000	138,000	0	0	132,000	0	635,000	100%
	Office	SF	0	191,800	127,900	0	179,100	0	0	498,800	100%
Vineyards	SF Detached	DU	0	682	422	1,166	1,029	666	330	4,295	92%
	MF Attached	DU	0	0	640	0	287	287	0	1,214	100%
	Retail	SF	0	20,000	0	50,000	20,000	50,000	0	140,000	100%
	Office	SF	0	0	50,000	50,000	0	0	0	100,000	100%
	School	Emps	0	0	0	50	50	0	0	100	100%
Woodridge Lake	Retail	SF	0	0	30,000	30,000	0	0	0	60,000	100%

Table 5: Shasta Model Land Use Inputs

2004 Land Use Summary

Area	Population	Housing Units	Occupied Units	Employment				TOTAL
				Retail	Service	Government	Other	
Incorporated								
Anderson	9,065	3,738	3,737	886	1,220	410	846	3,363
Redding	81,136	33,886	33,848	10,862	22,065	7,492	7,718	48,138
Shasta Lake	9,016	3,711	3,706	493	678	576	577	2,324
Subtotal Incorporated	99,217	41,335	41,290	12,242	23,963	8,479	9,141	53,825
Unincorporated								
Anderson Sphere	1,841	759	758	297	173	73	867	1,410
Redding Sphere	10,120	3,994	3,987	287	1,640	577	1,438	3,941
Cottonwood	3,479	1,323	1,322	278	297	341	302	1,219
Rural North Central (Big Bend, Montgomery Creek)	293	143	141	12	5	20	0	37
Rural East (Burney, Fall River, McArthur, Cassel)	5,240	2,183	2,166	484	977	387	443	2,291
Rural Shingletown	1,263	628	607	87	88	53	34	262
Rural Vineyards	39	15	15	0	0	0	0	0
Rural Other	41,760	17,371	17,101	765	2,474	1,217	1,868	6,323
Subtotal Unincorporated	64,035	26,416	26,097	2,209	5,653	2,668	4,953	15,483
TOTAL	163,252	67,751	67,388	14,451	29,616	11,147	14,094	69,308

Table 5 (continued): Shasta Model Land Use Inputs

Increment 2004 to 2005

Area	Population	Housing Units	Occupied Units	Employment				TOTAL
				Retail	Service	Government	Other	
Incorporated								
Anderson	262	125	125	0	10	0	0	10
Redding	1,602	583	583	268	43	0	0	311
Shasta Lake	131	69	69	0	0	0	0	0
Subtotal Incorporated	1,996	777	777	268	53	0	0	321
Unincorporated								
Anderson Sphere	0	0	0	0	0	0	0	0
Redding Sphere	27	0	0	0	0	0	0	0
Cottonwood	10	0	0	0	0	0	0	0
Rural North Central (Big Bend, Montgomery Creek)	0	0	0	0	0	0	0	0
Rural East (Burney, Fall River, McArthur, Cassel)	0	0	0	0	0	0	0	0
Rural Shingletown	0	0	0	0	0	0	0	0
Rural Vineyards	0	0	0	0	0	0	0	0
Rural Other	146	60	60	0	0	0	0	0
Subtotal Unincorporated	182	60	60	0	0	0	0	0
TOTAL	2,178	837	837	268	53	0	0	321

2005 Land Use Summary

Area	Population	Housing Units	Occupied Units	Employment				TOTAL
				Retail	Service	Government	Other	
Incorporated								
Anderson	9,327	3,863	3,862	886	1,230	410	846	3,373
Redding	82,738	34,469	34,430	11,130	22,108	7,492	7,718	48,449
Shasta Lake	9,147	3,780	3,775	493	678	576	577	2,324
Subtotal Incorporated	101,213	42,112	42,067	12,510	24,016	8,479	9,141	54,146
Unincorporated								
Anderson Sphere	1,841	759	758	297	173	73	867	1,410
Redding Sphere	10,147	3,994	3,987	287	1,640	577	1,438	3,941
Cottonwood	3,489	1,323	1,322	278	297	341	302	1,219
Rural North Central (Big Bend, Montgomery Creek)	293	143	141	12	5	20	0	37
Rural East (Burney, Fall River, McArthur, Cassel)	5,240	2,183	2,166	484	977	387	443	2,291
Rural Shingletown	1,263	628	607	87	88	53	34	262
Rural Vineyards	39	15	15	0	0	0	0	0
Rural Other	41,906	17,431	17,161	765	2,474	1,217	1,868	6,323
Subtotal Unincorporated	64,217	26,476	26,157	2,209	5,653	2,668	4,953	15,483
TOTAL	165,430	68,588	68,224	14,719	29,669	11,147	14,094	69,629

Table 5 (continued): Shasta Model Land Use Inputs

Increment 2005 to 2010

Area	Population	Housing Units	Occupied Units	Employment				TOTAL
				Retail	Service	Government	Other	
Incorporated								
Anderson	2,701	1,328	1,328	354	160	37	103	655
Redding	11,713	4,701	4,701	617	2,954	477	629	4,677
Shasta Lake	1,210	504	504	80	80	37	53	250
Subtotal Incorporated	15,624	6,534	6,534	1,051	3,194	551	786	5,582
Unincorporated								
Anderson Sphere	28	14	14	0	0	0	0	0
Redding Sphere	49	22	22	0	29	61	0	90
Cottonwood	367	130	130	20	7	43	0	70
Rural North Central (Big Bend, Montgomery Creek)	29	13	13	0	0	0	0	0
Rural East (Burney, Fall River, McArthur, Cassel)	52	32	32	28	202	27	23	280
Rural Shingletown	143	66	66	9	22	0	9	40
Rural Vineyards	0	0	0	0	0	0	0	0
Rural Other	350	142	142	119	84	79	45	326
Subtotal Unincorporated	1,017	419	419	177	343	210	76	806
TOTAL	16,641	6,953	6,953	1,228	3,537	761	862	6,388

2010 Land Use Summary

Area	Population	Housing Units	Occupied Units	Employment				TOTAL
				Retail	Service	Government	Other	
Incorporated								
Anderson	12,028	5,192	5,191	1,241	1,390	448	950	4,028
Redding	94,451	39,170	39,132	11,747	25,062	7,969	8,348	53,126
Shasta Lake	10,358	4,284	4,279	573	758	613	630	2,574
Subtotal Incorporated	116,837	48,646	48,601	13,561	27,210	9,030	9,927	59,728
Unincorporated								
Anderson Sphere	1,869	773	772	297	173	73	867	1,410
Redding Sphere	10,196	4,016	4,009	287	1,668	638	1,438	4,031
Cottonwood	3,856	1,453	1,452	298	304	384	302	1,289
Rural North Central (Big Bend, Montgomery Creek)	322	156	154	12	5	20	0	37
Rural East (Burney, Fall River, McArthur, Cassel)	5,292	2,215	2,198	512	1,179	414	466	2,571
Rural Shingletown	1,406	694	673	97	109	53	43	302
Rural Vineyards	39	15	15	0	0	0	0	0
Rural Other	42,256	17,573	17,303	884	2,557	1,296	1,912	6,649
Subtotal Unincorporated	65,235	26,895	26,576	2,385	5,996	2,879	5,029	16,289
TOTAL	182,071	75,541	75,177	15,946	33,206	11,908	14,956	76,017

Table 5 (continued): Shasta Model Land Use Inputs

Increment 2010 to 2015

Area	Population	Housing Units	Occupied Units	Employment				TOTAL
				Retail	Service	Government	Other	
Incorporated								
Anderson	983	472	472	120	114	37	57	328
Redding	10,645	3,994	3,994	952	1,966	449	467	3,834
Shasta Lake	1,372	500	500	0	104	37	53	194
Subtotal Incorporated	13,000	4,966	4,966	1,072	2,184	523	577	4,356
Unincorporated								
Anderson Sphere	238	89	89	0	0	0	0	0
Redding Sphere	138	56	56	0	711	53	36	800
Cottonwood	608	230	230	0	191	27	10	228
Rural North Central (Big Bend, Montgomery Creek)	0	0	0	0	0	0	0	0
Rural East (Burney, Fall River, McArthur, Cassel)	0	0	0	28	162	27	23	240
Rural Shingletown	143	66	66	63	78	0	9	150
Rural Vineyards	2,151	842	842	0	157	0	8	165
Rural Other	525	232	232	3	102	53	71	230
Subtotal Unincorporated	3,804	1,515	1,515	95	1,400	160	157	1,813
TOTAL	16,804	6,481	6,481	1,167	3,584	684	734	6,169

2015 Land Use Summary

Area	Population	Housing Units	Occupied Units	Employment				TOTAL
				Retail	Service	Government	Other	
Incorporated								
Anderson	13,012	5,664	5,663	1,360	1,504	485	1,007	4,356
Redding	105,095	43,164	43,125	12,699	27,029	8,418	8,814	56,960
Shasta Lake	11,730	4,784	4,779	573	861	651	683	2,768
Subtotal Incorporated	129,837	53,612	53,567	14,633	29,394	9,553	10,504	64,084
Unincorporated								
Anderson Sphere	2,107	862	861	297	173	73	867	1,410
Redding Sphere	10,334	4,072	4,065	287	2,380	691	1,474	4,831
Cottonwood	4,464	1,683	1,682	298	495	412	312	1,517
Rural North Central (Big Bend, Montgomery Creek)	322	156	154	12	5	20	0	37
Rural East (Burney, Fall River, McArthur, Cassel)	5,292	2,215	2,198	540	1,341	441	489	2,811
Rural Shingletown	1,549	760	739	160	187	53	52	452
Rural Vineyards	2,190	857	857	0	157	0	8	165
Rural Other	42,781	17,805	17,534	887	2,659	1,349	1,983	6,879
Subtotal Unincorporated	69,038	28,410	28,091	2,480	7,397	3,039	5,186	18,102
TOTAL	198,875	82,022	81,658	17,113	36,790	12,592	15,690	82,185

Table 5 (continued): Shasta Model Land Use Inputs

Increment 2015 to 2020

Area	Population	Housing Units	Occupied Units	Employment				TOTAL
				Retail	Service	Government	Other	
Incorporated								
Anderson	164	80	80	265	118	20	69	472
Redding	8,339	3,480	3,480	827	887	449	24	2,187
Shasta Lake	1,266	490	490	12	136	37	140	324
Subtotal Incorporated	9,768	4,050	4,050	1,104	1,141	506	232	2,983
Unincorporated								
Anderson Sphere	55	28	28	0	456	0	24	480
Redding Sphere	486	211	211	0	1,797	61	317	2,175
Cottonwood	878	300	300	0	3	27	0	30
Rural North Central (Big Bend, Montgomery Creek)	107	50	50	0	0	0	0	0
Rural East (Burney, Fall River, McArthur, Cassel)	241	100	100	28	162	27	23	240
Rural Shingletown	462	240	240	54	27	0	9	90
Rural Vineyards	2,916	1,166	1,166	90	174	43	8	315
Rural Other	945	352	352	6	173	70	122	371
Subtotal Unincorporated	6,090	2,447	2,447	178	2,790	229	503	3,701
TOTAL	15,859	6,497	6,497	1,282	3,931	735	735	6,684

2020 Land Use Summary

Area	Population	Housing Units	Occupied Units	Employment				TOTAL
				Retail	Service	Government	Other	
Incorporated								
Anderson	13,176	5,744	5,743	1,625	1,622	505	1,076	4,828
Redding	113,434	46,644	46,605	13,526	27,916	8,867	8,838	59,147
Shasta Lake	12,995	5,274	5,269	585	997	688	822	3,092
Subtotal Incorporated	139,605	57,662	57,617	15,737	30,535	10,059	10,736	67,067
Unincorporated								
Anderson Sphere	2,162	890	889	297	629	73	891	1,890
Redding Sphere	10,820	4,283	4,277	287	4,176	752	1,791	7,006
Cottonwood	5,342	1,983	1,982	298	498	439	312	1,547
Rural North Central (Big Bend, Montgomery Creek)	429	206	204	12	5	20	0	37
Rural East (Burney, Fall River, McArthur, Cassel)	5,533	2,315	2,298	568	1,502	468	512	3,051
Rural Shingletown	2,011	1,000	979	215	214	53	61	542
Rural Vineyards	5,106	2,023	2,023	90	331	43	17	480
Rural Other	43,726	18,156	17,886	893	2,832	1,419	2,106	7,250
Subtotal Unincorporated	75,129	30,857	30,538	2,658	10,187	3,268	5,689	21,802
TOTAL	214,734	88,518	88,155	18,395	40,722	13,327	16,425	88,869

Table 5 (continued): Shasta Model Land Use Inputs

Increment 2020 to 2025

Area	Population	Housing Units	Occupied Units	Employment				TOTAL
				Retail	Service	Government	Other	
Incorporated								
Anderson	0	0	0	176	21	37	3	236
Redding	6,293	3,006	3,006	1,059	3,170	459	427	5,114
Shasta Lake	1,302	500	500	0	80	37	98	214
Subtotal Incorporated	7,595	3,506	3,506	1,235	3,270	533	527	5,565
Unincorporated								
Anderson Sphere	359	140	140	0	0	0	0	0
Redding Sphere	616	249	249	0	730	61	261	1,052
Cottonwood	819	340	340	0	3	27	0	30
Rural North Central (Big Bend, Montgomery Creek)	76	50	50	0	0	0	0	0
Rural East (Burney, Fall River, McArthur, Cassel)	298	140	140	28	162	27	23	240
Rural Shingletown	530	240	240	9	22	0	9	40
Rural Vineyards	2,023	778	778	36	4	0	0	40
Rural Other	3,180	1,072	1,072	81	37	122	0	240
Subtotal Unincorporated	7,902	3,009	3,009	155	958	238	293	1,642
TOTAL	15,497	6,515	6,515	1,390	4,227	771	819	7,208

2025 Land Use Summary

Area	Population	Housing Units	Occupied Units	Employment				TOTAL
				Retail	Service	Government	Other	
Incorporated								
Anderson	13,176	5,744	5,743	1,801	1,643	542	1,078	5,064
Redding	119,727	49,650	49,611	14,586	31,085	9,326	9,264	64,261
Shasta Lake	14,298	5,774	5,769	585	1,077	725	920	3,307
Subtotal Incorporated	147,200	61,167	61,123	16,972	33,805	10,593	11,263	72,632
Unincorporated								
Anderson Sphere	2,522	1,030	1,029	297	629	73	891	1,890
Redding Sphere	11,436	4,533	4,526	287	4,907	813	2,051	8,058
Cottonwood	6,161	2,323	2,322	298	501	466	312	1,577
Rural North Central (Big Bend, Montgomery Creek)	505	256	254	12	5	20	0	37
Rural East (Burney, Fall River, McArthur, Cassel)	5,831	2,455	2,438	596	1,664	495	535	3,291
Rural Shingletown	2,541	1,240	1,219	224	235	53	70	582
Rural Vineyards	7,129	2,801	2,801	126	335	43	17	520
Rural Other	46,905	19,228	18,958	974	2,869	1,541	2,106	7,490
Subtotal Unincorporated	83,031	33,866	33,547	2,813	11,145	3,505	5,982	23,445
TOTAL	230,231	95,033	94,670	19,785	44,949	14,098	17,245	96,077

Table 5 (continued): Shasta Model Land Use Inputs

Increment 2025 to 2030

Area	Population	Housing Units	Occupied Units	Employment				TOTAL
				Retail	Service	Government	Other	
Incorporated								
Anderson	0	0	0	658	72	37	2	769
Redding	5,946	2,461	2,461	594	2,399	555	412	3,961
Shasta Lake	1,205	500	500	0	3	37	94	134
Subtotal Incorporated	7,151	2,961	2,961	1,252	2,474	629	507	4,863
Unincorporated								
Anderson Sphere	1,047	467	467	131	15	0	0	145
Redding Sphere	1,524	606	606	0	1,890	61	297	2,249
Cottonwood	1,021	400	400	0	3	27	0	30
Rural North Central (Big Bend, Montgomery Creek)	165	80	80	0	0	0	0	0
Rural East (Burney, Fall River, McArthur, Cassel)	506	210	210	28	162	27	23	240
Rural Shingletown	684	360	360	9	22	0	9	40
Rural Vineyards	2,477	953	953	90	10	0	0	100
Rural Other	1,098	439	439	0	11	79	0	90
Subtotal Unincorporated	8,522	3,514	3,514	258	2,112	195	329	2,894
TOTAL	15,673	6,475	6,475	1,511	4,586	824	836	7,757

2030 Land Use Summary

Area	Population	Housing Units	Occupied Units	Employment				TOTAL
				Retail	Service	Government	Other	
Incorporated								
Anderson	13,176	5,744	5,743	2,459	1,715	579	1,080	5,833
Redding	125,673	52,111	52,072	15,180	33,485	9,881	9,677	68,222
Shasta Lake	15,502	6,274	6,269	585	1,079	762	1,014	3,440
Subtotal Incorporated	154,351	64,129	64,084	18,224	36,279	11,222	11,770	77,495
Unincorporated								
Anderson Sphere	3,569	1,498	1,496	427	644	73	891	2,035
Redding Sphere	12,960	5,138	5,132	287	6,797	875	2,348	10,307
Cottonwood	7,181	2,723	2,722	298	504	493	312	1,607
Rural North Central (Big Bend, Montgomery Creek)	670	336	334	12	5	20	0	37
Rural East (Burney, Fall River, McArthur, Cassel)	6,337	2,665	2,648	624	1,826	523	558	3,531
Rural Shingletown	3,225	1,600	1,579	233	257	53	78	622
Rural Vineyards	9,606	3,754	3,754	216	345	43	17	620
Rural Other	48,004	19,666	19,396	974	2,881	1,620	2,106	7,580
Subtotal Unincorporated	91,553	37,380	37,061	3,071	13,257	3,700	6,311	26,339
TOTAL	245,904	101,508	101,145	21,296	49,536	14,922	18,081	103,834

Table 5 (continued): Shasta Model Land Use Inputs

Increment 2005 to 2030

Area	Population	Housing Units	Occupied Units	Employment				TOTAL
				Retail	Service	Government	Other	
Incorporated								
Anderson	3,848	1,880	1,880	1,573	485	169	233	2,460
Redding	42,936	17,642	17,642	4,050	11,377	2,388	1,958	19,774
Shasta Lake	6,355	2,494	2,494	92	401	186	437	1,116
Subtotal Incorporated	53,139	22,017	22,017	5,714	12,263	2,743	2,629	23,349
Unincorporated								
Anderson Sphere	1,728	739	739	131	470	0	24	625
Redding Sphere	2,814	1,144	1,144	0	5,157	298	910	6,366
Cottonwood	3,693	1,400	1,400	20	206	152	10	388
Rural North Central (Big Bend, Montgomery Creek)	377	193	193	0	0	0	0	0
Rural East (Burney, Fall River, McArthur, Cassel)	1,097	482	482	140	849	136	115	1,240
Rural Shingletown	1,962	972	972	146	170	0	45	360
Rural Vineyards	9,567	3,739	3,739	216	345	43	17	620
Rural Other	6,098	2,235	2,235	210	407	403	238	1,257
Subtotal Unincorporated	27,335	10,904	10,904	863	7,604	1,031	1,358	10,856
TOTAL	80,474	32,920	32,920	6,577	19,867	3,775	3,987	34,205

SHASTA COUNTY TRAVEL DEMAND FORECASTING MODEL MEETINGS:

NUMBER	MEETING	DATE
1.	Steering Committee Model Update Kickoff Meeting	October 8, 2003
2.	Steering Committee Winter Meeting - Initial Requirements	January 9, 2004
3.	SMUG - RFQ coordination and requirements document	March 29, 2004
4.	Travel Model Kickoff Meeting - Schedule/data collection	January 12, 2005
5.	SMUG - Road Network Classification and TAZ revisions	March 29, 2005
6.	SMUG Preliminary Projections and Land Use Allocation Meeting	June 22, 2005
7.	SMUG Preliminary Projections and Land Use Allocation Meeting	June 23, 2005
8.	SMUG - Data Inventory Pipeline Project ID	August 18, 2005
9.	SMUG Projection and Land Use Allocation Meeting #2	September 14, 2005
10.	SMUG Projection and Land Use Allocation Meeting #3&4	September 15, 2005
11.	SMUG Projection and Land Use Allocation Meeting #3	October 20, 2005
12.	SMUG - Base Year validation review	November 10, 2005
13.	SMUG - Project Status - Base Year and data verifications	March 21, 2006
14.	SMUG - Calibration phase one	July 12, 2006
15.	SMUG - Calibration phase two	August 21, 2006
16.	Training - Model Documentation review	September 25/26, 2006
17.	Traffic Model - Output Review, validation and calibration results	November 21, 2006
18.	Forecast Assumptions Agreement by SMUG	January 23, 2007

Attachment 3-1 Shasta Model User Group (SMUG)		
Name	Agency	Position
Thomas Hays *	RTPA	Senior Planner
Scott White *	Caltrans	Chief Office of District Planning
Kim Hanagan *	Caltrans	PE System Planning
John Stokes *	City of Anderson	Planning Director
John Abshier *	City of Redding	Traffic Engineer
Kent Manuel	City of Redding	Senior Planner
Jim Coats	City of Redding	GIS Manager
Carla Thompson *	City of Shasta Lake	Development Service Director
Zack Bonnin	County of Shasta	Senior Planner
Dan Little	RTPA	Executive Director
Doug DeMallie	City of Redding	Planning Manager
Al Cathey	County of Shasta	Traffic Engineer
Dennis Daily	City of Shasta Lake	Traffic Engineer
Wayne Gungl	City of Redding	Permit Center Manager
Rich Barchus	City of Anderson	Public Works Director
Kevin Kidd	City of Anderson	Deputy Public Works Director
Dan Kovacich	RTPA	Executive Director
Consultant Support		
Mike Aronson	Dowling Associates Inc	Project Manager
Dena Blazer	Strategic Economics	Project Manger – Land Use
Abby Thorne-Lyman	Strategic Economics	Associate – Land Use
Mark Teague	Pacific Municipal Corp	Planner
Kamesh Vedula	Omni-Means	Traffic Modeler/Engineer
Marcella Nankervis	WILLDAN	Traffic Engineer – City of Shasta Lake
* = Core Group Member In addition to the 18 consultant lead meetings, approximately 30 meetings were held one on one with jurisdictional subject matter experts to confirm the accuracy and appropriateness of the information provided to the project team.		