

8.0 APPENDICES

The following Appendices incorporate the extent of materials used to support the development of the WRCOG TUMF Nexus Study and, where appropriate, specifically the 2005 Update. The respective Appendices also incorporate an explanation of the methodology and assumptions used to develop the various elements of the Nexus Study.

These Appendices represent a compilation of materials derived from a variety of technical resources. Each of the following Appendices relate to the development of a specific element of the Nexus Study. These Appendices are as follows:

Appendix A - List of TUMF Committees

Appendix B - Western Riverside County Population and Employment Growth 2007 – 2035

Appendix C - Western Riverside County Traffic Growth 2007 – 2035

Appendix D - Western Riverside County Transit Person Trips 2007 – 2035

Appendix E - Western Riverside County Regional System of Highways and Arterials Performance Measures

Appendix F - TUMF Network Cost Assumptions

Appendix G - TUMF 2009 Program Update Disposition of Network Change Requests

Appendix H - TUMF Network Cost Estimate and Evaluation

Appendix I - Western Riverside County Regional Trip Distribution

Appendix J - Western Riverside County Regional Trip Purpose

Appendix K - Residential Fee Calculation

Appendix L - Non-Residential Fee Calculation

Appendix A - List of TUMF Committees

WRCOG Executive Committee

Robin Lowe (Chairperson)	City of Hemet
Frank Hall (Vice-Chairperson)	City of Norco
Kelly Bennett (Second Vice-Chairperson)	City of Murrieta
Jeff Stone (Past Chairperson)	County of Riverside
John Machisic	City of Banning
Larry Dressel	City of Beaumont
Jim Hyatt	City of Calimesa
Jordan Ehrenkranz	City of Canyon Lake
Stan Skipworth	City of Corona
Thomas Buckley	City of Lake Elsinore
Scott Mann	City of Menifee
Robin Hastings	City of Moreno Valley
Rita Rogers	City of Perris
Ron Loveridge	City of Riverside
Jim Potts	City of San Jacinto
Chuck Washington	City of Temecula
Scott Farnam	City of Wildomar
Brian Nakamura (TAC Chairperson)	City of Banning
Marion Ashley	County of Riverside
Bob Buster	County of Riverside
John Tavaglione	County of Riverside
Phil Paule	Easter Municipal Water District
Al Lopez	Western Municipal Water District

WRCOG Technical Advisory Committee

Brian Nakamura (Chairperson)	City of Hemet
Beth Groves (Vice-Chairperson)	City of Norco
Rick Dudley (Second Vice-Chairperson)	City of Murrieta
Gary Christmas (Past Chairperson)	County of Riverside
Sam Racadio	City of Banning
Alan Kapanicas	City of Beaumont
Randy Anstine	City of Calimesa
Lori Moss	City of Canyon Lake
Brad Robbins	City of Corona
Bob Brady	City of Lake Elsinore
George Wentz	City of Menifee
Bob Gutierrez	City of Moreno Valley
Richard Belmudez	City of Perris
Brad Hudson	City of Riverside
Barry McClellan	City of San Jacinto
Shawn Nelson	City of Temecula
John Danielson	City of Wildomar
Anthony Pack	Easter Municipal Water District
Lori Stone	March Joint Power Authority
John Rossi	Western Municipal Water District

WRCOG Public Works Committee

Kip Field (Chairperson)	City of Corona
Patrick Thomas (Vice-Chairperson)	City of Murrieta
Juan Perez (Past Chairperson)	County of Riverside
Duane Burk	City of Banning
Kevin Hughes	City of Beaumont
Bob French	City of Calimesa
Habib Motlagh	City of Canyon Lake
Mike Gow	City of Hemet
Ken Seumalo	City of Lake Elsinore
Bradley Kutzner	City of Menifee
Chris Vogt	City of Moreno Valley
Bill Thompson	City of Norco
Habib Motlagh	City of Perris
Tom Boyd	City of Riverside
Habib Motlagh	City of San Jacinto
Greg Butler	City of Temecula
Mike Kashiwagi	City of Wildomar
Habib Motlagh	March Joint Powers Authority
Mark Stanley	Riverside Transit Agency
Shirley Medina	Riverside County Transportation Commission

WRCOG TUMF Finance Committee

Barbara Thierjung (Chairperson)	City of Corona
Judy Perry (Vice-Chairperson)	City of Corona
Genie Roberts (Past Chairperson)	City of Temecula
Debra Foster	City of Corona
James Riley	City of Lake Elsinore
Misty Cheng	City of Menifee
Londa Helms	City of Murrieta
Rene Avila/James Fructuoso	City of Perris
Brent Mason	City of Riverside
Dean Deines	County of Riverside

WRCOG TUMF Policy Committee

Robin Lowe (Chairperson)	City of Hemet
Frank Hall (Vice-Chairperson)	City of Norco
Kelly Bennett (Second Vice-Chairperson)	City of Murrieta
Brian Nakamura (TAC Chairperson)	City of Hemet
Jim Hyatt	City of Calimesa
Robin Hastings	City of Moreno Valley
Chuck Washington	City of Temecula
Marion Ashley	County of Riverside
Bob Buster	County of Riverside
Jeff Stone	County of Riverside

Appendix B - Western Riverside County Population and Employment Growth 2007 – 2035

Although a variety of alternate demographic information is available for the purpose of quantifying population and household growth in Western Riverside County, it was determined that the data developed by the Riverside County Center for Demographic Research (RCCDR) represented the most comprehensive source of socioeconomic data for Riverside County. For this reason, the RCCDR demographic information was utilized to support this update of the TUMF Nexus. The data provided by RCCDR and used as the basis for the Nexus Update is summarized in this Appendix.

The RCCDR employment data for 2007 and 2035 was provided for thirteen employment sectors consistent with the California Employment Development Department (EDD) Major Groups including: Farming, Natural Resources and Mining; Construction; Manufacturing; Wholesale Trade; Retail Trade; Transportation, Warehousing and Utilities; Information; Financial Activities; Professional and Business Service; Education and Health Service; Leisure and Hospitality; Other Service; and Government. For the purposes of the Nexus Study, the EDD Major Groups were aggregated to Industrial (Farming, Natural Resources and Mining; Construction; Manufacturing; Wholesale Trade; Transportation, Warehousing and Utilities), Retail (Retail Trade), Service (Information; Financial Activities; Professional and Business Service; Education and Health Service; Leisure and Hospitality; Other Service) and Government/Public Sector (Government). These four aggregated sector types were used as the basis for calculating the fee as described in **Section 6.2**. This Appendix includes tables detailing the EDD Major Groups and corresponding North American Industry Classification System (NAICS) Categories that are included in each non-residential sector type.

EXHIBIT B-1

The following page contains:

Western Riverside County 2008 Socioeconomic Data (SED) by TUMF Zone

Western Riverside County Population, Households and Employment (2007)

Source: Riverside County CDR, May 2008

EXHIBIT B-1
Western Riverside County Population, Households and Employment (2007)

SED Type/Zone	Central	Northwest	Pass	San Jacinto	Southwest	Total
Population						
Total Population	294,538	657,112	77,565	169,671	370,507	1,569,393
Households						
Single-Family	74,367	154,124	24,014	43,017	99,887	395,409
Multi-Family	18,161	53,340	6,901	30,695	25,783	134,880
Total Households	92,528	207,464	30,915	73,712	125,670	530,289
Employment						
Farming, Natural Resources and Mining	1,155	4,905	297	1,564	2,756	10,677
Construction	5,562	34,711	1,424	2,130	9,233	53,060
Manufacturing	383	3,622	646	516	916	6,083
Wholesale Trade	11,789	50,348	3,020	7,522	11,929	84,608
Retail Trade	4,189	17,940	4,617	3,784	9,046	39,576
Transportation, Warehousing and Utilities	2,355	11,294	952	1,946	4,596	21,143
Information	1,933	9,361	462	409	2,758	14,923
Financial Activities	9,919	32,917	3,530	5,959	16,430	68,755
Professional and Business Service	5,960	32,220	1,518	3,966	14,625	58,289
Education and Health Service	1,213	13,096	722	494	3,412	18,937
Leisure and Hospitality	6,549	44,799	2,358	2,930	17,350	73,986
Other Service	2,289	12,202	654	1,434	5,344	21,923
Government	5,395	24,106	1,734	5,337	7,382	43,954
TUMF Industrial	21,244	104,880	6,339	13,678	29,430	175,571
TUMF Retail	4,189	17,940	4,617	3,784	9,046	39,576
TUMF Service	27,863	144,595	9,244	15,192	59,919	256,813
TUMF Government/Public Sector	5,395	24,106	1,734	5,337	7,382	43,954
Total Employment	58,691	291,521	21,934	37,991	105,777	515,914

Source: Riverside County CDR, May 2008

EXHIBIT B-2

The following page contains:

Western Riverside County 2035 Plan Socioeconomic Data (SED) by TUMF Zone

Western Riverside County Population & Employment (2035)

Source: Riverside County CDR, May 2008

EXHIBIT B-2
Western Riverside County Population & Employment (2035)

SED Type/Zone	Central	Northwest	Pass	San Jacinto	Southwest	Total
Population						
Total Population	474,643	918,004	209,692	400,026	535,218	2,537,583
Households						
Single-Family	107,007	185,748	51,634	73,601	134,164	552,154
Multi-Family	44,209	109,726	33,733	94,998	47,148	329,814
Total Households	151,216	295,474	85,367	168,599	181,312	881,968
Employment						
Farming, Natural Resources and Mining	503	1,545	357	863	877	4,145
Construction	11,941	46,263	3,507	5,312	13,378	80,401
Manufacturing	1,671	9,813	1,565	2,176	3,044	18,269
Wholesale Trade	23,798	68,890	7,984	11,093	15,654	127,419
Retail Trade	12,583	34,397	9,869	11,964	18,357	87,170
Transportation, Warehousing and Utilities	6,635	18,763	4,472	7,674	9,004	46,548
Information	5,803	25,154	2,675	2,955	7,232	43,819
Financial Activities	26,973	74,181	11,512	23,065	33,862	169,593
Professional and Business Service	21,490	60,234	9,371	19,556	31,223	141,874
Education and Health Service	3,522	26,948	2,606	2,893	7,079	43,048
Leisure and Hospitality	17,681	74,997	9,658	14,701	33,134	150,171
Other Service	6,004	21,424	2,997	5,806	10,303	46,534
Government	19,143	59,081	12,051	19,781	21,786	131,842
TUMF Industrial	44,548	145,274	17,885	27,118	41,957	276,782
TUMF Retail	12,583	34,397	9,869	11,964	18,357	87,170
TUMF Service	81,473	282,938	38,819	68,976	122,833	595,039
TUMF Government/Public Sector	19,143	59,081	12,051	19,781	21,786	131,842
Total Employment	157,747	521,690	78,624	127,839	204,933	1,090,833

Source: Riverside County CDR, May 2008

EXHIBIT B-3

The following pages contain:

Western Riverside County Socioeconomic Data (SED) Growth - Additional Figures and Tables Illustrating Growth and Changes in Population, Households, and Employment

Source:

Year 2000 to Year 2030 Growth (2005 Nexus): SCAG 2004 RTP

Year 2007 to Year 2035 Growth (2009 Nexus): Riverside County CDR, May 2008

EXHIBIT B-3
Population, Household, & Employment Growth in Western Riverside County
2009 Nexus (2007-2035)

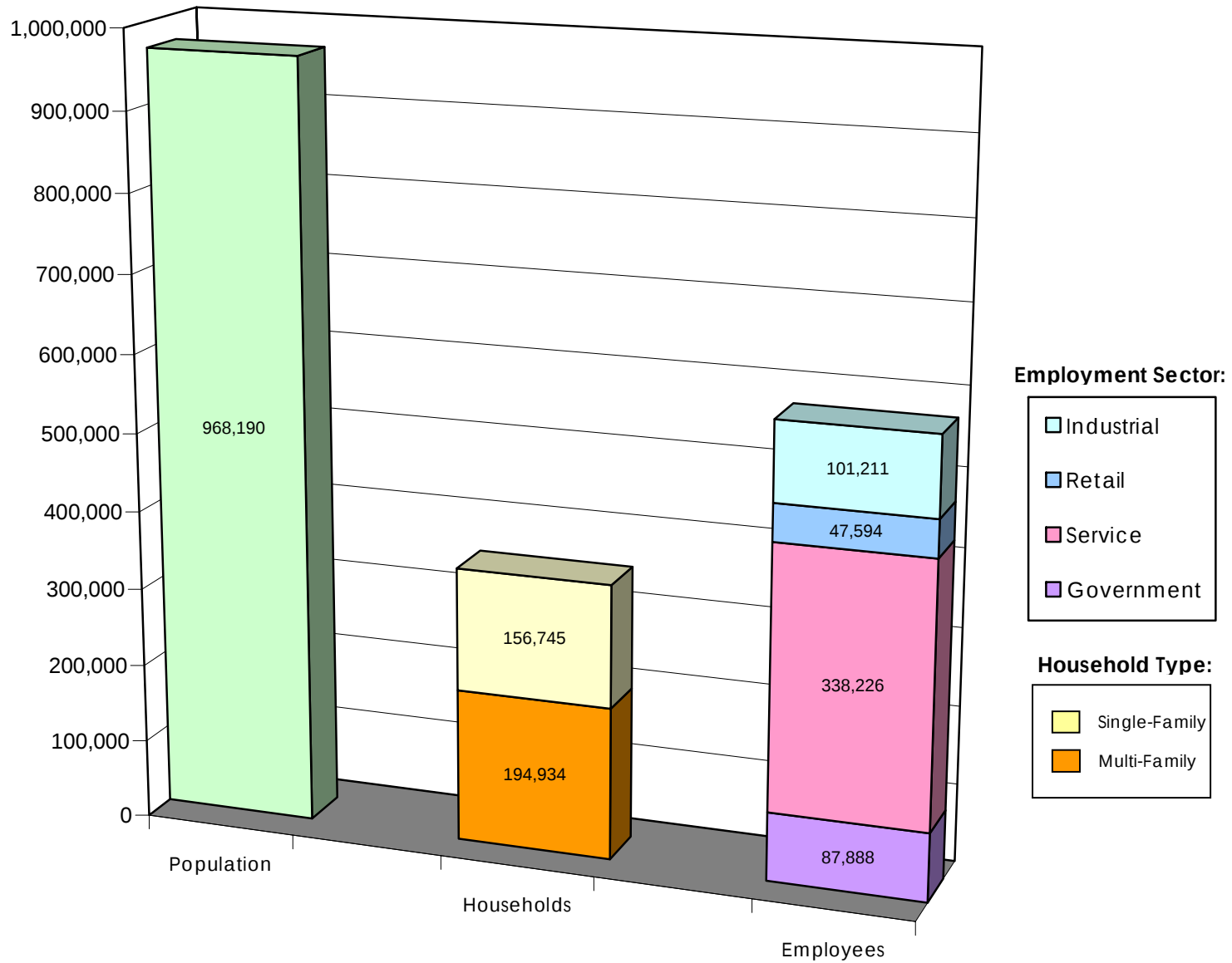


EXHIBIT B-3 (continued)
Change in Population, Households and Employment in Western Riverside County
(2005 Nexus versus 2009 Nexus)

Sector						
	2005 Nexus Growth (2000 - 2030)	2009 Nexus Growth (2007 - 2035)	Difference (2009 Nexus minus 2005 Nexus)	% Difference	2005 Nexus Annual Growth Rate	2009 Nexus Annual Growth Rate
Population	1,206,155	968,190	-237,965	-20%	2.4%	1.8%
Households						
Single-Family	280,027	156,745	-123,282	-44%	2.4%	1.2%
Multi-Family	191,840	194,934	3,094	2%	3.3%	3.4%
Totals	471,867	351,679	-120,188	-25%	2.7%	1.9%
Employees						
Industrial	137,868	101,211	-36,657	-27%	2.3%	1.7%
Retail	123,138	47,594	-75,544	-61%	3.3%	3.0%
Service	230,724	338,226	107,502	47%	3.4%	3.2%
Government/Public Sector	36,173	87,888	51,715	143%	2.2%	4.2%
Totals	527,903	574,919	47,016	9%	2.9%	2.8%

Notes:

- 2005 Nexus Population, Household and Employment data from SCAG 2004 RTP
- 2009 Nexus Population, Household and Employment data from Riverside County CDR (May 2008)
- Table shows compounded annual growth rate

EXHIBIT B-3 (Continued)
Population, Households, And Employment Growth in Western Riverside County
(2005 Nexus Versus 2009 Nexus)

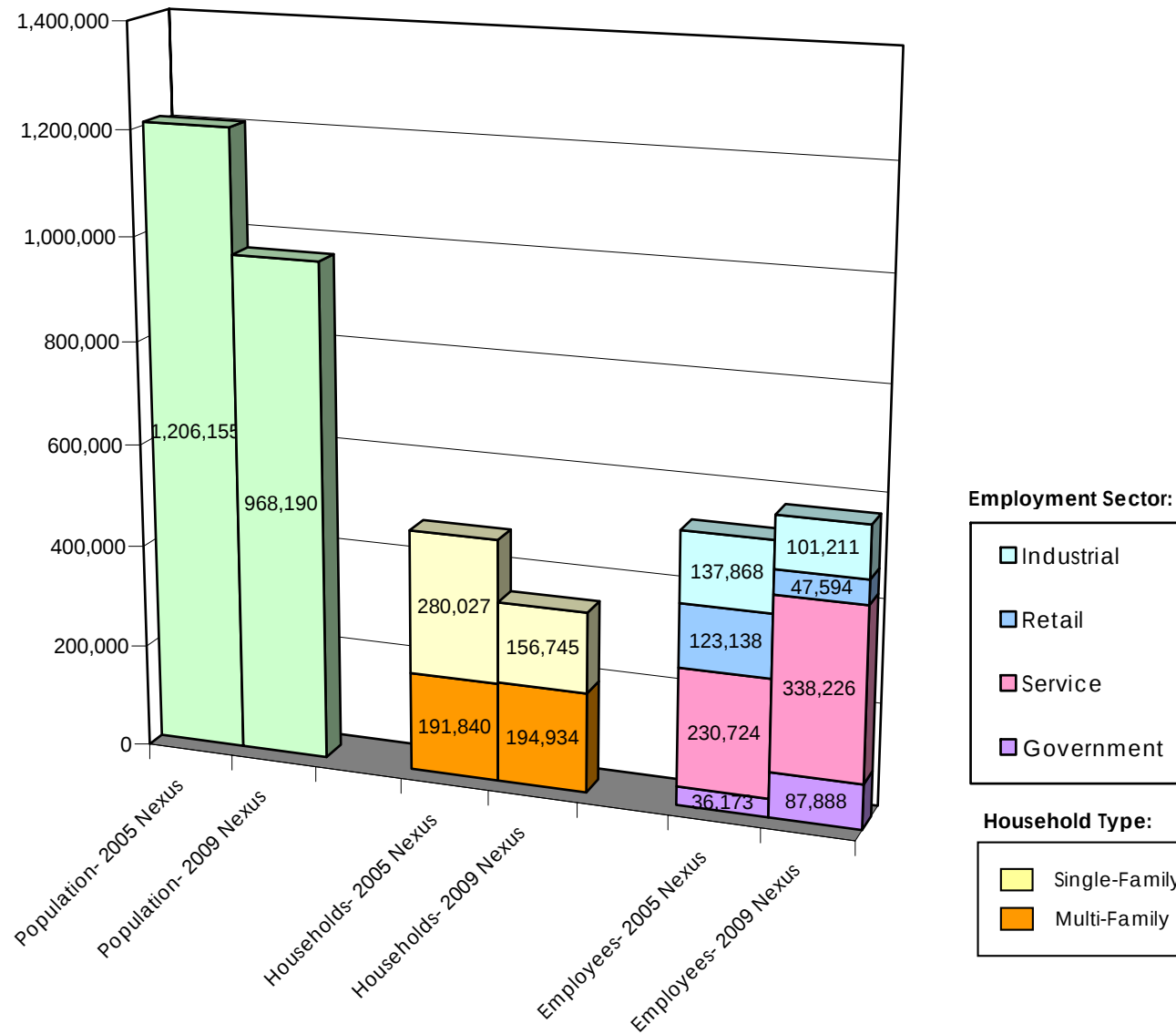


EXHIBIT B-3 (Continued)
Difference Between 2005 Nexus and 2009 Nexus
Socioeconomic Growth in Western Riverside County

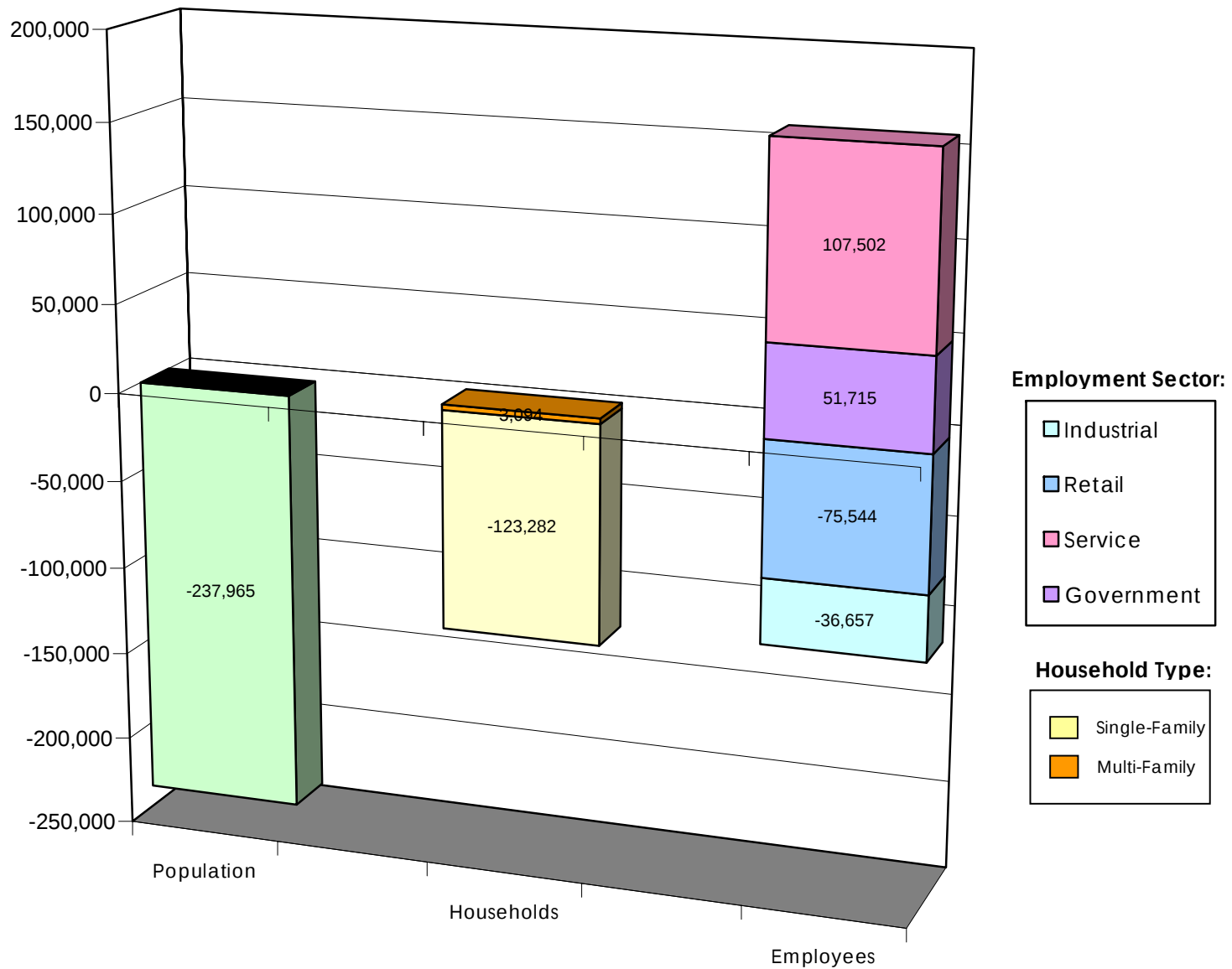


EXHIBIT B-4

The following pages contain:

TUMF Non-Residential Category Correspondence Tables

California EDD Major Groups Matched to 2007 NAICS Major Groups, Minor Groups and Category

Sources:

California Employment Development Department (EDD)

US Census Bureau, North American Industry Classification System (NAICS), 2007

EXHIBIT B-4
TUMF Non-Residential Category Detailed NAICS Correspondence Summary

TUMF	California Employment Development Department (EDD)	North American Industry Classification System (NAICS) (2007)
Category	Major Groups	Category Codes & Descriptions*
Industrial	11-000000 Total Farm	11-111 Crop Production 11-112 Animal Production 11-113 Forestry and Logging 11-114 Fishing, Hunting and Trapping 11-115 Support Activities for Agriculture and Forestry
	10-000000 Natural Resources & Mining	10-211 Oil and Gas Extraction 10-212 Mining (except Oil and Gas) 10-213 Support Activities for Mining
	20-000000 Construction	20-236 Construction of Buildings 20-237 Heavy and Civil Engineering Construction 20-238 Specialty Trade Contractors
	30-000000 Manufacturing	32-311 Food Manufacturing 32-312 Beverage and Tobacco Product Manufacturing 32-313 Textile Mills 32-314 Textile Product Mills 32-315 Apparel Manufacturing 32-316 Leather and Allied Product Manufacturing 31-321 Wood Product Manufacturing 32-322 Paper Manufacturing 32-323 Printing and Related Support Activities 32-324 Petroleum and Coal Products Manufacturing 32-325 Chemical Manufacturing 32-326 Plastics and Rubber Products Manufacturing 31-327 Nonmetallic Mineral Product Manufacturing 31-331 Primary Metal Manufacturing 31-332 Fabricated Metal Product Manufacturing 31-333 Machinery Manufacturing 31-334 Computer and Electronic Product Manufacturing 31-335 Electrical Equipment, Appliance, and Component Manufacturing 31-336 Transportation Equipment Manufacturing 31-337 Furniture and Related Product Manufacturing 31-339 Miscellaneous Manufacturing
Retail	41-000000 Wholesale Trade	41-423 Merchant Wholesalers, Durable Goods 41-424 Merchant Wholesalers, Nondurable Goods 41-425 Wholesale Electronic Markets and Agents and Brokers
	43-000000 Transportation, Warehousing & Utilities	43-221 Utilities 43-481 Air Transportation 43-482 Rail Transportation 43-483 Water Transportation 43-484 Truck Transportation 43-485 Transit and Ground Passenger Transportation 43-486 Pipeline Transportation 43-487 Scenic and Sightseeing Transportation 43-488 Support Activities for Transportation 43-491 Postal Service 43-492 Couriers and Messengers 43-493 Warehousing and Storage
	42-000000 Retail Trade	42-441 Motor Vehicle and Parts Dealers 42-442 Furniture and Home Furnishings Stores 42-443 Electronics and Appliance Stores 42-444 Building Material and Garden Equipment and Supplies Dealers 42-445 Food and Beverage Stores 42-446 Health and Personal Care Stores 42-447 Gasoline Stations 42-448 Clothing and Clothing Accessories Stores 42-451 Sporting Goods, Hobby, Book, and Music Stores 42-452 General Merchandise Stores 42-453 Miscellaneous Store Retailers 42-454 Nonstore Retailers
	50-000000 Information	50-511 Publishing Industries (except Internet) 50-512 Motion Picture and Sound Recording Industries 50-515 Broadcasting (except Internet) 50-517 Telecommunications 50-518 Data Processing, Hosting, and Related Services 50-519 other Information Services
Service	55-000000 Finance Activities	55-521 Monetary Authorities-Central Bank 55-522 Credit Intermediation and Related Activities 55-523 Securities, Commodity Contracts, and Other Financial Investments and Related Activities 55-524 Insurance Carriers and Related Activities 55-525 Funds, Trusts, and Other Financial Vehicles 55-531 Real Estate 55-532 Rental and Leasing Services 55-533 Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)
	60-000000 Professional & Business Services	60-540 Professional, Scientific, and Technical Services 60-550 Management of Companies and Enterprises 60-561 Administrative and Support Services 60-562 Waste Management and Remediation Services
	65-000000 Educational & Health Services	65-610 Educational Services 65-621 Ambulatory Health Care Services 65-622 Hospitals 65-623 Nursing and Residential Care Facilities 65-624 Social Assistance
	70-000000 Leisure & Hospitality	70-711 Performing Arts, Spectator Sports, and Related Industries 70-712 Museums, Historical Sites, and Similar Institutions 70-713 Amusement, Gambling, and Recreation Industries 70-721 Accommodation 70-722 Food Services and Drinking Places
Government/ Public Sector	80 Other Services	80-811 Repair and Maintenance 80-812 Personal and Laundry Services 80-813 Religious, Grantmaking, Civic, Professional, and Similar Organizations 80-814 Private Households
	90-000000 Government	90-910 Federal Government 90-920 State Government 90-930 Local Government

Note: * The NAICS Minor Groups and Categories are cross-referenced to the EDD Major Industrial Codes which are used as the basis for the CDR forecasts.

Sources: Riverside County Center for Demographic Research (CDR)
California Employment Development Department (EDD)
US Census Bureau, North American Industry Classification System (NAICS), 2007

EXHIBIT B-4 (continued)
TUMF Non-Residential Category Detailed NAICS Correspondence

TUMF	California EDD	North American Industry Classification System (NAICS) (2007)		
Category	Major Groups	Minor Groups*	Category Codes*	Category Description*
Industrial				
	11-000000 Total Farm			
		11-111000 Crop Production		
			111110	Soybean Farming
			111120	Oilseed (except Soybean) Farming
			111130	Dry Pea and Bean Farming
			111140	Wheat Farming
			111150	Corn Farming
			111160	Rice Farming
			111191	Oilseed and Grain Combination Farming
			111199	All Other Grain Farming
			111211	Potato Farming
			111219	Other Vegetable (except Potato) and Melon Farming
			111310	Orange Groves
			111320	Citrus (except Orange) Groves
			111331	Apple Orchards
			111332	Grape Vineyards
			111333	Strawberry Farming
			111334	Berry (except Strawberry) Farming
			111335	Tree Nut Farming
			111336	Fruit and Tree Nut Combination Farming
			111339	Other Noncitrus Fruit Farming
			111411	Mushroom Production
			111419	Other Food Crops Grown Under Cover
			111421	Nursery and Tree Production
			111422	Floriculture Production
			111910	Tobacco Farming
			111920	Cotton Farming
			111930	Sugarcane Farming
			111940	Hay Farming
			111991	Sugar Beet Farming
			111992	Peanut Farming
			111998	All Other Miscellaneous Crop Farming
		11-112000 Animal Production		
			112111	Beef Cattle Ranching and Farming
			112112	Cattle Feedlots
			112120	Dairy Cattle and Milk Production
			112130	Dual-Purpose Cattle Ranching and Farming
			112210	Hog and Pig Farming
			112310	Chicken Egg Production
			112320	Broilers and Other Meat Type Chicken Production
			112330	Turkey Production
			112340	Poultry Hatcheries
			112390	Other Poultry Production
			112410	Sheep Farming
			112420	Goat Farming
			112511	Finfish Farming and Fish Hatcheries
			112512	Shellfish Farming
			112519	Other Aquaculture
			112910	Apiculture
			112920	Horses and Other Equine Production
		112930	Fur-Bearing Animal and Rabbit Production	
		112990	All Other Animal Production	
		11-113000 Forestry and Logging		
			113110	Timber Tract Operations
			113210	Forest Nurseries and Gathering of Forest Products
			113310	Logging
		11-114000 Fishing, Hunting and Trapping		
			114111	Finfish Fishing
			114112	Shellfish Fishing
			114119	Other Marine Fishing
			114210	Hunting and Trapping
		11-115000 Support Activities for Agriculture and Forestry		
			115111	Cotton Ginning
			115112	Soil Preparation, Planting, and Cultivating
			115113	Crop Harvesting, Primarily by Machine
			115114	Postharvest Crop Activities (except Cotton Ginning)
			115115	Farm Labor Contractors and Crew Leaders
			115116	Farm Management Services
			115210	Support Activities for Animal Production
			115310	Support Activities for Forestry
		10-000000 Natural Resources & Mining		
		10-211000 Oil and Gas Extraction		
			211111	Crude Petroleum and Natural Gas Extraction
			211112	Natural Gas Liquid Extraction
		10-212000 Mining (except Oil and Gas)		
			212111	Bituminous Coal and Lignite Surface Mining
			212112	Bituminous Coal Underground Mining
			212113	Anthracite Mining
			212210	Iron Ore Mining
			212221	Gold Ore Mining
			212222	Silver Ore Mining
			212231	Lead Ore and Zinc Ore Mining
			212234	Copper Ore and Nickel Ore Mining
			212291	Uranium-Radium-Vanadium Ore Mining
			212299	All Other Metal Ore Mining
			212311	Dimension Stone Mining and Quarrying
			212312	Crushed and Broken Limestone Mining and Quarrying
			212313	Crushed and Broken Granite Mining and Quarrying
			212319	Other Crushed and Broken Stone Mining and Quarrying
			212321	Construction Sand and Gravel Mining
			212322	Industrial Sand Mining
			212324	Kaolin and Ball Clay Mining
			212325	Clay and Ceramic and Refractory Minerals Mining
			212391	Potash, Soda, and Borate Mineral Mining
			212392	Phosphate Rock Mining
			212393	Other Chemical and Fertilizer Mineral Mining
			212399	All Other Nonmetallic Mineral Mining
		10-213000 Support Activities for Mining		
			213111	Drilling Oil and Gas Wells
			213112	Support Activities for Oil and Gas Operations

TUMF Non-Residential Category Detailed NAICS Correspondence

TUMF	California EDD	North American Industry Classification System (NAICS) (2007)		
Category	Major Groups	Minor Groups*	Category Codes*	Category Description*
			213113	Support Activities for Coal Mining
			213114	Support Activities for Metal Mining
			213115	Support Activities for Nonmetallic Minerals (except Fuels)
			20-000000 Construction	
			20-236000 Construction of Buildings	
			236115	New Single-Family Housing Construction (except Operative Builders)
			236116	New Multifamily Housing Construction (except Operative Builders)
			236117	New Housing Operative Builders
			236118	Residential Remodelers
			236210	Industrial Building Construction
			236220	Commercial and Institutional Building Construction
			20-237000 Heavy and Civil Engineering Construction	
			237110	Water and Sewer Line and Related Structures Construction
			237120	Oil and Gas Pipeline and Related Structures Construction
			237130	Power and Communication Line and Related Structures Construction
			237210	Land Subdivision
			237310	Highway, Street, and Bridge Construction
			237990	Other Heavy and Civil Engineering Construction
			20-238000 Specialty Trade Contractors	
			238110	Poured Concrete Foundation and Structure Contractors
			238120	Structural Steel and Precast Concrete Contractors
			238130	Framing Contractors
			238140	Masonry Contractors
			238150	Glass and Glazing Contractors
			238160	Roofing Contractors
			238170	Siding Contractors
			238190	Other Foundation, Structure, and Building Exterior Contractors
			238210	Electrical Contractors and Other Wiring Installation Contractors
			238220	Plumbing, Heating, and Air-Conditioning Contractors
			238290	Other Building Equipment Contractors
			238310	Drywall and Insulation Contractors
			238320	Painting and Wall Covering Contractors
			238330	Flooring Contractors
			238340	Tile and Terrazzo Contractors
			238350	Finish Carpentry Contractors
			238390	Other Building Finishing Contractors
			238910	Site Preparation Contractors
			238990	All Other Specialty Trade Contractors
			30-000000 Manufacturing	
			32-311000 Food Manufacturing	
			311111	Dog and Cat Food Manufacturing
			311119	Other Animal Food Manufacturing
			311211	Flour Milling
			311212	Rice Milling
			311213	Malt Manufacturing
			311221	Wet Corn Milling
			311222	Soybean Processing
			311223	Other Oilseed Processing
			311225	Fats and Oils Refining and Blending
			311230	Breakfast Cereal Manufacturing
			311311	Sugarcane Mills
			311312	Cane Sugar Refining
			311313	Beet Sugar Manufacturing
			311320	Chocolate and Confectionery Manufacturing from Cacao Beans
			311330	Confectionery Manufacturing from Purchased Chocolate
			311340	Nonchocolate Confectionery Manufacturing
			311411	Frozen Fruit, Juice, and Vegetable Manufacturing
			311412	Frozen Specialty Food Manufacturing
			311421	Fruit and Vegetable Canning
			311422	Specialty Canning
			311423	Dried and Dehydrated Food Manufacturing
			311511	Fluid Milk Manufacturing
			311512	Creamery Butter Manufacturing
			311513	Cheese Manufacturing
			311514	Dry, Condensed, and Evaporated Dairy Product Manufacturing
			311520	Ice Cream and Frozen Dessert Manufacturing
			311611	Animal (except Poultry) Slaughtering
			311612	Meat Processed from Carcasses
			311613	Rendering and Meat Byproduct Processing
			311615	Poultry Processing
			311711	Seafood Canning
			311712	Fresh and Frozen Seafood Processing
			311811	Retail Bakeries
			311812	Commercial Bakeries
			311813	Frozen Cakes, Pies, and Other Pastries Manufacturing
			311821	Cookie and Cracker Manufacturing
			311822	Flour Mixes and Dough Manufacturing from Purchased Flour
			311823	Dry Pasta Manufacturing
			311830	Tortilla Manufacturing
			311911	Roasted Nuts and Peanut Butter Manufacturing
			311919	Other Snack Food Manufacturing
			311920	Coffee and Tea Manufacturing
			311930	Flavoring Syrup and Concentrate Manufacturing
			311941	Mayonnaise, Dressing, and Other Prepared Sauce Manufacturing
			311942	Spice and Extract Manufacturing
			311991	Perishable Prepared Food Manufacturing
			311999	All Other Miscellaneous Food Manufacturing
			32-312000 Beverage and Tobacco Product Manufacturing	
			312111	Soft Drink Manufacturing
			312112	Bottled Water Manufacturing
			312113	Ice Manufacturing
			312120	Breweries
			312130	Wineries
			312140	Distilleries
			312210	Tobacco Stemming and Redrying
			312221	Cigarette Manufacturing
			312229	Other Tobacco Product Manufacturing
			32-313000 Textile Mills	
			313111	Yarn Spinning Mills
			313112	Yarn Texturizing, Throwing, and Twisting Mills
			313113	Thread Mills
			313210	Broadwoven Fabric Mills

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TUMF	California EDD	North American Industry Classification System (NAICS) (2007)		
Category	Major Groups	Minor Groups*	Category Codes*	Category Description*
			313221	Narrow Fabric Mills
			313222	Schiffli Machine Embroidery
			313230	Nonwoven Fabric Mills
			313241	Weft Knit Fabric Mills
			313249	Other Knit Fabric and Lace Mills
			313311	Broadwoven Fabric Finishing Mills
			313312	Textile and Fabric Finishing (except Broadwoven Fabric) Mills
			313320	Fabric Coating Mills
		32-314000 Textile Product Mills		
			314110	Carpet and Rug Mills
			314121	Curtain and Drapery Mills
			314129	Other Household Textile Product Mills
			314911	Textile Bag Mills
			314912	Canvas and Related Product Mills
			314991	Rope, Cordage, and Twine Mills
			314992	Tire Cord and Tire Fabric Mills
			314999	All Other Miscellaneous Textile Product Mills
		32-315000 Apparel Manufacturing		
			315111	Sheer Hosiery Mills
			315119	Other Hosiery and Sock Mills
			315191	Outerwear Knitting Mills
			315192	Underwear and Nightwear Knitting Mills
			315211	Men's and Boys' Cut and Sew Apparel Contractors
			315212	Women's, Girls', and Infants' Cut and Sew Apparel Contractors
			315221	Men's and Boys' Cut and Sew Underwear and Nightwear Manufacturing
			315222	Men's and Boys' Cut and Sew Suit, Coat, and Overcoat Manufacturing
			315223	Men's and Boys' Cut and Sew Shirt (except Work Shirt) Manufacturing
			315224	Men's and Boys' Cut and Sew Trouser, Slack, and Jean Manufacturing
			315225	Men's and Boys' Cut and Sew Work Clothing Manufacturing
			315228	Men's and Boys' Cut and Sew Other Outerwear Manufacturing
			315231	Women's and Girls' Cut and Sew Lingerie, Loungewear, and Nightwear Manufacturing
			315232	Women's and Girls' Cut and Sew Blouse and Shirt Manufacturing
			315233	Women's and Girls' Cut and Sew Dress Manufacturing
			315234	Women's and Girls' Cut and Sew Suit, Coat, Tailored Jacket, and Skirt Manufacturing
			315239	Women's and Girls' Cut and Sew Other Outerwear Manufacturing
			315291	Infants' Cut and Sew Apparel Manufacturing
			315292	Fur and Leather Apparel Manufacturing
			315299	All Other Cut and Sew Apparel Manufacturing
			315991	Hat, Cap, and Millinery Manufacturing
			315992	Glove and Mitten Manufacturing
			315993	Men's and Boys' Neckwear Manufacturing
			315999	Other Apparel Accessories and Other Apparel Manufacturing
		32-316000 Leather and Allied Product Manufacturing		
			316110	Leather and Hide Tanning and Finishing
			316211	Rubber and Plastics Footwear Manufacturing
			316212	House Slipper Manufacturing
			316213	Men's Footwear (except Athletic) Manufacturing
			316214	Women's Footwear (except Athletic) Manufacturing
			316219	Other Footwear Manufacturing
			316991	Luggage Manufacturing
			316992	Women's Handbag and Purse Manufacturing
			316993	Personal Leather Good (except Women's Handbag and Purse) Manufacturing
			316999	All Other Leather Good and Allied Product Manufacturing
		31-321000 Wood Product Manufacturing		
			321113	Sawmills
			321114	Wood Preservation
			321211	Hardwood Veneer and Plywood Manufacturing
			321212	Softwood Veneer and Plywood Manufacturing
			321213	Engineered Wood Member (except Truss) Manufacturing
			321214	Truss Manufacturing
			321219	Reconstituted Wood Product Manufacturing
			321911	Wood Window and Door Manufacturing
			321912	Cut Stock, Resawing Lumber, and Planing
			321918	Other Millwork (including Flooring)
			321920	Wood Container and Pallet Manufacturing
			321991	Manufactured Home (Mobile Home) Manufacturing
			321992	Prefabricated Wood Building Manufacturing
			321999	All Other Miscellaneous Wood Product Manufacturing
		32-322000 Paper Manufacturing		
			322110	Pulp Mills
			322121	Paper (except Newsprint) Mills
			322122	Newsprint Mills
			322130	Paperboard Mills
			322211	Corrugated and Solid Fiber Box Manufacturing
			322212	Folding Paperboard Box Manufacturing
			322213	Setup Paperboard Box Manufacturing
			322214	Fiber Can, Tube, Drum, and Similar Products Manufacturing
			322215	Nonfolding Sanitary Food Container Manufacturing
			322221	Coated and Laminated Packaging Paper Manufacturing
			322222	Coated and Laminated Paper Manufacturing
			322223	Coated Paper Bag and Pouch Manufacturing
			322224	Uncoated Paper and Multiwall Bag Manufacturing
			322225	Laminated Aluminum Foil Manufacturing for Flexible Packaging Uses
			322226	Surface-Coated Paperboard Manufacturing
			322231	Die-Cut Paper and Paperboard Office Supplies Manufacturing
			322232	Envelope Manufacturing
			322233	Stationery, Tablet, and Related Product Manufacturing
			322291	Sanitary Paper Product Manufacturing
			322299	All Other Converted Paper Product Manufacturing
		32-323000 Printing and Related Support Activities		
			323110	Commercial Lithographic Printing
			323111	Commercial Gravure Printing
			323112	Commercial Flexographic Printing
			323113	Commercial Screen Printing
			323114	Quick Printing
			323115	Digital Printing
			323116	Manifold Business Forms Printing
			323117	Books Printing
			323118	Blankbook, Looseleaf Binders, and Devices Manufacturing
			323119	Other Commercial Printing
			323121	Tradebinding and Related Work

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TUMF	California EDD	North American Industry Classification System (NAICS) (2007)		
Category	Major Groups	Minor Groups*	Category Codes*	Category Description*
			323122	Prepress Services
		32-324000 Petroleum and Coal Products Manufacturing		
			324110	Petroleum Refineries
			324121	Asphalt Paving Mixture and Block Manufacturing
			324122	Asphalt Shingle and Coating Materials Manufacturing
			324191	Petroleum Lubricating Oil and Grease Manufacturing
			324199	All Other Petroleum and Coal Products Manufacturing
		32-325000 Chemical Manufacturing		
			325110	Petrochemical Manufacturing
			325120	Industrial Gas Manufacturing
			325131	Inorganic Dye and Pigment Manufacturing
			325132	Synthetic Organic Dye and Pigment Manufacturing
			325181	Alkalies and Chlorine Manufacturing
			325182	Carbon Black Manufacturing
			325188	All Other Basic Inorganic Chemical Manufacturing
			325191	Gum and Wood Chemical Manufacturing
			325192	Cyclic Crude and Intermediate Manufacturing
			325193	Ethyl Alcohol Manufacturing
			325199	All Other Basic Organic Chemical Manufacturing
			325211	Plastics Material and Resin Manufacturing
			325212	Synthetic Rubber Manufacturing
			325221	Cellulosic Organic Fiber Manufacturing
			325222	Noncellulosic Organic Fiber Manufacturing
			325311	Nitrogenous Fertilizer Manufacturing
			325312	Phosphatic Fertilizer Manufacturing
			325314	Fertilizer (Mixing Only) Manufacturing
			325320	Pesticide and Other Agricultural Chemical Manufacturing
			325411	Medicinal and Botanical Manufacturing
			325412	Pharmaceutical Preparation Manufacturing
			325413	In-Vitro Diagnostic Substance Manufacturing
			325414	Biological Product (except Diagnostic) Manufacturing
			325510	Paint and Coating Manufacturing
			325520	Adhesive Manufacturing
			325611	Soap and Other Detergent Manufacturing
			325612	Polish and Other Sanitation Good Manufacturing
			325613	Surface Active Agent Manufacturing
			325620	Toilet Preparation Manufacturing
			325910	Printing Ink Manufacturing
			325920	Explosives Manufacturing
			325991	Custom Compounding of Purchased Resins
			325992	Photographic Film, Paper, Plate, and Chemical Manufacturing
			325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing
		32-326000 Plastics and Rubber Products Manufacturing		
			326111	Plastics Bag and Pouch Manufacturing
			326112	Plastics Packaging Film and Sheet (including Laminated) Manufacturing
			326113	Unlaminated Plastics Film and Sheet (except Packaging) Manufacturing
			326121	Unlaminated Plastics Profile Shape Manufacturing
			326122	Plastics Pipe and Pipe Fitting Manufacturing
			326130	Laminated Plastics Plate, Sheet (except Packaging), and Shape Manufacturing
			326140	Polystyrene Foam Product Manufacturing
			326150	Urethane and Other Foam Product (except Polystyrene) Manufacturing
			326160	Plastics Bottle Manufacturing
			326191	Plastics Plumbing Fixture Manufacturing
			326192	Resilient Floor Covering Manufacturing
			326199	All Other Plastics Product Manufacturing
			326211	Tire Manufacturing (except Retreading)
			326212	Tire Retreading
			326220	Rubber and Plastics Hoses and Belting Manufacturing
			326291	Rubber Product Manufacturing for Mechanical Use
			326299	All Other Rubber Product Manufacturing
		31-327000 Nonmetallic Mineral Product Manufacturing		
			327111	Vitreous China Plumbing Fixture and China and Earthenware Bathroom Accessories Manufacturing
			327112	Vitreous China, Fine Earthenware, and Other Pottery Product Manufacturing
			327113	Porcelain Electrical Supply Manufacturing
			327121	Brick and Structural Clay Tile Manufacturing
			327122	Ceramic Wall and Floor Tile Manufacturing
			327123	Other Structural Clay Product Manufacturing
			327124	Clay Refractory Manufacturing
			327125	Nonclay Refractory Manufacturing
			327211	Flat Glass Manufacturing
			327212	Other Pressed and Blown Glass and Glassware Manufacturing
			327213	Glass Container Manufacturing
			327215	Glass Product Manufacturing Made of Purchased Glass
			327310	Cement Manufacturing
			327320	Ready-Mix Concrete Manufacturing
			327331	Concrete Block and Brick Manufacturing
			327332	Concrete Pipe Manufacturing
			327390	Other Concrete Product Manufacturing
			327410	Lime Manufacturing
			327420	Gypsum Product Manufacturing
			327910	Abrasive Product Manufacturing
			327991	Cut Stone and Stone Product Manufacturing
			327992	Ground or Treated Mineral and Earth Manufacturing
			327993	Mineral Wool Manufacturing
			327999	All Other Miscellaneous Nonmetallic Mineral Product Manufacturing
		31-331000 Primary Metal Manufacturing		
			331111	Iron and Steel Mills
			331112	Electrometallurgical Ferroalloy Product Manufacturing
			331210	Iron and Steel Pipe and Tube Manufacturing from Purchased Steel
			331221	Rolled Steel Shape Manufacturing
			331222	Steel Wire Drawing
			331311	Alumina Refining
			331312	Primary Aluminum Production
			331314	Secondary Smelting and Alloying of Aluminum
			331315	Aluminum Sheet, Plate, and Foil Manufacturing
			331316	Aluminum Extruded Product Manufacturing
			331319	Other Aluminum Rolling and Drawing
			331411	Primary Smelting and Refining of Copper
			331419	Primary Smelting and Refining of Nonferrous Metal (except Copper and Aluminum)
			331421	Copper Rolling, Drawing, and Extruding
			331422	Copper Wire (except Mechanical) Drawing
			331423	Secondary Smelting, Refining, and Alloying of Copper
			331491	Nonferrous Metal (except Copper and Aluminum) Rolling, Drawing, and Extruding

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TUMF	California EDD	North American Industry Classification System (NAICS) (2007)		
Category	Major Groups	Minor Groups*	Category Codes*	Category Description*
			331492	Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)
			331511	Iron Foundries
			331512	Steel Investment Foundries
			331513	Steel Foundries (except Investment)
			331521	Aluminum Die-Casting Foundries
			331522	Nonferrous (except Aluminum) Die-Casting Foundries
			331524	Aluminum Foundries (except Die-Casting)
			331525	Copper Foundries (except Die-Casting)
			331528	Other Nonferrous Foundries (except Die-Casting)
		31-332000 Fabricated Metal Product Manufacturing		
			332111	Iron and Steel Forging
			332112	Nonferrous Forging
			332114	Custom Roll Forming
			332115	Crown and Closure Manufacturing
			332116	Metal Stamping
			332117	Powder Metallurgy Part Manufacturing
			332211	Cutlery and Flatware (except Precious) Manufacturing
			332212	Hand and Edge Tool Manufacturing
			332213	Saw Blade and Handsaw Manufacturing
			332214	Kitchen Utensil, Pot, and Pan Manufacturing
			332311	Prefabricated Metal Building and Component Manufacturing
			332312	Fabricated Structural Metal Manufacturing
			332313	Plate Work Manufacturing
			332321	Metal Window and Door Manufacturing
			332322	Sheet Metal Work Manufacturing
			332323	Ornamental and Architectural Metal Work Manufacturing
			332410	Power Boiler and Heat Exchanger Manufacturing
			332420	Metal Tank (Heavy Gauge) Manufacturing
			332431	Metal Can Manufacturing
			332439	Other Metal Container Manufacturing
			332510	Hardware Manufacturing
			332611	Spring (Heavy Gauge) Manufacturing
			332612	Spring (Light Gauge) Manufacturing
			332618	Other Fabricated Wire Product Manufacturing
			332710	Machine Shops
			332721	Precision Turned Product Manufacturing
			332722	Bolt, Nut, Screw, Rivet, and Washer Manufacturing
			332811	Metal Heat Treating
			332812	Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers
			332813	Electroplating, Plating, Polishing, Anodizing, and Coloring
			332911	Industrial Valve Manufacturing
			332912	Fluid Power Valve and Hose Fitting Manufacturing
			332913	Plumbing Fixture Fitting and Trim Manufacturing
			332919	Other Metal Valve and Pipe Fitting Manufacturing
			332991	Ball and Roller Bearing Manufacturing
			332992	Small Arms Ammunition Manufacturing
			332993	Ammunition (except Small Arms) Manufacturing
			332994	Small Arms Manufacturing
			332995	Other Ordnance and Accessories Manufacturing
			332996	Fabricated Pipe and Pipe Fitting Manufacturing
			332997	Industrial Pattern Manufacturing
			332998	Enameled Iron and Metal Sanitary Ware Manufacturing
			332999	All Other Miscellaneous Fabricated Metal Product Manufacturing
		31-333000 Machinery Manufacturing		
			333111	Farm Machinery and Equipment Manufacturing
			333112	Lawn and Garden Tractor and Home Lawn and Garden Equipment Manufacturing
			333120	Construction Machinery Manufacturing
			333131	Mining Machinery and Equipment Manufacturing
			333132	Oil and Gas Field Machinery and Equipment Manufacturing
			333210	Sawmill and Woodworking Machinery Manufacturing
			333220	Plastics and Rubber Industry Machinery Manufacturing
			333291	Paper Industry Machinery Manufacturing
			333292	Textile Machinery Manufacturing
			333293	Printing Machinery and Equipment Manufacturing
			333294	Food Product Machinery Manufacturing
			333295	Semiconductor Machinery Manufacturing
			333298	All Other Industrial Machinery Manufacturing
			333311	Automatic Vending Machine Manufacturing
			333312	Commercial Laundry, Drycleaning, and Pressing Machine Manufacturing
			333313	Office Machinery Manufacturing
			333314	Optical Instrument and Lens Manufacturing
			333315	Photographic and Photocopying Equipment Manufacturing
			333319	Other Commercial and Service Industry Machinery Manufacturing
			333411	Air Purification Equipment Manufacturing
			333412	Industrial and Commercial Fan and Blower Manufacturing
			333414	Heating Equipment (except Warm Air Furnaces) Manufacturing
			333415	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufactur
			333511	Industrial Mold Manufacturing
			333512	Machine Tool (Metal Cutting Types) Manufacturing
			333513	Machine Tool (Metal Forming Types) Manufacturing
			333514	Special Die and Tool, Die Set, Jig, and Fixture Manufacturing
			333515	Cutting Tool and Machine Tool Accessory Manufacturing
			333516	Rolling Mill Machinery and Equipment Manufacturing
			333518	Other Metalworking Machinery Manufacturing
			333611	Turbine and Turbine Generator Set Units Manufacturing
			333612	Speed Changer, Industrial High-Speed Drive, and Gear Manufacturing
			333613	Mechanical Power Transmission Equipment Manufacturing
			333618	Other Engine Equipment Manufacturing
			333911	Pump and Pumping Equipment Manufacturing
			333912	Air and Gas Compressor Manufacturing
			333913	Measuring and Dispensing Pump Manufacturing
			333921	Elevator and Moving Stairway Manufacturing
			333922	Conveyor and Conveying Equipment Manufacturing
			333923	Overhead Traveling Crane, Hoist, and Monorail System Manufacturing
			333924	Industrial Truck, Tractor, Trailer, and Stacker Machinery Manufacturing
			333991	Power-Driven Handtool Manufacturing
			333992	Welding and Soldering Equipment Manufacturing
			333993	Packaging Machinery Manufacturing
			333994	Industrial Process Furnace and Oven Manufacturing
			333995	Fluid Power Cylinder and Actuator Manufacturing
			333996	Fluid Power Pump and Motor Manufacturing
			333997	Scale and Balance Manufacturing
			333999	All Other Miscellaneous General Purpose Machinery Manufacturing
		31-334000 Computer and Electronic Product Manufacturing		
			334111	Electronic Computer Manufacturing
			334112	Computer Storage Device Manufacturing
			334113	Computer Terminal Manufacturing

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TUMF	California EDD	North American Industry Classification System (NAICS) (2007)		
Category	Major Groups	Minor Groups*	Category Codes*	Category Description*
			334119	Other Computer Peripheral Equipment Manufacturing
			334210	Telephone Apparatus Manufacturing
			334220	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing
			334290	Other Communications Equipment Manufacturing
			334310	Audio and Video Equipment Manufacturing
			334411	Electron Tube Manufacturing
			334412	Bare Printed Circuit Board Manufacturing
			334413	Semiconductor and Related Device Manufacturing
			334414	Electronic Capacitor Manufacturing
			334415	Electronic Resistor Manufacturing
			334416	Electronic Coil, Transformer, and Other Inductor Manufacturing
			334417	Electronic Connector Manufacturing
			334418	Printed Circuit Assembly (Electronic Assembly) Manufacturing
			334419	Other Electronic Component Manufacturing
			334510	Electromedical and Electrotherapeutic Apparatus Manufacturing
			334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing
			334512	Automatic Environmental Control Manufacturing for Residential, Commercial, and Appliance Use
			334513	Instruments and Related Products Manufacturing for Measuring, Displaying, and Controlling Industrial Process Variables
			334514	Totalizing Fluid Meter and Counting Device Manufacturing
			334515	Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals
			334516	Analytical Laboratory Instrument Manufacturing
			334517	Irradiation Apparatus Manufacturing
			334518	Watch, Clock, and Part Manufacturing
			334519	Other Measuring and Controlling Device Manufacturing
			334611	Software Reproducing
			334612	Prerecorded Compact Disc (except Software), Tape, and Record Reproducing
			334613	Magnetic and Optical Recording Media Manufacturing
			31-335000 Electrical Equipment, Appliance, and Component Manufacturing	
			335110	Electric Lamp Bulb and Part Manufacturing
			335121	Residential Electric Lighting Fixture Manufacturing
			335122	Commercial, Industrial, and Institutional Electric Lighting Fixture Manufacturing
			335129	Other Lighting Equipment Manufacturing
			335211	Electric Housewares and Household Fan Manufacturing
			335212	Household Vacuum Cleaner Manufacturing
			335221	Household Cooking Appliance Manufacturing
			335222	Household Refrigerator and Home Freezer Manufacturing
			335224	Household Laundry Equipment Manufacturing
			335228	Other Major Household Appliance Manufacturing
			335311	Power, Distribution, and Specialty Transformer Manufacturing
			335312	Motor and Generator Manufacturing
			335313	Switchgear and Switchboard Apparatus Manufacturing
			335314	Relay and Industrial Control Manufacturing
			335911	Storage Battery Manufacturing
			335912	Primary Battery Manufacturing
			335921	Fiber Optic Cable Manufacturing
			335929	Other Communication and Energy Wire Manufacturing
			335931	Current-Carrying Wiring Device Manufacturing
			335932	Noncurrent-Carrying Wiring Device Manufacturing
			335991	Carbon and Graphite Product Manufacturing
			335999	All Other Miscellaneous Electrical Equipment and Component Manufacturing
			31-336000 Transportation Equipment Manufacturing	
			336111	Automobile Manufacturing
			336112	Light Truck and Utility Vehicle Manufacturing
			336120	Heavy Duty Truck Manufacturing
			336211	Motor Vehicle Body Manufacturing
			336212	Truck Trailer Manufacturing
			336213	Motor Home Manufacturing
			336214	Travel Trailer and Camper Manufacturing
			336311	Carburetor, Piston, Piston Ring, and Valve Manufacturing
			336312	Gasoline Engine and Engine Parts Manufacturing
			336321	Vehicular Lighting Equipment Manufacturing
			336322	Other Motor Vehicle Electrical and Electronic Equipment Manufacturing
			336330	Motor Vehicle Steering and Suspension Components (except Spring) Manufacturing
			336340	Motor Vehicle Brake System Manufacturing
			336350	Motor Vehicle Transmission and Power Train Parts Manufacturing
			336360	Motor Vehicle Seating and Interior Trim Manufacturing
			336370	Motor Vehicle Metal Stamping
			336391	Motor Vehicle Air-Conditioning Manufacturing
			336399	All Other Motor Vehicle Parts Manufacturing
			336411	Aircraft Manufacturing
			336412	Aircraft Engine and Engine Parts Manufacturing
			336413	Other Aircraft Parts and Auxiliary Equipment Manufacturing
			336414	Guided Missile and Space Vehicle Manufacturing
			336415	Guided Missile and Space Vehicle Propulsion Unit and Propulsion Unit Parts Manufacturing
			336419	Other Guided Missile and Space Vehicle Parts and Auxiliary Equipment Manufacturing
			336510	Railroad Rolling Stock Manufacturing
			336611	Ship Building and Repairing
			336612	Boat Building
			336991	Motorcycle, Bicycle, and Parts Manufacturing
			336992	Military Armored Vehicle, Tank, and Tank Component Manufacturing
			336999	All Other Transportation Equipment Manufacturing
			31-337000 Furniture and Related Product Manufacturing	
			337110	Wood Kitchen Cabinet and Countertop Manufacturing
			337121	Upholstered Household Furniture Manufacturing
			337122	Nonupholstered Wood Household Furniture Manufacturing
			337124	Metal Household Furniture Manufacturing
			337125	Household Furniture (except Wood and Metal) Manufacturing
			337127	Institutional Furniture Manufacturing
			337129	Wood Television, Radio, and Sewing Machine Cabinet Manufacturing
			337211	Wood Office Furniture Manufacturing
			337212	Custom Architectural Woodwork and Millwork Manufacturing
			337214	Office Furniture (except Wood) Manufacturing
			337215	Showcase, Partition, Shelving, and Locker Manufacturing
			337910	Mattress Manufacturing
			337920	Blind and Shade Manufacturing
			31-339000 Miscellaneous Manufacturing	
			339112	Surgical and Medical Instrument Manufacturing
			339113	Surgical Appliance and Supplies Manufacturing
			339114	Dental Equipment and Supplies Manufacturing
			339115	Ophthalmic Goods Manufacturing
			339116	Dental Laboratories
			339911	Jewelry (except Costume) Manufacturing
			339912	Silverware and Hollowware Manufacturing

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TUMF	California EDD	North American Industry Classification System (NAICS) (2007)			
Category	Major Groups	Minor Groups*	Category Codes*	Category Description*	
			339913	Jewelers' Material and Lapidary Work Manufacturing	
			339914	Costume Jewelry and Novelty Manufacturing	
			339920	Sporting and Athletic Goods Manufacturing	
			339931	Doll and Stuffed Toy Manufacturing	
			339932	Game, Toy, and Children's Vehicle Manufacturing	
			339941	Pen and Mechanical Pencil Manufacturing	
			339942	Lead Pencil and Art Good Manufacturing	
			339943	Marking Device Manufacturing	
			339944	Carbon Paper and Inked Ribbon Manufacturing	
			339950	Sign Manufacturing	
			339991	Gasket, Packing, and Sealing Device Manufacturing	
			339992	Musical Instrument Manufacturing	
			339993	Fastener, Button, Needle, and Pin Manufacturing	
			339994	Broom, Brush, and Mop Manufacturing	
			339995	Burial Casket Manufacturing	
			339999	All Other Miscellaneous Manufacturing	
41-000000 Wholesale Trade					
		41-423000 Merchant Wholesalers, Durable Goods			
			423110	Automobile and Other Motor Vehicle Merchant Wholesalers	
			423120	Motor Vehicle Supplies and New Parts Merchant Wholesalers	
			423130	Tire and Tube Merchant Wholesalers	
			423140	Motor Vehicle Parts (Used) Merchant Wholesalers	
			423210	Furniture Merchant Wholesalers	
			423220	Home Furnishing Merchant Wholesalers	
			423310	Lumber, Plywood, Millwork, and Wood Panel Merchant Wholesalers	
			423320	Brick, Stone, and Related Construction Material Merchant Wholesalers	
			423330	Roofing, Siding, and Insulation Material Merchant Wholesalers	
			423390	Other Construction Material Merchant Wholesalers	
			423410	Photographic Equipment and Supplies Merchant Wholesalers	
			423420	Office Equipment Merchant Wholesalers	
			423430	Computer and Computer Peripheral Equipment and Software Merchant Wholesalers	
			423440	Other Commercial Equipment Merchant Wholesalers	
			423450	Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers	
			423460	Ophthalmic Goods Merchant Wholesalers	
			423490	Other Professional Equipment and Supplies Merchant Wholesalers	
			423510	Metal Service Centers and Other Metal Merchant Wholesalers	
			423520	Coal and Other Mineral and Ore Merchant Wholesalers	
			423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	
			423620	Electrical and Electronic Appliance, Television, and Radio Set Merchant Wholesalers	
			423690	Other Electronic Parts and Equipment Merchant Wholesalers	
			423710	Hardware Merchant Wholesalers	
			423720	Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers	
			423730	Warm Air Heating and Air-Conditioning Equipment and Supplies Merchant Wholesalers	
			423740	Refrigeration Equipment and Supplies Merchant Wholesalers	
			423810	Construction and Mining (except Oil Well) Machinery and Equipment Merchant Wholesalers	
			423820	Farm and Garden Machinery and Equipment Merchant Wholesalers	
			423830	Industrial Machinery and Equipment Merchant Wholesalers	
			423840	Industrial Supplies Merchant Wholesalers	
			423850	Service Establishment Equipment and Supplies Merchant Wholesalers	
			423860	Transportation Equipment and Supplies (except Motor Vehicle) Merchant Wholesalers	
			423910	Sporting and Recreational Goods and Supplies Merchant Wholesalers	
			423920	Toy and Hobby Goods and Supplies Merchant Wholesalers	
			423930	Recyclable Material Merchant Wholesalers	
			423940	Jewelry, Watch, Precious Stone, and Precious Metal Merchant Wholesalers	
			423990	Other Miscellaneous Durable Goods Merchant Wholesalers	
		41-424000 Merchant Wholesalers, Nondurable Goods			
				424110	Printing and Writing Paper Merchant Wholesalers
				424120	Stationery and Office Supplies Merchant Wholesalers
				424130	Industrial and Personal Service Paper Merchant Wholesalers
				424210	Drugs and Druggists' Sundries Merchant Wholesalers
				424310	Piece Goods, Notions, and Other Dry Goods Merchant Wholesalers
				424320	Men's and Boys' Clothing and Furnishings Merchant Wholesalers
				424330	Women's, Children's, and Infants' Clothing and Accessories Merchant Wholesalers
				424340	Footwear Merchant Wholesalers
				424410	General Line Grocery Merchant Wholesalers
				424420	Packaged Frozen Food Merchant Wholesalers
				424430	Dairy Product (except Dried or Canned) Merchant Wholesalers
				424440	Poultry and Poultry Product Merchant Wholesalers
				424450	Confectionery Merchant Wholesalers
				424460	Fish and Seafood Merchant Wholesalers
				424470	Meat and Meat Product Merchant Wholesalers
				424480	Fresh Fruit and Vegetable Merchant Wholesalers
				424490	Other Grocery and Related Products Merchant Wholesalers
				424510	Grain and Field Bean Merchant Wholesalers
				424520	Livestock Merchant Wholesalers
				424590	Other Farm Product Raw Material Merchant Wholesalers
				424610	Plastics Materials and Basic Forms and Shapes Merchant Wholesalers
				424690	Other Chemical and Allied Products Merchant Wholesalers
				424710	Petroleum Bulk Stations and Terminals
				424720	Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)
				424810	Beer and Ale Merchant Wholesalers
				424820	Wine and Distilled Alcoholic Beverage Merchant Wholesalers
				424910	Farm Supplies Merchant Wholesalers
				424920	Book, Periodical, and Newspaper Merchant Wholesalers
				424930	Flower, Nursery Stock, and Florists' Supplies Merchant Wholesalers
				424940	Tobacco and Tobacco Product Merchant Wholesalers
				424950	Paint, Varnish, and Supplies Merchant Wholesalers
				424990	Other Miscellaneous Nondurable Goods Merchant Wholesalers
		41-425000 Wholesale Electronic Markets and Agents and Brokers			
				425110	Business to Business Electronic Markets
				425120	Wholesale Trade Agents and Brokers
43-000000 Transportation, Warehousing & Utilities					
		43-221000 Utilities			
			221111	Hydroelectric Power Generation	
			221112	Fossil Fuel Electric Power Generation	
			221113	Nuclear Electric Power Generation	
			221119	Other Electric Power Generation	
			221121	Electric Bulk Power Transmission and Control	
			221122	Electric Power Distribution	
			221210	Natural Gas Distribution	
			221310	Water Supply and Irrigation Systems	
			221320	Sewage Treatment Facilities	

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TUMF	California EDD	North American Industry Classification System (NAICS) (2007)		
Category	Major Groups	Minor Groups*	Category Codes*	Category Description*
			221330	Steam and Air-Conditioning Supply
		43-481000 Air Transportation		
			481111	Scheduled Passenger Air Transportation
			481112	Scheduled Freight Air Transportation
			481211	Nonscheduled Chartered Passenger Air Transportation
			481212	Nonscheduled Chartered Freight Air Transportation
			481219	Other Nonscheduled Air Transportation
		43-482000 Rail Transportation		
			482111	Line-Haul Railroads
			482112	Short Line Railroads
		43-483000 Water Transportation		
			483111	Deep Sea Freight Transportation
			483112	Deep Sea Passenger Transportation
			483113	Coastal and Great Lakes Freight Transportation
			483114	Coastal and Great Lakes Passenger Transportation
			483211	Inland Water Freight Transportation
			483212	Inland Water Passenger Transportation
		43-484000 Truck Transportation		
			484110	General Freight Trucking, Local
			484121	General Freight Trucking, Long-Distance, Truckload
			484122	General Freight Trucking, Long-Distance, Less Than Truckload
			484210	Used Household and Office Goods Moving
			484220	Specialized Freight (except Used Goods) Trucking, Local
			484230	Specialized Freight (except Used Goods) Trucking, Long-Distance
		43-485000 Transit and Ground Passenger Transportation		
			485111	Mixed Mode Transit Systems
			485112	Commuter Rail Systems
			485113	Bus and Other Motor Vehicle Transit Systems
			485119	Other Urban Transit Systems
			485210	Interurban and Rural Bus Transportation
			485310	Taxi Service
			485320	Limousine Service
			485410	School and Employee Bus Transportation
			485510	Charter Bus Industry
			485991	Special Needs Transportation
			485999	All Other Transit and Ground Passenger Transportation
		43-486000 Pipeline Transportation		
			486110	Pipeline Transportation of Crude Oil
			486210	Pipeline Transportation of Natural Gas
			486910	Pipeline Transportation of Refined Petroleum Products
			486990	All Other Pipeline Transportation
		43-487000 Scenic and Sightseeing Transportation		
			487110	Scenic and Sightseeing Transportation, Land
			487210	Scenic and Sightseeing Transportation, Water
			487990	Scenic and Sightseeing Transportation, Other
		43-488000 Support Activities for Transportation		
			488111	Air Traffic Control
			488119	Other Airport Operations
			488190	Other Support Activities for Air Transportation
			488210	Support Activities for Rail Transportation
			488310	Port and Harbor Operations
			488320	Marine Cargo Handling
			488330	Navigational Services to Shipping
			488390	Other Support Activities for Water Transportation
			488410	Motor Vehicle Towing
			488490	Other Support Activities for Road Transportation
			488510	Freight Transportation Arrangement
			488991	Packing and Crating
			488999	All Other Support Activities for Transportation
		43-491000 Postal Service		
			491110	Postal Service
		43-492000 Couriers and Messengers		
			492110	Couriers and Express Delivery Services
			492210	Local Messengers and Local Delivery
		43-493000 Warehousing and Storage		
			493110	General Warehousing and Storage
			493120	Refrigerated Warehousing and Storage
			493130	Farm Product Warehousing and Storage
			493190	Other Warehousing and Storage
		Retail		
	42-000000 Retail Trade			
		42-441000 Motor Vehicle and Parts Dealers		
			441110	New Car Dealers
			441120	Used Car Dealers
			441210	Recreational Vehicle Dealers
			441221	Motorcycle, ATV, and Personal Watercraft Dealers
			441222	Boat Dealers
			441229	All Other Motor Vehicle Dealers
			441310	Automotive Parts and Accessories Stores
			441320	Tire Dealers
		42-442000 Furniture and Home Furnishings Stores		
			442110	Furniture Stores
			442210	Floor Covering Stores
			442291	Window Treatment Stores
			442299	All Other Home Furnishings Stores
		42-443000 Electronics and Appliance Stores		
			443111	Household Appliance Stores
			443112	Radio, Television, and Other Electronics Stores
			443120	Computer and Software Stores
			443130	Camera and Photographic Supplies Stores
		42-444000 Building Material and Garden Equipment and Supplies Dealers		
			444110	Home Centers
			444120	Paint and Wallpaper Stores
			444130	Hardware Stores
			444190	Other Building Material Dealers
			444210	Outdoor Power Equipment Stores
			444220	Nursery, Garden Center, and Farm Supply Stores
		42-445000 Food and Beverage Stores		
			445110	Supermarkets and Other Grocery (except Convenience) Stores
			445120	Convenience Stores
			445210	Meat Markets
			445220	Fish and Seafood Markets

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TUMF	California EDD	North American Industry Classification System (NAICS) (2007)		
Category	Major Groups	Minor Groups*	Category Codes*	Category Description*
			445230	Fruit and Vegetable Markets
			445291	Baked Goods Stores
			445292	Confectionery and Nut Stores
			445299	All Other Specialty Food Stores
			445310	Beer, Wine, and Liquor Stores
		42-446000 Health and Personal Care Stores		
			446110	Pharmacies and Drug Stores
			446120	Cosmetics, Beauty Supplies, and Perfume Stores
			446130	Optical Goods Stores
			446191	Food (Health) Supplement Stores
			446199	All Other Health and Personal Care Stores
		42-447000 Gasoline Stations		
			447110	Gasoline Stations with Convenience Stores
			447190	Other Gasoline Stations
		42-448000 Clothing and Clothing Accessories Stores		
			448110	Men's Clothing Stores
			448120	Women's Clothing Stores
			448130	Children's and Infants' Clothing Stores
			448140	Family Clothing Stores
			448150	Clothing Accessories Stores
			448190	Other Clothing Stores
			448210	Shoe Stores
			448310	Jewelry Stores
			448320	Luggage and Leather Goods Stores
		42-451000 Sporting Goods, Hobby, Book, and Music Stores		
			451110	Sporting Goods Stores
			451120	Hobby, Toy, and Game Stores
			451130	Sewing, Needlework, and Piece Goods Stores
			451140	Musical Instrument and Supplies Stores
			451211	Book Stores
			451212	News Dealers and Newsstands
			451220	Prerecorded Tape, Compact Disc, and Record Stores
		42-452000 General Merchandise Stores		
			452111	Department Stores (except Discount Department Stores)
			452112	Discount Department Stores
			452910	Warehouse Clubs and Supercenters
			452990	All Other General Merchandise Stores
		42-453000 Miscellaneous Store Retailers		
			453110	Florists
			453210	Office Supplies and Stationery Stores
			453220	Gift, Novelty, and Souvenir Stores
			453310	Used Merchandise Stores
			453910	Pet and Pet Supplies Stores
			453920	Art Dealers
			453930	Manufactured (Mobile) Home Dealers
			453991	Tobacco Stores
			453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)
		42-454000 Nonstore Retailers		
			454111	Electronic Shopping
			454112	Electronic Auctions
			454113	Mail-Order Houses
			454210	Vending Machine Operators
			454311	Heating Oil Dealers
			454312	Liquefied Petroleum Gas (Bottled Gas) Dealers
			454319	Other Fuel Dealers
			454390	Other Direct Selling Establishments

Service				
	50-000000 Information			
		50-511000 Publishing Industries (except Internet)		
			511110	Newspaper Publishers
			511120	Periodical Publishers
			511130	Book Publishers
			511140	Directory and Mailing List Publishers
			511191	Greeting Card Publishers
			511199	All Other Publishers
			511210	Software Publishers
			50-512000 Motion Picture and Sound Recording Industries	
			512110	Motion Picture and Video Production
			512120	Motion Picture and Video Distribution
			512131	Motion Picture Theaters (except Drive-Ins)
			512132	Drive-In Motion Picture Theaters
			512191	Teleproduction and Other Postproduction Services
			512199	Other Motion Picture and Video Industries
			512210	Record Production
			512220	Integrated Record Production/Distribution
			512230	Music Publishers
			512240	Sound Recording Studios
		512290	Other Sound Recording Industries	
		50-515000 Broadcasting (except Internet)		
			515111	Radio Networks
			515112	Radio Stations
			515120	Television Broadcasting
			515210	Cable and Other Subscription Programming
		50-517000 Telecommunications		
			517110	Wired Telecommunications Carriers
			517210	Wireless Telecommunications Carriers (except Satellite)
			517410	Satellite Telecommunications
			517911	Telecommunications Resellers
			517919	All Other Telecommunications
		50-518000 Data Processing, Hosting and Related Services		
			518210	Data Processing, Hosting, and Related Services
		50-519000 other Information Services		
			519110	News Syndicates
			519120	Libraries and Archives
			519130	Internet Publishing and Broadcasting and Web Search Portals
			519190	All Other Information Services
	55-000000 Finance Activities			
		55-521000 Monetary Authorities-Central Bank		
			521110	Monetary Authorities - Central Bank
		55-522000 Credit Intermediation and Related Activities		
			522110	Commercial Banking
			522120	Savings Institutions

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TUMF	California EDD	North American Industry Classification System (NAICS) (2007)					
Category	Major Groups	Minor Groups*	Category Codes*	Category Description*			
			522130	Credit Unions			
			522190	Other Depository Credit Intermediation			
			522210	Credit Card Issuing			
			522220	Sales Financing			
			522291	Consumer Lending			
			522292	Real Estate Credit			
			522293	International Trade Financing			
			522294	Secondary Market Financing			
			522298	All Other Nondepository Credit Intermediation			
			522310	Mortgage and Nonmortgage Loan Brokers			
			522320	Financial Transactions Processing, Reserve, and Clearinghouse Activities			
			522390	Other Activities Related to Credit Intermediation			
			55-523000 Securities, Commodity Contracts, and Other Financial Investments and Related Activities				
				523110	Investment Banking and Securities Dealing		
				523120	Securities Brokerage		
				523130	Commodity Contracts Dealing		
				523140	Commodity Contracts Brokerage		
				523210	Securities and Commodity Exchanges		
				523910	Miscellaneous Intermediation		
				523920	Portfolio Management		
				523930	Investment Advice		
				523991	Trust, Fiduciary, and Custody Activities		
			523999	Miscellaneous Financial Investment Activities			
			55-524000 Insurance Carriers and Related Activities				
				524113	Direct Life Insurance Carriers		
				524114	Direct Health and Medical Insurance Carriers		
				524126	Direct Property and Casualty Insurance Carriers		
				524127	Direct Title Insurance Carriers		
				524128	Other Direct Insurance (except Life, Health, and Medical) Carriers		
				524130	Reinsurance Carriers		
				524210	Insurance Agencies and Brokerages		
				524291	Claims Adjusting		
				524292	Third Party Administration of Insurance and Pension Funds		
			524298	All Other Insurance Related Activities			
			55-525000 Funds, Trusts, and Other Financial Vehicles				
				525110	Pension Funds		
				525120	Health and Welfare Funds		
				525190	Other Insurance Funds		
				525910	Open-End Investment Funds		
				525920	Trusts, Estates, and Agency Accounts		
			525990	Other Financial Vehicles			
			55-531000 Real Estate				
				531110	Lessors of Residential Buildings and Dwellings		
				531120	Lessors of Nonresidential Buildings (except Miniwarehouses)		
				531130	Lessors of Miniwarehouses and Self-Storage Units		
				531190	Lessors of Other Real Estate Property		
				531210	Offices of Real Estate Agents and Brokers		
				531311	Residential Property Managers		
				531312	Nonresidential Property Managers		
				531320	Offices of Real Estate Appraisers		
			531390	Other Activities Related to Real Estate			
			55-532000 Rental and Leasing Services				
				532111	Passenger Car Rental		
				532112	Passenger Car Leasing		
				532120	Truck, Utility Trailer, and RV (Recreational Vehicle) Rental and Leasing		
				532210	Consumer Electronics and Appliances Rental		
				532220	Formal Wear and Costume Rental		
				532230	Video Tape and Disc Rental		
				532291	Home Health Equipment Rental		
				532292	Recreational Goods Rental		
				532299	All Other Consumer Goods Rental		
				532310	General Rental Centers		
				532411	Commercial Air, Rail, and Water Transportation Equipment Rental and Leasing		
				532412	Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing		
				532420	Office Machinery and Equipment Rental and Leasing		
			532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing			
			55-533000 Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)				
				533110	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)		
			60-000000 Professional & Business Services				
				60-540000 Professional, Scientific, and Technical Services			
					541110	Offices of Lawyers	
					541120	Offices of Notaries	
					541191	Title Abstract and Settlement Offices	
					541199	All Other Legal Services	
					541211	Offices of Certified Public Accountants	
					541213	Tax Preparation Services	
					541214	Payroll Services	
					541219	Other Accounting Services	
					541310	Architectural Services	
					541320	Landscape Architectural Services	
					541330	Engineering Services	
					541340	Drafting Services	
					541350	Building Inspection Services	
					541360	Geophysical Surveying and Mapping Services	
					541370	Surveying and Mapping (except Geophysical) Services	
					541380	Testing Laboratories	
					541410	Interior Design Services	
					541420	Industrial Design Services	
					541430	Graphic Design Services	
					541490	Other Specialized Design Services	
					541511	Custom Computer Programming Services	
					541512	Computer Systems Design Services	
					541513	Computer Facilities Management Services	
					541519	Other Computer Related Services	
					541611	Administrative Management and General Management Consulting Services	
					541612	Human Resources Consulting Services	
					541613	Marketing Consulting Services	
					541614	Process, Physical Distribution, and Logistics Consulting Services	

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TUMF	California EDD	North American Industry Classification System (NAICS) (2007)					
Category	Major Groups	Minor Groups*	Category Codes*	Category Description*			
			541618	Other Management Consulting Services			
			541620	Environmental Consulting Services			
			541690	Other Scientific and Technical Consulting Services			
			541711	Research and Development in Biotechnology			
			541712	Reseach and Development in the Physical, Engineering, and Life Sciences (except Biotechnology)			
			541720	Research and Development in the Social Sciences and Humanities			
			541810	Advertising Agencies			
			541820	Public Relations Agencies			
			541830	Media Buying Agencies			
			541840	Media Representatives			
			541850	Display Advertising			
			541860	Direct Mail Advertising			
			541870	Advertising Material Distribution Services			
			541890	Other Services Related to Advertising			
			541910	Marketing Research and Public Opinion Polling			
			541921	Photography Studios, Portrait			
			541922	Commercial Photography			
			541930	Translation and Interpretation Services			
			541940	Veterinary Services			
			541990	All Other Professional, Scientific, and Technical Services			
			60-550000 Management of Companies and Enterprises				
				551111	Offices of Bank Holding Companies		
				551112	Offices of Other Holding Companies		
				551114	Corporate, Subsidiary, and Regional Managing Offices		
		60-561000 Administrative and Support Services					
			561110	Office Administrative Services			
			561210	Facilities Support Services			
			561311	Employment Placement Agencies			
			561312	Executive Search Services			
			561320	Temporary Help Services			
			561330	Professional Employer Organizations			
			561410	Document Preparation Services			
			561421	Telephone Answering Services			
			561422	Telemarketing Bureaus and Other Contact Centers			
			561431	Private Mail Centers			
			561439	Other Business Service Centers (including Copy Shops)			
			561440	Collection Agencies			
			561450	Credit Bureaus			
			561491	Repossession Services			
			561492	Court Reporting and Stenotype Services			
			561499	All Other Business Support Services			
			561510	Travel Agencies			
			561520	Tour Operators			
			561591	Convention and Visitors Bureaus			
			561599	All Other Travel Arrangement and Reservation Services			
			561611	Investigation Services			
			561612	Security Guards and Patrol Services			
			561613	Armored Car Services			
			561621	Security Systems Services (except Locksmiths)			
			561622	Locksmiths			
			561710	Exterminating and Pest Control Services			
			561720	Janitorial Services			
			561730	Landscaping Services			
			561740	Carpet and Upholstery Cleaning Services			
			561790	Other Services to Buildings and Dwellings			
			561910	Packaging and Labeling Services			
			561920	Convention and Trade Show Organizers			
			561990	All Other Support Services			
		60-562000 Waste Management and Remediation Services					
			562111	Solid Waste Collection			
			562112	Hazardous Waste Collection			
			562119	Other Waste Collection			
			562211	Hazardous Waste Treatment and Disposal			
			562212	Solid Waste Landfill			
			562213	Solid Waste Combustors and Incinerators			
			562219	Other Nonhazardous Waste Treatment and Disposal			
			562910	Remediation Services			
			562920	Materials Recovery Facilities			
			562991	Septic Tank and Related Services			
			562998	All Other Miscellaneous Waste Management Services			
		65-000000 Educational & Health Services					
			65-610000 Educational Services				
				611110	Elementary and Secondary Schools		
				611210	Junior Colleges		
				611310	Colleges, Universities, and Professional Schools		
				611410	Business and Secretarial Schools		
				611420	Computer Training		
				611430	Professional and Management Development Training		
				611511	Cosmetology and Barber Schools		
				611512	Flight Training		
				611513	Apprenticeship Training		
				611519	Other Technical and Trade Schools		
				611610	Fine Arts Schools		
				611620	Sports and Recreation Instruction		
				611630	Language Schools		
				611691	Exam Preparation and Tutoring		
				611692	Automobile Driving Schools		
				611699	All Other Miscellaneous Schools and Instruction		
				611710	Educational Support Services		
			65-621000 Ambulatory Health Care Services				
				621111	Offices of Physicians (except Mental Health Specialists)		
				621112	Offices of Physicians, Mental Health Specialists		
				621210	Offices of Dentists		
				621310	Offices of Chiropractors		
				621320	Offices of Optometrists		
				621330	Offices of Mental Health Practitioners (except Physicians)		
				621340	Offices of Physical, Occupational and Speech Therapists, and Audiologists		
				621391	Offices of Podiatrists		
				621399	Offices of All Other Miscellaneous Health Practitioners		

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TUMF	California EDD	North American Industry Classification System (NAICS) (2007)		
Category	Major Groups	Minor Groups*	Category Codes*	Category Description*
			621410	Family Planning Centers
			621420	Outpatient Mental Health and Substance Abuse Centers
			621491	HMO Medical Centers
			621492	Kidney Dialysis Centers
			621493	Freestanding Ambulatory Surgical and Emergency Centers
			621498	All Other Outpatient Care Centers
			621511	Medical Laboratories
			621512	Diagnostic Imaging Centers
			621610	Home Health Care Services
			621910	Ambulance Services
			621991	Blood and Organ Banks
			621999	All Other Miscellaneous Ambulatory Health Care Services
			65-622000 Hospitals	
			622110	General Medical and Surgical Hospitals
			622210	Psychiatric and Substance Abuse Hospitals
			622310	Specialty (except Psychiatric and Substance Abuse) Hospitals
			65-623000 Nursing and Residential Care Facilities	
			623110	Nursing Care Facilities
			623210	Residential Mental Retardation Facilities
			623220	Residential Mental Health and Substance Abuse Facilities
			623311	Continuing Care Retirement Communities
			623312	Homes for the Elderly
			623990	Other Residential Care Facilities
			65-624000 Social Assistance	
			624110	Child and Youth Services
			624120	Services for the Elderly and Persons with Disabilities
			624190	Other Individual and Family Services
			624210	Community Food Services
			624221	Temporary Shelters
			624229	Other Community Housing Services
			624230	Emergency and Other Relief Services
			624310	Vocational Rehabilitation Services
			624410	Child Day Care Services
			70-000000 Leisure & Hospitality	
			70-711000 Performing Arts, Spectator Sports, and Related Industries	
			711110	Theater Companies and Dinner Theaters
			711120	Dance Companies
			711130	Musical Groups and Artists
			711190	Other Performing Arts Companies
			711211	Sports Teams and Clubs
			711212	Racetracks
			711219	Other Spectator Sports
			711310	Promoters of Performing Arts, Sports, and Similar Events with Facilities
			711320	Promoters of Performing Arts, Sports, and Similar Events without Facilities
			711410	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures
			711510	Independent Artists, Writers, and Performers
			70-712000 Museums, Historical Sites, and Similar Institutions	
			712110	Museums
			712120	Historical Sites
			712130	Zoos and Botanical Gardens
			712190	Nature Parks and Other Similar Institutions
			70-713000 Amusement, Gambling, and Recreation Industries	
			713110	Amusement and Theme Parks
			713120	Amusement Arcades
			713210	Casinos (except Casino Hotels)
			713290	Other Gambling Industries
			713910	Golf Courses and Country Clubs
			713920	Skiing Facilities
			713930	Marinas
			713940	Fitness and Recreational Sports Centers
			713950	Bowling Centers
			713990	All Other Amusement and Recreation Industries
			70-721000 Accommodation	
			721110	Hotels (except Casino Hotels) and Motels
			721120	Casino Hotels
			721191	Bed-and-Breakfast Inns
			721199	All Other Traveler Accommodation
			721211	RV (Recreational Vehicle) Parks and Campgrounds
			721214	Recreational and Vacation Camps (except Campgrounds)
			721310	Rooming and Boarding Houses
			70-722000 Food Services and Drinking Places	
			722110	Full-Service Restaurants
			722211	Limited-Service Restaurants
			722212	Cafeterias, Grill Buffets, and Buffets
			722213	Snack and Nonalcoholic Beverage Bars
			722310	Food Service Contractors
			722320	Caterers
			722330	Mobile Food Services
			722410	Drinking Places (Alcoholic Beverages)
			80 Other Services	
			80-811000 Repair and Maintenance	
			811111	General Automotive Repair
			811112	Automotive Exhaust System Repair
			811113	Automotive Transmission Repair
			811118	Other Automotive Mechanical and Electrical Repair and Maintenance
			811121	Automotive Body, Paint, and Interior Repair and Maintenance
			811122	Automotive Glass Replacement Shops
			811191	Automotive Oil Change and Lubrication Shops
			811192	Car Washes
			811198	All Other Automotive Repair and Maintenance
			811211	Consumer Electronics Repair and Maintenance
			811212	Computer and Office Machine Repair and Maintenance
			811213	Communication Equipment Repair and Maintenance
			811219	Other Electronic and Precision Equipment Repair and Maintenance
			811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance
			811411	Home and Garden Equipment Repair and Maintenance
			811412	Appliance Repair and Maintenance
			811420	Reupholstery and Furniture Repair
			811430	Footwear and Leather Goods Repair
			811490	Other Personal and Household Goods Repair and Maintenance
			80-812000 Personal and Laundry Services	
			812111	Barber Shops

TUMF Non-Residential Category Detailed NAICS Correspondence

TUMF	California EDD	North American Industry Classification System (NAICS) (2007)		
Category	Major Groups	Minor Groups*	Category Codes*	Category Description*
			812112	Beauty Salons
			812113	Nail Salons
			812191	Diet and Weight Reducing Centers
			812199	Other Personal Care Services
			812210	Funeral Homes and Funeral Services
			812220	Cemeteries and Crematories
			812310	Coin-Operated Laundries and Drycleaners
			812320	Drycleaning and Laundry Services (except Coin-Operated)
			812331	Linen Supply
			812332	Industrial Launderers
			812910	Pet Care (except Veterinary) Services
			812921	Photofinishing Laboratories (except One-Hour)
			812922	One-Hour Photofinishing
			812930	Parking Lots and Garages
			812990	All Other Personal Services
		80-813000 Religious, Grantmaking, Civic, Professional, and Similar Organizations		
			813110	Religious Organizations
			813211	Grantmaking Foundations
			813212	Voluntary Health Organizations
			813219	Other Grantmaking and Giving Services
			813311	Human Rights Organizations
			813312	Environment, Conservation and Wildlife Organizations
			813319	Other Social Advocacy Organizations
			813410	Civic and Social Organizations
			813910	Business Associations
			813920	Professional Organizations
			813930	Labor Unions and Similar Labor Organizations
		813940	Political Organizations	
		813990	Other Similar Organizations (except Business, Professional, Labor, and Political Organizations)	
		80-814000 Private Households		
			814110	Private Households
Government/Public Sector				
	90-000000 Government			
		90-910000 Federal Government		
			919110	Department of Defense
			912999	Other Federal Government
		90-920000 State Government		
			921611	State Government Education
			922999	Other State Government
		90-930000 Local Government		
			931611	Local Government Education
			939012	County
			939022	City
			939032	Special Districts
			931150	Indian Tribes

Note: * The NAICS Minor Groups and Categories are cross-referenced to the EDD Major Industrial Codes which are used as the basis for the CDR forecasts

Sources: Riverside County Center for Demographic Research (CDR)
 California Employment Development Department (EDD)
 US Census Bureau, North American Industry Classification System (NAICS), 2007

Appendix C - Western Riverside County Traffic Growth 2007 – 2035

Existing (2007) and future (2035) traffic data were derived from the Riverside County Travel Demand Model (RIVTAM). The model area of coverage, level of roadway network and traffic analysis zone detail, and application on other regional transportation study efforts represented the appropriate tool for evaluating traffic growth as part of the Nexus Study.

The forecasts of existing and future congestion levels were derived from the Year 2007 and Year 2035 Baseline (no project) scenarios, respectively. The 2035 Baseline (no project) scenario reflects the 2007 network and the inclusion of only those projects that are funded, committed and under construction, and therefore imminently to be part of the baseline transportation system. The 2035 Baseline scenario did not include transportation improvements that are planned as part of the most recent SCAG RTP, but are uncommitted (meaning that their implementation is dependent on securing funding and approval). Inclusion of the uncommitted improvements masks the congestion effects of increasing travel. Inclusion of these improvements and the resultant masking is not appropriate for this particular discussion that is aimed at identifying the effects of increasing travel that would result if improvements are not funded and built.

The WRCOG TUMF study area was extracted from RivTAM for the purpose of calculating the following measures for Western Riverside County only. They quantify traffic growth impacts for each of the two scenarios. They were calculated using the TransCAD platform.

- Total daily vehicle miles of travel (VMT),
- Total daily VMT on facilities experiencing LOS E or worse.
- Total daily vehicle hours of travel (VHT), and
- Total combined daily vehicle hours of delay (VHD)

The following formulas were used to calculate the respective values.

- $VMT = \text{Link Distance} * \text{Total Daily Volume}$
- $VHT = \text{Average Loaded (Congested) Link Travel Time} * \text{Total Daily Volume}$
- $VHD = VHT - (\text{Free-flow (Uncongested) Link Travel Time} * \text{Total Daily Volume})$
- $VMT \text{ LOS E or F} = VMT \text{ (on links where Daily V/C exceeded 0.90)}$

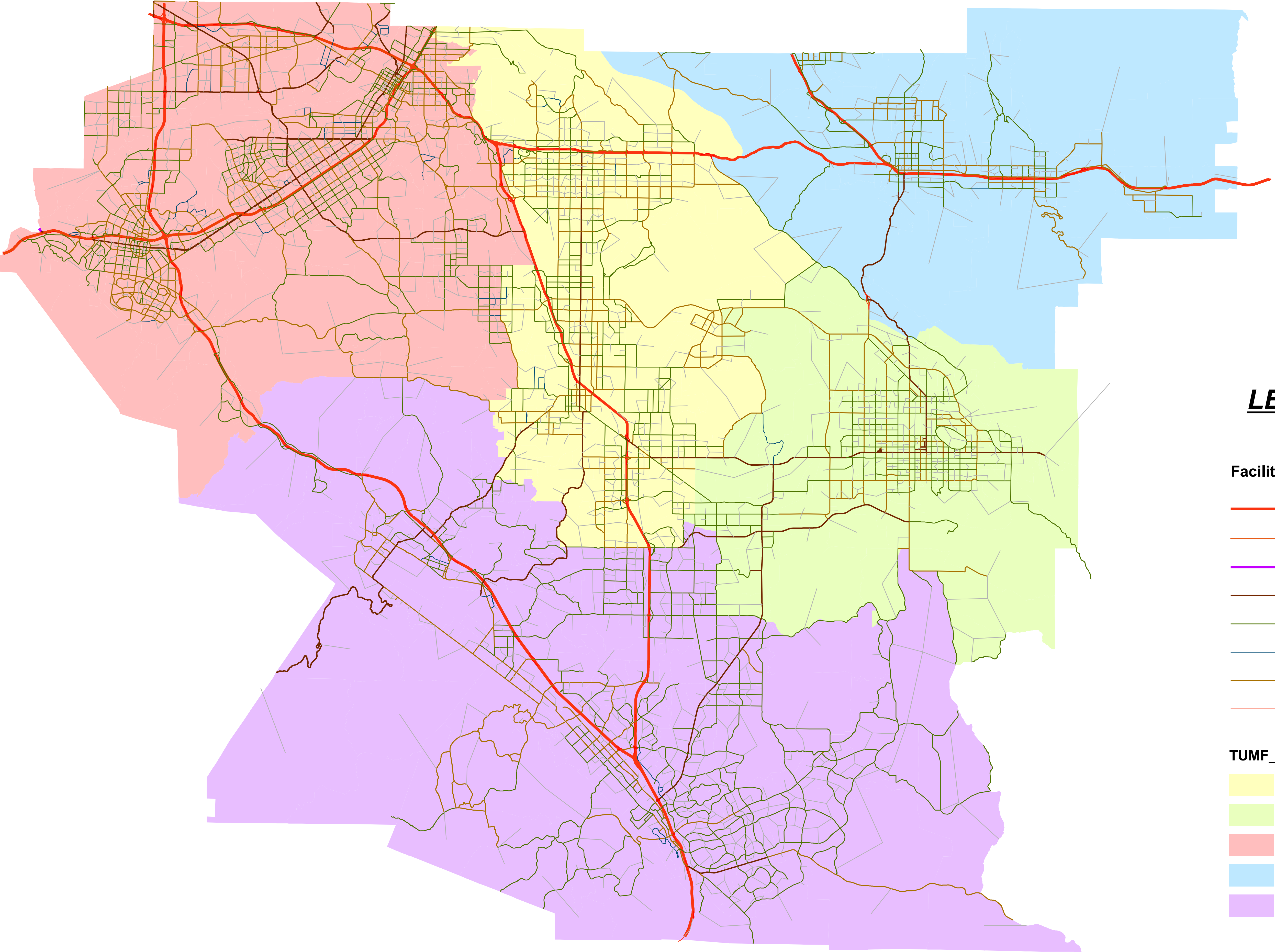
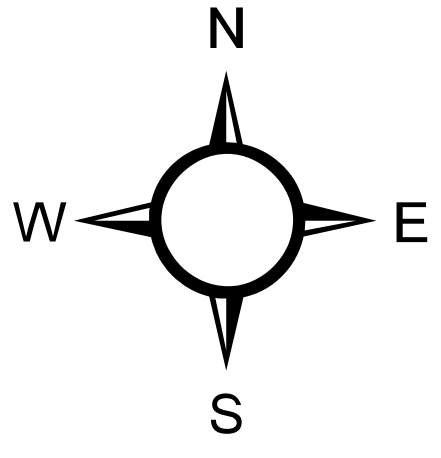
LOS Thresholds for LOS E are based on the Transportation Research Board 2000 Edition of the Highway Capacity Manual (HCM 2000) LOS Maximum V/C Criteria for Multilane Highways with 45 mph Free Flow Speed (Exhibit 21-2, Chapter 21, Page 21-3).

RivTAM, used to develop these measures, breaks down its roadway network into functional categories called assignment groups. The measures were calculated selectively for all facilities, arterials only, and freeways only by including and excluding different assignment groups. For the calculation of measures on “all facilities”, only the centroid connectors were excluded. Arterial values excluded all mixed-flow to carpool lane connector ramps, freeways, carpool lanes, centroid connectors, and freeway-to-

freeway connector ramps, respectively. Freeways were defined as including mixed-flow to carpool lane connector ramps, freeways, carpool lanes, and freeway-to-freeway connector ramps, respectively.

The 2007 Network by Facility Type is included in this Appendix as **Exhibit C-1**. The 2035 Baseline Network by Facility Type is included as **Exhibit C-2**. The results of the analysis of existing and future congestion levels are presented in **Table 3.1**.

Western Riverside County 2007 Network by Facility Type



LEGEND

Facility Type

- Freeway
- HOV
- Expressway
- Principal Arterial
- Major Collector
- Minor Collector
- Minor Arterial
- Ramps

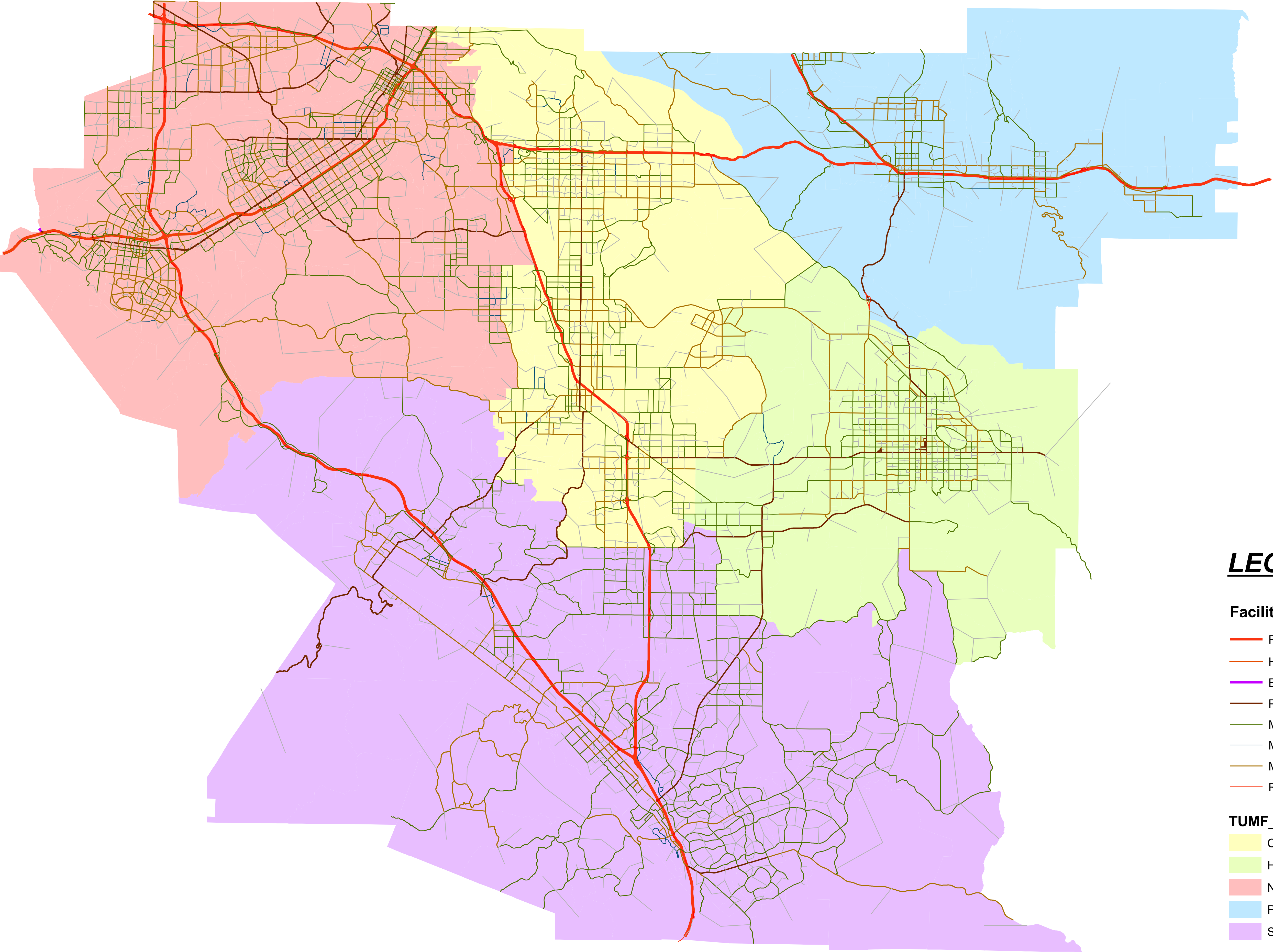
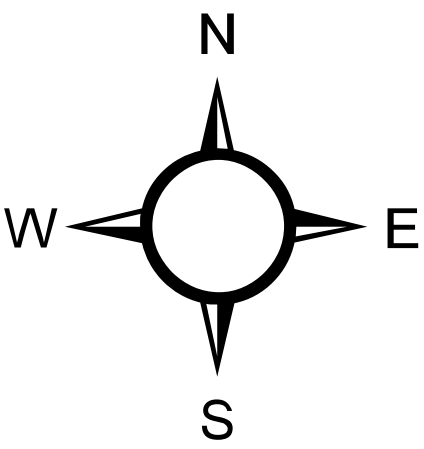
TUMF_ZONE

- CENTRAL
- HSJ
- NW
- PASS
- SOUTHWEST

0 2.5 5 10 Miles

(Based on RIVTAM Model)

Western Riverside County 2035 BaseLine Network by Facility Type



LEGEND

- Facility Type**
- Freeway
 - HOV
 - Expressway
 - Principal Arterial
 - Major Collector
 - Minor Collector
 - Minor Arterial
 - Ramps

- TUMF_ZONE**
- CENTRAL
 - HSJ
 - NW
 - PASS
 - SOUTHWEST

0 2.5 5 10 Miles

(Based on RIVTAM Model)

Appendix D - Western Riverside County Transit Person Trips 2007 – 2035

Exhibits D-1 and **D-2** contain transit person-trips for the Year 2007 and Year 2035 Plan scenarios as derived from the Riverside County Travel Demand Model (RivTAM). These tables support the discussion of transit trip growth contained in **Section 3.2**. Transit person trips internal to Western Riverside County, (both originating and destined within) were aggregated to obtain total transit person trips occurring within Western Riverside County. The total transit person trips within Western Riverside County for 2035 was then compared with that for 2007 to determine the total share of transit trips that could be attributed to new growth.

EXHIBIT D-1
2007 Transit Person Trips by WRCOG TUMF Zone
Total of All Trip Purposes

FROM/TO	Central	Hemet/San Jacinto	Northwest	Pass Area	Southwest	Outside WRCOG	TOTAL
Central	581	26	333	4	12	532	1,488
Hemet/San Jacinto	13	747	59	4	4	242	1,068
Northwest	111	49	5,695	3	15	4,495	10,367
Pass Area	2	6	5	35	0	44	93
Southwest	24	17	99	1	313	451	905
Outside WRCOG	250	244	3,092	32	72		3,690
TOTAL	981	1,089	9,283	78	416	5,765	17,611

Source: RivTAM, TUMF 2007 Base Scenario

EXHIBIT D-2
2035 Transit Person Trips by WRCOG TUMF Zone
Total of All Trip Purposes

FROM	Central	Hemet/San Jacinto	Northwest	Pass Area	Southwest	Outside WRCOG	TOTAL
Central	896	40	449	4	14	502	1,905
Hemet/San Jacinto	24	1,329	87	4	4	232	1,681
Northwest	210	100	8,125	4	20	4,387	12,847
Pass Area	9	18	21	93	1	76	218
Southwest	70	38	263	1	446	651	1,470
Outside WRCOG	721	840	8,058	79	152		9,849
TOTAL	1,932	2,366	17,002	185	636	5,848	27,969

Source: RivTAM, TUMF 2007 Base Scenario

Appendix E - Western Riverside County Regional System of Highways and Arterials Performance Measures

An integral element of the Nexus Study is the designation of the Western Riverside County Regional System of Highways and Arterials (also referred to as the “TUMF Network”). This network of regionally significant highways represents those arterial and collector highway and roadway facilities that primarily support inter-community trips in Western Riverside County and supplement the regional freeway system, and represents the extents of the network of highways and roadways that would be eligible for TUMF funded improvements. The Regional System of Highways and Arterials does NOT include the freeways of Western Riverside County which primarily serve inter-regional trips.

The designation of the Regional System of Highways and Arterials in the original TUMF Nexus Study adopted by the WRCOG Executive Committee in October 2002 was initiated with the identification of highways and roadways that met certain specified guidelines as defined by the WRCOG Public Works Committee. The guidelines are defined in **Section 4.1** of the Nexus Report, and include:

1. Arterial highway facilities proposed to have a minimum of four lanes at future buildout (not including freeways).
2. Facilities that serve multiple jurisdictions and/or provide connectivity between communities both within and adjoining Western Riverside County.
3. Facilities with forecast traffic volumes in excess of 20,000 vehicles per day by 2035.
4. Facilities with forecast volume to capacity ratio of 0.90 (LOS E) or greater in 2035.
5. Facilities that accommodate regional fixed route transit services.
6. Facilities that provide direct access to major commercial, industrial, institutional, recreational or tourist activity centers, and multi-modal transportation facilities (such as airports, railway terminals and transit centers).

Candidate facilities were identified by overlaying various transportation system and land use plots depicting parameters consistent with those defined by the specified guidelines. These plots included existing and proposed numbers of lanes, network volumes and volume to capacity ratio (LOS) derived from SCAG CTP Model networks developed by Transcore to support the ongoing Western Riverside County CETAP study, and existing land use information provided by SCAG. These plots were included in the Appendices that accompanied the original 2002 TUMF Nexus Study. Fixed route transit service information was provided by the Riverside County Regional Transportation Authority (RTA).

These various data inputs were overlaid and reviewed leading the definition of a segmented skeletal network of highways and roadways for further consideration. The skeletal network was further enhanced to reflect regional connectivity and access to activity center considerations. An initial draft Regional System of Highways and Arterials was developed and subsequently distributed to the County of Riverside and each City in Western Riverside County for review in the context of their respective City General Plan Circulation Elements, primarily to confirm existing and future number of lanes and

appropriateness of the facilities identified. The initial draft network was subsequently revised to consolidate appropriate General Plan Circulation Elements, including the identification of proposed new facilities as alternatives to existing facilities. It should be pointed out that the Regional System of Highways and Arterials does not represent a simple compilation of regional General Plan Circulation Elements, but rather incorporates the elements of regional General Plan Circulation Elements that are necessary for mitigating the cumulative regional traffic impacts of new development within the horizon year of the TUMF program.

The consolidated list of proposed network improvements (along with associated initial cost estimates) was subsequently distributed to each of the WRCOG jurisdictions, individual landowners, and other stakeholders including representatives of the development community through the Building Industry Association (BIA) for review. The review of the consolidated list of improvements (and associated costs) prompted a series of five peer review workshop meetings to specifically review each segment of roadway identified and the associated improvements to mitigate the traffic impacts of new development. One peer review workshop meeting was held for each of the five zones in the WRCOG region with meetings held at the Riverside County Assessors Office between June 27, 2002 and July 18, 2002. The peer review workshop meetings involved representatives from WRCOG, the respective zone jurisdictions and the BIA. The peer review workshops culminated in the development (by consensus of the groups) of a revised list of proposed network improvements (and associated costs) more accurately reflecting the improvements necessary to mitigate the cumulative regional traffic impacts of new development.

Following the peer review, the initial Regional System of Highways and Arterials was reviewed and endorsed by the TUMF Technical Advisory Committee, the TUMF Policy Committee and the WRCOG Executive Committee and utilized as the basis for developing the original TUMF Nexus Study in October 2002.

As part of the 2009 Update of the TUMF Nexus Study, the Regional System of Highways and Arterials was validated using more current data derived from RivTAM. The TUMF Network was compared to outputs from RivTAM to ensure candidate facilities remained consistent with the original guidelines and could satisfactorily contribute to meeting the intents of the TUMF program. These updated model output plots are included in this appendix as **Exhibit E-1** through **E-7**.

Although the TUMF Network was reviewed as part of the Nexus Update, there were no significant changes to the composition of the network that was originally adopted by the WRCOG Executive Committee. The Regional System of Highways and Arterials is included as **Figure 4.1** in the Nexus Study report.

EXHIBIT E-1

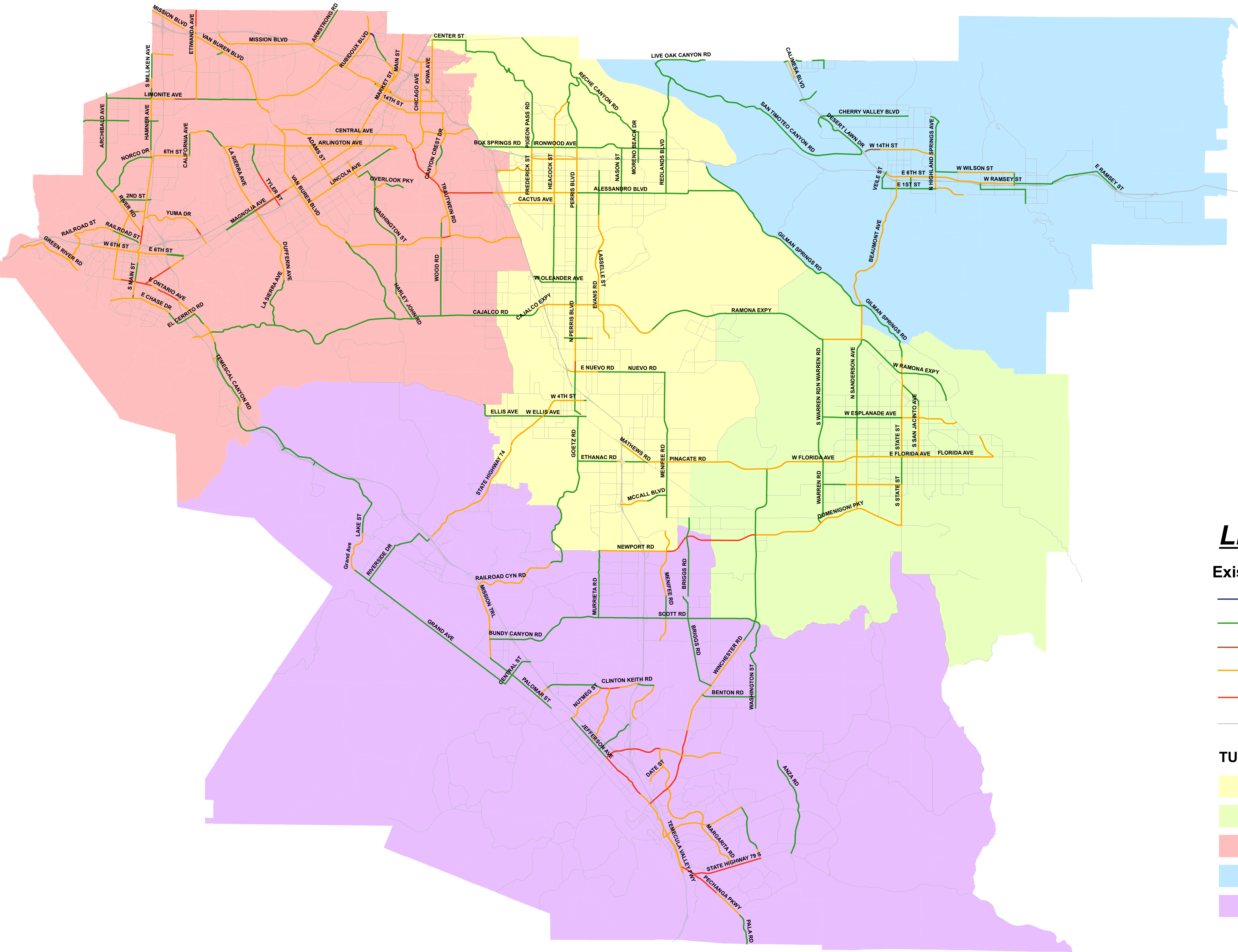
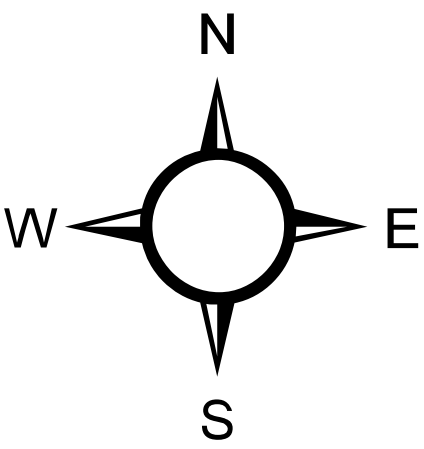
The following pages contain:

Western Riverside County 2007 Existing Network Number of Lanes

Source: Riverside County Travel Demand Model (RIVTAM)

Western Riverside County

2007 Existing Network Number of Lanes



LEGEND

Existing Number of Lanes

- 1
- 2
- 3
- 4
- 6
- Riverside County Model Network

TUMF_ZONE

- CENTRAL
- HSJ
- NW
- PASS
- SOUTHWEST

0 2.5 5 10 Miles

(Based on RIVTAM Model)

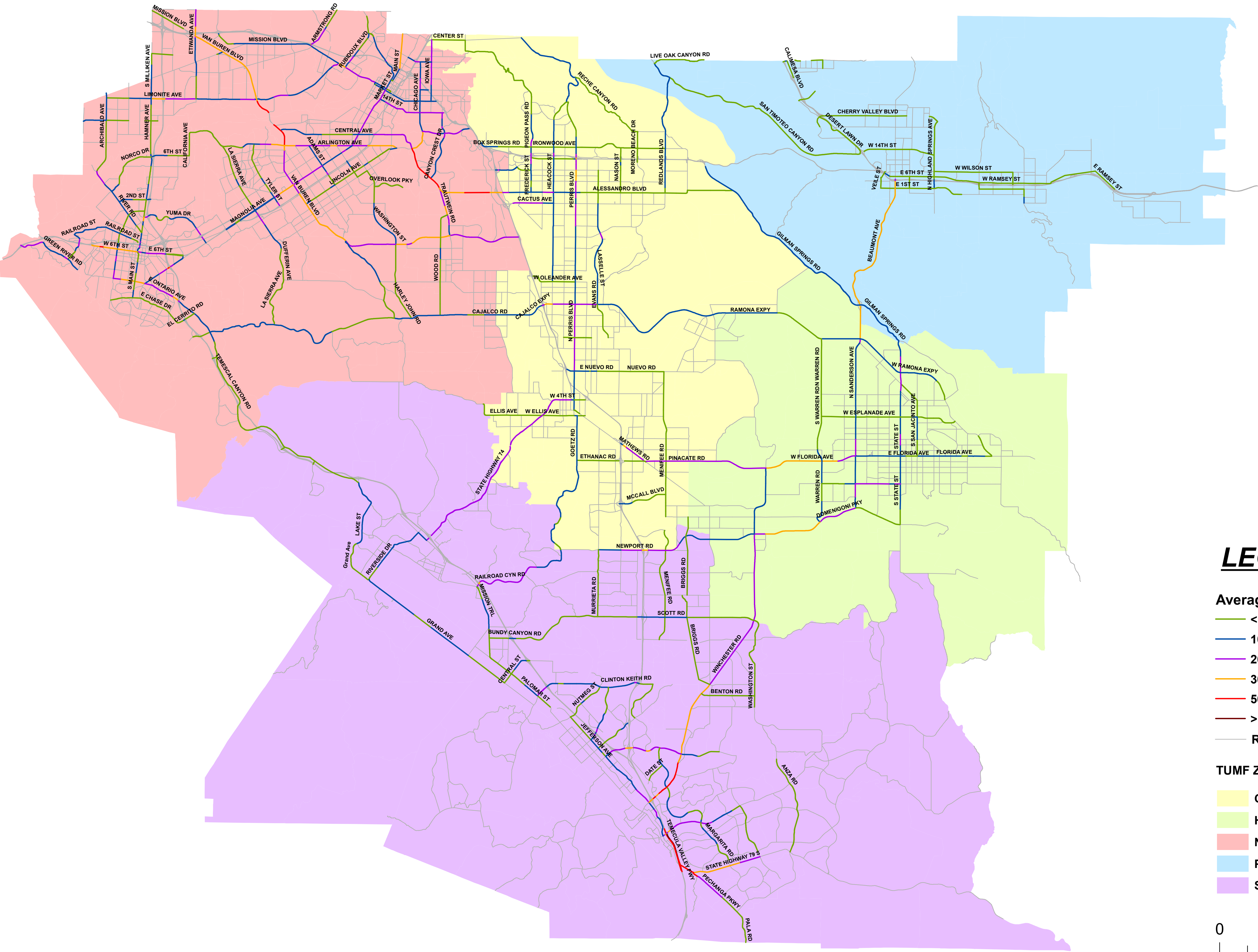
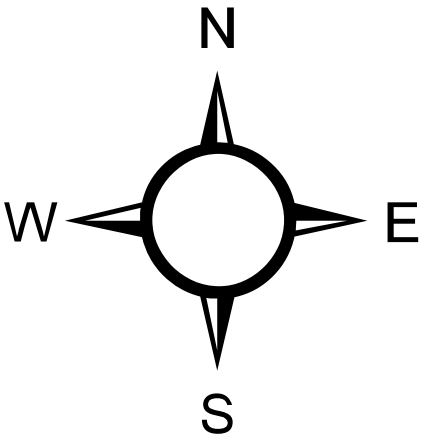
EXHIBIT E-2

The following pages contain:

Western Riverside County 2007 Existing TUMF Network Daily Traffic Volume (ADT)

Source: Riverside County Travel Demand Model (RIVTAM)

Western Riverside County 2007 Existing TUMF Network Daily Traffic Volume (ADT)



LEGEND

- Average Daily Traffic (ADT) *
- < 10000
 - 10000 - 20000
 - 20000 - 30000
 - 30000 - 50000
 - 50000 - 80000
 - > 80000
 - Riverside County Model Network

- TUMF ZONE
- CENTRAL
 - HEMET/SAN JACINTO
 - NORTHWEST
 - PASS
 - SOUTHWEST



(* Based on RIVTAM model, PCE factor applied)

EXHIBIT E-3

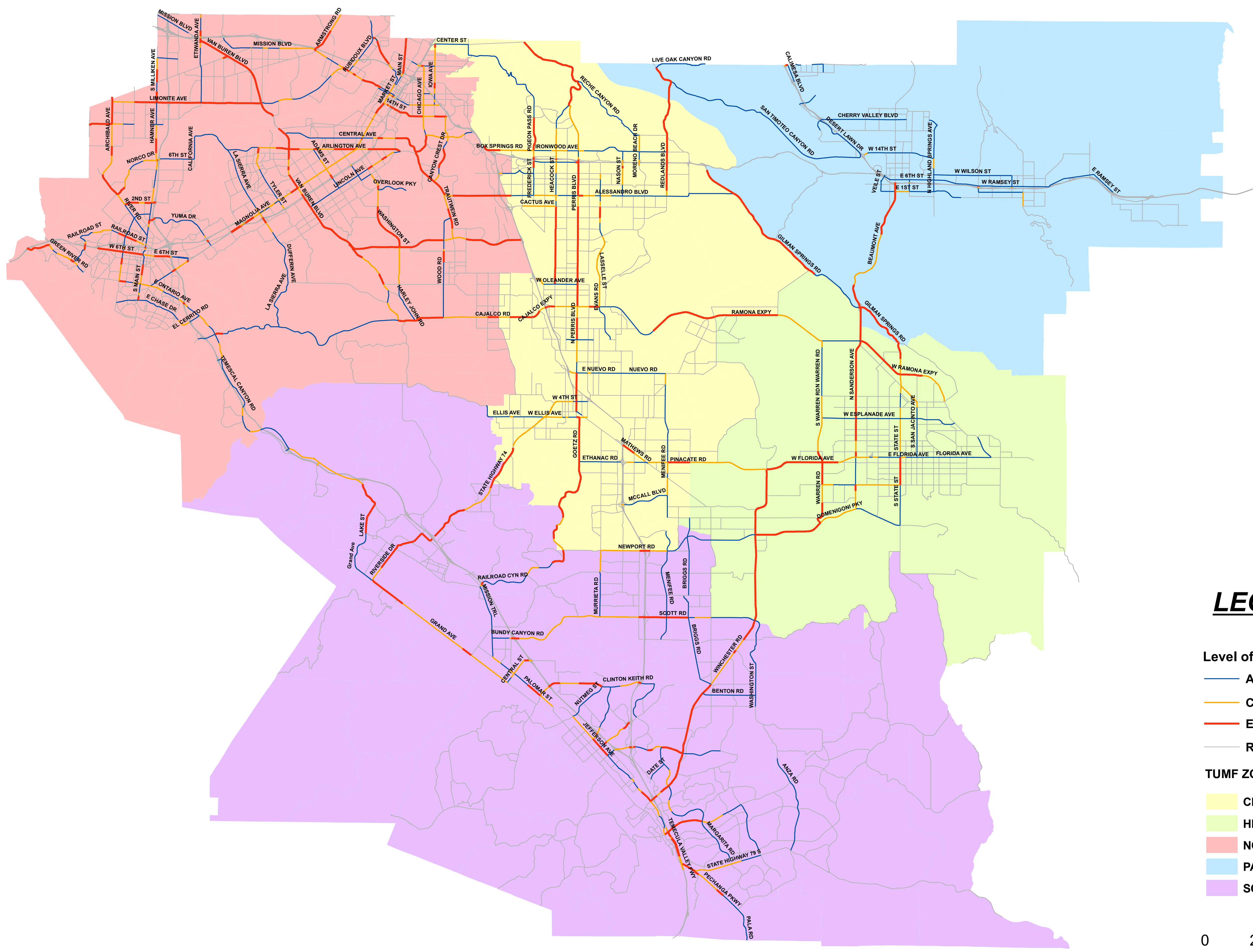
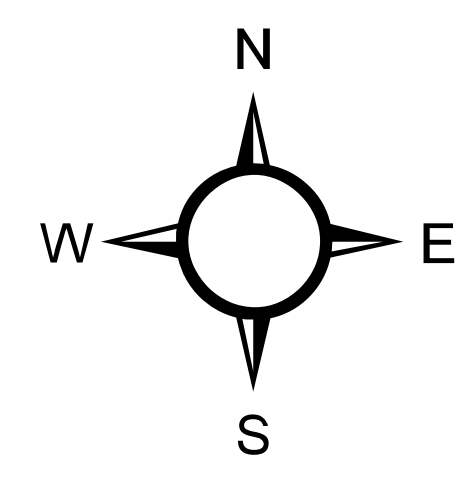
The following pages contain:

Western Riverside County 2007 Existing Network Level of Service (LOS)

Source: Riverside County Travel Demand Model (RIVTAM)

Western Riverside County

2007 Existing Network Level of Service (LOS)



LEGEND

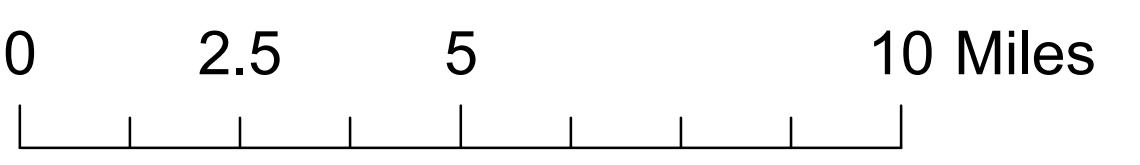
Level of Service (LOS)*

- A, B
- C, D
- E, F

— Riverside County Model Network

TUMF ZONE

- CENTRAL
- HEMET/SAN JACINTO
- NORTHWEST
- PASS
- SOUTHWEST



(* PCE factor applied; based on RIVTAM 2008 Existing Network Daily Volume)

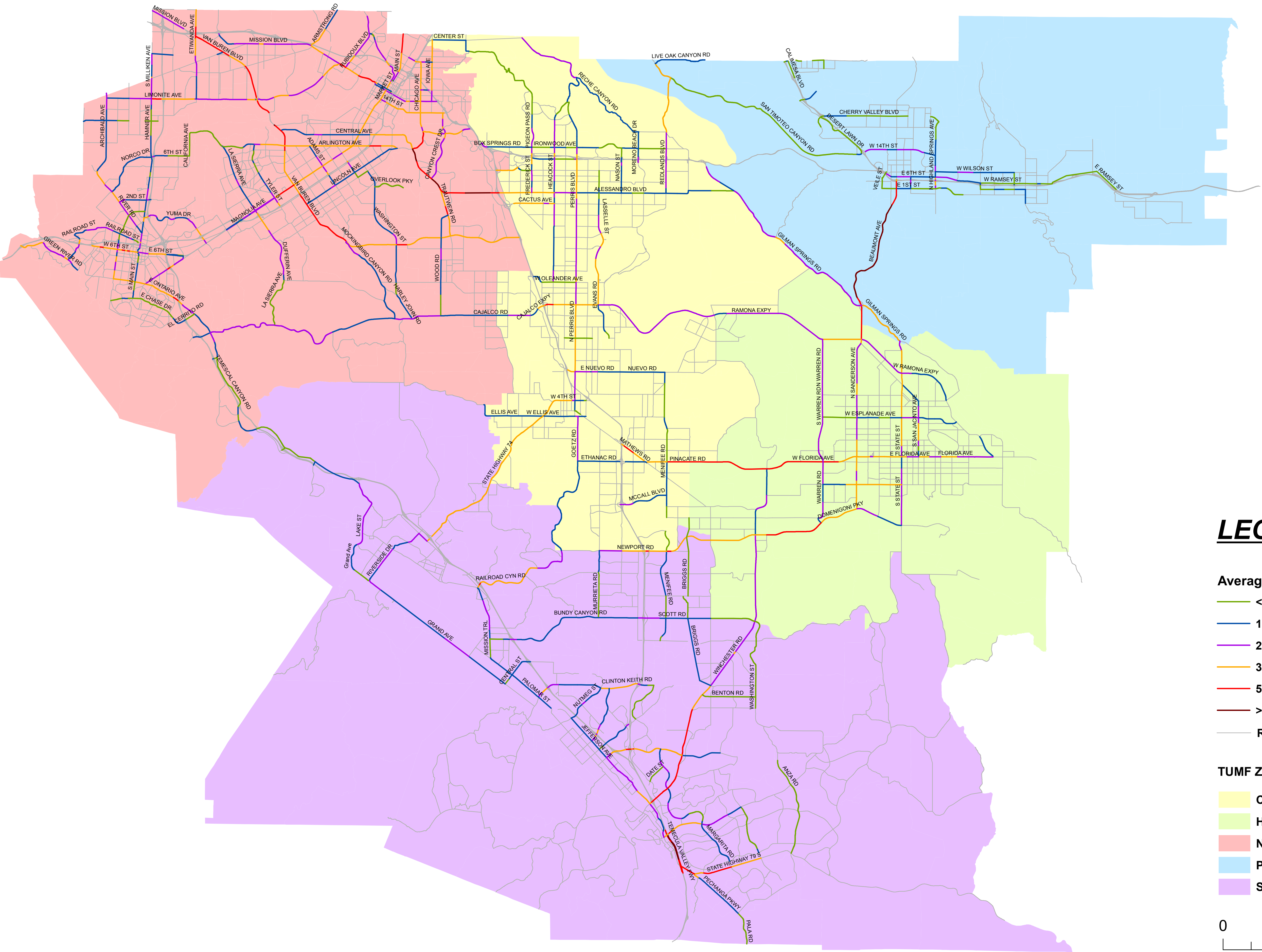
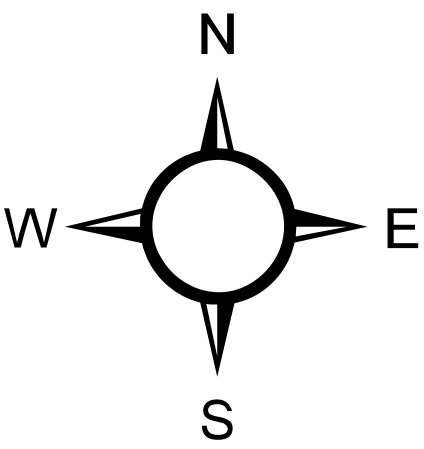
EXHIBIT E-4

The following pages contain:

Western Riverside County 2035 No-Build Network Daily Traffic Volume (ADT)

Source: Riverside County Travel Demand Model (RIVTAM)

Western Riverside County 2035 No-Build Network Daily Traffic Volume (ADT)*



LEGEND

- Average Daily Traffic (ADT) ***
- < 10000
 - 10000 - 20000
 - 20000 - 30000
 - 30000 - 50000
 - 50000 - 80000
 - > 80000
 - Riverside County Model Network

- TUMF ZONE**
- CENTRAL
 - HEMET/SAN JACINTO
 - NORTHWEST
 - PASS
 - SOUTHWEST

0 2.5 5 10 Miles

(* Based on RIVTAM model 2035 No-build Network with 2035 SED; PCE factor applied)

EXHIBIT E-5

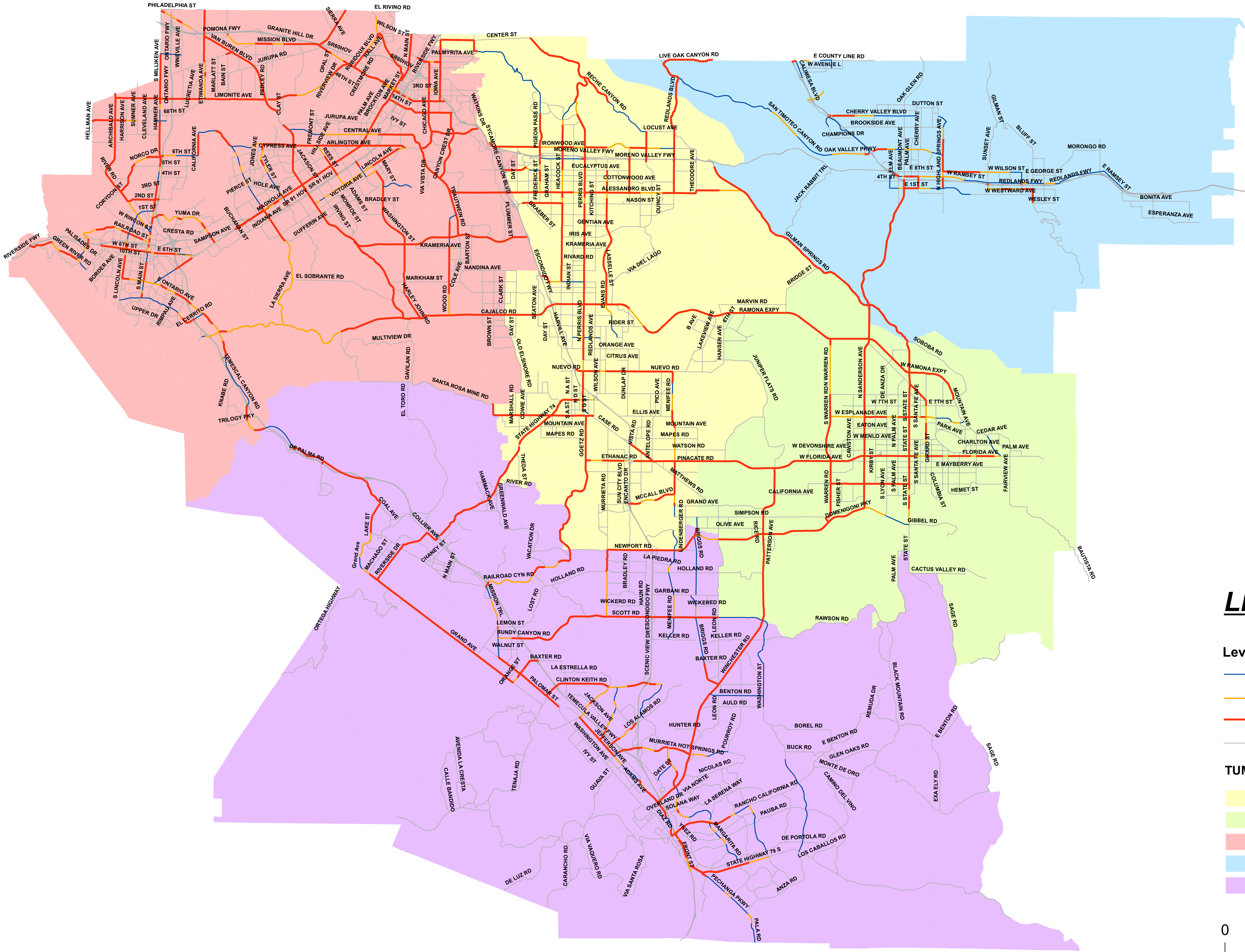
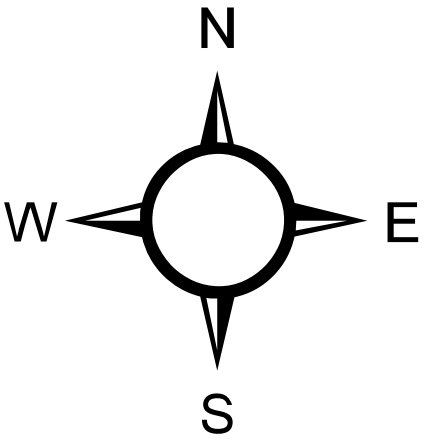
The following pages contain:

Western Riverside County 2035 No-Build Network Level of Service (LOS)

Source: Riverside County Travel Demand Model (RIVTAM)

Western Riverside County

2035 No-Build Network Level of Service (LOS)



LEGEND

Level of Service (LOS)*

- A, B
- C, D
- E, F

Riverside County Model Network

TUMF ZONE

- CENTRAL
- HEMET/SAN JACINTO
- NORTHWEST
- PASS
- SOUTHWEST

0 2.5 5 10 Miles

(* PCE factor applied; based on RIVTAM 2035 No-build scenario daily volume)

EXHIBIT E-6

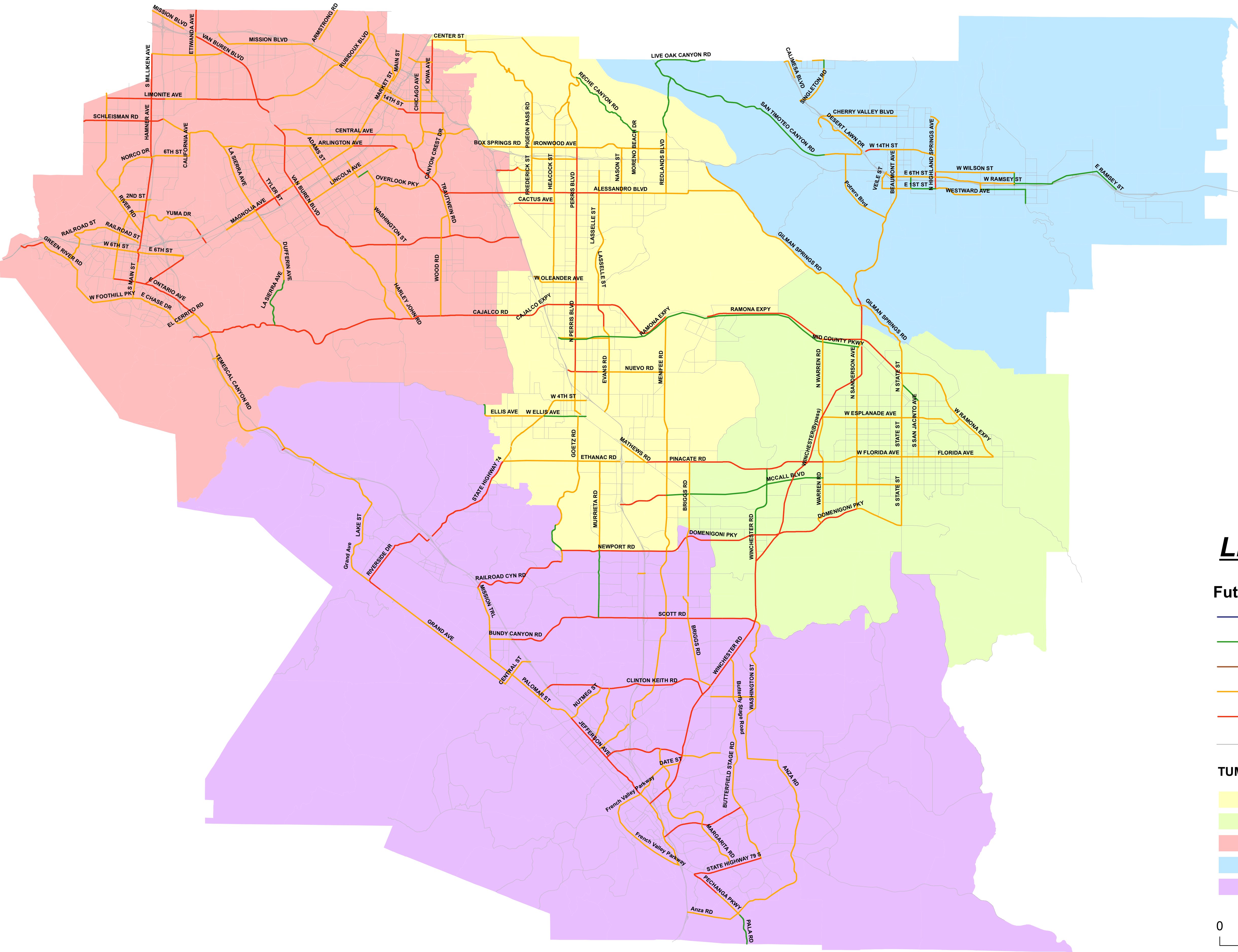
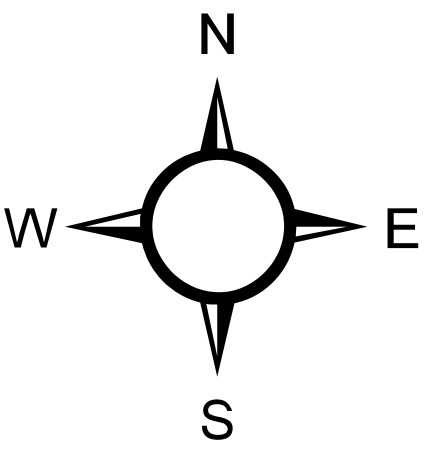
The following pages contain:

Western Riverside County 2035 Build TUMF Network Number of Lanes

Source: Riverside County Travel Demand Model (RIVTAM)

Western Riverside County

2035 Build TUMF Network Number of Lanes



LEGEND

Future (2035) Number of Lanes

- 1
- 2
- 3
- 4
- 6

Riverside County Model Network

TUMF ZONE

- CENTRAL
- HEMET/SAN JACINTO
- NORTHWEST
- PASS
- SOUTHWEST



(Based on RIVTAM Model 2035 Build Network)

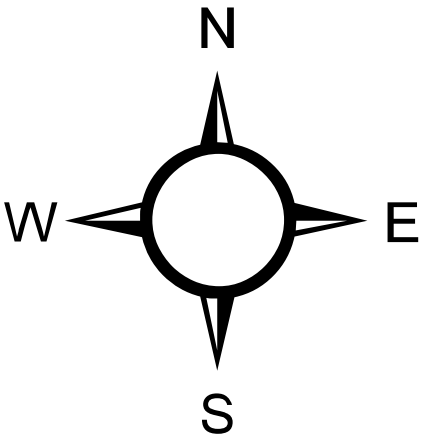
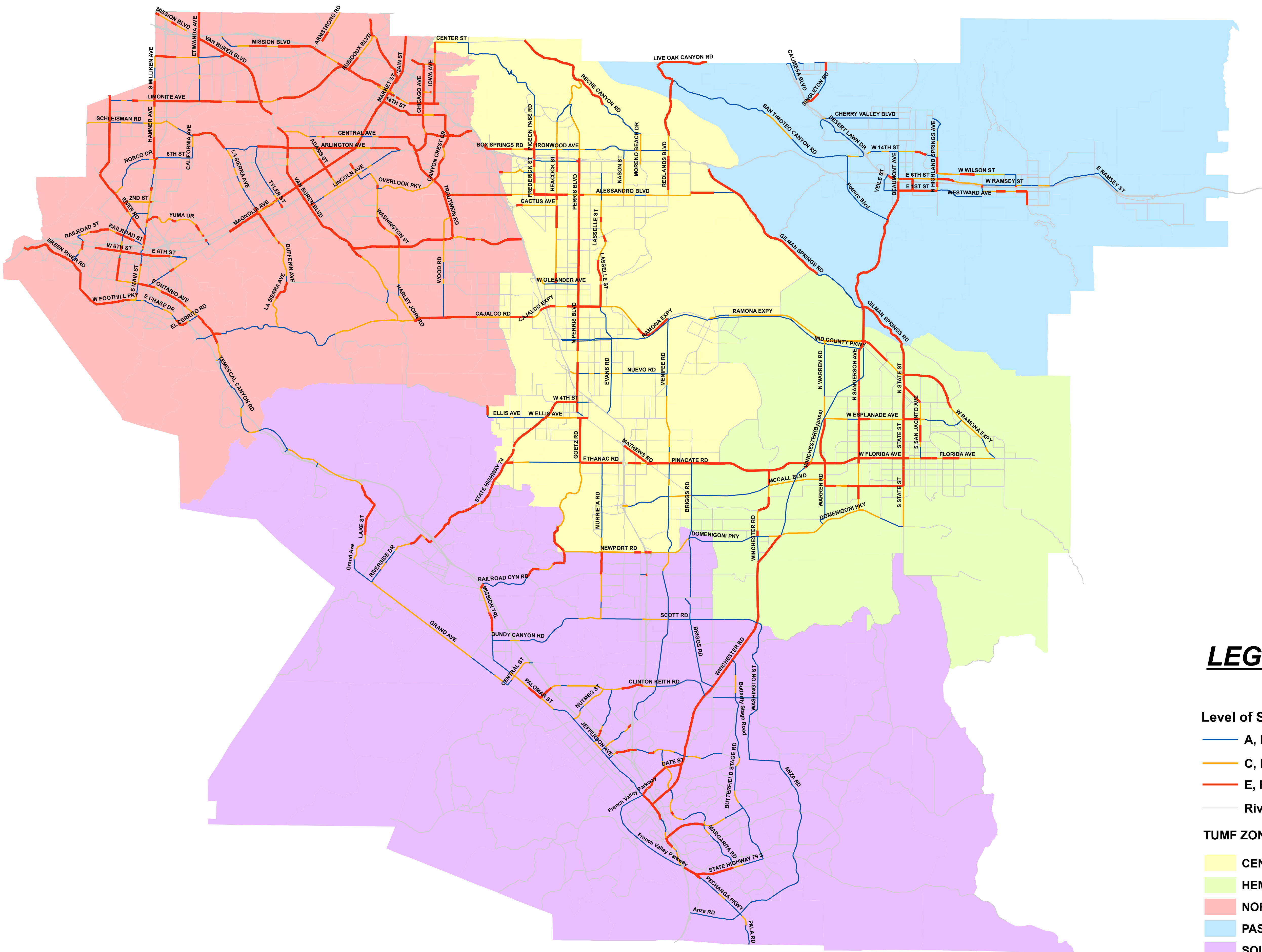
EXHIBIT E-7

The following pages contain:

Western Riverside County 2035 Built Network Level of Service with 2035 SED

Source: Riverside County Travel Demand Model (RIVTAM)

Western Riverside County 2035 Built Network Level of Service



LEGEND

Level of Service (LOS)*

- A, B
- C, D
- E, F
- Riverside County Model Network

TUMF ZONE

- CENTRAL
- HEMET/SAN JACINTO
- NORTHWEST
- PASS
- SOUTHWEST

0 2.5 5 10 Miles

(* Based on RIVTAM 2035 Build TUMF Network Daily Traffic Volume; PCE factor applied)

Appendix F - TUMF Network Cost Assumptions

For the purpose of calculating a “fair share” fee to be applied to new development under the TUMF program, it is necessary to develop planning level estimates of the cost to complete improvements to the endorsed Regional System of Highways and Arterials to adequately accommodate future traffic growth. The planning level cost estimates were established by applying unit cost values to the proposed changes identified in the future Regional System of Highways and Arterials during the designation of the network extents.

Unit cost values were developed for various eligible improvement types that all provide additional capacity needed to mitigate the cumulative regional traffic impacts of new development to facilities on the Regional System of Highways and Arterials. Eligible improvement types include:

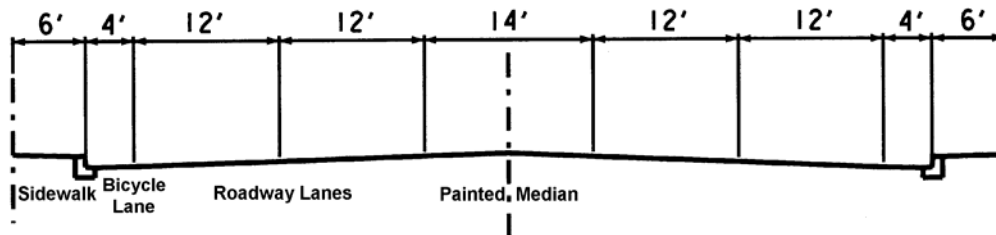
1. Construction of additional Network roadway lanes;
2. Construction of new Network roadway segments;
3. Expansion of existing Network bridge structures;
4. Construction of new Network bridge structures;
5. Expansion of existing Network interchanges with freeways;
6. Construction of new Network interchanges with freeways;
7. Grade separation of existing Network at-grade railroad crossings;
8. Expansion of existing Network-to-Network intersections.

Because roadway improvement standards vary considerably between respective jurisdictions, a typical roadway standard for the TUMF Network was recommended by the Public Works Committee (PWC) during the development of the original TUMF Nexus Study adopted by the WRCOG Executive Committee in October 2002 as the basis for developing the TUMF Network cost estimate. The typical roadway standard assumes the following standard design characteristics that are consistent with the minimum requirements of the Caltrans Highway Design Manual:

- 12 foot wide asphaltic concrete roadway lanes;
- 14 foot painted median (or dual center left turn lane);
- 4 foot wide bike lanes (on the roadway);
- curb and gutter with accompanying roadway stormwater drainage;
- 6 foot wide sidewalks.

A cross-section of the Typical Roadway Standard is illustrated in **Figure F-1**.

Figure F-1. Typical Roadway Standard Cross-Section



It is recognized that the typical roadway standard is not appropriate in all potential TUMF Network locations. Where appropriate, typical design standards could be substituted with design elements such as open swale drainage and paved roadway shoulders with no curbing that would typically cost less than the implementation of the Typical Roadway Standard. Roadway improvements in excess of the Typical Roadway Standard (including, but not limited to, Portland concrete cement (PCC) roadway lanes, raised barrier medians, parking lanes, landscaping, streetlighting, aesthetic pavement treatments, separate bicycle paths, etc.) are not eligible for TUMF funding and will be the responsibility of the local funding agency.

Unit cost estimates for the implementation of TUMF Network improvements were developed based on the unit cost to accomplish the Typical Roadway Standard. For simplicity, the roadway unit cost was assumed to provide for the full depth reconstruction (including grading) of 16 feet of new pavement per lane (to accommodate a minimum 12 foot lane and ancillary treatments). The unit cost was assumed to include the following construction elements:

- Sawcut of existing pavement
- Removal of existing pavement
- Roadway excavation and embankment
- 10" thick class 2 aggregate base
- 4.0" thick asphaltic concrete surface
- Concrete curb, gutter and drainage improvements

Right-of-way acquisition costs were determined based on the cost to acquire 18 feet of right-of-way per lane of new roadway improvement. Right-of-way unit costs were assumed to include the following elements:

- Land acquisition
- Documentation and legal fees
- Relocation and demolition costs and condemnation compensation requirements
- Utility relocation
- Direct environmental mitigation

Unit cost was determined for each unique cost item. The source used to determine the unit costs are listed below.

- Caltrans Price Index for Highway Construction items, Second Quarter Ending June 30, 2009
- Caltrans Contract Item Cost Database Webpage
- RCTC Freeway Strategic Study – Phase II
- Overland, Pacific & Cutler, Inc. Right of Way Land Valuations

A typical existing condition of each component type was used as a guide line for quantity assessments.

- Terrain 1: Level terrain with 0% profile grade. Construction cost is per lane mile.
- Terrain 2: Rolling Terrain with 1.5 % profile grade. Construction cost is per lane mile.
- Terrain 3: Mountainous Terrain with 3% profile grade. Construction cost is per lane mile.
- Land Use 1, 2 and 3; ROW cost factor per lane mile, for Urban, Suburban and Rural areas respectively.
- Interchange 1: Complex New Interchange/Interchange Modification. Existing complex interchange at I-15 & SR-91 was used as a guide line for quantity assessments.
- Interchange 2: New Interchange/Interchange Modification is assumed to be a New Cloverleaf Interchange consisting of 4 (3 lane) direct ramps and 4 (2 lane) loop ramps.
- Interchange 3: Major Interchange Improvement is assumed to correspond to adding 1 lane to each ramp on a Cloverleaf Interchange.
- Bridge: New Bridge cost. Construction cost is per linear foot per lane.
- RRXing 1: New Rail Grade Crossing. Construction cost is per lane per crossing.
- RRXing 2: Widening Existing Grade Crossing. Construction cost is per lane per crossing.
- Intersection: Network-to-Network Intersection Upgrade. Upgrade includes adding NB, SB, EB and WB free right turn lanes, and upgrading the traffic signals.

The cost estimating methodology here is intended to provide a Present Value Cost Estimate for the WRCOG Transportation Uniform Mitigation Fee based on year 2009 unit Prices. A more detailed description of cost categories is detailed below.

I. Roadway Items

Roadway Excavation:

A unit cost of \$8.00 per cubic yard (Source: Caltrans Cost Index Summary-June 30, 2009) is applied to account for the excavation quantities. Assuming proposed profiles to be at 0% grade, the excavation values are estimated based on the component type as follows:

- Terrain 2 and 3: excavation for one lane (16 feet wide and 4 feet deep) is assumed.

Imported Borrow:

The unit cost used for imported borrow is \$5.00 per cubic yard (Source: Average Unit value from Caltrans Contract Cost Data 2009). Locations where imported borrow is required are determined from aerial photos.

- Terrain 2 and 3: Excavation for one lane (16 feet wide and 4 feet deep) is assumed.

- Interchanges 1, 2, and 3: Vertical clearance of 24.5 feet is used to calculate the maximum amount of imported borrow at areas adjacent to an undercrossing.
- RRXing 1 and 2: Vertical clearance of 31.5 feet and Bridge approach of 1000 feet is used to determine the quantity of Imported borrow for this component type.

Clearing and Grubbing:

The unit cost for clearing and grubbing is \$2,430.00 per acre (Source: Caltrans Memo).

- Terrain 1, 2 and 3: The area of clearing and grubbing is assumed to extend 16 feet for the addition of each new lane.
- Interchange 1 and 2: The area of clearing and grubbing is assumed to extend 40 feet beyond the proposed outside edge of shoulder. The clearing and grubbing width varies depending on the number of added lanes.
- Interchange 3 and Intersection: The area of clearing and grubbing is assumed to extend 16 feet for the addition of each lane.

Development of Water Supply:

A lump sum value is used to account for develop water supply. The lump sum cost is estimated as 10% of the combined cost for roadway excavation and imported borrow (Source: RCTC Project 2007).

PCC Pavement:

The unit cost for PCC pavement is \$146.00 per cubic yard (Source: Caltrans Cost Index Summary-June 30, 2009).

- Terrain 1, 2 and 3: It is assumed that PCC is used at mainline shoulders. The PCC pavement is considered to be 4 inch thick and 4 feet wide.

Asphalt Concrete Type A:

It is assumed that Asphalt Concrete is used at mainline and where ramp and bridge widening is required. A unit cost of \$125.00 per cubic yard (Source: Caltrans Cost Index Summary) is used to account for asphalt concrete quantities. The asphalt concrete overlay is assumed to be 4 inch thick.

Aggregate Base:

The unit cost for aggregate base is \$58.00 per cubic yard (Source: Average unit value from Caltrans Contract Cost Data 2009). Aggregate base quantities are estimated by means of calculating the areas of additional lanes. The aggregate base layer is considered to be 10 inch thick. It is assumed that aggregate base is used over the entire widening width below the PCC pavement and asphalt concrete layers.

Curb and Gutter:

The unit cost used for curb and gutter is \$34.00 per linear foot (Source: Average unit value from Caltrans Contract Cost Data 2009). It is assumed that type A2-6 curb and gutter is used on the entire length of travel way where required.

Project Drainage:

A lump sum value is used to account for project drainage cost of roadway construction. The project drainage cost is estimated as 15% (Source: RCTC project 2007) of combined cost for earthwork and pavement structural section.

Traffic Signals:

The costs for traffic signals are calculated per ramp termini intersection. The unit cost used for traffic signals is \$250,000 (Source: RCTC project 2007) per intersection. Traffic signals costs are considered only at the Intersection (Network-to-Network) upgrade.

Striping:

The unit cost used for Striping is \$1.00 per linear foot (Source: average unit value from Caltrans Contract Cost Data 2009). It is assumed that two lines of thermo-plastic striping are required for every lane addition.

Marking:

The unit cost used for marking is \$3.72 per square foot (Source: average unit value from Caltrans Contract Cost Data 2009).

- Terrains 1, 2 and 3: It is assumed that there are 8 arrow markers, 2 Stop sign markers and 4 Bike sign markers.
- Interchanges 1, 2, and 3: It is assumed that there are 2 Type I arrows on each on ramp, and 2 Type IV (L) arrows on each off ramp.
- Intersection (network to network) upgrade: It is assumed that there are 2 right turn arrows and two right lane drop arrows for each lane modification for the interchange upgrade

Pavement Marker:

Type G one-way clear retroreflective pavement markers (Spacing @ 48 feet) were assumed for Terrain 1, 2 and 3 component types only. The unit cost used for pavement marker is \$5.25 each (Source: Caltrans Contract Cost Data 2009).

Signage:

The signage unit cost accounts for the costs of one-post signs and two-post signs. The unit cost used for one-post signs and two-post signs are \$273.00 and \$500.00 each respectively. The post sign quantities assumed for each component type is summarized bellow.

Sign Type	Terrain 1, 2 & 3	Interchange			Intersection
		1	2	3	
One Post Signs	33	14	36	20	3
Two Post Signs	-	4	4	4	0

Minor Items, Roadway Mobilization, and Roadway Additions:

A lump sum value is used to account for minor items, roadway mobilization and roadway additions as described below. These lump sum values are recommended based on provisions in Project Development Procedure manual (PDPM) and the

date from individual sources presented in the introduction of this report (Source: RCTC project 2007)

Items	Unit Cost
Minor Items	10% of earthwork, pavement structure, drainage, specialty items and traffic items.
Roadway Mobilization	10% of earthwork, pavement structure, drainage, specialty items, traffic items and minor items.
Roadway Additions	10% of earthwork, pavement structure, drainage, specialty items, traffic items and minor items.

II. Structure Items

New Bridge:

New interchanges account for construction of a new bridge. The unit cost for a new travel way bridge construction and RRXings1 and 2 (New and Widening of Rail Grade Crossings) is \$240.00 per square foot (Source: PB Structural group). The width of a new bridge is assumed to be 82 feet (4 lanes x 12ft + 10ft shoulder x 2 + 14ft median).

Bridge Widening:

Bridge widenings account for the widening of existing bridges. The unit cost is \$270.00 per square foot (Source: PB Structural group). The width of a bridge widening is assumed to be: 2 lanes x 12ft + 10ft shoulder. The width of an arterial crossing over rail road is assumed to be 16 feet (1 lane x 12ft + 4ft shoulder).

Structural Mobilization:

The cost for structural mobilization is estimated as 10% of total structure item cost (Source: RCTC Project 2007).

III. Right of Way Items

The right of way unit costs varies with land use designation. The unit cost for ROW was developed by Overland, Pacific & Cutler, Inc. based on a review of actual land acquisitions for right of way purposes in Western Riverside County. The area of right of way acquisition for travel way is calculated per lane mile, assuming the width to be 18 feet. The right of way acquisition for RRXings1 and 2 is calculated based on ROW acquisition for bridge approach.

Maintenance of Traffic:

A lump sum value is used to account for maintenance of traffic cost of roadway construction. The project maintenance of traffic cost is estimated as 5% (Source: RCTC project 2007) of the total project cost.

The consolidated unit cost values include typical per mile or lump sum costs for each of the eligible improvement construction element. These elements include new roadways, bridge improvements, interchange improvements and railroad grade separation construction costs, and right of way acquisition.

The consolidated unit costs are summarized in **Exhibit F-1**. **Exhibit F-2** provides a summary of the unit costs for the various roadway and structures construction elements defined. **Exhibit F-3** provides a summary of the unit costs for the various right of way categories. **Exhibit F-4** provides worksheets showing the detailed unit cost calculation for each TUMF unit cost category related to roadway and structures construction, and right of way acquisition.

The unit cost assumptions were subsequently applied to the TUMF Network improvements identified to mitigate the cumulative regional transportation impacts of future new development. The resultant cost value was tabulated for each unique segment of the network, by improvement type. A separate cost estimate was generated for improvements to the existing network-to-network intersections and added to summary table. Similarly, a separate cost estimate was generated for regional transit improvements based on information provided by RTA and added to the TUMF Network Cost Estimate table.

Supplemental categories have been added to the cost assumptions to better delineate the costs associated with mitigating the cumulative multi-species habitat impacts of TUMF arterial highway improvements in accordance with the adopted Riverside County Multi-Species Habitat Conservation Plan (MSHCP), and the costs for WRCOG to administer the TUMF program.

Section 8.5.1 of the Riverside County Integrated Project (RCIP) Multiple Species Habitat Conservation Plan (MSHCP) adopted by the Riverside County Board of Supervisors on June 17, 2003 states that “each new transportation project will contribute to Plan implementation. Historically, these projects have budgeted 3% - 5% of their construction costs to mitigate environmental impacts.” This provision is reiterated in the MSHCP Final Mitigation Fee Nexus Report (David Taussig and Associates, Inc., July 1, 2003) section 5.3.1.2 which states that “over the next 25 years, regional infrastructure projects are expected to generate approximately \$250 million in funding for the MSHCP” based on mitigation at 5% of construction costs. To clearly demonstrate compliance with the provisions of the MSHCP, the TUMF program will incorporate a cost element to account for the required MSHCP contribution to mitigate the multi-species habitat impacts of constructing TUMF projects.

In accordance with the MSHCP Nexus Report, an amount equal to 5% of the construction cost for new TUMF network lanes, bridges and railroad grade separations will be specifically included as part of TUMF program with revenues to be provided to the Western Riverside County Regional Conservation Authority (RCA) for the acquisition of land identified in the MSHCP. The relevant sections of the MSHCP document and the MSHCP Nexus Report are included in this Appendix as **Exhibits F-5** and **F-6**, respectively.

Similarly, an amount of 3% of the total TUMF eligible network cost is included as part of the TUMF program with revenues to be utilized by WRCOG to cover the direct costs to administer the program. These costs include direct salary and fringe benefit costs for WRCOG staff assigned to administer the program, and costs for consultant services to support the implementation of the TUMF program.

Table 4.1 summarizes the unit cost estimate assumptions used to develop the TUMF network cost estimate, including a comparison of the original TUMF unit cost assumptions and the current revised unit cost assumptions developed as part of the 2005 Update of the TUMF Nexus Study. Cost estimates are provided in year of original values as indicated.

EXHIBIT F-1 TUMF Unit Cost Assumptions

Arterial Highway Cost Assumptions:						
Component Type	Cost Assumptions as published October 18, 2002	Cost Assumptions per 2005 Update February 6, 2006	Cost Assumptions per 2007 CCI Adjustment	Cost Assumption per 2009 CCI Adjustment	FINAL Cost Assumption per 2009 Nexus Update	Description
Terrain 1	\$550,000	\$640,000	\$658,000	\$695,000	\$628,000	Construction cost per lane mile - level terrain
Terrain 2	\$850,000	\$990,000	\$1,020,000	\$1,078,000	\$761,000	Construction cost per lane mile - rolling terrain
Terrain 3	\$1,150,000	\$1,340,000	\$1,380,000	\$1,458,000	\$895,000	Construction cost per lane mile - mountainous terrain
Landuse 1	\$900,000	\$1,820,000	\$1,930,000	\$1,170,000	\$1,682,000	ROW cost factor per lane mile - urban areas
Landuse 2	\$420,000	\$850,000	\$900,000	\$545,000	\$803,000	ROW cost factor per lane mile - suburban areas
Landuse 3	\$240,000	\$485,000	\$514,000	\$311,000	\$237,000	ROW cost factor per lane mile - rural areas
Interchange 1	n/a	\$46,500,000	\$47,840,000	\$50,554,000	\$43,780,000	Complex new interchange/interchange modification cost
Interchange 2	\$20,000,000	\$23,300,000	\$23,970,000	\$25,330,000	\$22,280,000	New interchange/interchange modification total cost
Interchange 3	\$10,000,000	\$11,650,000	\$11,980,000	\$12,660,000	\$10,890,000	Major interchange improvement total cost
Interchange 4	\$2,000,000	\$2,330,000	\$2,400,000	\$2,536,000	n/a	Minor interchange improvement total cost
Interchange 5	n/a	\$2,500,000	\$2,570,000	\$2,716,000	n/a	TUMF arterial to TUMF arterial interchange (50% of \$5,000,000 total cost assigned to each arterial street)
Bridge 1	\$2,000	\$2,350	\$2,420	\$2,560	\$2,880	Bridge total cost per lane per linear foot
RRXing 1	\$4,500,000	\$5,240,000	\$5,390,000	\$5,696,000	\$4,550,000	New Rail Grade Crossing per lane
RRXing 2	\$2,250,000	\$2,620,000	\$2,700,000	\$2,853,000	\$2,120,000	Existing Rail Grade Crossing per lane
Intersection 1	\$300,000	\$350,000	\$360,000	\$380,000	\$380,000	Upgrade existing network-to-network intersection
Planning	10%	10%	10%	10%	10%	Planning, preliminary engineering and environmental assessment costs based on construction cost only
Engineering	25%	25%	25%	25%	25%	Project study report, design, permitting and construction oversight costs based on construction cost only
Contingency	10%	10%	10%	10%	10%	Contingency costs based on total segment cost
Administration	n/a	n/a	n/a	n/a	3%	TUMF program administration based on total TUMF eligible network cost
MSHCP	n/a	5%	5%	5%	5%	TUMF component of MSHCP based on total TUMF eligible construction cost

Transit Cost Assumptions:						
Component Type	Cost Assumptions as published October 18, 2002	Cost Assumptions per 2005 Update February 6, 2006	Cost Assumptions per 2007 CCI Adjustment	Cost Assumption per 2009 CCI Adjustment	FINAL Cost Assumptions per 2009 Nexus Update	Description
Transit Center	\$6,000,000	\$6,990,000	\$7,190,000	\$7,380,000	\$5,655,000	Regional Transit Centers
Bus Stop	\$10,000	\$11,600	\$12,000	\$12,000	\$27,000	Bus Stop Amenities Upgrade
Service Capital	\$540,000	\$630,000	\$648,000	\$665,000	\$550,000	Regional Corridor Transit Service Capital
Vehicle Fleet	\$325,125	\$380,000	\$391,000	\$401,000	\$550,000	Regional Flyer Vehicle Fleet

EXHIBIT F-2 WRCOG Transportation Uniform Mitigation Fee 2009 Nexus Update Master Unit Cost Summary			
I. Roadway Items	Unit	Unit Cost	Notes
Section 1: Earthwork			
Roadway Excavation			
Travel way	cubic yard	\$8.00	Source: Caltrans Cost Index Summary - June 30, 2009
Imported Borrow			
Travel way	cubic yard	\$5.00	Source: Ave unit value from Caltrans Contract Cost Data 2009
Clearing & Grubbing			
Travel way	acre	\$2,430.00	Caltrans Memo
Develop Water Supply	lump sum	10% of Excavation and Borrow Cost	Same as RCTC 2007
Section 2: Pavement Structural Section			
PCC	cubic yard	\$146.00	Source: Caltrans Cost Index Summary - June 30, 2009
Asphalt Concrete Type A (Including Bike Lane)	cubic yard	\$125.00	Source: Caltrans Cost Index Summary - June 30, 2009 (\$61.38/ TON = \$124/yd3) Density=150Pounds/Cy
Aggregate Base (Including Bike Lane)	cubic yard	\$58.00	Class 2 Aggregate Base. Source: Ave unit value from Caltrans Contract Cost Data 2009
Curb and Gutter	linear foot	\$34.00	Source: Ave unit value from Caltrans Contract Cost Data 2009. Used Standard Plan 2006 for Curb and Gutter cross section Properties (Type A2-6), Sheet # A87A
Section 3: Drainage			
Project Drainage	lump sum	15% of Sections 1 and 2	Same as RCTC 2007
Section 4: Specialty Items			
Retaining Walls	square foot	\$85.00	Source: Jim Lia (structural group). Assuming an average wall height of 16'
Ramp Realignment	each		
Water Quality and Erosion Control	lump sum	3% of sections 1 to 3	Same as RCTC 2007
Environmental Mitigation	lump sum	3% of sections 1 to 3	Same as RCTC 2007
Section 5: Traffic Items			
Lighting	each	\$7,500	Source: SR-91 cost estimate 2009. \$7,500 per Lighting @ 200' spacing.
Traffic Signals	each	\$250,000	Same As RCTC 2007
Striping - Thermo plastic (1 GP Lane, per direction)	linear foot	\$1.00	Source: Ave unit value from Caltrans Contract Cost Data 2009. Assuming 2 lines per lane.
Marking	square foot	\$3.72	Source: Ave unit value from CCCD 2009. 8 x Arrow markers per lane per mile, 2 x STOP ahead sign, Speed Limit, 4 x Bike sign. 2006 Standard Plans A24A,C.
Pavement Marker (Type G One-way Clear Retroreflective)	each	\$5.25	Source: Ave unit value from Caltrans Contract Cost Data 2009 (Dis 7). Spacing 48': 110 markers/mile. 2006 Standard Plans, A20A.
Signage - 1 Post	each	\$273.00	Source: Ave unit value from Caltrans Contract Cost Data 2009. Refer to Signage Cost Calculation Sheet
Signage - 2 Post	each	\$500.00	Source: Ave unit value from Caltrans Contract Cost Data 2009
Section 6: Minor Items	lump sum	10% of sections 1 to 5	Same as RCTC 2007?
Section 7: Roadway Mobilization	lump sum	10% of sections 1 to 6	Same as RCTC 2007?
Section 8:Roadway Additions	lump sum	10% of sections 1 to 6	Same as RCTC 2007?
II. STRUCTURE ITEMS			
Major New Interchange - 2 Lane New Bridge	square foot	\$240.00	Interchange/Interchange, Cloverleaf Interchange - Cost provided by Structural Group (Pooya Haddadi)
New Interchange - 2 Lane New Bridge	square foot	\$240.00	Interchange/Interchange, Diamond Interchange - Cost provided by Structural Group (Pooya Haddadi)
Major Interchange Improvement - 2 Lane Bridge Widening	square foot	\$270.00	Interchange/Interchange, Cloverleaf Interchange - Cost provided by Structural Group (Pooya Haddadi)
Bridge	square foot	\$240.00	Cost provided by Structural Group (Pooya Haddadi)
Structure Mobilization	lump sum	10% of structure cost	Same as RCTC 2007?
III. RIGHT OF WAY ITEMS			
Urban			
Travel Way - Additional lane	square foot	\$71	Provided by Overland, Pacific & Cutler, Inc.
Suburban			
Travel Way - Additional lane	square foot	\$34	Provided by Overland, Pacific & Cutler, Inc.
Rural			
Travel Way - Additional lane	square foot	\$2	Provided by Overland, Pacific & Cutler, Inc.
Utility Relocation	lump sum	10% of ROW	Includes mobilization for one occurrence per lane mile
Total Items		I + II + III	Same as RCTC 2007
Maintenance of Traffic	lump sum	5% of total items	Same as RCTC 2007
Total Project Cost / lane mile			

EXHIBIT F-3
WRCOG Transportation Uniform Mitigation Fee
2009 Nexus Update Master Property Cost Summary

URBAN	Avg. \$ per SF	% of Total Area	Weighted Cost
Commercial			
Part Take	\$25	43	\$10.75
Full Take	\$210	10	\$21.00
		<u>53%</u>	
Industrial			
Part Take	\$14	17	\$2.38
Full Take	\$110	10	\$11.00
		<u>27%</u>	
Single Family Residential			
Part Take	\$17	5	\$0.85
Full Take	\$140	7	\$9.80
		<u>12%</u>	
Multi Family Residential			
Part Take	\$25	4	\$1.00
Full Take	\$175	4	\$7.00
		<u>8%</u>	
Average Unit Price per Square Foot:			<u>\$63.78</u>
Residential & Non-Res. Relocation (9%):			\$5.74
Demolition (2%)			<u>\$1.28</u>
Urban Unit Cost per Square Foot:			\$70.80
SUBURBAN	Avg. \$ per SF	% of Total Area	Weighted Share
Commercial			
Part Take	\$13	16	\$2.08
Full Take	\$165	4	\$6.60
		<u>20%</u>	
Industrial			
Part Take	\$10	8	\$0.80
Full Take	\$85	2	\$1.70
		<u>10%</u>	
Single Family Residential			
Part Take	\$8	40	\$3.20
Full Take	\$82	10	\$8.20
		<u>50%</u>	
Multi Family Residential			
Part Take	\$13	15	\$1.95
Full Take	\$135	5	\$6.75
		<u>20%</u>	
Average Unit Price per Square Foot:			<u>\$31.28</u>
Residential & Non-Res. Relocation (7%):			\$2.19
Demolition (1%)			<u>\$0.31</u>
Suburban Unit Cost per Square Foot:			\$33.78
RURAL	\$ per SF		
Range of Value of Rural Vacant land sold within last year:			\$0.7 - \$3.84
Average price per square foot of rural land:			\$2.27
Miscellaneous improvements (10%):			<u>\$0.23</u>
Rural Unit Cost per Square Foot:			\$2.50

EXHIBIT F-4
WRCOG Transportation Uniform Mitigation Fee
Cost Assumption Estimate - 2009 Nexus Update
Terrain 1 - Level Terrain

I. ROADWAY ITEMS	Unit	Unit Cost	Quantity / lane mile	Cost / lane mile
<u>Section 1: Earthwork</u>				
Roadway Excavation				
Travel way	cubic yard	\$8.00	0.00	\$0
Imported Borrow				
Travel way	cubic yard	\$5.00	0.00	\$0
Clearing & Grubbing				
Travel way	acre	\$2,430.00	1.94	\$4,713
Develop Water Supply	lump sum	10% of Excavation and Borrow Cost	1.00	\$0
<u>Section 2: Pavement Structural Section</u>				
Sidewalk				
PCC	cubic yard	\$146.00	258.13	\$37,687
Travel way				
Asphalt Concrete Type A	cubic yard	\$125.00	1,032.53	\$129,067
Aggregate Base	cubic yard	\$58.00	2,596.98	\$150,625
Curb and Gutter	linear foot	\$34.00	5,280.00	\$179,520
<u>Section 3: Drainage</u>				
Project Drainage	lump sum	15% of Sections 1 and 2	1.00	\$75,242
<u>Section 5: Traffic Items</u>				
Striping - Thermo plastic (1 GP Lane, per direction)	linear foot	\$1.00	10,560.00	\$10,560
Marking	square foot	\$3.72	211.50	\$787
Pavement Marker (Type G One-way Clear Retroreflective)	each	\$5.25	110.00	\$578
Signage - 1 Post (Mainline)	each	\$273.00	33.00	\$9,009
Total Items		I		\$597,787
Maintenance of Traffic		5% of total items	1.00	\$29,889
Project Cost / Lane mile				\$627,676

EXHIBIT F-4 (Continued)
WRCOG Transportation Uniform Mitigation Fee
Cost Assumption Estimate - 2009 Nexus Update
Terrain 2 - Rolling Terrain

I. ROADWAY ITEMS	Unit	Unit Cost	Quantity / lane mile	Cost / lane mile
<u>Section 1: Earthwork</u>				
Roadway Excavation				
Travel way	cubic yard	\$8.00	7,739.26	\$61,914
Imported Borrow				
Travel way	cubic yard	\$5.00	7,739.26	\$38,696
Clearing & Grubbing				
Travel way	acre	\$2,430.00	1.94	\$4,713
Develop Water Supply	lump sum	10% of Excavation and Borrow Cost	1.00	\$10,061
<u>Section 2: Pavement Structural Section</u>				
Sidewalk				
PCC	cubic yard	\$146.00	258.13	\$37,687
Travel way				
Asphalt Concrete Type A	cubic yard	\$125.00	1,032.53	\$129,067
Aggregate Base	cubic yard	\$58.00	2,596.98	\$150,625
Curb and Gutter	linear foot	\$34.00	5,280.00	\$179,520
<u>Section 3: Drainage</u>				
Project Drainage	lump sum	15% of Sections 1 and 2	1.00	\$91,842
<u>Section 5: Traffic Items</u>				
Striping - Thermo plastic (1 GP Lane, per direction)	linear foot	\$1.00	10,560.00	\$10,560
Marking	square foot	\$3.72	211.50	\$787
Pavement Marker (Type G One-way Clear Retroreflective)	each	\$5.25	110.00	\$578
Signage - 1 Post (Mainline)	each	\$273.00	33.00	\$9,009
Total Items		I		\$725,059
Maintenance of Traffic		5% of total items	1.00	\$36,253
Project Cost / Lane mile				\$761,312

EXHIBIT F-4 (Continued)
WRCOG Transportation Uniform Mitigation Fee
Cost Assumption Estimate - 2009 Nexus Update
Terrain 3 - Mountainous Terrain

I. ROADWAY ITEMS	Unit	Unit Cost	Quantity / lane mile	Cost / lane mile
<u>Section 1: Earthwork</u>				
Roadway Excavation				
Travel way	cubic yard	\$8.00	15,478.52	\$123,828
Imported Borrow				
Travel way	cubic yard	\$5.00	15,478.52	\$77,393
Clearing & Grubbing				
Travel way	acre	\$2,430.00	1.94	\$4,713
Develop Water Supply	lump sum	10% of Excavation and Borrow Cost	1.00	\$20,122
<u>Section 2: Pavement Structural Section</u>				
Sidewalk				
PCC	cubic yard	\$146.00	258.13	\$37,687
Travel way				
Asphalt Concrete Type A	cubic yard	\$125.00	1,032.53	\$129,067
Aggregate Base	cubic yard	\$58.00	2,596.98	\$150,625
Curb and Gutter	linear foot	\$34.00	5,280.00	\$179,520
<u>Section 3: Drainage</u>				
Project Drainage	lump sum	15% of Sections 1 and 2	1.00	\$108,443
<u>Section 5: Traffic Items</u>				
Striping - Thermo plastic (1 GP Lane, per direction)	linear foot	\$1.00	10,560.00	\$10,560
Marking	square foot	\$3.72	211.50	\$787
Pavement Marker (Type G One-way Clear Retroreflective)	each	\$5.25	110.00	\$578
Signage - 1 Post (Mainline)	each	\$273.00	33.00	\$9,009
Total Items		I		\$852,331
Maintenance of Traffic		5% of total items	1.00	\$42,617
Project Cost / Lane mile			\$894,947	

EXHIBIT F-4 (Continued)
WRCOG Transportation Uniform Mitigation Fee
Cost Assumption Estimate - 2009 Nexus Update

Landuse 1 - ROW Urban areas

	Unit	Unit Cost	Quantity / lane mile	Cost / lane mile
III. RIGHT OF WAY ITEMS				
<u>Urban</u>				
Travel Way	square foot	\$70.80	95,040.00	\$6,728,433
Project Cost / Lane mile			25%	\$1,682,108

Landuse 2 - ROW Suburban Areas

	Unit	Unit Cost	Quantity / lane mile	Cost / lane mile
III. RIGHT OF WAY ITEMS				
<u>Suburban</u>				
Travel Way	square foot	\$33.78	95,040.00	\$3,210,679
Project Cost / Lane mile			25%	\$802,670

Landuse 3 - ROW Rural areas

I. Roadway Items	Unit	Unit Cost	Quantity / lane mile	Cost / lane mile
III. RIGHT OF WAY ITEMS				
<u>Rural</u>				
Travel Way	square foot	\$2.50	95,040.00	\$237,315
Project Cost / Lane mile				\$237,315

EXHIBIT F-4 (Continued)
WRCOG Transportation Uniform Mitigation Fee
Cost Assumption Estimate - 2009 Nexus Update
Interchange 1 - Complex New Interchange/Interchange Modification

I. ROADWAY ITEMS	Unit	Unit Cost	Quantity / lane mile	Cost / lane mile
<u>Section 1: Earthwork</u>				
Imported Borrow				
Travel way	cubic yard	\$5.00	700,000.00	\$3,500,000
Clearing & Grubbing				
Travel way	acre	\$2,430.00	51.93	\$126,189
Develop Water Supply	lump sum	10% of Excavation and Borrow Cost	1.00	\$350,000
<u>Section 2: Pavement Structural Section</u>				
Asphalt Concrete Type A (Including Bike Lane)	cubic yard	\$125.00	13,500.00	\$1,687,500
Aggregate Base (Including Bike Lane)	cubic yard	\$58.00	34,000.00	\$1,972,000
Curb and Gutter	linear foot	\$34.00	31,000.00	\$1,054,000
<u>Section 3: Drainage</u>				
Project Drainage	lump sum	15% of Sections 1 and 2	1.00	\$1,303,453
<u>Section 5: Traffic Items</u>				
Striping - Thermo plastic (1 GP Lane, per direction)	linear foot	\$1.00	84,250.00	\$84,250
Marking	square foot	\$3.72	368.00	\$1,369
Signage - 1 Post	each	\$273.00	14.00	\$3,822
Signage - 2 Post	each	\$500.00	4.00	\$2,000
II. STRUCTURE ITEMS				
Complex New Interchange - 2 Lane New Bridge	square foot	\$240.00	140,400.00	\$33,696,000
Total Items		I + II + III		\$43,780,583
Total Project Cost / lane mile				\$43,780,583

EXHIBIT F-4 (Continued)
WRCOG Transportation Uniform Mitigation Fee
Cost Assumption Estimate - 2009 Nexus Update
Interchange 2 - New Interchange/Interchange Modification

I. ROADWAY ITEMS	Unit	Unit Cost	Quantity / lane mile	Cost / lane mile
<u>Section 1: Earthwork</u>				
Imported Borrow				
Travel way	cubic yard	\$5.00	400,000.00	\$2,000,000
Clearing & Grubbing				
Travel way	acre	\$2,430.00	25.12	\$61,051
Develop Water Supply	lump sum	10% of Excavation and Borrow Cost	1.00	\$200,000
<u>Section 2: Pavement Structural Section</u>				
Asphalt Concrete Type A (Including Bike Lane)	cubic yard	\$125.00	7,040.00	\$880,000
Aggregate Base (Including Bike Lane)	cubic yard	\$58.00	17,706.67	\$1,026,987
Curb and Gutter	linear foot	\$34.00	16,000.00	\$544,000
<u>Section 3: Drainage</u>				
Project Drainage	lump sum	15% of Sections 1 and 2	1.00	\$706,806
<u>Section 5: Traffic Items</u>				
Striping - Thermo plastic (1 GP Lane, per direction)	linear foot	\$1.00	43,200.00	\$43,200
Marking	square foot	\$3.72	368.00	\$1,369
Signage - 1 Post	each	\$273.00	36.00	\$9,828
Signage - 2 Post	each	\$500.00	4.00	\$2,000
II. STRUCTURE ITEMS				
New Interchange - 2 Lane New Bridge	square foot	\$240.00	70,000.00	\$16,800,000
Total Items		I + II + III		\$22,275,241
Total Project Cost / lane mile				\$22,275,241

EXHIBIT F-4 (Continued)
WRCOG Transportation Uniform Mitigation Fee
Cost Assumption Estimate - 2009 Nexus Update
Interchange 3 - Major Interchange Improvement

I. ROADWAY ITEMS	Unit	Unit Cost	Quantity / lane mile	Cost / lane mile
<u>Section 1: Earthwork</u>				
Imported Borrow				
Travel way	cubic yard	\$5.00	180,000.00	\$900,000
Clearing & Grubbing				
Travel way	acre	\$2,430.00	3.97	\$9,640
Develop Water Supply	lump sum	10% of Excavation and Borrow Cost	1.00	\$90,000
<u>Section 2: Pavement Structural Section</u>				
Asphalt Concrete Type A (Including Bike Lane)	cubic yard	\$125.00	3,128.89	\$391,111
Aggregate Base (Including Bike Lane)	cubic yard	\$58.00	7,869.63	\$456,439
Curb and Gutter	linear foot	\$34.00	16,000.00	\$544,000
<u>Section 3: Drainage</u>				
Project Drainage	lump sum	15% of Sections 1 and 2	1.00	\$358,678
<u>Section 5: Traffic Items</u>				
Striping - Thermo plastic (1 GP Lane, per direction)	linear foot	\$1.00	32,000.00	\$32,000
Marking	square foot	\$3.72	184.00	\$684
Signage - 1 Post	each	\$273.00	20.00	\$5,460
Signage - 2 Post	each	\$500.00	4.00	\$2,000
II. STRUCTURE ITEMS				
Major Interchange Improvement - 2 Lane Bridge Widening	square foot	\$270.00	30,000.00	\$8,100,000
Total Items		I + II + III		\$10,890,012
Total Project Cost / lane mile				\$10,890,012

EXHIBIT F-4 (Continued)
WRCOG Transportation Uniform Mitigation Fee
Cost Assumption Estimate - 2009 Nexus Update
RRXing 1 - New Rail Grade Crossing

I. ROADWAY ITEMS	Unit	Unit Cost	Quantity / lane mile	Cost / lane mile
<u>Section 1: Earthwork</u>				
Imported Borrow				
Travel way	cubic yard	\$5.00	17,931.03	\$89,655
<u>Section 2: Pavement Structural Section</u>				
Asphalt Concrete Type A (Including Bike Lane)	cubic yard	\$125.00	782.22	\$97,778
Aggregate Base (Including Bike Lane)	cubic yard	\$58.00	1,967.41	\$114,110
Curb and Gutter	linear foot	\$34.00	1,180.00	\$40,120
<u>Section 3: Drainage</u>				
Project Drainage	lump sum	15% of Sections 1 and 2	1.00	\$51,249
<u>Section 5: Traffic Items</u>				
Striping - Thermo plastic (1 GP Lane, per direction)	linear foot	\$1.00	1,180.00	\$1,180
II. STRUCTURE ITEMS				
Bridge	square foot	\$240.00	2,880.00	\$691,200
III. RIGHT OF WAY ITEMS				
<u>Urban</u>				
Travel Way - Additional lane	square foot	\$70.80	49,000.00	\$3,468,994
Total Items		I + II + III		\$4,554,286
Total Project Cost / lane mile				\$4,554,286

EXHIBIT F-4 (Continued)
WRCOG Transportation Uniform Mitigation Fee
Cost Assumption Estimate - 2009 Nexus Update
RRXing 2 - Widen Existing Rail Grade Crossing

I. ROADWAY ITEMS	Unit	Unit Cost	Quantity / lane mile	Cost / lane mile
<u>Section 1: Earthwork</u>				
Imported Borrow				
Travel way	cubic yard	\$5.00	17.78	\$89
<u>Section 2: Pavement Structural Section</u>				
Asphalt Concrete Type A (Including Bike Lane)	cubic yard	\$125.00	782.22	\$97,778
Aggregate Base (Including Bike Lane)	cubic yard	\$58.00	1,967.41	\$114,110
Curb and Gutter	linear foot	\$34.00	1,180.00	\$40,120
<u>Section 3: Drainage</u>				
Project Drainage	lump sum	15% of Sections 1 and 2	1.00	\$37,814
<u>Section 5: Traffic Items</u>				
Striping - Thermo plastic (1 GP Lane, per direction)	linear foot	\$1.00	1,180.00	\$1,180
II. STRUCTURE ITEMS				
Bridge	square foot	\$240.00	2,880.00	\$691,200
III. RIGHT OF WAY ITEMS				
<u>Urban</u>				
Travel Way - Additional lane	square foot	\$70.80	16,000.00	\$1,132,733
Total Items		I + II + III		\$2,115,024
Total Project Cost / lane mile				\$2,115,024

EXHIBIT F-4 (Continued)
WRCOG Transportation Uniform Mitigation Fee
Cost Assumption Estimate - 2009 Nexus Update
Bridge 1 - New Bridge Cost

II. STRUCTURE ITEMS	Unit	Unit Cost	Quantity / lane mile	Cost / lane mile
Bridge	square foot	\$240.00	12.00	\$2,880
Total Items		I + II + III		\$2,880
Total Project Cost / lane mile				\$2,880

EXHIBIT F-5

Riverside County Integrated Project (RCIP) Multiple Species Habitat Conservation Plan (MSHCP)

adopted by the Riverside County Board of Supervisors on June 17, 2003

Section 8.0 MSHCP Funding/Financing of Reserve Assembly and Management

8.0 MSHCP Funding/Financing of Reserve Assembly and Management



8.5 LOCAL FUNDING PROGRAM

The following local funding plan describes the local commitment for funding Reserve Assembly, Management, and Monitoring.

The local funding program includes funding from a variety of sources, including but not limited to, regional funding resulting from the importation of waste into landfills in Riverside County, mitigation for regional public infrastructure projects, mitigation for private infrastructure projects, mitigation for private Development, funds generated by local or regional incentive programs that encourage compact growth and the creation of transit-oriented communities, and dedications of lands in conjunction with local approval of private development projects.

The local funding program will fund the local portion of:

- Land acquisition
- Management
- Monitoring
- Adaptive Management
- Plan administration

8.5.1 Funding Sources

Local funding sources include funding from both public and private developers and regional entities in an effort to spread the financial burden of the MSHCP over a broad base. The mix of funding sources provides an equitable distribution of the cost for local mitigation under the MSHCP. In addition to equitably distributing mitigation for local projects, utilizing a mixture of funding sources will help ensure the long-term viability of the local funding program because a temporary decline in funding from one source may be offset by increases from another. The proposed local funding sources are described below and include:

- Local Development Mitigation Fees
- Density Bonus Fees
- Regional Infrastructure Project Contribution
- Landfill Tipping Fees

8.0 MSHCP Funding/Financing of Reserve Assembly and Management



- Other Potential New Revenue Sources

➤ **Local Development Mitigation Fees**

New Development affects the environment directly through construction activity and cumulatively through population bases that result from Development. Government Code Section 66000 et seq. allows cities and counties to charge new Development for the costs of mitigating the impacts of new Development. The Cities and County will implement a Development Mitigation Fee pursuant to the MSHCP; this fee will be one of the primary sources of funding the implementation of the MSHCP. The fee ordinance adopted by the Cities and the County will provide for an annual CPI adjustment based upon the Consumer Price Index for “All Urban Consumers” in the Los Angeles-Anaheim-Riverside Area, measured as of the month of December in the calendar year which ends in the previous Fiscal Year. There will also be a provision for the fee to be reevaluated and revised should it be found to insufficiently cover mitigation of new Development. A fee of approximately \$1,500 per residential unit (or an equivalent fee per acre) and \$4,800 per acre of commercial or industrial Development was used in the revenue projection shown in *Appendix B-05* of this document. The projected revenues from the Development Mitigation Fee are anticipated to be approximately \$540 million over the next 25 years. A nexus study is required to demonstrate that the proposed fee is proportionate to the impacts of the new Development.

➤ **Density Bonus Fees**

The New Riverside County General Plan creates a number of incentive plans that have the potential both to further the goals of the County’s General Plan and to facilitate the implementation of the MSHCP. *Section 8.4.2* above discusses the use of the Rural Incentive Program to aid in the Conservation of lands through non-acquisition means. An additional component of the Incentive Program enables developers to acquire the right to develop at an additional 25% increase in density by providing enhancements to their projects and by paying a “Density Bonus Fee.” The fee is anticipated to be \$3,000 – \$5,000 per additional unit. This program offers a significant incentive to developers when compared with the typical cost of creating a new buildable lot.

The Density Bonus program is new to Riverside County, and it is, therefore, difficult to project annual revenues. The Local Funding Program assumes that between 10% and 20% of the residential units built in the unincorporated County area will participate in the incentive program and that only 50% of the revenues of the program will be committed to the MSHCP, with the remaining portion staying in the local community in which the additional units are located to provide additional

8.0 MSHCP Funding/Financing of Reserve Assembly and Management



amenities that will help offset the greater density. Of the 330,000 units projected to be built over the next 25 years, 10% (or 33,000 units) are assumed to be built utilizing the Density Bonus Fee resulting in \$132,000,000 in revenues of which 50% (or \$66,000,000) will be allocated to the MSHCP.

➤ Regional Infrastructure Project Contribution

Regional infrastructure projects directly affect the environment not only through the effect they have on species and their Habitats, but also by facilitating continued new Development. It is appropriate, therefore, for regional infrastructure projects to contribute to Plan implementation . Four general categories of infrastructure projects have been identified:

- Transportation Infrastructure
- Regional Utility Projects
- Local Public Capital Construction Projects
- Regional Flood Control Projects

Transportation Infrastructure

The RCIP has identified the need for approximately \$12 billion in new transportation infrastructure to support the Development proposed for the next 25 years. Each new transportation project will contribute to Plan implementation . Historically, these projects have budgeted 3% – 5% of their construction costs to mitigate environmental impacts. The local funding program anticipates that more than one-half of the \$12 billion cost of contribution to acquisition of Additional Reserve Lands will be funded locally and will result in approximately \$371 million in contribution over the next 25 years as discussed below.

▶ Riverside County's ½ cent sales tax for Transportation

In 1988, Riverside County voters approved a measure to increase local sales tax by ½ cent to fund new transportation projects (Measure A). The sales tax measure is due to be reauthorized in 2002. Under the reauthorization, \$121 million will be allocated as local contribution under the MSHCP. (For further information on the sales tax measure, see *Section 13.5* of the MSHCP Implementing Agreement and *Appendix B-07* of this document).

8.0 MSHCP Funding/Financing of Reserve Assembly and Management



Regional Utility Projects

As Riverside County's population doubles over the next 25 years, new regional utility infrastructure will be required. Since the utilities are not Permittees under the MSHCP, they may choose to mitigate under the Plan or seek their own regulatory permits. In either case, their mitigation will be focused on the objectives of the MSHCP and will contribute to the local implementation funding. No estimate of the number of projects or the scope or costs is available at this time; consequently, no estimate of mitigation funding has been made. The Permittees expect that regional utility projects will contribute to the implementation of the MSHCP and provide an additional contingency should other revenue sources not generate the projected levels of funding or should implementation costs be higher than projected.

Local Public Capital Construction Projects

Local public capital construction projects may include construction of new schools, universities, City or County administrative facilities, jails, courts, juvenile facilities, parks, libraries, or other facilities that serve the public. These projects will be mitigated under the MSHCP and will utilize a per acre mitigation fee based on the fee then in place for private, commercial and industrial Development. No attempt has been made to estimate the number or magnitude of these projects. The Permittees expect that local public construction projects will contribute to the implementation of the MSHCP and provide an additional contingency should other revenue sources not generate the projected levels of funding or should implementation costs be higher than projected.

Regional Flood Control Projects

Flood control projects will receive coverage under the MSHCP for both new capital construction and for the maintenance of existing and new facilities. Preliminary estimates from the Riverside County Flood Control and Water Conservation District indicate that they will likely budget approximately \$15 M in projects annually. Based on using 3% of capital costs, the District would be expected to contribute approximately \$450,000 to \$750,000 annually to MSHCP implementation. Since many flood control projects serve existing developed communities and therefore have less impacts than projects adding capacity to serve new Development and may provide some conservation value especially in terms of Constrained Linkages, the District's contributions may average something below the 5% level on average.

8.0 MSHCP Funding/Financing of Reserve Assembly and Management



➤ **Landfill Tipping Fees**

Riverside County has utilized revenues from public and private landfills in Riverside County to generate funding for conservation and open space projects for over a decade. In 1990, the County utilized \$1 per ton tipping fee assessed all waste deposited in County landfills to fund the acquisition of the Santa Rosa Plateau and approximately \$260,000 annually to fund the operation of the County Park and Open Space Districts. More recently, the County has negotiated agreements with two private landfills in the County to commit \$1 per ton on all waste imported from outside Riverside County to Conservation within Riverside County.

El Sobrante Landfill

This privately owned landfill was permitted to expand its capacity to 10,000 tons per day in 2001. In approving the landfill expansion, the Riverside County Board of Supervisors authorized fifty cents per ton of the County's portion of the revenue from the landfill expansion to be applied to Conservation in addition to the \$1 per ton that was committed under the landfill agreement. The projection of the annual tonnage and revenue for Conservation included in *Appendix B-09* of this document reflects the \$1.5 per ton commitment to Conservation. Over the life of the landfill, 60 million tons of imported waste are allowed. Sixty million tons at \$1.5 per ton will generate \$90 million for Conservation. The Cash Flow Analysis in *Appendix B-10* of this document reflects the annual revenues from the El Sobrante Landfill.

County Landfills

The County Board of Supervisors, beginning in 1990, authorized \$1 per ton for all in-county waste deposited in County landfills to go toward habitat and open space Conservation. After adjusting for the debt service on the Santa Rosa Plateau acquisition and an annual commitment to the Park and Open Space District, there is a projected annual balance of \$400,000 that can be applied to additional Conservation under the MSHCP. *Appendix B-09* of this document includes a projection of tonnage from in-County waste at County landfills. The Cash Flow Analysis in *Appendix B-10* of this document reflects the annual revenues from the County landfills. Over the next 25 years, County landfills will contribute approximately \$10 million to the implementation of the MSHCP.

8.0 MSHCP Funding/Financing of Reserve Assembly and Management



Eagle Mountain

In 1997, the County approved the use of the old Kaiser mine at Eagle Mountain in eastern Riverside County as a regional landfill to serve primarily Los Angeles County. Subsequently, the Los Angeles County Sanitation District has acquired the rights to the Eagle Mountain Landfill and intends to begin operation of the landfill within the next decade. At this time, litigation is still pending that could prohibit the development of the landfill. The Development Agreement with the County would require the payment of \$1 per ton for Conservation if the landfill is developed. Conservation needs in the Coachella Valley would have first priority over the revenues from the Eagle Mountain Landfill; however, some portion of the revenues would be available to support Conservation needs in Western Riverside County. The Permittees expect that the Eagle Mountain Landfill will provide funding to support implementation of the MSHCP over the life of the MSHCP. However, no revenue from the Eagle Mountain Landfill has been projected in the funding program at this time. These potential revenues provide a contingency should other revenue sources not generate the projected levels of funding or should implementation costs be higher than projected.

➤ Potential New Revenue Sources

The County and Cities may levy assessments to pay for services that directly benefit the property on which the fee is levied. Under current law, a local election may be required to initially levy the assessment or to confirm the assessment if a protest is filed. No such assessments are currently projected for the MSHCP. As the MSHCP Conservation Area is developed, however, its value as open space and for recreation opportunities may lend itself to a local funding program for ongoing management and enhancement. In more urban areas, which Western Riverside County will be in 25 years, local voters routinely approve such funding programs.

Other revenue opportunities may be realized over the next 25 years. The County, Cities, and RCA will explore new revenue sources to support the acquisition of the MSHCP Conservation Area and its long-term management and enhancement. A goal of any new fee would be to spread a portion of the costs for the MSHCP across as broad a regional base as possible.

8.0 MSHCP Funding/Financing of Reserve Assembly and Management



**TABLE 8-5
LOCAL PUBLIC/REGIONAL FUNDING SOURCES**

Source Anticipated	\$ Range	Requirements to Implement	Responsible Party
Private Funding Sources:			
Cities and County	\$539.6M	Approval of County Ordinance	County
Development Mitigation Fees		Approval of City(ies) Ordinance	Cities
Density Bonus Fees	\$66M	Approval of General Plan	County
Public Funding Sources			
Local Roads	\$121M	Approval of Measure A, local agreement on allocation	RCTC/County
Other Transportation	\$250M	% of new road construction	RCTC/County
Other infrastructure Projects	\$unknown	Project-by-project negotiation	County and Cities
El Sobrante Landfill	\$90M	In place	County
County Landfills	\$10M	In place	County
Eagle Mountain Landfill	\$unknown	In place pending start-up	County
New Regional funding	\$unknown	Voter approval	County and Cities
TOTAL LOCAL FUNDS	\$1,076.6M		

8.6 ADEQUACY OF FUNDING

The Permittees and the Wildlife Agencies will annually evaluate the performance of the funding mechanisms and, notwithstanding other provisions of the MSHCP, will develop any necessary modifications to the funding mechanisms to address additional funding needs. Additionally, this annual evaluation will include an assessment of the funding plan and anticipate funding needs over the ensuing 18 months for the purpose of identifying any potential deficiencies in cash flow. If deficiencies are identified through this evaluation, then the Permittees and the Wildlife Agencies will develop strategies to address any additional funding needs consistent with the terms and conditions of the MSHCP.

EXHIBIT F-6

MSHCP Final Mitigation Fee Nexus Report

David Taussig and Associates, Inc., July 1, 2003

Section 5.3 Funding Sources for Program Costs

5.3. FUNDING SOURCES FOR PROGRAM COSTS

The local funding program includes revenues from mitigation for local transportation projects, mitigation for regional infrastructure, landfill tipping fees, and local development mitigation fees, as discussed in Sections 5.3.1 through 5.3.4 and summarized in Section 5.3.5. These revenue sources are committed to finance the total MSHCP program costs as described in Section 5.2.

5.3.1 MITIGATION FOR REGIONAL AND LOCAL INFRASTRUCTURE

Transportation, utility, and public capital construction projects are the three general categories of regional and local infrastructure projects, which mitigate for their impacts under the MSHCP. Expected contributions from these sources are discussed in this section of the Nexus Report.

5.3.1.1. Transportation Infrastructure

Riverside County's ½ Cent Sales Tax for Transportation

Under the reauthorization of Measure A, \$121 million will be allocated as local mitigation under the MSHCP.¹⁰⁷

5.3.1.2. Regional Infrastructure

Over the next 25 years, regional infrastructure projects are expected to generate approximately \$250 million in funding for the MSHCP.¹⁰⁸

5.3.1.3. Regional Utility Projects

Public utilities are not Permittees, and therefore have the option to mitigate under the MSHCP or under separate regulatory permits. Mitigation for public utility projects will focus on the objectives of the MSHCP and will contribute to the Local Implementation Funding. No estimate of the number of projects or the scope or costs is available at this time, therefore no estimate of mitigation funding has been made.

¹⁰⁷ The Measure A contribution consists of approximately \$70 million for CETAP projects and approximately \$51 million for "Named Highway Projects" excluding State and Caltrans. Reference is made to Section 13.5 of the IA and Appendix B-07 of Volume I of the Draft MSHCP for further information on the sales tax measure.

¹⁰⁸ Based on \$5 billion in costs and 5% mitigation. Refer to Appendix B-08 of Volume I of the Draft MSHCP for additional information.

5.3.1.4. Local Public Capital Construction Projects

Local public capital construction projects may include construction of new schools, universities, City or County administrative facilities, jails, courts, juvenile facilities, parks, libraries, or other facilities that serve the public. These projects will be mitigated under the MSHCP and pay the same per acre mitigation fee as the fee then in place for private, commercial and industrial Development. No attempt has been made to estimate the number or magnitude of these projects.

5.3.2 LANDFILL TIPPING FEES

The County has committed monies from landfill tipping fees collected from waste imported from outside Riverside County for Habitat conservation.¹⁰⁹ Approximately \$90 million is expected to be generated from the privately owned El Sobrante Landfill. Once operation begins, revenues from the Eagle Mountain Landfill will also contribute to MSHCP implementation, but no revenues have been projected yet.

5.3.3 SUMMARY OF FUNDING SOURCES

As discussed in Sections 5.3.1 through 5.3.3 above, Table 5-3 summarizes the anticipated revenue sources, the requirements for implementation, and the responsible party for approval of implementation by private and public funding sources.

Table 5-3
Mix of Anticipated Revenue Sources

Source Anticipated	\$ Range	Requirements to Implement	Responsible Party
Public Funding Sources:			
Local Roads	\$121,000,000	Approval of Measure A, local agreement on allocation	RCTC/County
Regional Infrastructure	\$250,000,000	% of new infrastructure construction	County/other agencies
El Sobrante Landfill	\$90,000,000	In place	County
TOTAL LOCAL FUNDS	\$461,000,000		

¹⁰⁹ El Sobrante's contribution assumes 60 million tons of imported waste at \$1.50 per ton. Reference is made to Section 8.5.1 and Appendix B-09 of Volume I of the Draft MSHCP.

The use of a variety of funding sources ensures long-term viability of the overall funding program, as a temporary revenue decline from one source may be offset by revenue increases by others.

5.4. COMPARISON OF PROGRAM COSTS WITH ANTICIPATED REVENUE SOURCES

The LDMF may only be used for Habitat acquisition and program administration. Expected revenues of \$461 million from mitigation for local transportation projects, mitigation for regional infrastructure projects, and landfill tipping fees will be used to fund management, adaptive management, and biological monitoring (the “Other Program Costs”). Table 5-4 sets forth the costs for these activities versus expected revenues.

Table 5-4
Other Program Costs versus Expected Revenues – First 25 Years

Other Program Costs	Amount
Conservation Area Management (152,000 acres)	\$110,984,500
Adaptive Management (152,000 acres)	\$44,500,000
Biological Monitoring (152,000 acres)	\$34,700,000
Total Other Program Costs	\$190,184,500
Expected Revenues	Amount
Local Roads	\$121,000,000
Regional Infrastructure	\$250,000,000
El Sobrante Landfill	\$90,000,000
Total Expected Revenues	\$461,000,000
<i>Difference</i>	\$270,815,500

As indicated in Table 5-4 and Figure 5.1, there is a surplus of approximately \$270.8 million. This amount is not sufficient to fund habitat acquisition and program administration, consequently, the LDMF is an essential component of the overall funding program as expected revenues from mitigation for local transportation projects, mitigation for regional infrastructure, and landfill tipping fees will not cover all of the MSHCP program costs.

Appendix G - TUMF 2009 Program Update Disposition of Network Change Requests

As part of the TUMF Nexus Study 2009 Update, the list of proposed improvements to mitigate the cumulative regional impacts of new development in the TUMF Network Cost Estimate table included in the previously adopted Nexus Study was reviewed for accuracy. In particular, the Network Cost table was reviewed to ensure the included projects were consistent with the mitigation needs identified by the RivTAM future year forecast traffic conditions, and where necessary, to incorporate further improvements to accommodate the additional projected traffic growth associated with new development occurring as a result of extending the program horizon year from 2030 to 2035.

To assist in the review of the Network Cost Estimate table, participating local jurisdictions, private developers and the Riverside County Transportation Commission were asked to submit requests for changes to the TUMF Network. WRCOG subsequently reviewed 79 separate requests for network changes.

The specific project requests were screened by the WRCOG Public Works Directors subcommittee for consistency with TUMF network guidelines during a series of workshop meetings conducted in mid 2009. Based on the findings of the request screening and workshop reviews, elements of specific projects were revised to reflect only necessary network corrections, modifications to project assumptions and to incorporate a limited number of additional segment improvements. Over \$500 million in projects were subsequently eliminated as a result of the screening and cooperative review process. The matrix summarizing the disposition of the requests received as part of the TUMF Nexus Update is included as **Exhibit G-1** in this Appendix.

**EXHIBIT G-1 TUMF 2009 Nexus Update
Disposition of Network Change Requests**

Requesting Jurisdiction	Zone	Segment			Requested Adjustments	Request Summary	Review Comments and Observations	Committee Recommendations	Estimated Fiscal Impacts
		Type	Name	Limits					
Central Zone Network Corrections									
County of Riverside	Central	Backbone	Menifee	SR-74 (Pinacate) to Simpson	Remove type 1 grade separation, not needed in near future	Remove type 1 grade separation from Network.	In an effort to help lower the TUMF fee, RCTC has elected to remove all grade separation improvements east of the I-215.	Support removal Type 1 grade separation, saves Network FI=(\$31.262M).	\$ (31,262,000)
Menifee	Central	Secondary	Holland	Haun Rd to Antelope Rd	Add 350' 4-lane overpass which includes access to and from bridge to Network	Add 350' 4-lane overpass including access to and from bridge to Network	The addition of a 350' overpass spanning the I-215 at Holland will help lower the traffic congestion on Newport and Scott Rd. Developers have widened several sections along Holland to 2 and in some places 4 lanes to help alleviate traffic from new development in the area.	Support addition of 350' overpass. FI=(\$5.846M).	\$ 5,846,000
Menifee	Central	Secondary	McCall	Menifee to SR-79 (Winchester)	Remove type 1 grade separation, not needed in near future	Remove type 1 grade separation from Network.	In an effort to help lower the TUMF fee, RCTC has elected to remove all grade separation improvements east of the I-215.	Support removal Type 1 grade separation, saves Network FI=(\$15.631M).	\$ (15,631,000)
Menifee	Central	Secondary	McCall	SR-79 (Winchester) to Warren	Remove type 1 grade separation, not needed in near future	Remove type 1 grade separation from Network.	In an effort to help lower the TUMF fee, RCTC has elected to remove all grade separation improvements east of the I-215.	Support removal Type 1 grade separation, saves Network FI=(\$15.631M).	\$ (15,631,000)
Menifee	Central	Secondary	SR-74 (Mathews)	I-215 to Ethanac	Remove type 4 interchange category from Network.	Remove type 4 interchange category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal Type 4 interchange costs saves Network \$3.567M.	\$ (3,567,000)
Moreno Valley	Central	Backbone	Cactus	I-215 to Heacock	Network shows 4 lanes going to 4 future lanes for entire segment and RIVTAM model shows no need for more future lanes. However, City states that County's model includes a non-existing arterial configuration that is causing false future traffic readings and wants WRCOG to correct the model and increase future lanes to 6.	Correct nearby arterial configuration on RIVTAM Model and Increase future lanes to 6 on Network.	Unable to correct nearby arterial configuration on County's RIVTAM Model at this time. Corrected WRCOG RIVTAM model and Will Increase future lanes to 6 on Network without costs.	Support addition of 2 extra future lanes without costs to Network. FI=None	\$ -
Moreno Valley	Central	Backbone	Alessandro	I-215 to Perris	Keep type 4 interchange improvements in network. Interchange not expected to be converted from diamond shape in foreseeable future, thus ramp widening could be considered an ultimate improvement.	Keep type 4 interchange costs in Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal Type 4 interchange costs saves Network (\$3.567M).	\$ (3,567,000)
Moreno Valley	Central	Backbone	Heacock	Reche Vista to Cactus	Keep type 4 interchange improvements in network. Interchange not expected to be converted from diamond shape in foreseeable future, thus ramp widening could be considered an ultimate improvement.	Keep type 4 interchange costs in Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal of Type 4 interchange costs saves Network (\$3.567M).	\$ (3,567,000)
Perris	Central	Secondary	Evans	Morgan to Ramona	Network shows 6 current lanes going to 6 lanes for entire segment. However, from Morgan to Ramona only widened to 4 lanes for 0.662 miles.	2007 Nexus shows existing 6 lanes to 6 lanes, with increase of 0 lanes. Correct to 4 going to 6 lanes.	Correct to 4 going to 6 lanes. Add 2 future lanes FI=\$1.388 M	Support correction to current lane configuration FI=\$1.388M	\$ 1,388,000
Perris	Central	Backbone	Evans	Rider to Morgan	Network shows 6 current lanes going to 6 lanes for entire segment. However, from Rider to Morgan only widened to 4 lanes for 0.497 miles.	2007 Nexus shows existing 6 lanes to 6 lanes, with increase of 0 lanes. Correct to 4 going to 6 lanes.	Correct to 4 going to 6 lanes. Add 2 future lanes FI=\$1.158M	Support correction to current lane configuration. FI=\$1.158M	\$ 1,158,000
									\$ (64,833,000)

EXHIBIT G-1 TUMF 2009 Nexus Update
Disposition of Network Change Requests (continued)

Northwest Zone Network Corrections									
Corona	Northwest	Backbone	Foothill	California to I-15	Remove type 4 interchange category from Network.	Remove type 4 interchange category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal Type 4 interchange costs saves Network \$3.567M.	\$ (3,567,000)
Corona	Northwest	Backbone	Mid-County Parkway	Arantine Hills/Eagle Glenn to I-15	Remove Mid-County Parkway from Eagle Glenn to I-215 from Network. Cajalco Road improvements going to 4 future lanes instead of 8.	Remove Mid-County Parkway, from Arantine Hills/Eagle Glenn to I-15 from the Network. FI=(\$10.110 M)	2009 Model shows that the addition of 2 extra future lanes no longer needed through this area. Cajalco Road going to 4 future lanes satisfactory. FI=(\$10.110 M)	Support remove segment Arantine Hills/Eagle Glenn to I-15 from Network. FI=(\$10.110M)	\$ (10,110,000)
Corona	Northwest	Backbone	Mid-County Parkway	I-15 to Harley John	Remove Mid-County Parkway segment from I-15 to Harley John from the Network. Cajalco Road improvements going to 4 future lanes instead of 8.	Remove Mid-County Parkway, from I-15 to Harley John from the Network. FI=(\$133.698 M)	2009 Model shows that the addition of 2 extra future lanes no longer needed through this area. Cajalco Road going to 4 future lanes satisfactory. FI= (\$133.698M)	Support removal segment from I-15 to Harley John from the Network. FI=(\$133.698 M)	\$ (133,698,000)
Corona	Northwest	Secondary	Mid-County Parkway	Harley John to I-215	Remove Mid-County Parkway segment from Harley John to I-215 from the Network. Cajalco Road improvements going to 4 future lanes instead of 8.	Remove Mid-County Parkway, from Harley John to I-215 from the Network. FI=(\$18.374 M)	2009 Model shows that the addition of 2 extra future lanes no longer needed through this area. Cajalco Road going to 4 future lanes satisfactory. FI=(\$18.374 M)	Support removal segment from I-15 to Harley John from the Network. FI=(\$18.374 M)	\$ (18,374,000)
Corona	Northwest	Secondary	Ontario	Lincoln to Buena Vista	Network shows 6 to 6 lanes for entire segment. However, from Lincoln to Buena Vista widened 4 to 6 lanes for 0.354 miles.	Correct segment Lincoln to Buena Vista to show 4 current lanes going to 6. FI= \$531kM	Update segment Lincoln to Buena Vista to 4 current lanes. FI=\$531k	Support correct segment Lincoln to Buena Vista to 4 current lanes. FI=\$531k	\$ 531,000
Corona	Northwest	Secondary	Ontario	Rimpau to I-15	Remove type 4 interchange category from Network.	Remove type 4 interchange category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal Type 4 interchange costs saves Network \$3.567M.	\$ (3,567,000)
Corona	Northwest	Secondary	Serfas Club	SR-91 to Green River	Remove type 4 interchange category from Network.	Remove type 4 interchange category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal Type 4 interchange costs saves Network \$3.567M.	\$ (3,567,000)
County of Riverside	Northwest	Secondary	Archibald	San Bernardino County Line to River	Remove costs associated with the bridge (only applies to bridge) except for \$4 million, developer conditioned to improve the rest.	Remove all bridge costs except for \$4 million (only applies to bridge), developer is conditioned to improve balance	Request is consistent with developer improvements being made to bridge widening work.	Support removal of all costs except for \$4 million on bridge. FI=\$3.056M	\$ (3,056,000)
County of Riverside	Northwest	Secondary	Bellegrave	Cantu-Galleano Ranch to Van Buren	Remove type 5 interchange category from Network.	Remove type 5 intersection category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal of each Type 5 intersection costs saves Network \$3.828M.	\$ (3,828,000)
County of Riverside	Northwest	Backbone	Cajalco	Temescal Canyon to La Sierra	Segment contains existing bridge crossing over Temescal Wash, but not listed in Network. Bridge will need replacement with road widening. Add 175' Bridge.	Add existing 175' Bridge	Existing 175' bridge narrow and will need widening with arterial improvements.	Support correcting Network to add existing 175' bridge. FI =\$1.229M.	\$ 1,229,000
County of Riverside	Northwest	Secondary	Horsethief Canyon	Temescal Canyon to I-15	Remove type 4 interchange category from Network.	Remove type 4 interchange category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal Type 4 interchange costs saves Network \$3.567M.	\$ (3,567,000)
County of Riverside	Northwest	Secondary	Indian Truck Trail	Temescal Canyon to I-15	Remove type 4 interchange category from Network.	Remove type 4 interchange category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal Type 4 interchange costs saves Network \$3.567M.	\$ (3,567,000)
County of Riverside	Northwest	Secondary	Mission	Milliken to SR-60	Remove type 4 interchange category from Network.	Remove type 4 interchange category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal Type 4 interchange costs saves Network \$3.567M.	\$ (3,567,000)

EXHIBIT G-1 TUMF 2009 Nexus Update
Disposition of Network Change Requests (continued)

Northwest Zone Network Corrections, continued									
County of Riverside	Northwest	Secondary	Mission	SR-60 to Santa Ana River	Remove type 4 interchange category from Network.	Remove type 4 interchange category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal Type 4 interchange costs saves Network \$3.567M.	\$ (3,567,000)
County of Riverside	Northwest	Backbone	Valley	Armstrong to Mission	Remove type 3 interchange from Network	Remove type 3 interchange from Network.	In an effort to help lower the TUMF fee, the County requested to remove this nterchange improvement costs from the Network.	Support removal of each Type 3 interchange costs saves Network \$18.3M.	\$ (18,314,000)
County of Riverside	Northwest	Backbone	Van Buren	Bellegrave to Santa Ana River	Remove type 5 interchange category from Network.	Remove type 5 intersection category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal of each Type 5 intersection costs saves Network \$3.828M.	\$ (3,828,000)
Norco	Northwest	Secondary	2nd	River to I-15	Remove type 4 interchange category from Network.	Remove type 4 interchange category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal Type 4 interchange costs saves Network \$3.567M.	\$ (3,567,000)
Norco	Northwest	Secondary	Arlington	North to Arlington	Network shows 4 to 4 lanes for entire segment. However, widened 2 to 4 lanes for 1.022 miles.	Correct segment to show 2 current lanes going to 4.	Correct segment to show 2 current lanes going to 4. FI=\$2.280M	Support correct segment to show 2 current lanes going to 4. FI=\$2.282M	\$ 2,282,000
Norco	Northwest	Secondary	California	Arlington to 6th	Network shows 4 to 4 lanes for entire segment. However, widened 2 to 4 lanes for 1.047 miles.	Correct segment to show 2 current lanes going to 4.	Correct segment to show 2 current lanes going to 4. FI=\$3.517M	Support correct segment to show 2 current lanes going to 4. FI=\$3.517M	\$ 3,517,000
Norco	Northwest	Secondary	Hidden Valley	Hamner to I-15	Remove type 4 interchange category from Network.	Remove type 4 interchange category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal Type 4 interchange costs saves Network \$3.567M.	\$ (3,480,000)
Norco	Northwest	Secondary	Hillside	1st to Hidden Valley	Remove Hillside, 1st to Hidden Valley areterial from Network. Improvements will not be made.	Remove Hillside, 1st to Hidden Valley areterial from Network.	In an effort to help lower the TUMF fee, the City has elected to remove segments that will not be improved in the distant future from the Network.	Support removal Hillside, 1st to Hidden Valley areterial from Network. FI=(\$1.645M)	\$ (1,645,000)
Norco	Northwest	Secondary	River	Archibald to Corydon	Network shows 4 to 4 lanes for entire segment. However, widened 2 to 4 lanes for 1.139 miles.	Correct segment to show 2 current lanes going to 4.	Correct segment to show 2 current lanes going to 4. FI= \$2.339 M	Support correct segment to show 2 current lanes going to 4. FI=\$2.339M	\$ 2,339,000
Riverside	Northwest	Secondary	Adams	SR-91 to Lincoln	Remove type 4 interchange category from Network.	Remove type 4 interchange category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal Type 4 interchange costs saves Network FI=(\$3.567M).	\$ (3,567,000)
Riverside	Northwest	Secondary	Central	SR-91 to Magnolia	Remove type 4 interchange category from Network.	Remove type 4 interchange category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal Type 4 interchange costs saves Network FI=(\$3.567M).	\$ (3,567,000)
Riverside	Northwest	Secondary	Madison	SR-91 to Victoria	Remove type 4 interchange category from Network.	Remove type 4 interchange category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal Type 4 interchange costs saves Network FI=(\$3.567M).	\$ (3,567,000)
Riverside	Northwest	Secondary	Magnolia	BNSF RR to La Sierra	Remove type 4 interchange category from Network.	Remove type 4 interchange category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal Type 4 interchange costs saves Network FI=(\$3.567M).	\$ (3,567,000)

EXHIBIT G-1 TUMF 2009 Nexus Update
Disposition of Network Change Requests (continued)

Northwest Zone Network Corrections, continued									
Riverside	Northwest	Secondary	Main	1st to San Bernardino County Line	Remove type 4 interchange category from Network.	Remove type 4 interchange category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal Type 4 interchange costs saves Network FI=(\$3.567M).	\$ (3,567,000)
Riverside	Northwest	Secondary	University	Redwood to SR-91	Remove type 4 interchange category from Network.	Remove type 4 interchange category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal Type 4 interchange costs saves Network FI=(\$3.567M).	\$ (3,567,000)
Riverside	Northwest	Secondary	University	SR-91 to I-215/SR-60	Remove type 4 interchange category from Network.	Remove type 4 interchange category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support removal Type 4 interchange costs saves Network FI=(\$3.567M).	\$ (3,567,000)
Riverside	Northwest	Secondary	Overlook Parkway	213' East of Kingdom Drive to 1400' West to the Via Vista Gorge	Network shows 4 existing lanes going to 4 future lanes for entire segment. However, widened 2 to 4 lanes for 0.265 miles.	Correct segment to show 2 current lanes going to 4. FI= \$1.309 M	Correct segment to show 2 current lanes going to 4. FI= \$1.309 M	Support correct segment to show 2 current lanes going to 4. FI=\$1.309M	\$ 1,309,000
									\$ (238,631,000)
Hemet/San Jacinto Zone Network Corrections									
San Jacinto	Hemet-San Jacinto	Backbone	Ramona	Warren to Sanderson	Network shows 2 lanes going to 6 lanes for entire segment. However, from segment Warren to Sanderson widened to 4 lanes. for 0.1.795 miles. FI=(\$6.979M).	Update entire segment to show 4 current lanes going to 6.	Correct entire segment to show 4 current lanes going to 6. FI=(\$6.979M).	Support correct segment to show 4 current lanes going to 6.	\$ (6,979,000)
San Jacinto	Hemet-San Jacinto	Backbone	Esplanade	Mountain Ave to Ramona Expressway (proposed)	Esplanade, State to Ramona reported as completed to 4 lanes in 2007 Network Update; however 0.2 miles of Esplanade Ave from Mountain to proposed Ramona Exp. Segment not improved - show 0 to 4 lanes.	Correct Network by adding 0.2 miles of Esplanade, from Mountain to Ramona Expressway. Show 0 to 4 lanes	Esplanade, from Mountain to Ramona Expressway segment not yet improved and needed to close gap. FI=\$1.434M	Support correct segment to show 0 current lanes going to 4. FI=\$1.434M	\$ 1,434,000
									\$ (5,545,000)
Pass Zone Network Corrections									
Banning/ County of Riverside	Pass	Secondary	I-10 Bypass South (Ramsey)	I-10 to Apache Trail	Currently on network as Ramsey Street from I-10 to Fields n/of I-10 for 1.627 miles Change name to I-10 Bypass South, from I-10 to Fields and increase segment by 1.276 miles to terminate at Apache Trail.	Flip current Ramsey Street (I-10 to Fields) to align south of I-10, change name, and increase arterial segment by 1.276 miles to Apache Trail	Flip segment (Ramsey, I-10 to Fields) south of I-10, chang name. Miles 1.627. FI=\$0 Increase limits from Fields to Apache Trail necessary to provide secondary egress in emergency. FI=\$4.962 M	Support flip I-10 Bypass to south of freeway FI= \$0 Plus increase arterial segment to Apache Trail FI=\$4.962 M	\$ 4,962,000
Banning	Pass	Secondary	Wilson (8th)	Wilson(8th) to I-10	Remove type 4 interchange category from Network.	Remove type 4 interchange category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network.	Support remove Type 4 interchange costs saves Network \$3.567M.	\$ (3,567,000)
Beaumont	Pass	Backbone	Potrero	Oak Valley Parkway (STC) to 4th	Segment being improved by the City of Beaumont through their CFD 93-1, therefore remove associated TUMF Costs from Network.	CFD 93-1 funded segment, therefore remove associated TUMF costs from Network	Support removing TUMF costs associated with this segment from the Network. FI=(\$77.705M)	CFD 93-1 funded, support removal associated TUMF costs from Network. CFD 93-1	\$ (77,705,000)
Beaumont	Pass	Secondary	Highland Springs	Oak Valley Parkway (14th) to Wilson (8th)	Segment being improved by the City of Beaumont through their CFD 93-1, therefore remove associated TUMF Costs from Network.	CFD 93-1 funded segment, therefore remove associated TUMF costs from Network	Support removing TUMF costs associated with this segment from the Network. FI=(\$6.098M)	CFD 93-1 funded, support removal associated TUMF costs from Network. CFD 93-1	\$ (3,049,000)
Beaumont	Pass	Backbone	SR-79 (Beaumont)	I-10 to Mellow	Segment being improved by the City of Beaumont through their CFD 93-1, therefore remove associated TUMF Costs from Network.	CFD 93-1 funded segment, therefore remove associated TUMF costs from Network	Support removing TUMF costs associated with this segment from the Network. FI=(\$17.371M)	CFD 93-1 funded, support removal associated TUMF costs from Network. CFD 93-1	\$ (17,371,000)
Beaumont	Pass	Secondary	Highland Springs	17th Street to Oak Valley Parkway (14th Street)	Segment being improved by the City of Beaumont through their CFD 93-1, therefore remove associated TUMF Costs from Network.	CFD 93-1 funded segment, therefore remove associated TUMF costs from Network	Support removing TUMF costs associated with this segment from the Network. FI=(\$3.433M)	CFD 93-1 funded, support removal associated TUMF costs from Network. CFD 93-1	\$ (1,032,000)

EXHIBIT G-1 TUMF 2009 Nexus Update
Disposition of Network Change Requests (continued)

Pass Zone Network Corrections, continued										
Beaumont	Pass	Secondary	Oak Valley Parkway (14th)	Highland Springs to Pennsylvania	Segment being improved by the City of Beaumont through their CFD 93-1, therefore remove associated TUMF Costs from Network.	CFD 93-1 funded segment, therefore remove associated TUMF costs from Network	Support removing TUMF costs associated with this segment from the Network. FI=(\$5.099M)	CFD 93-1 funded, support removal associated TUMF costs from Network. CFD 93-1	\$	(5,099,000)
Beaumont	Pass	Secondary	Oak Valley Parkway (14th)	Pennsylvania to Oak View	Segment being improved by the City of Beaumont through their CFD 93-1, therefore remove associated TUMF Costs from Network.	CFD 93-1 funded segment, therefore remove associated TUMF costs from Network	Support removing TUMF costs associated with this segment from the Network. FI=(\$4.919M)	CFD 93-1 funded, support removal associated TUMF costs from Network. CFD 93-1	\$	(4,919,000)
Beaumont	Pass	Secondary	Oak Valley Parkway (14th)	I-10 to Oak View	Segment being improved by the City of Beaumont through their CFD 93-1, therefore remove associated TUMF Costs from Network.	CFD 93-1 funded segment, therefore remove associated TUMF costs from Network	Support removing TUMF costs associated with this segment from the Network. FI=(\$23.736M)	CFD 93-1 funded, support removal associated TUMF costs from Network. CFD 93-1	\$	(23,736,000)
Beaumont	Pass	Secondary	1st	Viele to Pennsylvania	Segment being improved by the City of Beaumont through their CFD 93-1, therefore remove associated TUMF Costs from Network.	CFD 93-1 funded segment, therefore remove associated TUMF costs from Network	Support removing TUMF costs associated with this segment from the Network. FI=(\$4.946M)	CFD 93-1 funded, support removal associated TUMF costs from Network. CFD 93-1	\$	(4,946,000)
Beaumont	Pass	Secondary	1st	Pennsylvania to Highland Springs	Segment being improved by the City of Beaumont through their CFD 93-1, therefore remove associated TUMF Costs from Network.	CFD 93-1 funded segment, therefore remove associated TUMF costs from Network	Support removing TUMF costs associated with this segment from the Network. FI=(\$4.269M)	CFD 93-1 funded, support removal associated TUMF costs from Network. CFD 93-1	\$	(4,269,000)
Beaumont	Pass	Secondary	Desert Lawn	Champions to Oak Valley Parkway (STC)	Segment being improved by the City of Beaumont through their CFD 93-1, therefore remove associated TUMF Costs from Network.	CFD 93-1 funded segment, therefore remove associated TUMF costs from Network	Support removing TUMF costs associated with this segment from the Network. FI=(\$2.762M)	CFD 93-1 funded, support removal associated TUMF costs from Network. CFD 93-1	\$	(2,762,000)
Beaumont	Pass	Secondary	Highland Springs	Wilson (8th) to Sun Lakes	Segment being improved by the City of Beaumont through their CFD 93-1, therefore remove associated TUMF Costs from Network.	CFD 93-1 funded segment, therefore remove associated TUMF costs from Network	Support removing TUMF costs associated with 1/2 this segment from the Network. Who is improving Interchange? FI=(\$20.364M including interchange)	CFD 93-1 funded, support removal associated TUMF costs from Network. Arterial segment costs split between jurisdictions and I/C costs left on Network.	\$	(8,464,000)
Beaumont	Pass	Secondary	Pennsylvania	6th to 1st	Segment being improved by the City of Beaumont through their CFD 93-1, therefore remove associated TUMF Costs from Network.	CFD 93-1 funded segment, therefore remove associated TUMF costs from Network	Support removing TUMF costs associated with this segment from the Network. FI=(\$17.371M)	CFD 93-1 funded, support removal associated TUMF costs from Network. CFD 93-1	\$	(17,371,000)
Beaumont	Pass	Secondary	Oak Valley Parkway (STC)	Cherry Valley (J Street (Central Overland)) to I-10	Segment being improved by the City of Beaumont through their CFD 93-1, therefore remove associated TUMF Costs from Network.	CFD 93-1 funded segment, therefore remove associated TUMF costs from Network	Support removing TUMF costs associated with this segment from the Network. FI=(\$7.445M)	CFD 93-1 funded, support removal associated TUMF costs from Network. CFD 93-1	\$	(7,445,000)
Beaumont	Pass	Secondary	Viele	4th to 1st	Segment being improved by the City of Beaumont through their CFD 93-1, therefore remove associated TUMF Costs from Network.	CFD 93-1 funded segment, therefore remove associated TUMF costs from Network	Support removing TUMF costs associated with this segment from the Network. FI=(\$2.434M)	CFD 93-1 funded, support removal associated TUMF costs from Network. CFD 93-1	\$	(2,434,000)
Beaumont	Pass	Secondary	Viele	6th to 4th	Segment being improved by the City of Beaumont through their CFD 93-1, therefore remove associated TUMF Costs from Network.	CFD 93-1 funded segment, therefore remove associated TUMF costs from Network	Support removing TUMF costs associated with this segment from the Network. FI=(\$32.755M)	CFD 93-1 funded, support removal associated TUMF costs from Network. CFD 93-1	\$	(32,755,000)
County of Riverside	Pass	Backbone	Potrero	4th to SR-79(Beaumont)	Potrero shows 0 to 4 lanes from OVP to 1st Street, and 0 to 2 lanes from 1st to SR-79. However, Adopted RCTC TIP shows the entire Potrero corridor, from OVP to SR-79 as 0 to 4 lanes. Backbone segment should be corrected to 4 future	The entire corridor will go from 0 to 4 lanes. Increase entire segment to 4 future lanes	Going from 2 to 4 future lanes would be consistent with the balance of 4-lane arterial. Increase network costs. FI=\$8M	Support future lane increase from 2 to 4. FI = \$8.318 million.	\$	8,318,000
City of Calimesa	Pass	Secondary	Cherry Valley	I-10 Interchange (Desert Lawn to Noble)	Need \$2.5 M cost from existing I-10/Cherry Valley I/C costs to cover extra 2 lanes improvement to Cherry Valley extension to meet with Desert Lawn Realignment at Palmer because of I/C Desert Lawn/Cherry Valley safety issues. Deduct \$2.5 M from Interchange costs to cover Cherry Valley/Desert Lawn realignment.	Deduct \$2.5 M from Interchange Costs to help cover Cherry Valley/Desert Lawn realignment costs	Because Cherry Valley extension not on Network and I-10/Cherry Valley I/C a safety issue. Only funding available is \$2.5 M frm I/C costs to cover improvements to Cherry Valley extension & combine with Desert Lawn Realignment at Palmer. Total project cost \$3.3 million.	Support transferring \$2.5 M from Cherry Valley/I-10 I/C to pay for Desert Lawn realignment 2 lanes and Cherry Valley Extension FI=(\$2.5M)	\$	(2,500,000)
City of Calimesa	Pass	Secondary	Cherry Valley Extension	(Roberts Rd 1300' South to Palmer)	Add 1300' segment to network. 2 lanes completed by developer from Roberts Rd south 1300' to Palmer, will connect with realigned Desert Lawn at Palmer. 2 existing lanes going to 4. \$2.5 million to come from I-10/Cherry Valley interchange costs.	Add Cherry Valley Extension south from Roberts Road to Palmer to the network. (2 lanes going to 4).Combine with realigned Desert Lawn at Palmer as one project.	Support adding 1300' Cherry Valley Extension to network. (2 to 4 lanes). Take \$2.5 M cost from existing I-10/Cherry Valley I/C costs. Combine with Desert Lawn Realignment at Palmer. Total project cost \$3.3 million.	Support adding 2-lane Cherry Valley Extension from Roberts Rd to Palmer to Network(will connect with realigned Desert Lawn. \$2.5 M to come from existing I-10/Cherry Valley I/C	\$	2,500,000
City of Calimesa	Pass	Secondary	Desert Lawn Dr. realignment west to Cherry Valley Extension at Palmer Rd.	(0.455 miles west to Palmer)	Realign Desert Lawn Dr .455 miles west to Palmer. 0 to 4 lanes (use existing 2 lane-network \$800k funding and the rest to come from I-10/Cherry Valley Interchange. \$2.5 million to come from I-10/Cherry Valley I/C costs. Total project cost \$3.3M.	Realign Desert Lawn Dr .455 miles west (0 to 4 lanes) to Palmer to connect to Cherry Valley Extension (2 to 4 lanes). Combine with Cherry Valley Extension at Palmer as one project.	Support adding 1300' Cherry Valley Extension to network. (2 to 4 lanes). Take \$2.5 M cost from existing I-10/Cherry Valley I/C costs. Combine with Desert Lawn Realignment at Palmer. FI= \$0	Support realignment on network with a 0 to 4 lane increase. (\$2.5 M to come from existing I-10/Cherry Valley I/C and \$800k from existing new 2 lane funding on Desert Lawn) FI= \$0	\$	-
									\$	(203,644,000)

EXHIBIT G-1 TUMF 2009 Nexus Update
Disposition of Network Change Requests (continued)

Southwest Zone Network Corrections									
Murrieta	Southwest	Backbone	Murrieta Hot Springs	Margarita to SR-79 (Winchester)	Remove type 5 interchange category from Network.	Remove type 5 intersection category from Network.	In an effort to help lower the TUMF fee, the PWC elected to remove all type 4 and 5 interchange improvement costs from the Network. FI=\$3.828M	Support removal of each Type 5 intersection costs saves Network \$3.828M.	\$ (3,828,000)
Murrieta	Southwest	Backbone	Meadowlark Lane (was Menifee)	Keller to Clinton Keith Road	City to realign Menifee Rd , rename it Meadowlark Lane between Keller and Clinton Keith. Meadowlark curves east and becomes Menifee Rd. north of Keller Rd. Road designated as a major arterial on City's Circulation Element (4 lanes w/median, 76 ft curb to curb and 100 ft ROW). This is intended to be a major N/S arterial serving the east side of I-215.	Rename Menifee to Meadowlark Lane, from Clinton Keith to Keller. 0 current lanes going to 4. Using current segment network finances.	Rename Menifee to Meadowlark Lane (Clinton Keith to Keller). 0 current lanes going to 4. Using current segment network finances. FI=None	Support correcting Menifee from Clinton Keith to Keller to Meadowlark Lane, Clinton Keith to Keller to show 0 current lanes going to 4. FI=\$0	\$ -
									\$ (3,828,000)
Total Network Corrections									\$ (516,481,000)

EXHIBIT G-1 TUMF 2009 Nexus Update
Disposition of Network Change Requests (continued)

EXHIBIT G-1 TUMF 2009 Nexus Update
Disposition of Network Change Requests (continued)

Northwest Zone Network Upgrades or Additions									
Riverside	Northwest	Secondary	Magnolia	BNSF RR to La Sierra	Includes new RR Grade Separation, which should have RR Crossing improvement type code 1 rather than 2, since no grade separation currently exists. Adjust cost estimate accordingly.	Change RR Crossing code type to 1 and adjust cost estimate	Grade Separation Code reclassification to type 1 would create a FI= \$14.094 M.	Not in support of Grade Separation Code reclassification at this time. FI=\$14.094 M	\$14,094,000
									\$14,094,000

Pass Zone Network Upgrades or Additions									
Beaumont	Pass	Backbone	Oak Valley Parkway	I-10 Interchange	City in negotiation with Caltrans to re-design, based on PSR. Interchange needs replacing and reclassification from a type 2 to a type 1	Reclassify from type 2 interchange to type 1	Fiscal impact: type 2 = \$25.330 million to type 1 = \$50.554 million or additional \$25.224 million	Not in support of interchange reclassification at this time. FI=\$25.224 M	\$25,224,000
									\$25,224,000

Southwest Zone Network Upgrades or Additions									
Menifee	Southwest	Backbone	Scott Road	I-215 Interchange	Interchange is currently designated as a type 2 interchange. However, the PSR indicates extensive reconstruction of this interchange and an estimated cost of about \$65 million. Suggest upgrading this interchange to a type 1.	Upgrade interchange to a type 1	Fiscal impact: type 2 = \$25.330 million to type 1 = \$50.554 million or additional \$25.224 million	Not in support of interchange reclassification at this time. FI=\$25.224 M	\$25,224,000
									\$25,224,000

Total Network Corrections	\$(516,481,000)
Total Requested Adjustments Network 2009 Update	\$111,920,000

Appendix H - TUMF Network Cost Estimate and Evaluation

For the purpose of calculating the “fair share” fee to be applied to new development under the TUMF program, a planning level cost estimate was developed to reflect the cost to complete improvements to the Regional System of Highways and Arterials to adequately accommodate future traffic growth. The planning level cost estimate was established by applying the unit cost values (presented in **Table 4.1**) to the proposed changes identified for the future Regional System of Highways and Arterials. The resultant cost value was tabulated for each unique segment of the network, by improvement type, based on the proposed list of improvements recommended following the review of the TUMF Network and the 2009 Update screening process (as described in **Section 4.3, Appendix E and Appendix G**). A separate cost estimate was generated for regional transit improvements based on information provided by RTA and added to the summary table. The TUMF Network cost estimate table is summarized in **Table 4.4** of the Nexus Report. The detailed TUMF Network cost estimate table is included in this Appendix as **Exhibit H-1**. The detailed TUMF transit cost estimate table is included as **Table 4.5** of the Nexus Report.

Where existing obligated funding has previously been secured through traditional funding sources to complete necessary improvements to the TUMF Network, the cost of these improvements will not be recaptured from future developments through the TUMF program. As a result, the TUMF network cost was adjusted accordingly to reflect the availability of obligated funds.

Each jurisdiction in Western Riverside County was asked to review their current multi-year capital improvement programs to identify transportation projects on the TUMF system that had previously secured alternate sources of funding. **Exhibit H-2** identifies those projects included on the TUMF Network having previously obligated funding

To account for existing needs in the original TUMF Nexus Study, the cost for facilities identified as currently experiencing LOS E or F was adjusted by extracting the share of the cost to improve the portion of those facilities segments identified in the 2007 Network Level of Service plot with a volume to capacity ratio of greater than 0.90, which is the threshold for LOS E. The adjustment to account for existing need as part of the TUMF Nexus Study provides for the mitigation of incremental traffic growth on those segments with existing need.

The following approach was applied to account for incremental traffic growth associated with new development as part of the existing need methodology:

1. Identify those segments with an existing need by evaluating the RivTAM 2007 base year assigned model networks and delineating those segments included on the TUMF RSHA that have a daily volume to capacity (V/C) ratio exceeding 0.90.
2. Calculate the initial cost of addressing the existing need by estimating the share of the particular roadway segment ‘new lane’ cost (including all associated ROW and new lane construction soft costs but not including interchange,

railroad grade separation and bridge costs and their associated soft costs). It should be noted that where the TUMF network identifies more than one new lane in each direction, only the first lane in each direction is considered to be addressing existing need and any additional new lanes would be fully eligible under TUMF for addressing exclusively future needs.

3. Determine the incremental growth in V/C by comparing the weighted average base year V/C for the TUMF segment (delineated under step 1) with the RivTAM 2035 baseline assigned model network V/C for the corresponding segments.
4. Determine the proportion of the incremental growth attributable to new development by dividing the result of step three with the total 2035 baseline V/C in excess of LOS E.
5. For those segments experiencing a net increase in V/C over the 2007 base year, 'discount' the cost of existing need improvements by the proportion of the incremental V/C growth through 2035 compared to the 2007 base year V/C (up to a maximum of 100%)

Exhibit H-2 includes a detailed breakdown of the existing highway improvement needs on the TUMF network, including the associated unfunded improvement cost estimate for each segment experiencing unacceptable LOS.

For transit service improvements, the cost to provide for existing demand was determined by multiplying the total transit component cost by the share of future transit trips representing existing demand. **Exhibit H-3** reflects the calculation of the existing transit need share and the existing transit need cost.

To validate the effectiveness of the TUMF Network improvements to mitigate the cumulative regional transportation impacts of new development in Western Riverside County, the future TUMF Network was evaluated. The proposed improvements to the Regional System of Highways and Arterials were coded on the 2035 Baseline network derived from RivTAM and the model was run to determine the relative impacts on traffic conditions. To quantify the impacts of the TUMF Network improvements, the various traffic measures of effectiveness described in **Section 3.1** for the 2007 and 2035 base networks were calculated for the 2035 TUMF Network scenario. The results for VMT, VHT, VHD, and total VMT experiencing unacceptable level of service (LOS E) were then compared to the results presented in **Table 3.1** for the no-build conditions. The consolidated results are provided in **Table 4.6**.

EXHIBIT H-1 TUMF Network Detailed Cost Estimate		(RCTC Priority Corridors in Bold)																									
AREA	PLAN DIST	CITY	STREETNAME	SEGMENTFROM	SEGMENTTO	MILES	EXISTINGLN	FUTURELN	INCREASESLN	% COMPLETE	TOPO	LANDUSE	INTERCHG	BRIDGE	RRXING	NEWNLNCOST	ROWCOST	INTCHGCGOST	BRDGGCOST	RRXCOST	PLNG	ENG	CONTIG	TOTAL COST	MAXIMUM TUMF SH#		
San Jacinto		Hemet		Domenigoni	Warren	1.77	4	6	2	0%	0%	1	3	0	0	\$2,225,000	\$840,000		\$0	\$0	\$0	\$223,000	\$556,000	\$307,000	\$4,151,000	\$4,151,000	
San Jacinto		Hemet		Domenigoni	State	2.14	4	4	0	0%	0%	1	3	0	110	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
San Jacinto		Hemet		SR-74	Winchester	2.59	4	6	2	0%	0%	1	2	0	0	\$3,249,000	\$4,155,000		\$0	\$0	\$0	\$325,000	\$812,000	\$740,000	\$9,281,000	\$7,335,000	
San Jacinto	San Jacinto	Mid-County		Warren	Sanderson	1.73	0	2	2	0%	0%	1	2	0	0	0	\$2,169,000	\$2,774,000		\$0	\$0	\$0	\$217,000	\$542,000	\$494,000	\$6,196,000	\$6,196,000
San Jacinto	San Jacinto	Ramona		Warren	Sanderson	1.73	4	6	2	0%	0%	1	2	0	0	0	\$2,169,000	\$2,774,000		\$0	\$0	\$0	\$217,000	\$542,000	\$494,000	\$6,196,000	\$6,196,000
San Jacinto	San Jacinto	Ramona		Sanderson	State	2.39	2	6	4	0%	1	2	2	0	0	\$5,997,000	\$7,668,000		\$0	\$0	\$0	\$600,000	\$1,499,000	\$1,367,000	\$17,131,000	\$13,661,000	
San Jacinto	San Jacinto	Ramona		State	Main	2.66	2	4	2	0%	1	2	0	0	0	\$3,345,000	\$4,278,000		\$0	\$0	\$0	\$335,000	\$836,000	\$762,000	\$9,556,000	\$9,301,000	
San Jacinto	San Jacinto	Ramona		Main	Cedar	2.08	0	4	4	0%	1	2	0	150	0	\$5,225,000	\$6,681,000		\$0	\$1,728,000	\$0	\$695,000	\$1,738,000	\$1,363,000	\$17,430,000	\$17,430,000	
San Jacinto	San Jacinto	Ramona		Cedar	SR-74	1.10	4	4	0	0%	1	2	0	0	0	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
San Jacinto	Unincorporated			Domenigoni	SR-79 (Winchester)	3.10	4	6	2	0%	1	3	0	300	0	\$3,891,000	\$1,468,000		\$0	\$1,728,000	\$0	\$562,000	\$1,405,000	\$709,000	\$9,763,000	\$8,788,000	
San Jacinto	Unincorporated			Gilman Springs	Bridge	2.95	2	4	2	0%	1	3	0	0	0	\$3,704,000	\$1,398,000		\$0	\$0	\$0	\$370,000	\$926,000	\$510,000	\$6,908,000	\$6,908,000	
San Jacinto	Unincorporated			Mid-County	Bridge	2.35	0	2	2	0%	1	3	0	0	0	\$2,951,000	\$1,114,000		\$0	\$0	\$0	\$295,000	\$738,000	\$407,000	\$5,505,000	\$5,505,000	
San Jacinto	Unincorporated			Ramona	Bridge	2.35	2	6	4	0%	1	3	0	0	0	\$5,901,000	\$2,227,000		\$0	\$0	\$0	\$590,000	\$1,475,000	\$813,000	\$11,006,000	\$11,006,000	
San Jacinto	Unincorporated			SR-74	Briggs	3.53	4	6	2	0%	1	3	0	0	0	\$4,428,000	\$1,671,000		\$0	\$0	\$0	\$443,000	\$1,107,000	\$610,000	\$8,259,000	\$8,259,000	
San Jacinto	Unincorporated			SR-79 (Hemet Bypass)	SR-74 (Florida)	3.22	0	6	6	0%	1	3	2	300	0	\$12,133,000	\$4,579,000	\$22,280,000	\$5,184,000	\$0	\$3,960,000	\$9,899,000	\$4,418,000	\$62,453,000	\$62,453,000		
San Jacinto	Unincorporated			SR-79 (Hemet Bypass)	Domenigoni	1.50	0	6	6	0%	1	3	0	0	0	\$5,652,000	\$2,133,000		\$0	\$0	\$0	\$565,000	\$1,413,000	\$779,000	\$10,542,000	\$10,542,000	
San Jacinto	Unincorporated			SR-79 (San Jacinto Bypass)	Ramona	6.50	0	6	6	0%	1	3	2	0	0	\$24,492,000	\$9,243,000	\$22,280,000	\$0	\$0	\$4,677,000	\$11,693,000	\$5,602,000	\$77,987,000	\$77,987,000		
San Jacinto	Unincorporated			SR-79 (Sanderson)	Ramona	1.92	4	6	2	0%	1	3	0	2,600	0	\$2,409,000	\$909,000		\$0	\$14,976,000	\$0	\$1,739,000	\$4,346,000	\$1,829,000	\$26,208,000	\$24,508,000	
San Jacinto	Unincorporated			SR-79 (Winchester)	Domenigoni	4.90	2	6	4	0%	1	2	0	0	0	\$12,310,000	\$15,741,000		\$0	\$0	\$0	\$1,231,000	\$3,078,000	\$2,805,000	\$35,165,000	\$23,047,000	
Southwest		Canyon Lake		Goetz	Railroad Canyon	0.50	2	4	2	0%	2	2	0	200	0	\$759,000	\$801,000		\$0	\$1,152,000	\$0	\$191,000	\$478,000	\$271,000	\$3,652,000	\$2,685,000	
Southwest		Canyon Lake		Railroad Canyon	Canyon Hills	1.95	4	6	2	0%	2	2	0	0	0	\$2,962,000	\$3,125,000		\$0	\$0	\$0	\$296,000	\$741,000	\$609,000	\$7,733,000	\$7,508,000	
Southwest		Lake Elsinore		Railroad Canyon	I-15	2.29	4	6	2	50%	1	3	2	0	0	\$1,438,000	\$543,000	\$22,280,000	\$0	\$0	\$2,372,000	\$5,930,000	\$2,426,000	\$34,989,000	\$34,989,000		
Southwest		Murrieta		Clinton Keith	I-15	2.48	2	6	4	0%	1	3	3	0	0	\$6,231,000	\$2,351,000	\$10,890,000	\$0	\$0	\$1,712,000	\$4,280,000	\$1,947,000	\$27,411,000	\$26,786,000		
Southwest		Murrieta		Clinton Keith	Copper Craft	0.83	6	6	0	0%	1	3	0	0	0	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Southwest		Murrieta		Clinton Keith	Toulon	0.83	4	6	2	0%	1	3	2	0	0	\$1,041,000	\$393,000	\$22,280,000	\$0	\$0	\$2,332,000	\$5,830,000	\$2,371,000	\$34,247,000	\$34,247,000		
Southwest		Murrieta		Clinton Keith	I-215	0.75	4	6	2	0%	1	3	0	0	0	\$939,000	\$354,000		\$0	\$0	\$94,000	\$235,000	\$129,000	\$1,751,000	\$1,751,000		
Southwest		Murrieta		French Valley (Date)	SR-79 (Winchester)	1.03	2	4	2	0%	1	2	0	0	0	\$1,296,000	\$1,657,000		\$0	\$0	\$130,000	\$324,000	\$295,000	\$3,702,000	\$3,702,000		
Southwest		Murrieta		Meadowlark (Menifee)	Keller	2.00	0	4	4	0%	1	3	0	0	0	\$5,024,000	\$1,896,000		\$0	\$0	\$502,000	\$1,256,000	\$692,000	\$9,370,000	\$9,370,000		
Southwest		Murrieta		Menifee	Scott	1.08	4	4	0	0%	1	3	0	0	0	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Southwest		Temecula		French Valley	Margarita	0.91	4	4	0	0%	1	2	0	0	0	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Southwest		Temecula		French Valley	Ynez	1.29	0	4	4	0%	1	2	1	300	0	\$3,240,000	\$4,143,000	\$43,780,000	\$3,456,000	\$0	\$5,048,000	\$12,619,000	\$5,462,000	\$77,748,000	\$64,827,000		
Southwest		Temecula		French Valley	Murrieta Creek	2.36	0	4	4	0%	3	2	0	150	0	\$8,463,000	\$7,593,000		\$0	\$1,728,000	\$0	\$1,019,000	\$2,548,000	\$1,778,000	\$23,129,000	\$23,129,000	
Southwest		Temecula		French Valley	Rancho California	1.86	0	4	4	0%	3	2	2	300	0	\$6,673,000	\$5,987,000	\$22,280,000	\$3,456,000	\$0	\$3,241,000	\$8,102,000	\$3,840,000	\$53,579,000	\$37,201,000		
Southwest		Temecula		SR-79 (Winchester)	Murrieta Hot Springs	2.70	6	6	0	0%	1	1	3	0	0	\$0	\$0	\$10,890,000	\$0	\$0	\$1,089,000	\$2,723,000	\$1,089,000	\$15,791,000	\$15,791,000		
Southwest		Wildomar		Bundy Canyon	I-15	3.42	2	6	4	0%	2	3	3	0	0	\$10,405,000	\$3,240,000	\$10,890,000	\$0	\$0	\$2,130,000	\$5,324,000	\$2,454,000	\$34,443,000	\$34,443,000		
Southwest		Wildomar		Bundy Canyon	Sunset	1.01	2	6	4	0%	1	3	0	0	0	\$2,527,000	\$954,000		\$0	\$0	\$0	\$253,000	\$632,000	\$348,000	\$4,714,000	\$4,714,000	
Southwest		Wildomar		Clinton Keith	Palomar	0.55	4	4	0	0%	1	2	0	0	0	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Southwest		Unincorporated		Benton	SR-79	2.40	2	4	2	0%	1	3	0	0	0	\$3,018,000	\$1,139,000		\$0	\$0	\$302,000	\$755,000	\$416,000	\$5,630,000	\$5,630,000		
Southwest		Unincorporated		Clinton Keith	Meadowlark	2.54	0	6	6	0%	1	3	0	1,200	0	\$9,571,000	\$3,612,000	\$0	\$20,736,000	\$0	\$3,031,000	\$7,577,000	\$3,392,000	\$47,919,000	\$47,919,000		
Southwest		Unincorporated		Newport	Menifee	0.77	6	6	0	0%	1	3	0	0	0	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Southwest		Unincorporated		Newport	SR-79 (Winchester)	3.58	6	6	0	0%	1	3	0	0	0	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Southwest		Unincorporated		SR-74	I-15	4.89	4	6	2	0%	2	3	2	0	0	\$7,449,000	\$2,320,000	\$22,280,000	\$0	\$0	\$2,973,000	\$7,432,000	\$3,205,000	\$45,659,000	\$45,572,000		
Southwest		Unincorporated		SR-79 (Eastern Bypass/Washii)	SR-79 (Winchester)	4.52	2	4	2	0%	1	3	0	100	0	\$5,677,000	\$2,142,000		\$0	\$576,000	\$0	\$625,000	\$1,563,000	\$840,000	\$11,423,000	\$11,423,000	
Southwest		Unincorporated		SR-79 (Eastern Bypass)	Borel	4.04	0	4	4	0%	2	3	0	200	0	\$12,298,000	\$3,830,000		\$0	\$2,304,000	\$0	\$1,460,000	\$3,651,000	\$1,843,000	\$25,386,000	\$25,386,000	
Southwest		Unincorporated		SR-79 (Eastern Bypass/ Anza)	Vino	4.49	2	4	2	0%	2	3	0	0	0	\$6,834,000	\$2,128,000		\$0	\$0	\$0	\$683,000	\$1,709,000	\$896,000	\$12,250,000	\$12,250,000	
Southwest		Unincorporated		SR-79 (Eastern Bypass/ Anza)	SR-79 (Constance)	1.14	0	4	4	0%	2	3	0	100	0	\$3,470,000	\$1,081,000		\$0	\$1,152,000	\$0	\$462,000	\$1,156,000	\$570,000	\$7,891,000	\$7,891,000	
Southwest		Unincorporated		SR-79 (Eastern Bypass/ Anza)	Santa Rita	1.77	0	4	4	0%	2	3	0	0	0	\$5,388,000	\$1,678,000		\$0	\$0	\$0	\$539,000	\$1,347,000	\$707,000	\$9,659,000	\$9,659,000	
Southwest		Unincorporated		SR-79 (Eastern Bypass)	Fairview	1.48	0	4	4	0%	2	3	0	0	0	\$4,505,000	\$1,403,000		\$0	\$0	\$0	\$451,000	\$1,126,000	\$591,000	\$8,076,000	\$8,076,000	
Southwest		Unincorporated		SR-79 (Eastern Bypass)	Pala	4.21	0	4	4	0%	3	3	2	200	0	\$15,086,000	\$3,995,000	\$22,280,000	\$2,304,000	\$0	\$3,967,000	\$9,918,000	\$4,367,000	\$61,917,000	\$61,917,000		
Southwest		Unincorporated		SR-79 (Winchester)	Keller	2.47	4	6	2	0%	1	2	0	0	0	\$3,096,000	\$3,959,000		\$0	\$0	\$0	\$310,000	\$774,000	\$706,000	\$8,845,000	\$8,845,000	
Southwest		Unincorporated		SR-79 (Winchester)	Thompson	1.81	4	6	2	0%	1	2	0	0	0	\$2,275,000	\$2,909,000		\$0	\$0	\$0	\$228,000	\$569,000	\$518,000	\$6,499,000	\$3,623,000	
Southwest		Unincorporated		SR-79 (Winchester)	La Alba	0.50	4	6	2	0%	1	2	0	0	0	\$632,000	\$808,000		\$0	\$0	\$0	\$63,000	\$158,000	\$144,000	\$1,805,000	\$762,000	
Southwest		Unincorporated		SR-79 (Winchester)	Hunter	1.14	6	6	0	0%	1	3	0	0	0	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Subtotal						295.15							26	12.985	2	\$489,283,000	\$302,954,000	\$571,825,000	\$120,672,000	\$36,400,000	\$121,823,000	\$304,559,000	\$152,117,000	\$2,099,632,000	\$1,854,504,000		

EXHIBIT H-1 TUMF Network Detailed Cost Estimate

(RCTC Priority Corridors in Bold)

AREA	PLAN	DIST	CITY	STREETNAME	SEGMENTFROM	SEGMENTTO	MILES	EXISTINGLN	FUTURELN	INCREASELN	% COMPLETE	TOPO	LANDUSE	INTERCHG	BRIDGE	RRXING	NEWLNCOST	ROWCOST	INTCHGCOST	BRDGCOST	RRXCOST	PLNG	ENG	CONTIG	TOTAL COST	MAXIMUM TUMF SH\$	
Northwest	Riverside	14th	Market	14th	Market	Martin Luther King	0.89	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	1st	Market	1st	Market	Martin Luther King	0.08	4	4	4	0	0%	1	1	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	3rd	Chicago	3rd	Chicago	I-215	0.36	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Adams	SR-91	Adams	SR-91	Arlington	1.56	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Adams	SR-91	Adams	SR-91	Lincoln	0.54	4	4	4	0	0%	1	2	0	0	2	\$0	\$0	\$0	\$0	\$8,480,000	\$848,000	\$2,120,000	\$848,000	\$12,296,000	\$12,296,000
Northwest	Riverside	Buena Vista	SR-91	Buena Vista	SR-91	Redwood	0.30	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Canyon Crest	Central	Canyon Crest	Central	Country Club	0.59	4	4	4	0	0%	2	3	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Canyon Crest	Central	Canyon Crest	Central	Country Club	0.94	2	4	4	2	0%	2	3	0	0	0	\$1,433,000	\$446,000	\$0	\$0	\$0	\$143,000	\$358,000	\$188,000	\$2,568,000	\$1,854,000
Northwest	Riverside	Canyon Crest	Via Vista	Canyon Crest	Via Vista	Alessandro	0.68	4	4	4	0	0%	2	3	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Canyon Crest	Central	Canyon Crest	Central	Martin Luther King	0.95	4	4	4	0	0%	2	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Central	Chicago	Central	Chicago	I-215/SR-60	2.15	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Central	SR-91	Central	SR-91	Magnolia	0.76	4	6	6	2	0%	1	2	0	0	0	\$954,000	\$1,220,000	\$0	\$0	\$0	\$95,000	\$239,000	\$217,000	\$2,725,000	\$2,725,000
Northwest	Riverside	Central	Alessandro	Central	Alessandro	SR-91	2.05	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Central	Van Buren	Central	Van Buren	Magnolia	3.53	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Chicago	Alessandro	Chicago	Alessandro	Spruce	3.42	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Chicago	Spruce	Chicago	Spruce	Columbia	0.75	4	4	4	0	0%	1	2	0	0	1	\$0	\$0	\$0	\$0	\$18,200,000	\$1,820,000	\$4,550,000	\$1,820,000	\$26,390,000	\$26,390,000
Northwest	Riverside	Columbia	Main	Columbia	Main	Iowa	1.09	4	4	4	0	0%	1	2	3	0	2	\$0	\$0	\$10,890,000	\$0	\$8,480,000	\$1,937,000	\$4,843,000	\$1,937,000	\$28,087,000	\$28,087,000
Northwest	Riverside	Iowa	Center	Iowa	Center	3rd	2.25	4	6	6	2	0%	1	2	0	0	2	\$2,823,000	\$3,609,000	\$0	\$0	\$12,720,000	\$1,554,000	\$3,886,000	\$1,915,000	\$26,507,000	\$26,507,000
Northwest	Riverside	Iowa	3rd	Iowa	3rd	University	0.51	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	JFK	Trautwein	JFK	Trautwein	Wood	0.48	4	4	4	0	0%	1	3	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	La Sierra	Arlington	La Sierra	Arlington	SR-91	3.56	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	La Sierra	SR-91	La Sierra	SR-91	Indiana	0.19	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	La Sierra	Indiana	La Sierra	Indiana	Victoria	0.78	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Lemon (NB One way)	Mission Inn	Lemon (NB One way)	Mission Inn	University	0.08	3	3	3	0	0%	1	3	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Lincoln	Adams	Lincoln	Adams	Washington	1.55	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Lincoln	Van Buren	Lincoln	Van Buren	Adams	1.54	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Lincoln	Washington	Lincoln	Washington	Victoria	1.43	2	4	4	2	0%	1	2	0	0	0	\$1,797,000	\$2,297,000	\$0	\$0	\$0	\$180,000	\$449,000	\$409,000	\$5,132,000	\$5,132,000
Northwest	Riverside	Lincoln	Victoria	Lincoln	Victoria	Arlington	0.28	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Madison	SR-91	Madison	SR-91	Victoria	0.86	4	4	4	0	0%	1	2	0	0	2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Magnolia	BNSF RR	Magnolia	BNSF RR	La Sierra	3.09	4	4	4	0	0%	1	2	0	0	2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Magnolia	La Sierra	Magnolia	La Sierra	Harrison	2.70	6	6	6	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Magnolia	Harrison	Magnolia	Harrison	14th	5.98	4	4	4	0	0%	1	2	0	0	2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	1st	Main	1st	Main	San Bernardino County	2.19	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Market	14th	Market	14th	Santa Ana River	2.03	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Market	Martin Luther King	Market	Martin Luther King	I-215/SR-60	2.11	4	6	6	2	0%	1	2	0	0	0	\$2,651,000	\$3,390,000	\$0	\$0	\$0	\$265,000	\$663,000	\$604,000	\$7,573,000	\$6,890,000
Northwest	Riverside	Mission Inn	Redwood	Mission Inn	Redwood	Lemon	0.79	4	4	4	0	0%	1	3	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Overlook	Sandtrack	Overlook	Sandtrack	Alessandro	0.32	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Overlook	Washington	Overlook	Washington	Bodewin/Via Montecito	0.56	4	4	4	0	0%	2	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Overlook	Bodewin/Via Montecito	Overlook	Bodewin/Via Montecito	Crystal View	0.81	2	4	4	2	0%	2	2	0	0	0	\$1,231,000	\$1,298,000	\$0	\$0	\$0	\$123,000	\$308,000	\$253,000	\$3,213,000	\$3,213,000
Northwest	Riverside	Overlook	Crystal View	Overlook	Crystal View	Via Vista	0.55	0	4	4	4	0%	2	2	0	500	0	\$1,674,000	\$1,767,000	\$0	\$5,760,000	\$0	\$743,000	\$1,859,000	\$920,000	\$12,723,000	\$12,723,000
Northwest	Riverside	Overlook	Via Vista	Overlook	Via Vista	Sandtrack	0.63	2	4	4	2	0%	2	2	0	0	0	\$959,000	\$1,012,000	\$0	\$0	\$0	\$96,000	\$240,000	\$197,000	\$2,504,000	\$2,504,000
Northwest	Riverside	Redwood (SB One way)	Mission Inn	Redwood (SB One way)	Mission Inn	University	0.08	4	4	4	0	0%	1	3	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Redwood (SB One way)	Trautwein	Redwood (SB One way)	Trautwein	Van Buren	2.19	4	4	4	0	0%	2	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Tyler	SR-91	Tyler	SR-91	Magnolia	0.43	6	6	6	0	0%	1	2	2	0	0	\$0	\$0	\$22,280,000	\$0	\$0	\$2,228,000	\$5,570,000	\$2,228,000	\$32,306,000	\$32,306,000
Northwest	Riverside	Tyler	Magnolia	Tyler	Magnolia	Hole	0.27	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Tyler	Hole	Tyler	Hole	Wells	1.06	6	6	6	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Tyler	Wells	Tyler	Wells	Arlington	1.35	2	4	4	2	0%	1	2	0	0	0	\$1,698,000	\$2,171,000	\$0	\$0	\$0	\$170,000	\$425,000	\$387,000	\$4,851,000	\$4,851,000
Northwest	Riverside	University	Redwood	University	Redwood	SR-91	0.86	4	4	4	0	0%	1	3	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	University	SR-91	University	SR-91	I-215/SR-60	2.01	4	4	4	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Victoria	Madison	Victoria	Madison	Washington	0.52	2	2	2	0	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Washington	Victoria	Washington	Victoria	Hermosa	2.05	2	4	4	2	0%	1	2	0	0	0	\$2,581,000	\$3,300,000	\$0	\$0	\$0	\$258,000	\$645,000	\$588,000	\$7,372,000	\$7,372,000
Northwest	Riverside	Wood	JFK	Wood	JFK	Van Buren	0.70	2	4	4	2	50%	1	3	0	0	0	\$440,000	\$166,000	\$0	\$0	\$0	\$44,000	\$110,000	\$61,000	\$821,000	\$821,000
Northwest	Riverside	Wood	Van Buren	Wood	Van Buren	Bergamont	0.11	4	4	4	0	0%	1	3	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside	Wood	Bergamont	Wood	Bergamont	Krameria	0.39	2	4	4	2	60%	1	3	0	0	0	\$195,000	\$74,000	\$0	\$0	\$0	\$20,000	\$49,000	\$27,000	\$365,000	\$365,000
Northwest	Unincorporated	Archibald	San Bernardino County	Archibald	San Bernardino County	River	3.63	2	4	4	2	62%	1	3	0	1,200	0	\$1,734,000	\$655,000	\$0	\$6,912,000	\$0	\$865,000	\$2,162,000	\$930,000	\$13,258,000	\$7,236,000
Northwest	Unincorporated	Armstrong	San Bernardino County	Armstrong	San Bernardino County	Valley	1.53	2	4	4	2	67%	2	3	0	0	0	\$767,000	\$239,000	\$0	\$0	\$0	\$77,000	\$192,000	\$101,000	\$1,376,000	\$1,169,000
Northwest	Unincorporated	Belgrave	Cantu-Galleano Ranch	Belgrave	Cantu-Galleano Ranch	Van Buren	0.29	2	4	4	2	0%	1	3	0	0	0	\$362,000	\$136,000	\$0	\$0	\$0	\$36,000	\$91,000	\$50,000	\$675,000	\$609,000
Northwest	Unincorporated	Hamner	Cantu-Galleano Ranch	Hamner	Cantu-Galleano Ranch	Wineville	0.94	4	4	4	0	0%	1	3	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Unincorporated	Cantu-Galleano Ranch	Wineville	Cantu-Galleano Ranch	Wineville	Belgrave	1.82	0	4	4	4	20%	1	3	0	0	0	\$3,657,000	\$1,380,000	\$0	\$0	\$0	\$366,000	\$914,000	\$504,000	\$6,821,000	\$6,821,000
Northwest	Unincorporated	Temescal Canyon	Dos Lagos (Weirick)	Temescal Canyon	Dos Lagos (Weirick)	I-15	0.21	4	4	4	0	0%	1	3	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest	Unincorporated	El Cerrito	I-15	El Cerrito	I-15	Ontario	0.56	2	4	4	2	0%	1	3	0	0	0	\$699,000	\$264,000	\$0	\$0	\$0	\$70,000	\$175,000	\$96,000	\$1,304,000	\$1,304,000
Northwest	Unincorporated	San Bernardino County	Etiwanda	San Bernardino County	Etiwanda	SR-																					

EXHIBIT H-1 TUMF Network Detailed Cost Estimate

(RCTC Priority Corridors in Bold)

AREA	PLAN	DIST	CITY	STREETNAME	SEGMENTFROM	SEGMENTTO	MILES	EXISTINGLN	FUTURELN	INCREASELN	% COMPLETE	TOPO	LANDUSE	INTERCHG	BRIDGE	RRXING	NEWLNCOST	ROWCOST	INTCHGCGOST	BRDGGCOST	RRXCOST	PLNG	ENG	CONTIG	TOTAL COST	MAXIMUM TUMF SH#		
Pass	Banning			8th	I-10	Wilson	0.54	2	2	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
Pass	Banning			Highland Springs	Oak Valley (14th)	Wilson (8th)	0.73	2	4	2	0%	0%	1	2	0	0	0	\$922,000	\$1,179,000	\$0	\$0	\$0	\$0	\$92,000	\$231,000	\$210,000	\$2,634,000	\$1,317,000
Pass	Banning			Highland Springs	Cherry Valley	Oak Valley (14th)	1.53	2	4	2	0%	0%	1	2	0	0	0	\$1,927,000	\$2,464,000	\$0	\$0	\$0	\$0	\$193,000	\$482,000	\$439,000	\$5,505,000	\$2,753,000
Pass	Banning			I-10 Bypass South	I-10	Apache Trail	3.29	0	2	2	0%	0%	1	2	3	300	0	\$4,127,000	\$5,277,000	\$10,890,000	\$1,728,000	\$0	\$1,675,000	\$4,186,000	\$2,202,000	\$30,085,000	\$30,085,000	
Pass	Banning			Lincoln	Sunset	SR-243	2.01	2	2	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Pass	Banning			I-10	Ramsey	Wilson (8th)	1.70	2	2	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Pass	Banning			Ramsey	Wilson (8th)	Highland Springs	3.55	4	4	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Pass	Banning			SR-243	I-10	Wesley	0.62	2	2	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Pass	Banning			Sun Lakes	Highland Home	Sunset	1.00	0	4	4	0%	0%	1	2	0	200	0	\$2,512,000	\$3,212,000	\$0	\$2,304,000	\$0	\$482,000	\$1,204,000	\$803,000	\$10,517,000	\$10,517,000	
Pass	Banning			Sun Lakes	Highland Home	Lincoln	1.33	4	4	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Pass	Banning			Sunset	Ramsey	Wilson (8th)	0.28	2	4	2	0%	0%	1	2	3	0	1	\$355,000	\$454,000	\$10,890,000	\$0	\$18,200,000	\$2,945,000	\$7,361,000	\$2,990,000	\$43,195,000	\$43,195,000	
Pass	Banning			Wilson (8th)	Highland Home	Wilson (8th)	2.51	4	4	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Pass	Banning			Wilson (8th)	Highland Springs	Highland Home	1.01	2	4	2	0%	0%	1	2	0	0	0	\$1,265,000	\$1,618,000	\$0	\$0	\$0	\$0	\$127,000	\$316,000	\$288,000	\$3,614,000	\$3,614,000
Pass	Beaumont			1st	Viele	Pennsylvania	1.28	2	4	2	0%	0%	1	2	0	0	0	\$1,612,000	\$2,062,000	\$0	\$0	\$0	\$0	\$161,000	\$403,000	\$367,000	\$4,605,000	\$0
Pass	Beaumont			1st	Pennsylvania	Highland Springs	1.10	2	2	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Pass	Beaumont			6th	I-10	Highland Springs	2.24	4	4	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Pass	Beaumont			Desert Lawn	Champions	Oak Valley (STC)	0.99	2	4	2	0%	0%	1	3	0	0	0	\$1,239,000	\$467,000	\$0	\$0	\$0	\$0	\$124,000	\$310,000	\$171,000	\$2,311,000	\$0
Pass	Beaumont			Highland Springs	Wilson (8th)	Sun Lakes	0.76	4	6	2	0%	0%	1	2	3	0	0	\$957,000	\$1,223,000	\$10,890,000	\$0	\$0	\$1,185,000	\$2,962,000	\$1,307,000	\$18,524,000	\$17,158,000	
Pass	Beaumont			Oak Valley (14th)	Highland Springs	Pennsylvania	1.13	4	4	0	0%	0%	2	3	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Pass	Beaumont			Oak Valley (14th)	Pennsylvania	Oak View	1.40	4	4	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Pass	Beaumont			Oak Valley (14th)	Oak View	I-10	0.65	3	6	3	0%	0%	1	2	3	100	0	\$1,224,000	\$1,565,000	\$10,890,000	\$864,000	\$0	\$1,298,000	\$3,245,000	\$1,454,000	\$20,540,000	\$0	
Pass	Beaumont			Oak Valley (STC)	Beaumont City Limits	Cherry Valley (J St / Central Overl	3.46	2	2	0	0%	0%	2	3	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Pass	Beaumont			Oak Valley (STC)	Cherry Valley (J St / Central Overl	I-10	1.67	2	4	2	0%	0%	1	3	0	0	0	\$2,092,000	\$790,000	\$0	\$0	\$0	\$0	\$209,000	\$523,000	\$288,000	\$3,902,000	\$0
Pass	Beaumont			Pennsylvania	6th	1st	0.53	2	2	0	0%	0%	1	2	3	0	0	\$0	\$0	\$10,890,000	\$0	\$0	\$0	\$1,089,000	\$2,723,000	\$1,089,000	\$15,791,000	\$0
Pass	Beaumont			Viele	4th	1st	0.31	2	4	2	0%	0%	1	2	0	0	0	\$391,000	\$499,000	\$0	\$0	\$0	\$0	\$39,000	\$98,000	\$89,000	\$1,116,000	\$0
Pass	Beaumont			Viele	6th	4th	0.50	2	4	2	0%	0%	1	2	0	0	1	\$633,000	\$809,000	\$0	\$0	\$0	\$0	\$1,863,000	\$4,708,000	\$1,964,000	\$28,197,000	\$0
Pass	Calimesa			Bryant	County Line	Singleton	0.38	2	2	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Pass	Calimesa			Calimesa	County Line	I-10	0.80	4	4	0	0%	0%	1	2	2	0	0	\$0	\$0	\$22,280,000	\$0	\$0	\$0	\$2,228,000	\$5,570,000	\$2,228,000	\$32,306,000	\$32,306,000
Pass	Calimesa			Cherry Valley	Roberts	Palmer	0.50	2	4	2	0%	0%	1	3	0	0	0	\$624,000	\$235,000	\$0	\$0	\$0	\$0	\$62,000	\$156,000	\$86,000	\$1,163,000	\$0
Pass	Calimesa			County Line	I-10	Bryant	1.76	2	4	1	0%	0%	1	2	3	0	0	\$1,105,000	\$1,413,000	\$10,890,000	\$0	\$0	\$0	\$1,200,000	\$2,999,000	\$1,341,000	\$18,948,000	\$18,948,000
Pass	Calimesa			Desert Lawn	Cherry Valley	Champions	1.61	2	4	2	0%	0%	1	3	0	0	0	\$2,018,000	\$761,000	\$0	\$0	\$0	\$0	\$202,000	\$505,000	\$278,000	\$3,764,000	\$3,764,000
Pass	Calimesa			Singleton	Bryant	Condit	1.86	0	4	4	0%	0%	2	3	0	0	0	\$5,668,000	\$1,765,000	\$0	\$0	\$0	\$0	\$567,000	\$1,417,000	\$743,000	\$10,160,000	\$10,160,000
Pass	Calimesa			Singleton	Condit	Roberts	0.85	2	4	2	0%	0%	1	2	2	0	0	\$1,068,000	\$1,366,000	\$22,280,000	\$0	\$0	\$0	\$2,335,000	\$5,837,000	\$2,471,000	\$35,357,000	\$35,357,000
Pass	Unincorporated			Cherry Valley	Highland Springs	Noble	0.95	0	4	4	0%	0%	1	3	0	0	0	\$2,392,000	\$903,000	\$0	\$0	\$0	\$0	\$239,000	\$598,000	\$330,000	\$4,462,000	\$4,462,000
Pass	Unincorporated			Cherry Valley	Noble	Desert Lawn	3.40	2	4	2	0%	0%	1	3	2	300	0	\$4,265,000	\$1,610,000	\$22,280,000	\$1,728,000	\$0	\$2,827,000	\$7,068,000	\$2,988,000	\$42,766,000	\$42,766,000	
Pass	Unincorporated			Live Oak Canyon	Oak Valley (STC)	San Bernardino County	2.81	2	2	0	0%	0%	2	3	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Pass	Unincorporated			Oak Valley (STC)	San Bernardino County	Beaumont City Limits	5.65	2	2	0	0%	0%	2	3	0	0	1	\$0	\$0	\$0	\$0	\$9,100,000	\$910,000	\$2,275,000	\$910,000	\$13,195,000	\$13,195,000	
San Jacinto	Hemet			Sanderson	Acacia	Menlo	0.98	4	4	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			Sanderson	Domenigoni	Stetson	1.08	4	4	0	0%	0%	1	2	0	300	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			Sanderson	RR Crossing	Acacia	0.42	4	4	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			Sanderson	Stetson	RR Crossing	0.58	4	4	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			Sanderson	Menlo	Esplanade	1.00	2	4	2	0%	0%	1	2	0	0	0	\$1,255,000	\$1,605,000	\$0	\$0	\$0	\$126,000	\$314,000	\$286,000	\$3,586,000	\$1,789,000	
San Jacinto	Hemet			SR-74	Warren	Cawston	1.02	4	4	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			SR-74 (Florida)	Columbia	Ramona	2.58	4	4	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			SR-74/SR-79 (Florida)	Cawston	Columbia	4.03	4	4	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			State	Domenigoni	Chambers	1.31	4	4	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			State	Chambers	Stetson	0.51	4	4	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			State	Florida	Esplanade	1.74	4	4	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			State	Stetson	Florida	1.25	2	4	2	0%	0%	1	1	0	0	0	\$1,565,000	\$4,192,000	\$0	\$0	\$0	\$157,000	\$391,000	\$576,000	\$6,881,000	\$4,938,000	
San Jacinto	Hemet			Stetson	Cawston	State	2.52	4	4	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			Stetson	Warren	Cawston	1.00	2	4	2	0%	0%	1	3	0	0	0	\$1,255,000	\$473,000	\$0	\$0	\$0	\$0	\$126,000	\$314,000	\$173,000	\$2,341,000	\$2,341,000
San Jacinto	Hemet			Warren	Esplanade	Domenigoni	4.99	2	4	2	0%	0%	1	3	0	300	0	\$6,267,000	\$2,365,000	\$0	\$1,728,000	\$0	\$800,000	\$1,999,000	\$1,036,000	\$14,195,000	\$13,396,000	
San Jacinto	San Jacinto			Esplanade	Ramona	Mountain	0.20	0	4	4	0%	0%	1	2	0	0	0	\$502,000	\$642,000	\$0	\$0	\$0	\$0	\$50,000	\$126,000	\$114,000	\$1,434,000	\$1,434,000
San Jacinto	San Jacinto			Esplanade	State	Mountain	2.55	4	4	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
San Jacinto	San Jacinto			Esplanade	State	Warren	3.53	2	4	2	0%	0%	1	3	0	0	0	\$4,437,000	\$1,674,000	\$0	\$0	\$0	\$0	\$444,000	\$1,109,000	\$611,000	\$8,275,000	\$8,275,000
San Jacinto	San Jacinto			Sanderson	Ramona	Esplanade	3.55	2	4	2	0%	0%	1	3	0	0	0	\$4,455,000	\$1,681,000	\$0	\$0	\$0	\$0	\$446,000	\$1,114,000	\$614,000	\$8,310,000	\$4,162,000
San Jacinto	San Jacinto			SR-79 (North Ramona)	State	San Jacinto	1.02	2	2	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
San Jacinto	San Jacinto			SR-79 (San Jacinto)	7th	SR-74	2.25	4	4	0	0%	0%	1	2	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
San Jacinto	San Jacinto																											

EXHIBIT H-1		TUMF Network Detailed Cost Estimate																			(RCTC Priority Corridors in Bold)																		
AREA	PLAN	DIST	CITY	STREETNAME	SEGMENTFROM	SEGMENTTO	MILES	EXISTINGLN	FUTURELN	INCREASESLN	% COMPLETE	TOPO	LANDUSE	INTERCHG	BRIDGE	RRXING	NEWLNCOST	ROWCOST	INTCHGCOST	BRDGCOST	RRXCOST	PLNG	ENG	CONTIG	TOTAL COST	MAXIMUM TUMF SHA													
Southwest	Unincorporated	Biggs	Scott	SR-79 (Winchester)	SR-79 (Winchester)	3.39	2	4	4	2	0%	0%	1	3	0	0	0	\$4,260,000	\$1,608,000		\$0	\$0	\$0	\$426,000	\$1,065,000	\$587,000	\$7,946,000	\$7,946,000											
Southwest	Unincorporated	Butterfield Stage	Murrieta Hot Springs	Rancho California	Rancho California	1.78	0	4	4	4	0%	2	2	3	0	650	0	\$5,427,000	\$1,690,000		\$0	\$7,488,000	\$0	\$1,292,000	\$3,229,000	\$1,461,000	\$20,587,000	\$20,587,000											
Southwest	Unincorporated	Butterfield Stage	Rancho California	SR-79 (Temecula)	SR-79 (Temecula)	2.30	2	4	4	2	0%	2	2	3	0	0	0	\$3,493,000	\$1,088,000		\$0	\$0	\$0	\$349,000	\$873,000	\$458,000	\$6,261,000	\$6,261,000											
Southwest	Unincorporated	Butterfield Stage	SR-79 (Winchester)	Auld	Auld	2.28	2	4	4	2	0%	2	2	3	0	0	0	\$3,470,000	\$1,081,000		\$0	\$0	\$0	\$347,000	\$868,000	\$455,000	\$6,221,000	\$6,221,000											
Southwest	Unincorporated	Butterfield Stage	Auld	Murrieta Hot Springs	Murrieta Hot Springs	2.23	0	4	4	4	0%	2	2	3	0	450	0	\$6,788,000	\$2,114,000		\$0	\$5,184,000	\$0	\$1,197,000	\$2,993,000	\$1,409,000	\$19,685,000	\$19,685,000											
Southwest	Unincorporated	Central	Grand	Palomar	Palomar	0.51	2	4	4	2	0%	2	1	2	0	0	0	\$642,000	\$821,000		\$0	\$0	\$0	\$64,000	\$161,000	\$146,000	\$1,834,000	\$1,834,000											
Southwest	Unincorporated	Grand	Ortega	Central	Central	6.98	2	4	4	2	0%	2	1	2	0	0	0	\$8,770,000	\$11,214,000		\$0	\$0	\$0	\$877,000	\$2,193,000	\$1,998,000	\$25,052,000	\$25,052,000											
Southwest	Unincorporated	Horsethief Canyon	Temescal Canyon	I-15	Temescal Canyon	0.17	2	4	4	2	0%	2	1	3	0	0	0	\$212,000	\$80,000		\$0	\$0	\$0	\$21,000	\$53,000	\$29,000	\$395,000	\$395,000											
Southwest	Unincorporated	Indian Truck Trail	Temescal Canyon	I-15	Temescal Canyon	0.18	2	6	4	4	0%	1	1	3	3	0	0	\$440,000	\$166,000	\$10,890,000		\$0	\$0	\$1,133,000	\$2,833,000	\$1,150,000	\$16,612,000	\$16,612,000											
Southwest	Unincorporated	Murrieta Hot Springs	SR-79 (Winchester)	Pourroy	Pourroy	1.75	4	4	4	0	0%	0	1	3	0	0	0	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
Southwest	Unincorporated	Pala	Pechanga	San Diego County	San Diego County	1.38	2	2	2	0	0%	0	2	3	0	0	0	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0											
Southwest	Unincorporated	Temescal Canyon	Indian Truck Trail	Lake	Lake	1.21	2	4	4	2	0%	2	2	3	0	100	0	\$1,835,000	\$571,000		\$0	\$576,000	\$0	\$241,000	\$603,000	\$298,000	\$4,124,000	\$4,124,000											
Subtotal							471.25								32	11,800	15	\$337,121,000	\$242,001,000	\$473,770,000	\$82,944,000	\$180,660,000	\$107,458,000	\$268,648,000	\$131,655,000	\$1,824,257,000	\$1,680,884,000												
Totals		Network						766.40						58		24,785		17		\$ 826,404,000		\$ 544,955,000		\$ 1,045,595,000		\$ 203,616,000		\$ 217,060,000		\$ 229,281,000		\$ 573,207,000		\$ 283,772,000		\$ 3,923,889,000		\$ 3,535,388,000	
		Transit																																\$ 166,945,000		\$ 61,826,000			
		Administration																																\$ 107,916,420		\$ 107,916,420			
		MSHCP																																\$ 62,367,000		\$ 59,959,000			
		Total																																\$ 4,261,117,420		\$ 3,765,089,420			

EXHIBIT H-2 TUMF Network Detailed Cost Estimate - Maximum Share Adjustments

AREA	PLAN DIST	CITY	STREET	NAME	SEGMENT	FROM	SEGMENT	TO	MILES	TOTAL COST	MAXIMUM TUMF SH	MSHCP	MAX TUMF MSHCP SHARE	% EXISTING	NEED >2 LANE	ADJST	EXIST V/C	FUTURE V/C	TUMF V/C SHARE	EXIST NEED	OBLIGATED FUNDS	UNFUND EXIST NEED	MSHCP EXIST NEED	MSHCP UNFUND EXIST NEED	COMBINED UNFUND EXIST NEED	
Central		Menifee	Ethanac		Goetz		Murrieta		0.99	\$3,540,000	\$3,540,000		\$62,000	\$62,000	0%	0%	0.35	0.85		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Menifee	Ethanac		Murrieta		I-215		0.90	\$19,019,000	\$19,019,000		\$57,000	\$57,000	0%	0%	0.33	0.97		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Menifee	Case		Goetz		Ethanac		2.00	\$8,017,000	\$7,065,000		\$241,000	\$215,000	100%	100%	1.11	1.91	80%	\$952,000	\$0	\$0	\$952,000	\$26,000	\$26,000	\$978,000
Central		Menifee	Menifee		SR-74 (Pinacate)		Simpson		2.49	\$7,503,000	\$7,503,000		\$214,000	\$214,000	0%	0%	0.49	1.10		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Menifee	Menifee		Holland		Garbani		1.03	\$0	\$0		\$0	\$0	0%	0%	0.16	0.38		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Menifee	Menifee		Garbani		Scott		1.00	\$2,339,000	\$2,339,000		\$63,000	\$63,000	0%	0%	0.25	0.64		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Menifee	Menifee		Simpson		Aldergate		0.64	\$3,000,000	\$3,000,000		\$80,000	\$80,000	0%	0%				\$0	\$0	\$0	\$0	\$0	\$0	
Central		Menifee	Menifee		Aldergate		Newport		0.98	\$0	\$0		\$0	\$0	0%	0%	0.05	0.07		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Menifee	Menifee		Newport		Holland		1.07	\$0	\$0		\$0	\$0	0%	0%	0.23	0.54		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Menifee	Newport		Goetz		Murrieta		1.81	\$2,546,000	\$2,546,000		\$68,000	\$68,000	0%	0%				\$0	\$0	\$0	\$0	\$0	\$0	
Central		Menifee	Newport		Murrieta		I-215		2.05	\$37,104,000	\$37,104,000		\$129,000	\$129,000	15%	15%	0.78	1.19		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Menifee	Newport		I-215		Menifee		0.95	\$2,220,000	\$2,171,000		\$60,000	\$59,000	19%	19%	1.01	1.81	88%	\$49,000	\$0	\$0	\$49,000	\$1,000	\$1,000	\$50,000
Central		Menifee	Scott		I-215		Briggs		2.04	\$41,870,000	\$40,533,000		\$256,000	\$220,000	100%	50%	1.12	1.70	72%	\$1,337,000	\$0	\$0	\$1,337,000	\$36,000	\$36,000	\$1,373,000
Central		Menifee	Scott		Murrieta		I-215		1.94	\$9,105,000	\$9,105,000		\$244,000	\$244,000	10%	5%	0.75	1.28		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Menifee	SR-74		Matthews		Briggs		1.89	\$4,433,000	\$4,433,000		\$119,000	\$119,000	53%	53%	0.90	1.63		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Moreno Valley	Alessandro		I-215		Peris		3.71	\$5,322,000	\$5,322,000		\$93,000	\$93,000	19%	19%	0.73	1.23		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Moreno Valley	Alessandro		Peris		Nason		2.00	\$12,198,000	\$12,198,000		\$214,000	\$214,000	12%	6%	0.73	1.34		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Moreno Valley	Alessandro		Nason		Moreno Beach		0.99	\$3,556,000	\$3,556,000		\$62,000	\$62,000	0%	0%	0.38	1.05		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Moreno Valley	Alessandro		Moreno Beach		Gilman Springs		4.13	\$9,681,000	\$9,681,000		\$260,000	\$260,000	0%	0%	0.25	1.12		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Moreno Valley	Gilman Springs		SR-60		Alessandro		1.67	\$19,708,000	\$19,207,000		\$105,000	\$92,000	100%	100%	1.00	1.72	87%	\$501,000	\$0	\$0	\$501,000	\$13,000	\$13,000	\$514,000
Central		Moreno Valley	Peris		Reche Vista		Ironwood		2.20	\$7,099,000	\$7,099,000		\$124,000	\$124,000	0%	0%	0.74	1.12		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Moreno Valley	Peris		Ironwood		Sunnymead		0.52	\$16,162,000	\$16,162,000		\$7,000	\$7,000	24%	24%	0.83	1.17		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Moreno Valley	Peris		Sunnymead		Cactus		2.00	\$1,434,000	\$1,366,000		\$25,000	\$24,000	75%	75%	0.92	1.23	94%	\$68,000	\$0	\$0	\$68,000	\$1,000	\$1,000	\$69,000
Central		Moreno Valley	Peris		Cactus		Harley Knox		3.50	\$18,855,000	\$13,951,000		\$330,000	\$244,000	100%	50%	1.61	2.26	48%	\$4,904,000	\$0	\$0	\$4,904,000	\$86,000	\$86,000	\$4,990,000
Central		Moreno Valley	Reche Vista		Reche Canyon		Heacock		1.66	\$6,606,000	\$5,097,000		\$127,000	\$98,000	100%	100%	1.03	1.47	77%	\$1,509,000	\$0	\$0	\$1,509,000	\$29,000	\$29,000	\$1,538,000
Central		Peris	11th/Case		Peris		Goetz		0.30	\$1,078,000	\$1,078,000		\$19,000	\$19,000	0%	0%	0.30	0.52		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Peris	Ethanac		Keystone		Goetz		2.24	\$13,609,000	\$13,609,000		\$416,000	\$416,000	0%	0%				\$0	\$0	\$0	\$0	\$0	\$0	
Central		Peris	Ethanac		I-215		Sherman		0.35	\$1,252,000	\$1,252,000		\$22,000	\$22,000	0%	0%	0.78	1.88		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Peris	Mid-County		I-215		Rider		4.55	\$82,321,000	\$82,321,000		\$372,000	\$372,000	0%	0%				\$0	\$0	\$0	\$0	\$0	\$0	
Central		Peris	Peris		Harley Knox		Ramona		1.00	\$4,667,000	\$3,393,000		\$125,000	\$91,000	100%	50%	1.72	2.40	45%	\$1,274,000	\$0	\$0	\$1,274,000	\$34,000	\$34,000	\$1,308,000
Central		Peris	Peris		Ramona		Citrus		2.49	\$5,841,000	\$5,831,000		\$157,000	\$157,000	40%	40%	0.90	1.45	100%	\$10,000	\$0	\$0	\$10,000	\$0	\$0	\$10,000
Central		Peris	Peris		Citrus		Nuevo		0.50	\$0	\$0		\$0	\$0	0%	0%	0.50	0.90		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Peris	Peris		Nuevo		11th		1.75	\$8,774,000	\$6,023,000		\$196,000	\$148,000	100%	100%	1.43	2.11	56%	\$2,751,000	\$0	\$0	\$2,751,000	\$48,000	\$48,000	\$2,799,000
Central		Peris	Ramona		I-215		Peris		1.47	\$37,573,000	\$37,508,000		\$92,000	\$91,000	31%	31%	0.92	1.43	96%	\$65,000	\$0	\$0	\$65,000	\$1,000	\$1,000	\$66,000
Central		Peris	Ramona		Peris		Evans		1.00	\$6,079,000	\$6,079,000		\$149,000	\$149,000	47%	47%	0.81	1.54		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Peris	Ramona		Evans		Rider		2.09	\$7,493,000	\$7,493,000		\$131,000	\$131,000	0%	0%	0.38	0.88		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Peris	SR-74 (4th)		Ellis		I-215		2.29	\$32,306,000	\$32,306,000		\$0	\$0	0%	0%	0.68	1.18		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Unincorporated	SR-74		Ethanac		Keystone		1.07	\$5,013,000	\$5,013,000		\$134,000	\$134,000	0%	0%				\$0	\$0	\$0	\$0	\$0	\$0	
Central		Unincorporated	Ethanac		Sherman		Matthews		0.61	\$27,827,000	\$27,827,000		\$949,000	\$949,000	0%	0%	0.52	1.40		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Unincorporated	Gilman Springs		Alessandro		Bridge		4.98	\$13,577,000	\$10,039,000		\$379,000	\$280,000	100%	100%	1.34	2.57	74%	\$3,538,000	\$0	\$0	\$3,538,000	\$99,000	\$99,000	\$3,637,000
Central		Unincorporated	Menifee		Ramona		SR-74 (Pinacate)		6.52	\$15,273,000	\$15,273,000		\$409,000	\$409,000	0%	0%	0.37	0.92		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Unincorporated	Mid-County		Rider		Bridge		6.92	\$21,230,000	\$21,230,000		\$608,000	\$608,000	0%	0%				\$0	\$0	\$0	\$0	\$0	\$0	
Central		Unincorporated	Ramona		Rider		Pico		0.97	\$2,273,000	\$2,273,000		\$61,000	\$61,000	0%	0%	0.44	0.99		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Unincorporated	Ramona		Pico		Bridge		5.95	\$49,609,000	\$47,703,000		\$1,497,000	\$1,446,000	100%	50%	1.09	2.26	86%	\$1,906,000	\$0	\$0	\$1,906,000	\$51,000	\$51,000	\$1,957,000
Central		Unincorporated	Reche Canyon		Reche Canyon		Reche Vista		3.35	\$20,890,000	\$17,540,000		\$600,000	\$504,000	100%	50%	1.29	2.12	68%	\$3,350,000	\$0	\$0	\$3,350,000	\$96,000	\$96,000	\$3,446,000
Central		Unincorporated	Scott		Briggs		SR-79 (Winchester)		3.04	\$14,243,000	\$14,243,000		\$382,000	\$382,000	0%	0%	0.35	0.66		\$0	\$0	\$0	\$0	\$0	\$0	
Central		Unincorporated	SR-74		Ethanac		Ellis		2.68	\$0	\$0		\$0	\$0	27%	27%	0.84	1.45		\$0	\$0	\$0	\$0	\$0	\$0	
Northwest		Corona	Foothill		Paseo Grande		Lincoln		2.60	\$21,219,000	\$6,810,000		\$638,000	\$638,000	0%	0%				\$0	\$28,029,000	\$0	\$0	\$0	\$0	
Northwest		Corona	Lincoln		California		I-15		2.81	\$0	\$0		\$0	\$0	0%	0%	0.10	0.19		\$0	\$0	\$0	\$0	\$0	\$0	
Northwest		Corona	Foothill		California		I-15		0.89	\$3,188,000	\$3,188,000		\$56,000	\$56,000	0%	0%	0.62	1.09		\$0	\$0	\$0	\$0	\$0	\$0	
Northwest		Corona	Green River		SR-91		Dominguez Ranch		0.52	\$1,860,000	\$1,290,000		\$33,000	\$23,000	100%	100%	1.11	1.57	69%	\$570,000	\$0	\$0	\$570,000	\$10,000	\$10,000	\$580,000
Northwest		Corona	Green River		Dominguez Ranch		Palisades		0.56	\$2,224,000	\$2,198,000		\$43,000	\$42,000	100%	100%	0.90	1.23	99%	\$26,000	\$0	\$0	\$26,000	\$1,000	\$1,000	\$27,000
Northwest		Corona	Green River		Palisades		Paseo Grande		2.01	\$0	\$0		\$0	\$0	9%	9%	0.63	0.87		\$0	\$0	\$0	\$0	\$0	\$0	
Northwest		Riverside	Alessandro		Arlington		Trautwein		2.21	\$0	\$0		\$0	\$0	100%	100%	1.17	1.77	69%	\$0	\$0	\$0	\$0	\$0	\$0	
Northwest		Riverside	Arlington		Magnolia		Magnolia		5.92	\$0	\$0		\$0	\$0	37%	37%	0.70	1.05		\$0	\$0	\$0	\$0	\$0	\$0	
Northwest		Riverside	Arlington		Magnolia		Alessandro		2.02	\$22,899,000	\$20,625,000		\$136,000	\$92,000	74%	74%	1.22	1.63	57%	\$2,274,000	\$0	\$0	\$2,274,000	\$44,000	\$44,000	\$2,318,000
Northwest		Riverside	Van Buren		SR-91		SR-91		3.44	\$34,857,000	\$30,923,000		\$476,000	\$407,000	75%	75%	1.30	1.72	51%	\$3,934,000	\$0	\$0	\$3,934,000	\$69,000	\$69,000	\$4,003,000
Northwest		Riverside	Van Buren		SR-91		Mockingbird Canyon		3.10	\$10,706,000	\$5,197,000		\$187,000	\$91,000	100%	100%	1.40	1.87	49%	\$5,509,000	\$0	\$0	\$5,509,000	\$96,000	\$96,000	\$5,605,000
Northwest		Riverside	Van Buren		Wood		Trautwein		0.43	\$0	\$0		\$0	\$0	0%	0%	0.73	1.08		\$0	\$0	\$0	\$0	\$0	\$0	
Northwest		Riverside	Van Buren		Trautwein		Orange Terrace		1.27	\$3,568,000	\$3,514,000		\$62,000	\$61,000	53%	53%	0.91	1.32	97%	\$54,000	\$0	\$0	\$54,000	\$1,000	\$1,000	\$55,000
Northwest		Unincorporated	Alessandro		Trautwein		Vista Grande		1.22	\$0	\$0		\$0	\$0												

EXHIBIT H-2 TUMF Network Detailed Cost Estimate - Maximum Share Adjustments

AREA	PLAN DIST	CITY	STREETNAME	SEGMENTFROM	SEGMENTO	MILES	TOTAL COST	MAXIMUM TUMF SH#	MSHCP	MAX TUMF MSHCP SHARE %	EXISTING NEED >2 LANE ADJUST	EXIST V/C	FUTURE V/C	TUMF V/C SHARE	EXIST NEED	OBLIGATED FUNDS	UNFUND EXIST NEED	MSHCP EXIST NEED	MSHCP UNFUND EXIST NEED	COMBINED UNFUND EXIST NEED
San Jacinto		Hemet	Domenigoni	Warren	Sanderson	1.77	\$4,151,000	\$4,151,000		\$111,000	0%	0%	1.66		\$0	\$0	\$0	\$0	\$0	\$0
San Jacinto		Hemet	Domenigoni	Sanderson	State	2.14	\$0	\$0	\$0	\$0	0%	0%	0.19	0.64		\$0	\$0	\$0	\$0	\$0
San Jacinto		Hemet	SR-74	Winchester	Warren	2.59	\$9,281,000	\$7,335,000	\$162,000	\$128,000	100%	100%	1.13	2.01	79%	\$1,946,000	\$0	\$1,946,000	\$34,000	\$34,000
San Jacinto	San Jacinto	Mid-County		Warren	Sanderson	1.73	\$6,196,000	\$6,196,000	\$108,000	\$108,000	0%	0%				\$0	\$0	\$0	\$0	\$0
San Jacinto	San Jacinto	Ramona		Warren	Sanderson	1.73	\$6,196,000	\$6,196,000	\$108,000	\$108,000	0%	0%	0.56	1.14		\$0	\$0	\$0	\$0	\$0
San Jacinto	San Jacinto	Ramona		Sanderson	State	2.39	\$17,131,000	\$13,661,000	\$300,000	\$239,000	100%	50%	1.42	2.17	59%	\$3,470,000	\$0	\$3,470,000	\$61,000	\$61,000
San Jacinto	San Jacinto	Ramona		State	Main	2.66	\$9,556,000	\$9,301,000	\$167,000	\$163,000	38%	38%	0.95	1.57	93%	\$255,000	\$0	\$255,000	\$4,000	\$4,000
San Jacinto	San Jacinto	Ramona		Main	Cedar	2.08	\$17,430,000	\$17,430,000	\$348,000	\$348,000	0%	0%				\$0	\$0	\$0	\$0	\$0
San Jacinto	San Jacinto	Ramona		Cedar	SR-74	1.10	\$0	\$0	\$0	\$0	0%	0%	0.18	0.42		\$0	\$0	\$0	\$0	\$0
San Jacinto	Unincorporated		Domenigoni	SR-79 (Winchester)	Warren	3.10	\$9,763,000	\$8,788,000	\$281,000	\$255,000	100%	100%	1.02	1.78	87%	\$975,000	\$0	\$975,000	\$26,000	\$26,000
San Jacinto	Unincorporated		Gilman Springs	Bridge	Sanderson	2.95	\$6,908,000	\$6,908,000	\$185,000	\$185,000	10%	10%	0.57	1.14		\$0	\$0	\$0	\$0	\$0
San Jacinto	Unincorporated		Mid-County	Bridge	Warren	2.35	\$5,505,000	\$5,505,000	\$148,000	\$148,000	0%	0%				\$0	\$0	\$0	\$0	\$0
San Jacinto	Unincorporated		Ramona	Bridge	Warren	2.35	\$11,006,000	\$11,006,000	\$295,000	\$295,000	0%	0%	0.75	1.89		\$0	\$0	\$0	\$0	\$0
San Jacinto	Unincorporated		SR-74	Briggs	SR-79 (Winchester)	3.53	\$8,259,000	\$8,259,000	\$221,000	\$221,000	0%	0%	0.86	1.70		\$0	\$0	\$0	\$0	\$0
San Jacinto	Unincorporated		SR-79 (Hemet Bypass)	SR-74 (Florida)	Domenigoni	3.22	\$62,453,000	\$62,453,000	\$866,000	\$866,000	0%	0%				\$0	\$0	\$0	\$0	\$0
San Jacinto	Unincorporated		SR-79 (Hemet Bypass)	Domenigoni	Winchester	1.50	\$10,542,000	\$10,542,000	\$283,000	\$283,000	0%	0%				\$0	\$0	\$0	\$0	\$0
San Jacinto	Unincorporated		SR-79 (San Jacinto Bypass)	Ramona	SR-74 (Florida)	6.50	\$77,987,000	\$77,987,000	\$1,225,000	\$1,225,000	0%	0%				\$0	\$0	\$0	\$0	\$0
San Jacinto	Unincorporated		SR-79 (Sanderson)	Gilman Springs	Ramona	1.92	\$26,208,000	\$24,508,000	\$869,000	\$823,000	100%	100%	1.43	2.29	62%	\$1,700,000	\$0	\$1,700,000	\$46,000	\$46,000
San Jacinto	Unincorporated		SR-79 (Winchester)	Domenigoni	Keller	4.90	\$35,165,000	\$23,047,000	\$616,000	\$404,000	100%	50%	2.00	2.50	31%	\$12,118,000	\$0	\$12,118,000	\$212,000	\$212,000
Southwest		Canyon Lake	Goetz	Railroad Canyon	Newport	0.50	\$3,652,000	\$2,685,000	\$96,000	\$77,000	100%	100%	1.73	2.60	51%	\$967,000	\$0	\$967,000	\$19,000	\$19,000
Southwest		Canyon Lake	Railroad Canyon	Canyon Hills	Goetz	1.95	\$7,733,000	\$7,508,000	\$148,000	\$144,000	27%	27%	0.95	1.41	89%	\$225,000	\$0	\$225,000	\$4,000	\$4,000
Southwest		Lake Elsinore	Railroad Canyon	I-15	Canyon Hills	2.29	\$34,989,000	\$34,989,000	\$72,000	\$72,000	2%	2%	0.39	0.69		\$0	\$0	\$0	\$0	\$0
Southwest		Murrieta	Clinton Keith	I-15	Copper Craft	2.48	\$27,411,000	\$26,786,000	\$312,000	\$295,000	66%	33%	1.01	1.60	84%	\$625,000	\$0	\$625,000	\$17,000	\$17,000
Southwest		Murrieta	Clinton Keith	Copper Craft	Toulon	0.83	\$0	\$0	\$0	\$0	0%	0%	0.37	0.69		\$0	\$0	\$0	\$0	\$0
Southwest		Murrieta	Clinton Keith	Toulon	I-215	0.83	\$34,247,000	\$34,247,000	\$52,000	\$52,000	0%	0%	0.76	1.40		\$0	\$0	\$0	\$0	\$0
Southwest		Murrieta	Clinton Keith	I-215	Meadowlark	0.75	\$1,751,000	\$1,751,000	\$47,000	\$47,000	18%	18%	0.65	1.15		\$0	\$0	\$0	\$0	\$0
Southwest		Murrieta	French Valley (Date)	SR-79 (Winchester)	Margarita	1.03	\$3,702,000	\$3,702,000	\$65,000	\$65,000	0%	0%				\$0	\$0	\$0	\$0	\$0
Southwest		Murrieta	Meadowlark (Menifee)	Keller	Clinton Keith	2.00	\$9,370,000	\$9,370,000	\$251,000	\$251,000	0%	0%				\$0	\$0	\$0	\$0	\$0
Southwest		Murrieta	Menifee	Scott	Keller	1.08	\$0	\$0	\$0	\$0	0%	0%	0.23	0.47		\$0	\$0	\$0	\$0	\$0
Southwest		Temecula	French Valley	Margarita	Ynez	0.91	\$0	\$0	\$0	\$0	0%	0%	0.08	0.22		\$0	\$0	\$0	\$0	\$0
Southwest		Temecula	French Valley	Ynez	Murrieta Creek	1.29	\$77,748,000	\$64,827,000	\$335,000	\$335,000	0%	0%				\$0	\$12,921,228	\$0	\$0	\$0
Southwest		Temecula	French Valley	Murrieta Creek	Rancho California	2.36	\$23,129,000	\$23,129,000	\$510,000	\$510,000	0%	0%				\$0	\$0	\$0	\$0	\$0
Southwest		Temecula	French Valley	Rancho California	I-15 (Front)	1.86	\$53,579,000	\$37,201,000	\$506,000	\$506,000	0%	0%				\$0	\$16,377,770	\$0	\$0	\$0
Southwest		Temecula	SR-79 (Winchester)	Murrieta Hot Springs	Jefferson	2.70	\$15,791,000	\$15,791,000	\$0	\$0	92%	92%	1.13	1.37	51%	\$0	\$0	\$0	\$0	\$0
Southwest		Wildomar	Bundy Canyon	I-15	Sunset	3.42	\$34,443,000	\$34,443,000	\$520,000	\$520,000	8%	4%	0.83	1.49		\$0	\$0	\$0	\$0	\$0
Southwest		Wildomar	Bundy Canyon	Sunset	Murrieta	1.01	\$4,714,000	\$4,714,000	\$126,000	\$126,000	0%	0%	0.89	1.67		\$0	\$0	\$0	\$0	\$0
Southwest		Wildomar	Clinton Keith	Palomar	I-15	0.55	\$0	\$0	\$0	\$0	0%	0%	0.78	1.15		\$0	\$0	\$0	\$0	\$0
Southwest		Unincorporated	Benton	SR-79	Eastern Bypass	2.40	\$5,630,000	\$5,630,000	\$151,000	\$151,000	0%	0%	0.16	0.19		\$0	\$0	\$0	\$0	\$0
Southwest		Unincorporated	Clinton Keith	Meadowlark	SR-79	2.54	\$47,919,000	\$47,919,000	\$1,515,000	\$1,515,000	0%	0%				\$0	\$0	\$0	\$0	\$0
Southwest		Unincorporated	Newport	Menifee	Lindenberger	0.77	\$0	\$0	\$0	\$0	0%	0%	0.47	1.04		\$0	\$0	\$0	\$0	\$0
Southwest		Unincorporated	Newport	Lindenberger	SR-79 (Winchester)	3.58	\$0	\$0	\$0	\$0	0%	0%	0.43	0.89		\$0	\$0	\$0	\$0	\$0
Southwest		Unincorporated	SR-74	I-15	Ethanac	4.89	\$45,659,000	\$45,572,000	\$372,000	\$370,000	68%	68%	0.91	1.53	99%	\$87,000	\$0	\$87,000	\$2,000	\$2,000
Southwest		Unincorporated	SR-79 (Eastern Bypass/Washi	SR-79 (Winchester)	Borel	4.52	\$11,423,000	\$11,423,000	\$313,000	\$313,000	0%	0%	0.20	0.44		\$0	\$0	\$0	\$0	\$0
Southwest		Unincorporated	SR-79 (Eastern Bypass)	Borel	Vino	4.04	\$25,386,000	\$25,386,000	\$730,000	\$730,000	0%	0%				\$0	\$0	\$0	\$0	\$0
Southwest		Unincorporated	SR-79 (Eastern Bypass/Anza)	Vino	SR-79 (Constance)	4.49	\$12,250,000	\$12,250,000	\$342,000	\$342,000	0%	0%	0.15	0.29		\$0	\$0	\$0	\$0	\$0
Southwest		Unincorporated	SR-79 (Eastern Bypass/Anza)	SR-79 (Constance)	Santa Rita	1.14	\$7,891,000	\$7,891,000	\$231,000	\$231,000	0%	0%				\$0	\$0	\$0	\$0	\$0
Southwest		Unincorporated	SR-79 (Eastern Bypass/Anza)	Santa Rita	Fairview	1.77	\$9,659,000	\$9,659,000	\$269,000	\$269,000	0%	0%				\$0	\$0	\$0	\$0	\$0
Southwest		Unincorporated	SR-79 (Eastern Bypass)	Fairview	Pala	1.48	\$8,076,000	\$8,076,000	\$225,000	\$225,000	0%	0%				\$0	\$0	\$0	\$0	\$0
Southwest		Unincorporated	SR-79 (Eastern Bypass)	Pala	I-15	4.21	\$61,917,000	\$61,917,000	\$870,000	\$870,000	0%	0%				\$0	\$0	\$0	\$0	\$0
Southwest		Unincorporated	SR-79 (Winchester)	Keller	Thompson	2.47	\$8,845,000	\$8,845,000	\$155,000	\$155,000	7%	7%	0.79	1.02		\$0	\$0	\$0	\$0	\$0
Southwest		Unincorporated	SR-79 (Winchester)	Thompson	La Alba	1.81	\$6,499,000	\$3,623,000	\$114,000	\$64,000	100%	100%	1.22	1.62	56%	\$2,876,000	\$0	\$2,876,000	\$50,000	\$50,000
Southwest		Unincorporated	SR-79 (Winchester)	La Alba	Hunter	0.50	\$1,805,000	\$762,000	\$32,000	\$14,000	100%	100%	1.41	1.78	42%	\$1,043,000	\$0	\$1,043,000	\$18,000	\$18,000
Southwest		Unincorporated	SR-79 (Winchester)	Hunter	Murrieta Hot Springs	1.14	\$0	\$0	\$0	\$0	100%	100%	0.94	1.18	85%	\$0	\$0	\$0	\$0	\$0
Subtotal						295.15	\$2,099,632,000	\$1,854,504,000	\$32,323,000	\$30,790,000	3.7%				\$77,577,000	\$167,550,998	\$77,577,000	\$1,533,000	1,533,000	79,110,000

EXHIBIT H-2 TUMF Network Detailed Cost Estimate - Maximum Share Adjustments

AREA	PLAN DIST	CITY	STREET	NAME	SEGMENT	FROM	SEGMENT TO	MILES	TOTAL COST	MAXIMUM TUMF SH	MSHCP	MAX TUMF MSHCP SHARE	% EXISTING NEED	>2 LANE ADJST	EXIST V/C	FUTURE V/C	TUMF V/C SHARE	EXIST NEED	OBLIGATED FUNDS	UNFUND EXIST NEED	MSHCP EXIST NEED	MSHCP UNFUND EXIST NEED	COMBINED UNFUND EXIST NEED	
Central	Menifee	Biggs	Newport	Scott				3.05	\$7,146,000	\$7,146,000		\$192,000	\$192,000	0%	0%	0.16	0.45		\$0	\$0	\$0	\$0	\$0	
Central	Menifee	Goetz	Juanita	Lesser Lane				2.61	\$6,112,000	\$5,930,000		\$164,000	\$159,000	82%	82%	0.92	1.37	96%	\$182,000	\$0	\$182,000	\$5,000	\$5,000	\$187,000
Central	Menifee	Goetz	Newport	Juanita				1.36	\$0	\$0		\$0	\$0	50%	50%	0.89	1.33		\$0	\$0	\$0	\$0	\$0	
Central	Menifee	Holland	Antelope	Haun				1.00	\$13,022,000	\$13,022,000		\$327,000	\$327,000	0%	0%				\$0	\$0	\$0	\$0	\$0	
Central	Menifee	McCall	Menifee	SR 79 (Winchester)				4.45	\$10,417,000	\$10,417,000		\$279,000	\$279,000	0%	0%				\$0	\$0	\$0	\$0	\$0	
Central	Menifee	McCall	SR-79 (Winchester)	Warren				2.58	\$6,033,000	\$6,033,000		\$162,000	\$162,000	0%	0%				\$0	\$0	\$0	\$0	\$0	
Central	Menifee	McCall	I-215	Aspel				1.23	\$18,666,000	\$18,666,000		\$77,000	\$77,000	0%	0%	0.46	0.88		\$0	\$0	\$0	\$0	\$0	
Central	Menifee	McCall	Aspel	Menifee				0.95	\$4,469,000	\$4,469,000		\$120,000	\$120,000	0%	0%	0.45	1.14		\$0	\$0	\$0	\$0	\$0	
Central	Menifee	Murrieta	Ethanac	McCall				1.95	\$3,244,000	\$3,244,000		\$87,000	\$87,000	0%	0%	0.40	0.75		\$0	\$0	\$0	\$0	\$0	
Central	Menifee	Murrieta	McCall	Newport				2.03	\$0	\$0		\$0	\$0	0%	0%	0.35	0.62		\$0	\$0	\$0	\$0	\$0	
Central	Menifee	Murrieta	Newport	Bundy Canyon				3.00	\$0	\$0		\$0	\$0	0%	0%	0.48	0.93		\$0	\$0	\$0	\$0	\$0	
Central	Moreno Valley	Cactus	I-215	Heacock				1.81	\$37,173,000	\$37,173,000		\$85,000	\$85,000	15%	15%	0.81	1.39		\$0	\$0	\$0	\$0	\$0	
Central	Moreno Valley	Eucalyptus	I-215	Towngate				1.00	\$2,691,000	\$2,691,000		\$47,000	\$47,000	0%	0%	0.58	1.23		\$0	\$0	\$0	\$0	\$0	
Central	Moreno Valley	Eucalyptus	Towngate	Frederick				0.67	\$0	\$0		\$0	\$0	0%	0%	0.17	0.38		\$0	\$0	\$0	\$0	\$0	
Central	Moreno Valley	Frederick	SR-60	Alessandro				1.55	\$0	\$0		\$0	\$0	20%	20%	0.55	0.99		\$0	\$0	\$0	\$0	\$0	
Central	Moreno Valley	Heacock	Cactus	San Michele				2.79	\$9,762,000	\$6,726,000		\$192,000	\$139,000	100%	100%	1.19	1.70	64%	\$3,036,000	\$0	\$3,036,000	\$53,000	\$53,000	\$3,089,000
Central	Moreno Valley	Heacock	Reche Vista	Cactus				4.73	\$0	\$0		\$0	\$0	1%	1%	0.53	0.80		\$0	\$0	\$0	\$0	\$0	
Central	Moreno Valley	Heacock	San Michele	Harley Knox				0.74	\$2,992,000	\$2,476,000		\$90,000	\$76,000	100%	100%	1.19	1.89	70%	\$516,000	\$0	\$516,000	\$14,000	\$14,000	\$530,000
Central	Moreno Valley	Ironwood	SR-60	Redlands				8.46	\$35,509,000	\$35,509,000		\$345,000	\$345,000	10%	10%	0.53	1.02		\$0	\$0	\$0	\$0	\$0	
Central	Moreno Valley	Lasselle	Eucalyptus	Alessandro				1.00	\$2,145,000	\$2,145,000		\$38,000	\$38,000	0%	0%	0.49	0.91		\$0	\$0	\$0	\$0	\$0	
Central	Moreno Valley	Lasselle	Alessandro	John F Kennedy				1.00	\$2,871,000	\$2,871,000		\$50,000	\$50,000	50%	50%	0.83	1.48		\$0	\$0	\$0	\$0	\$0	
Central	Moreno Valley	Lasselle	John F Kennedy	Oleander				3.14	\$0	\$0		\$0	\$0	0%	0%	0.65	1.26		\$0	\$0	\$0	\$0	\$0	
Central	Moreno Valley	Moreno Beach	Reche Canyon	SR-60				1.37	\$37,210,000	\$37,210,000		\$86,000	\$86,000	0%	0%	0.64	1.45		\$0	\$0	\$0	\$0	\$0	
Central	Moreno Valley	Nason	Ironwood	Alessandro				2.02	\$37,376,000	\$37,376,000		\$89,000	\$89,000	5%	5%	0.62	1.23		\$0	\$0	\$0	\$0	\$0	
Central	Moreno Valley	Pigeon Pass	Ironwood	SR-60				0.43	\$0	\$0		\$0	\$0	34%	34%	0.82	1.14		\$0	\$0	\$0	\$0	\$0	
Central	Moreno Valley	Pigeon Pass/CETAP Corridor	Cantarini	Ironwood				3.23	\$2,317,000	\$2,317,000		\$41,000	\$41,000	47%	47%	0.64	1.09		\$0	\$0	\$0	\$0	\$0	
Central	Moreno Valley	Reche Canyon	Reche Vista	Moreno Beach				4.02	\$0	\$0		\$0	\$0	0%	0%	0.26	0.64		\$0	\$0	\$0	\$0	\$0	
Central	Moreno Valley	Redlands	Locust	Alessandro				2.68	\$41,922,000	\$41,226,000		\$168,000	\$156,000	91%	91%	0.97	1.81	92%	\$696,000	\$0	\$696,000	\$12,000	\$12,000	\$708,000
Central	Moreno Valley	Sunnymead	Frederick	Peris				2.02	\$0	\$0		\$0	\$0	6%	6%	0.21	0.44		\$0	\$0	\$0	\$0	\$0	
Central	Peris	Ellis	SR-74 (4th)	I-215				1.92	\$52,378,000	\$52,378,000		\$575,000	\$575,000	7%	7%	0.69	1.30		\$0	\$0	\$0	\$0	\$0	
Central	Peris	Evans	Placentia	Nuevo				1.50	\$1,968,000	\$1,968,000		\$53,000	\$53,000	0%	0%				\$0	\$0	\$0	\$0	\$0	
Central	Peris	Evans	Morgan	Ramona				0.59	\$1,388,000	\$1,388,000		\$37,000	\$37,000	0%	0%	0.34	0.71		\$0	\$0	\$0	\$0	\$0	
Central	Peris	Evans	I-215	Nuevo				1.99	\$16,024,000	\$16,024,000		\$481,000	\$481,000	0%	0%				\$0	\$0	\$0	\$0	\$0	
Central	Peris	Evans	Oleander	Ramona				0.99	\$0	\$0		\$0	\$0	0%	0%	0.70	1.40		\$0	\$0	\$0	\$0	\$0	
Central	Peris	Evans	Placentia	Rider				0.58	\$0	\$0		\$0	\$0	0%	0%	0.11	0.37		\$0	\$0	\$0	\$0	\$0	
Central	Peris	Evans	Rider	Morgan				0.49	\$1,158,000	\$1,158,000		\$31,000	\$31,000	0%	0%	0.10	0.38		\$0	\$0	\$0	\$0	\$0	
Central	Peris	Goetz	Lesser	Ethanac				1.04	\$2,438,000	\$1,957,000		\$65,000	\$52,000	100%	100%	1.02	1.52	80%	\$481,000	\$0	\$481,000	\$13,000	\$13,000	\$494,000
Central	Peris	Harley Knox	I-215	Indian				1.53	\$21,286,000	\$21,286,000		\$96,000	\$96,000	0%	0%	0.31	0.83		\$0	\$0	\$0	\$0	\$0	
Central	Peris	Harley Knox	Indian	Peris				0.50	\$447,000	\$447,000		\$8,000	\$8,000	0%	0%	0.02	0.15		\$0	\$0	\$0	\$0	\$0	
Central	Peris	Harley Knox	Peris	Evans				1.03	\$7,391,000	\$7,391,000		\$129,000	\$129,000	0%	0%				\$0	\$0	\$0	\$0	\$0	
Central	Peris	Nuevo	I-215	Murrieta				1.36	\$20,658,000	\$20,658,000		\$85,000	\$85,000	0%	0%	0.54	0.99		\$0	\$0	\$0	\$0	\$0	
Central	Peris	Nuevo	Murrieta	Dunlap				1.00	\$4,313,000	\$4,313,000		\$135,000	\$135,000	0%	0%	0.39	1.25		\$0	\$0	\$0	\$0	\$0	
Central	Peris	Placentia	I-215	Indian				0.37	\$34,039,000	\$34,039,000		\$46,000	\$46,000	0%	0%				\$0	\$0	\$0	\$0	\$0	
Central	Peris	Placentia	Indian	Redlands				1.00	\$2,339,000	\$2,339,000		\$63,000	\$63,000	0%	0%	0.27	0.53		\$0	\$0	\$0	\$0	\$0	
Central	Peris	Placentia	Redlands	Wilson				0.25	\$0	\$0		\$0	\$0	0%	0%	0.02	0.07		\$0	\$0	\$0	\$0	\$0	
Central	Peris	Wilson	Placentia	Evans				0.75	\$8,540,000	\$8,540,000		\$267,000	\$267,000	0%	0%				\$0	\$0	\$0	\$0	\$0	
Central	Peris	SR-74 (Matthews)	I-215(mostly in Peris)	Ethanac				1.25	\$15,791,000	\$15,791,000		\$0	\$0	51%	51%	0.90	1.63		\$0	\$0	\$0	\$0	\$0	
Central	Unincorporated	Biggs	SR-74 (Pinacate)	Simpson				2.50	\$11,713,000	\$11,713,000		\$314,000	\$314,000	0%	0%				\$0	\$0	\$0	\$0	\$0	
Central	Unincorporated	Biggs	Simpson	Newport				1.53	\$8,585,000	\$8,585,000		\$269,000	\$269,000	0%	0%	0.12	0.45		\$0	\$0	\$0	\$0	\$0	
Central	Unincorporated	Center (Main)	I-215	Mt Vernon				1.50	\$33,463,000	\$33,463,000		\$518,000	\$518,000	0%	0%	0.50	1.04		\$0	\$0	\$0	\$0	\$0	
Central	Unincorporated	Ellis	Post	SR-74				2.65	\$6,205,000	\$6,205,000		\$166,000	\$166,000	0%	0%	0.53	1.30		\$0	\$0	\$0	\$0	\$0	
Central	Unincorporated	Mount Vernon/CETAP Corridor	Center	Pigeon Pass				0.61	\$1,887,000	\$1,887,000		\$54,000	\$54,000	0%	0%	0.25	1.14		\$0	\$0	\$0	\$0	\$0	
Central	Unincorporated	Nuevo	Dunlap	Menifee				2.00	\$8,022,000	\$8,022,000		\$241,000	\$241,000	0%	0%	0.43	1.34		\$0	\$0	\$0	\$0	\$0	
Central	Unincorporated	Pigeon Pass/CETAP Corridor	Cantarini	Mount Vernon				3.38	\$21,086,000	\$21,086,000		\$605,000	\$605,000	0%	0%	0.04	0.34		\$0	\$0	\$0	\$0	\$0	
Central	Unincorporated	Post	Santa Rosa Mine	Ellis				0.44	\$0	\$0		\$0	\$0	0%	0%	0.50	1.24		\$0	\$0	\$0	\$0	\$0	
Central	Unincorporated	Redlands	San Timoteo Canyon	Locust				2.60	\$0	\$0		\$0	\$0	100%	100%	1.15	1.99	77%	\$0	\$0	\$0	\$0	\$0	
Northwest	Corona	6th	SR-91	Magnolia				4.84	\$0	\$0		\$0	\$0	58%	58%	0.90	1.16	99%	\$0	\$0	\$0	\$0	\$0	
Northwest	Corona	Auto Center	Railroad	SR-91				0.30	\$12,296,000	\$0		\$424,000	\$424,000	15%	15%	0.65	0.90		\$0	\$12,296,000	\$0	\$0	\$0	
Northwest	Corona	Hidden Valley	Norco Hills	McKinley				0.59	\$0	\$0		\$0	\$0	0%	0%	0.38	0.69		\$0	\$0	\$0	\$0	\$0	
Northwest	Corona	Lincoln	Parkridge	Ontario				3.20	\$0	\$0		\$0	\$0	9%	9%	0.43	0.63		\$0	\$0	\$0	\$0	\$0	
Northwest	Corona	Magnolia	6th	Sherborn				0.61	\$4,706,000	\$4,706,000		\$125,000	\$125,000	14%	14%	0.67	1.05		\$0	\$0	\$0	\$0	\$0	
Northwest	Corona	Magnolia	Sherborn	Rimpau				0.39	\$0	\$0		\$0	\$0	53%	53%	0.96	1.32	86%	\$0	\$0	\$0	\$0	\$0	
Northwest	Corona	Magnolia	Rimpau	Ontario				1.17	\$0	\$0		\$0	\$0	0%	0%	0.34	0.43		\$0	\$0	\$0	\$0	\$0	
Northwest	Corona	Main	Grand	Ontario				0.88	\$2,063,000	\$1,951,000		\$55,000	\$52,000	55%	55%	0.94	1.26	90%	\$112,000	\$0	\$112,000	\$3,000	\$3,000	\$115,000
Northwest	Corona	Main	Ontario	Foothill				0.74	\$0	\$0		\$0	\$0	24%	24%	0.51	0.70		\$0	\$0	\$0	\$0	\$0	
Northwest	Corona	Main	Hidden Valley	Parkridge				0.35	\$1,248,000	\$957,000		\$22,000	\$17,000	48%	48%	1.37	1.87	51%	\$291,000	\$0	\$291,000	\$5,000	\$5,000	\$296,000
Northwest	Corona	Main	SR-91	Parkridge				0.86	\$0	\$0		\$0	\$0	0%	0%	0.44	0.77		\$0	\$0	\$0	\$0	\$0	
Northwest	Corona	Main	SR-91	S. Grand				0.86	\$4,728,000	\$4,728,000		\$54,000	\$54,000	9%	9%	0.44	0.59		\$0	\$0	\$0	\$0	\$0	
Northwest	Corona	McKinley	Hidden Valley	Promenade				0.57	\$0	\$0		\$0	\$0	0%	0%	0.53	0.93		\$0	\$0	\$0	\$0	\$0	
Northwest	Corona	McKinley	Promenade																					

EXHIBIT H-2 TUMF Network Detailed Cost Estimate - Maximum Share Adjustments

AREA	PLAN	DIST	CITY	STREET	NAME	SEGMENT	FROM	SEGMENT	TO	MILES	TOTAL COST	MAXIMUM TUMF SH#	MSHCP	MAX TUMF MSHCP SHARE	% EXISTING	NEED >2 LANE	ADJST	EXIST V/C	FUTURE V/C	TUMF V/C SHARE	EXIST NEED	OBLIGATED FUNDS	UNFUND EXIST NEED	MSHCP EXIST NEED	MSHCP UNFUND EXIST NEED	COMBINED UNFUND EXIST NEED
Northwest	Riverside			14th	Market			Martin Luther King		0.89	\$0	\$0	\$0	\$0	74%	74%		0.95	1.36	90%	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			1st	Market			Main		0.08	\$0	\$0	\$0	\$0	0%	0%		0.31	0.69		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			3rd	Chicago			I-215		0.36	\$0	\$0	\$0	\$0	0%	0%		0.51	0.88		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Adams	SR-91			Arlington		1.56	\$0	\$0	\$0	\$0	12%	12%		0.65	0.98		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Adams	SR-91			Lincoln		0.54	\$12,296,000	\$12,296,000	\$424,000	\$424,000	5%	5%		0.45	0.80		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Buena Vista	Santa Ana River			Redwood		0.30	\$0	\$0	\$0	\$0	100%	100%		1.05	2.03	86%	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Canyon Crest	Central			Country Club		0.59	\$0	\$0	\$0	\$0	0%	0%		0.62	1.22		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Canyon Crest	Country Club			Via Vista		0.94	\$2,568,000	\$1,854,000	\$72,000	\$52,000	100%	100%		1.18	1.90	72%	\$714,000	\$0	\$714,000	\$20,000	\$20,000	
Northwest	Riverside			Canyon Crest	Via Vista			Alessandro		0.68	\$0	\$0	\$0	\$0	0%	0%		0.73	1.02		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Canyon Crest	Martin Luther King			Central		0.95	\$0	\$0	\$0	\$0	0%	0%		0.76	1.15		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Central	Chicago			I-215/SR-60		2.15	\$0	\$0	\$0	\$0	0%	0%		0.75	1.15		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Central	SR-91			Magnolia		0.76	\$2,725,000	\$2,725,000	\$48,000	\$48,000	9%	9%		0.58	0.95		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Central	Alessandro			SR-91		2.05	\$0	\$0	\$0	\$0	73%	73%		0.91	1.45	99%	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Central	Van Buren			Magnolia		3.53	\$0	\$0	\$0	\$0	0%	0%		0.41	0.64		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Chicago	Alessandro			Spruce		3.42	\$0	\$0	\$0	\$0	30%	30%		0.92	1.52	97%	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Chicago	Spruce			Columbia		0.75	\$26,390,000	\$26,390,000	\$910,000	\$910,000	0%	0%		0.68	1.30		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Columbia	Main			Iowa		1.09	\$28,087,000	\$28,087,000	\$424,000	\$424,000	10%	10%		0.62	1.14		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Iowa	Center			3rd		2.25	\$26,507,000	\$26,507,000	\$777,000	\$777,000	19%	19%		0.87	1.44		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Iowa	3rd			University		0.51	\$0	\$0	\$0	\$0	0%	0%		0.56	1.03		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			JFK	Trautwein			Wood		0.48	\$0	\$0	\$0	\$0	0%	0%		0.30	0.55		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			La Sierra	Arlington			SR-91		3.56	\$0	\$0	\$0	\$0	3%	3%		0.40	0.69		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			La Sierra	SR-91			Indiana		0.19	\$0	\$0	\$0	\$0	100%	100%		1.13	1.80	74%	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			La Sierra	Indiana			Victoria		0.78	\$0	\$0	\$0	\$0	0%	0%		0.69	1.18		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Lemon (NB One way)	Mission Inn			University		0.08	\$0	\$0	\$0	\$0	0%	0%		0.10	0.29		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Lincoln	Adams			Washington		1.55	\$0	\$0	\$0	\$0	0%	0%		0.35	0.68		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Lincoln	Van Buren			Adams		1.54	\$0	\$0	\$0	\$0	0%	0%		0.32	0.67		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Lincoln	Washington			Victoria		1.43	\$5,132,000	\$5,132,000	\$90,000	\$90,000	36%	36%		0.81	1.33		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Lincoln	Victoria			Arlington		0.28	\$0	\$0	\$0	\$0	0%	0%		0.43	0.70		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Madison	SR-91			Victoria		0.86	\$12,296,000	\$12,296,000	\$424,000	\$424,000	0%	0%		0.36	0.64		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Magnolia	BNSF RR			La Sierra		3.09	\$12,296,000	\$12,296,000	\$424,000	\$424,000	62%	62%		0.99	1.52	86%	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Magnolia	La Sierra			Harrison		2.70	\$0	\$0	\$0	\$0	0%	0%		0.62	0.91		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Magnolia	Harrison			14th		5.98	\$12,296,000	\$12,296,000	\$424,000	\$424,000	18%	18%		0.84	1.31		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			1st	Main			San Bernardino County		2.19	\$0	\$0	\$0	\$0	73%	73%		1.04	1.55	79%	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Market	14th			Santa Ana River		2.03	\$0	\$0	\$0	\$0	4%	4%		0.68	1.17		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Market	Martin Luther King			I-215/SR-60		2.11	\$7,573,000	\$6,890,000	\$133,000	\$121,000	77%	77%		0.97	1.52	88%	\$683,000	\$0	\$683,000	\$12,000	\$12,000	
Northwest	Riverside			Mission Inn	Redwood			Lemon		0.79	\$0	\$0	\$0	\$0	14%	14%		0.49	0.83		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Overlook	Sandtrack			Alessandro		0.32	\$0	\$0	\$0	\$0	0%	0%		0.23	0.49		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Overlook	Washington			Bodewin/Via Montecito		0.56	\$0	\$0	\$0	\$0	0%	0%		0.12	0.19		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Overlook	Bodewin/Via Montecito			Crystal View		0.81	\$3,213,000	\$3,213,000	\$62,000	\$62,000	0%	0%		0.23	0.49		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Overlook	Crystal View			Via Vista		0.55	\$12,723,000	\$12,723,000	\$372,000	\$372,000	0%	0%		0.23	0.49		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Overlook	Via Vista			Sandtrack		0.63	\$2,504,000	\$2,504,000	\$48,000	\$48,000	0%	0%		0.23	0.49		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Redwood (SB One way)	Mission Inn			University		0.08	\$0	\$0	\$0	\$0	0%	0%		0.62	1.21		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Redwood (SB One way)	Trautwein			Van Buren		2.19	\$0	\$0	\$0	\$0	43%	43%		0.91	1.42	99%	\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Tyler	SR-91			Magnolia		0.43	\$32,306,000	\$32,306,000	\$0	\$0	0%	0%		0.58	0.84		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Tyler	Magnolia			Hole		0.27	\$0	\$0	\$0	\$0	0%	0%		0.63	0.95		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Tyler	Hole			Wells		1.06	\$0	\$0	\$0	\$0	0%	0%		0.21	0.35		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Tyler	Wells			Arlington		1.35	\$4,851,000	\$4,851,000	\$85,000	\$85,000	19%	19%		0.67	0.95		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			University	Redwood			SR-91		0.86	\$0	\$0	\$0	\$0	9%	9%		0.58	0.86		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			University	SR-91			I-215/SR-60		2.01	\$0	\$0	\$0	\$0	0%	0%		0.66	1.09		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Victoria	Madison			Washington		0.52	\$0	\$0	\$0	\$0	0%	0%		0.26	0.65		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Washington	Victoria			Hermosa		2.05	\$7,372,000	\$7,372,000	\$129,000	\$129,000	34%	34%		0.84	1.40		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Wood	JFK			Van Buren		0.70	\$821,000	\$821,000	\$22,000	\$22,000	0%	0%		0.60	1.15		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Wood	Van Buren			Bergamont		0.11	\$0	\$0	\$0	\$0	0%	0%		0.82	1.44		\$0	\$0	\$0	\$0	\$0	
Northwest	Riverside			Wood	Bergamont			Krameria		0.39	\$365,000	\$365,000	\$10,000	\$10,000	0%	0%		0.34	0.60		\$0	\$0	\$0	\$0	\$0	
Northwest	Unincorporated			Archibald	San Bernardino County			River		3.63	\$13,258,000	\$7,236,000	\$432,000	\$432,000	46%	46%		0.91	1.51	99%	\$19,000	\$6,022,400	\$0	\$1,000	\$0	
Northwest	Unincorporated			Armstrong	San Bernardino County			Valley		1.53	\$1,376,000	\$1,169,000	\$38,000	\$32,000	44%	44%		1.22	1.83	66%	\$207,000	\$0	\$207,000	\$6,000	\$6,000	
Northwest	Unincorporated			Belgrave	Cantu-Galleano Ranch			Van Buren		0.29	\$675,000	\$609,000	\$18,000	\$16,000	80%	80%		0.99	1.63	88%	\$66,000	\$0	\$66,000	\$2,000	\$2,000	
Northwest	Unincorporated			Hamner	Cantu-Galleano Ranch			Wineville		0.94	\$0	\$0	\$0	\$0	0%	0%		0.12	0.49		\$0	\$0	\$0	\$0	\$0	
Northwest	Unincorporated			Cantu-Galleano Ranch	Wineville			Belgrave		1.82	\$6,821,000	\$6,821,000	\$183,000	\$183,000	0%	0%		0.34	0.46		\$0	\$0	\$0	\$0	\$0	
Northwest	Unincorporated			Temescal Canyon	I-15			I-15		0.21	\$0	\$0	\$0	\$0	0%	0%		0.34	0.65		\$0	\$0	\$0	\$0	\$0	
Northwest	Unincorporated			El Cerrito	I-15			Ontario		0.56	\$1,304,000	\$1,304,000	\$35,000	\$35,000	0%	0%		0.34	0.65		\$0	\$0	\$0	\$0	\$0	
Northwest	Unincorporated			Etiwanda	San Bernardino County			SR-60		1.00	\$0	\$0	\$0	\$0	27%	27%		0.78	1.19		\$0	\$0	\$0	\$0	\$0	
Northwest	Unincorporated			Etiwanda	SR-60			Limonite		3.00	\$0	\$0	\$0	\$0	7%	7%		0.50	1.01		\$0	\$0	\$0	\$0	\$0	
Northwest	Unincorporated			Hamner	Belgrave			Amberhill		0.42	\$974,000	\$974,000	\$26,000	\$26,000	0%	0%		0.58	1.04		\$0	\$0	\$0	\$0	\$0	
Northwest	Unincorporated			Hamner	Amberhill			Limonite		0.49	\$2,302,000	\$1,850,000	\$62,000	\$50,000	100%	50%		1.41	2.20	61%	\$452,000	\$0	\$452,000	\$12,000	\$12,000	
Northwest	Unincorporated			Hamner	Limonite			Schleisman		1.00	\$2,333,000	\$2,333,000	\$63,000	\$63,000	0%	0%		0.27	0.54		\$0	\$0	\$0	\$0	\$0	
Northwest	Unincorporated			Hamner	Schleisman			Santa Anna River		1.29	\$26,069,000	\$25,696,000	\$853,000	\$843,000	51%	25%		1.20	2.12	76%	\$373,000	\$0	\$373,000	\$10,000	\$10,000	
Northwest	Unincorporated			Hamner	Mission			Belgrave		1.11	\$2,598,000	\$2,557,000	\$70,000	\$69,000	53%	53%		0.93	1.74	97%	\$41,000	\$0	\$41,000	\$1,000	\$1,000	
Northwest	Unincorporated			Harley John	Washington			Scottsdale																		

EXHIBIT H-2 TUMF Network Detailed Cost Estimate - Maximum Share Adjustments

AREA	PLAN	DIST	CITY	STREET	NAME	SEGMENT	FROM	TO	MILES	TOTAL COST	MAXIMUM TUMF SH#	MSHCP	MAX TUMF MSHCP SHARE	% EXISTING	NEED >2 LANE	ADJST	EXIST V/C	FUTURE V/C	TUMF V/C SHARE	EXIST NEED	OBLIGATED FUNDS	UNFUND EXIST NEED	MSHCP EXIST NEED	MSHCP UNFUND EXIST NEED	COMBINED UNFUND EXIST NEED
Pass	Banning			8th		Wilson		I-10	0.54	\$0	\$0	\$0	\$0	0%	0%	0%	0.30	0.56		\$0	\$0	\$0	\$0	\$0	
Pass	Banning			Highland Springs		Oak Valley (14th)		Wilson (8th)	0.73	\$2,634,000	\$1,317,000	\$46,000	\$46,000	0%	0%		0.61	1.96		\$0	\$1,317,000	\$0	\$0	\$0	
Pass	Banning			Highland Springs		Cherry Valley		Oak Valley (14th)	1.53	\$5,505,000	\$2,753,000	\$96,000	\$96,000	0%	0%		0.29	0.94		\$0	\$2,752,500	\$0	\$0	\$0	
Pass	Banning			I-10 Bypass South		I-10		Apache Trail	3.29	\$30,085,000	\$30,085,000	\$293,000	\$293,000	0%	0%		0.00	0.17		\$0	\$0	\$0	\$0	\$0	
Pass	Banning			Lincoln		Sunset		SR-243	2.01	\$0	\$0	\$0	\$0	0%	0%		0.32	0.86		\$0	\$0	\$0	\$0	\$0	
Pass	Banning			Ramsey		I-10		Wilson (8th)	1.70	\$0	\$0	\$0	\$0	0%	0%		0.20	0.50		\$0	\$0	\$0	\$0	\$0	
Pass	Banning			Ramsey		Wilson (8th)		Highland Springs	3.55	\$0	\$0	\$0	\$0	0%	0%		0.13	0.52		\$0	\$0	\$0	\$0	\$0	
Pass	Banning			SR-243		I-10		Wesley	0.62	\$0	\$0	\$0	\$0	0%	0%		0.82	1.27		\$0	\$0	\$0	\$0	\$0	
Pass	Banning			Sun Lakes		Highland Home		Sunset	1.00	\$10,517,000	\$10,517,000	\$241,000	\$241,000	0%	0%					\$0	\$0	\$0	\$0	\$0	
Pass	Banning			Sun Lakes		Highland Home		Highland Home	1.33	\$0	\$0	\$0	\$0	0%	0%		0.11	0.41		\$0	\$0	\$0	\$0	\$0	
Pass	Banning			Sunset		Ramsey		Lincoln	0.28	\$43,195,000	\$43,195,000	\$928,000	\$928,000	14%	14%		0.51	1.31		\$0	\$0	\$0	\$0	\$0	
Pass	Banning			Wilson (8th)		Highland Home		Wilson (8th)	2.51	\$0	\$0	\$0	\$0	0%	0%		0.17	0.69		\$0	\$0	\$0	\$0	\$0	
Pass	Banning			Wilson (8th)		Highland Springs		Highland Home	1.01	\$3,614,000	\$3,614,000	\$63,000	\$63,000	0%	0%		0.30	1.23		\$0	\$0	\$0	\$0	\$0	
Pass	Beaumont			1st		Viele		Pennsylvania	1.28	\$4,605,000	\$0	\$81,000	\$81,000	0%	0%		0.42	1.18		\$0	\$4,605,000	\$0	\$0	\$0	
Pass	Beaumont			1st		Pennsylvania		Highland Springs	1.10	\$0	\$0	\$0	\$0	0%	0%		0.17	0.57		\$0	\$0	\$0	\$0	\$0	
Pass	Beaumont			6th		I-10		Highland Springs	2.24	\$0	\$0	\$0	\$0	0%	0%		0.24	0.91		\$0	\$0	\$0	\$0	\$0	
Pass	Beaumont			Desert Lawn		Champions		Oak Valley (STC)	0.99	\$2,311,000	\$0	\$62,000	\$62,000	0%	0%		0.04	0.35		\$0	\$2,311,000	\$0	\$0	\$0	
Pass	Beaumont			Highland Springs		Wilson (8th)		Sun Lakes	0.76	\$18,524,000	\$17,158,000	\$48,000	\$48,000	0%	0%		0.36	1.07		\$0	\$1,366,475	\$0	\$0	\$0	
Pass	Beaumont			Oak Valley (14th)		Highland Springs		Pennsylvania	1.13	\$0	\$0	\$0	\$0	0%	0%		0.18	0.66		\$0	\$0	\$0	\$0	\$0	
Pass	Beaumont			Oak Valley (14th)		Pennsylvania		Oak View	1.40	\$0	\$0	\$0	\$0	0%	0%		0.19	0.69		\$0	\$0	\$0	\$0	\$0	
Pass	Beaumont			Oak Valley (14th)		Oak View		I-10	0.65	\$20,540,000	\$0	\$104,000	\$104,000	0%	0%		0.49	1.67		\$0	\$20,540,000	\$0	\$0	\$0	
Pass	Beaumont			Oak Valley (STC)		Beaumont City Limits		Cherry Valley (J St / Central Overl	3.46	\$0	\$0	\$0	\$0	0%	0%		0.09	0.64		\$0	\$0	\$0	\$0	\$0	
Pass	Beaumont			Oak Valley (STC)		Cherry Valley (J St / Central Overl		I-10	1.67	\$3,902,000	\$0	\$105,000	\$105,000	0%	0%		0.17	0.84		\$0	\$3,902,000	\$0	\$0	\$0	
Pass	Beaumont			Pennsylvania		6th		1st	0.53	\$15,791,000	\$0	\$0	\$0	0%	0%		0.56	1.85		\$0	\$15,791,000	\$0	\$0	\$0	
Pass	Beaumont			Viele		4th		1st	0.31	\$1,116,000	\$0	\$20,000	\$20,000	0%	0%		0.00	0.10		\$0	\$1,116,000	\$0	\$0	\$0	
Pass	Beaumont			Viele		6th		4th	0.50	\$28,197,000	\$0	\$942,000	\$942,000	0%	0%		0.01	0.24		\$0	\$28,197,000	\$0	\$0	\$0	
Pass	Calimesa			Bryant		County Line		Singleton	0.38	\$0	\$0	\$0	\$0	0%	0%		0.08	0.16		\$0	\$0	\$0	\$0	\$0	
Pass	Calimesa			Calimesa		County Line		I-10	0.80	\$32,306,000	\$32,306,000	\$0	\$0	0%	0%		0.10	0.27		\$0	\$0	\$0	\$0	\$0	
Pass	Calimesa			Cherry Valley		Roberts		Palmer	0.50	\$1,163,000	\$0	\$31,000	\$31,000	0%	0%		0.12	0.45		\$0	\$1,163,000	\$0	\$0	\$0	
Pass	Calimesa			County Line		I-10		Bryant	1.76	\$18,948,000	\$18,948,000	\$55,000	\$55,000	6%	6%		0.49	0.58		\$0	\$0	\$0	\$0	\$0	
Pass	Calimesa			Desert Lawn		Cherry Valley		Champions	1.61	\$3,764,000	\$3,764,000	\$101,000	\$101,000	0%	0%		0.09	0.43		\$0	\$0	\$0	\$0	\$0	
Pass	Calimesa			Singleton		Bryant		Condit	1.86	\$10,160,000	\$10,160,000	\$283,000	\$283,000	0%	0%					\$0	\$0	\$0	\$0	\$0	
Pass	Calimesa			Singleton		Condit		Roberts	0.85	\$35,357,000	\$35,357,000	\$53,000	\$53,000	0%	0%		0.36	0.86		\$0	\$0	\$0	\$0	\$0	
Pass	Unincorporated			Cherry Valley		Highland Springs		Noble	0.95	\$4,462,000	\$4,462,000	\$120,000	\$120,000	0%	0%		0.15	0.35		\$0	\$0	\$0	\$0	\$0	
Pass	Unincorporated			Cherry Valley		Noble		Desert Lawn	3.40	\$42,766,000	\$42,766,000	\$300,000	\$300,000	0%	0%		0.35	0.71		\$0	\$0	\$0	\$0	\$0	
Pass	Unincorporated			Live Oak Canyon		Oak Valley (STC)		San Bernardino County	2.81	\$0	\$0	\$0	\$0	0%	0%		0.49	1.04		\$0	\$0	\$0	\$0	\$0	
Pass	Unincorporated			Oak Valley (STC)		San Bernardino County		Beaumont City Limits	5.65	\$13,195,000	\$13,195,000	\$455,000	\$455,000	18%	18%		0.34	0.79		\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			Sanderson		Acacia		Menlo	0.98	\$0	\$0	\$0	\$0	25%	25%		0.72	1.44		\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			Sanderson		Domenigoni		Stetson	1.08	\$0	\$0	\$0	\$0	26%	26%		0.80	1.59		\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			Sanderson		RR Crossing		Acacia	0.42	\$0	\$0	\$0	\$0	0%	0%		0.58	1.34		\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			Sanderson		Stetson		RR Crossing	0.58	\$0	\$0	\$0	\$0	0%	0%		0.48	1.16		\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			Sanderson		Menlo		Esplanade	1.00	\$3,586,000	\$1,789,000	\$63,000	\$32,000	100%	100%		1.62	2.33	50%	\$1,797,000	\$0	\$1,797,000	\$31,000	\$31,000	\$1,828,000
San Jacinto	Hemet			SR-74		Warren		Cawston	1.02	\$0	\$0	\$0	\$0	70%	70%		0.98	1.76	90%	\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			SR-74 (Florida)		Columbia		Ramona	2.58	\$0	\$0	\$0	\$0	0%	0%		0.38	0.93		\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			SR-74/SR-79 (Florida)		Cawston		Columbia	4.03	\$0	\$0	\$0	\$0	0%	0%		0.56	1.19		\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			State		Domenigoni		Chambers	1.31	\$0	\$0	\$0	\$0	0%	0%		0.38	0.91		\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			State		Chambers		Stetson	0.51	\$0	\$0	\$0	\$0	0%	0%		0.47	0.89		\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			State		Florida		Esplanade	1.74	\$0	\$0	\$0	\$0	0%	0%		0.66	1.32		\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			State		Stetson		Florida	1.25	\$6,881,000	\$4,938,000	\$78,000	\$56,000	100%	100%		1.19	1.94	72%	\$1,943,000	\$0	\$1,943,000	\$22,000	\$22,000	\$1,965,000
San Jacinto	Hemet			Stetson		Cawston		State	2.52	\$0	\$0	\$0	\$0	0%	0%		0.71	1.33		\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			Stetson		Warren		Cawston	1.00	\$2,341,000	\$2,341,000	\$63,000	\$63,000	0%	0%		0.61	1.38		\$0	\$0	\$0	\$0	\$0	
San Jacinto	Hemet			Warren		Esplanade		Domenigoni	4.99	\$14,195,000	\$13,396,000	\$400,000	\$379,000	53%	53%		1.03	1.91	87%	\$799,000	\$0	\$799,000	\$21,000	\$21,000	\$820,000
San Jacinto	San Jacinto			Esplanade		Ramona		Mountain	0.20	\$1,434,000	\$1,434,000	\$25,000	\$25,000	0%	0%					\$0	\$0	\$0	\$0	\$0	
San Jacinto	San Jacinto			Esplanade		Mountain		State	2.55	\$0	\$0	\$0	\$0	0%	0%		0.18	0.67		\$0	\$0	\$0	\$0	\$0	
San Jacinto	San Jacinto			Esplanade		State		Warren	3.53	\$8,275,000	\$8,275,000	\$222,000	\$222,000	0%	0%		0.21	0.88		\$0	\$0	\$0	\$0	\$0	
San Jacinto	San Jacinto			Sanderson		Ramona		Esplanade	3.55	\$8,310,000	\$4,162,000	\$223,000	\$112,000	100%	100%		1.58	2.26	50%	\$4,148,000	\$0	\$4,148,000	\$111,000	\$111,000	\$4,259,000
San Jacinto	San Jacinto			SR-79 (North Ramona)		State		San Jacinto	1.02	\$0	\$0	\$0	\$0	0%	0%		0.70	1.29		\$0	\$0	\$0	\$0	\$0	
San Jacinto	San Jacinto			SR-79 (San Jacinto)		7th		SR-74	2.25	\$0	\$0	\$0	\$0	0%	0%		0.37	0.83		\$0	\$0	\$0	\$0	\$0	
San Jacinto	San Jacinto			SR-79 (San Jacinto)		North Ramona Blvd		7th	0.25	\$886,000	\$886,000	\$16,000	\$16,000	0%	0%		0.72	1.41		\$0	\$0	\$0	\$0	\$0	
San Jacinto	San Jacinto			State		Esplanade		Esplanade	1.99	\$0	\$0	\$0	\$0	0%	0%		0.70	1.42		\$0	\$0	\$0	\$0	\$0	
San Jacinto	San Jacinto			State Street		Gilman Springs		Quandt Ranch	0.76	\$5,958,000	\$5,348,000	\$192,000	\$176,000	100%	100%		1.46	2.52	66%	\$610,000	\$0	\$610,000	\$16,000	\$16,000	\$626,000
San Jacinto	San Jacinto			State Street		Quandt Ranch		Ramona	0.70	\$0	\$0	\$0	\$0	0%	0%		0.68	1.24		\$0	\$0	\$0	\$0	\$0	
San Jacinto	San Jacinto			Warren		Ramona		Esplanade	3.47	\$8,130,000	\$8,130,000	\$218,000	\$218,000	0%	0%		0.47	1.20		\$0	\$0	\$0	\$0	\$0	
San Jacinto	Unincorporated			Gilman Springs		Sanderson		State	2.54	\$6,796,000	\$4,733,000	\$189,000	\$134,000	100%	100%		1.56	2.81	65%	\$2,063,000	\$0	\$2,063,000	\$55,000	\$55,000	\$2,118,000
San Jacinto	Unincorporated			SR-79 (Winchester)		SR-74 (Florida)		Domenigoni	3.23	\$0	\$0	\$0	\$0	100%	100%		1.20	1.80	67%	\$0	\$0	\$0	\$0	\$0	
Southwest	Lake Elsinore			Diamond		Mission		I-15	0.24	\$559,000	\$533,000	\$15,000	\$14,000	45%	45%		0.99	1.74	90%	\$26,000	\$0	\$26,000	\$1,000	\$1,000	\$27,000
Southwest	Lake Elsinore			Grand		Lincoln		Toft	1.29	\$0	\$0	\$0	\$0	0%	0%		0.28	0.54		\$0	\$0	\$0	\$0	\$0	
Southwest	Lake Elsinore			Grand		Lincoln		SR-74 (Riverside)	0.86	\$1,206,000	\$1,206,000	\$32,000	\$32,000	0%	0%		0.47	0.90		\$0	\$0	\$0	\$0	\$0	
South																									

EXHIBIT H-2 TUMF Network Detailed Cost Estimate - Maximum Share Adjustments

AREA	PLAN DIST	CITY	STREETNAME	SEGMENTFROM	SEGMENTTO	MILES	TOTAL COST	MAXIMUM TUMF SH# MSHCP	MAX TUMF MSHCP SHARE %	EXISTING NEED	>2 LANE ADJUST	EXIST V/C	FUTURE V/C	TUMF V/C SHARE	EXIST NEED	OBLIGATED FUNDS	UNFUND EXIST NEED	MSHCP EXIST NEED	MSHCP UNFUND EXIST NEED	COMBINED UNFUND EXIST NEED						
Southwest	Unincorporated		Briggs	Scott	SR-79 (Winchester)	3.39	\$7,946,000	\$7,946,000	\$213,000	\$213,000	0%	0%	0.34	0.66	\$0	\$0	\$0	\$0	\$0	\$0						
Southwest	Unincorporated		Butterfield Stage	Murrieta Hot Springs	Rancho California	1.78	\$20,587,000	\$20,587,000	\$646,000	\$646,000	0%	0%			\$0	\$0	\$0	\$0	\$0	\$0						
Southwest	Unincorporated		Butterfield Stage	Rancho California	SR-79 (Temecula)	2.30	\$6,261,000	\$6,261,000	\$175,000	\$175,000	0%	0%	0.33	0.52	\$0	\$0	\$0	\$0	\$0	\$0						
Southwest	Unincorporated		Butterfield Stage	SR-79 (Winchester)	Auld	2.28	\$6,221,000	\$6,221,000	\$174,000	\$174,000	0%	0%			\$0	\$0	\$0	\$0	\$0	\$0						
Southwest	Unincorporated		Butterfield Stage	Auld	Murrieta Hot Springs	2.23	\$19,685,000	\$19,685,000	\$599,000	\$599,000	0%	0%			\$0	\$0	\$0	\$0	\$0	\$0						
Southwest	Unincorporated		Central	Grand	Palomar	0.51	\$1,834,000	\$1,834,000	\$32,000	\$32,000	0%	0%	0.53	0.76	\$0	\$0	\$0	\$0	\$0	\$0						
Southwest	Unincorporated		Grand	Ortega	Central	6.98	\$25,052,000	\$25,052,000	\$439,000	\$439,000	22%	22%	0.80	1.37	\$0	\$0	\$0	\$0	\$0	\$0						
Southwest	Unincorporated		Horsethief Canyon	Temescal Canyon	I-15	0.17	\$395,000	\$395,000	\$11,000	\$11,000	0%	0%	0.87	1.17	\$0	\$0	\$0	\$0	\$0	\$0						
Southwest	Unincorporated		Indian Truck Trail	Temescal Canyon	I-15	0.18	\$16,612,000	\$16,612,000	\$22,000	\$22,000	0%	0%	0.40	0.70	\$0	\$0	\$0	\$0	\$0	\$0						
Southwest	Unincorporated		Murrieta Hot Springs	SR-79 (Winchester)	Pourroy	1.75	\$0	\$0	\$0	\$0	0%	0%	0.36	0.54	\$0	\$0	\$0	\$0	\$0	\$0						
Southwest	Unincorporated		Pala	Pechanga	San Diego County	1.38	\$0	\$0	\$0	\$0	0%	0%	0.46	0.49	\$0	\$0	\$0	\$0	\$0	\$0						
Southwest	Unincorporated		Temescal Canyon	Indian Truck Trail	Lake	1.21	\$4,124,000	\$4,124,000	\$121,000	\$121,000	0%	0%	0.65	1.12	\$0	\$0	\$0	\$0	\$0	\$0						
Subtotal						471.25	\$1,824,257,000	\$1,680,884,000	\$30,044,000	\$29,169,000	2.2%				\$40,114,000	\$103,279,375	\$40,095,000	\$876,000	\$875,000	\$40,970,000						
Totals	Network Transit Administration MSHCP Total																									
																3.0%	Network Unfunded Existing Need Adjustment				\$ 117,691,000	\$ 270,830,373	\$ 117,672,000	\$ 2,409,000	\$ 2,408,000	\$ 120,080,000
																63.0%	Transit Existing Need Adjustment						\$ 105,119,000			
																								\$ 2,408,000		
																5.3%	Total Unfunded Existing Need Adjustment						\$ 225,199,000			

EXHIBIT H-3 - TUMF Regional Transit Cost Estimate

AREA PLAN DIST	LEAD AGENCY	PROJECT NAME	LOCATION	UNITS (number/ length in miles)	TOTAL	MAXIMUM TUMF SHARE
Regional	RTA	Regional Transit Centers	Various locations region wide	11	62,205,000	23,037,000
Regional	RTA	Bus Stop Amenities Upgrade	Various locations region wide	70	1,890,000	700,000
Northwest/Central	RTA	Central Spine Service Capital	Corona, Riverside, Moreno Valley	24	13,200,000	4,888,000
Northwest/Pass	RTA	SR60 Regional Flyer Capital	SR-60 corridor from SB Co. to Banning	45	24,750,000	9,166,000
Northwest/San Jacinto	RTA	I-215/SR74 Regional Flyer Capital	I-215/SR-74 corridor from Riverside to San Jacinto	37	20,350,000	7,536,000
Northwest/Southwest	RTA	I-15 Regional Flyer Capital	I-15 Corridor from SB Co. to Temecula	49	26,950,000	9,981,000
Regional	RTA	Regional Flyer Vehicle Fleet	Various routes region wide	32	17,600,000	6,518,000
Total					166,945,000	61,826,000

EXHIBIT H-4 - Regional Transit Existing Need Share

Summary of Transit Trip Change

Year	Western Riverside Daily Transit Trips
2007	17,611
2035	27,969
Growth 2007-2035	10,358
Existing Need Share:	63.0%
Future Growth Share:	37.0%

Notes: Transit Trips from RivTAM

Maximum TUMF Transit Component Value

RTA Future Transit Cost	Existing Need Cost	MAX TUMF TRANSIT VALUE
\$166,945,000	\$105,119,000	\$61,826,000
Total MAX TUMF VALUE		3,765,089,420
Transit Share of MAX TUMF VALUE		1.6%

Appendix I - Western Riverside County Regional Trip Distribution

In order to ensure an equitable regional/zonal distribution of potential TUMF revenues, the distribution of trips in the WRCOG region was analyzed to determine the distribution between local (intra-zonal) and regional (inter-zonal) trips. This analysis was completed using the Year 2035 Base Scenario Origin-Destination (O-D) vehicle trip tables from the Riverside County Travel Demand Model (RivTAM).

The first step in the analysis was to create a correspondence table between the traffic analysis zones (TAZ's) in the RivTAM model and the five WRCOG TUMF zones: Northwest, Central, Pass Area, Hemet/San Jacinto, and Southwest. A table detailing the TAZ correspondence for each WRCOG TUMF zone is included as **Exhibit I-1** in this Appendix. The vehicle trip tables by TAZ were aggregated to obtain the trip summary between six districts (five WRCOG TUMF Zones and one for the rest of Southern California region included in the model analysis area)

Table 5.1 and **5.2** of the Nexus Study produce a matrix of total daily vehicle trips between the six districts. This information is subsequently weighted by TUMF future network lane miles in **Table 5.3** to determine the relative share of trips that can be allocated between the backbone network and secondary network.

EXHIBIT I-1 TUMF ZONE/RivTAM TAZ CORRESPONDENCE

TUMF ZONE	Central		Hemet/San Jacinto	Northwest		Pass	Southwest	
RivTAM TAZ								
	3578	4002	4028	3120	3349	3927	3296	4037
	3584	4004	4030	3122	3350	4047	3330	4038
	3611	4005	4039	3123	3351	4090	3340	4040
	3620	4006	4065	3124	3352	4108	3371	4041
	3630	4007	4070	3125	3353	4120	3372	4046
	3648	4008	4071	3126	3354	4141	3373	4048
	3650	4010	4076	3127	3355	4145	3389	4049
	3651	4011	4081	3128	3356	4147	3404	4050
	3654	4014	4083	3129	3357	4149	3411	4051
	3656	4016	4084	3130	3358	4155	3419	4053
	3658	4023	4085	3131	3359	4161	3422	4054
	3659	4026	4086	3132	3360	4163	3425	4058
	3660	4029	4088	3133	3361	4172	3428	4059
	3661	4031	4092	3134	3362	4179	3429	4061
	3662	4042	4094	3135	3363	4180	3433	4062
	3663	4043	4112	3136	3364	4181	3437	4063
	3664	4044	4114	3137	3365	4185	3440	4064
	3666	4045	4115	3138	3366	4193	3441	4067
	3669	4052	4116	3139	3367	4194	3443	4068
	3670	4055	4118	3140	3368	4195	3449	4069
	3672	4056	4121	3141	3369	4205	3455	4072
	3673	4057	4123	3142	3370	4211	3458	4073
	3680	4060	4127	3143	3374	4220	3460	4074
	3682	4066	4133	3144	3375	4222	3463	4077
	3683	4075	4134	3145	3376	4225	3465	4078
	3685	4089	4136	3146	3377	4228	3469	4079
	3686	4099	4137	3147	3378	4230	3471	4080
	3687	4103	4139	3148	3379	4239	3475	4082
	3689	4926	4142	3149	3380	4243	3481	4087
	3690		4143	3150	3381	4244	3492	4091
	3691		4144	3151	3382	4245	3493	4093
	3692		4148	3152	3383	4246	3494	4095
	3693		4151	3153	3384	4247	3502	4096
	3694		4153	3154	3385	4249	3507	4097
	3696		4154	3155	3386	4251	3511	4098
	3697		4156	3156	3387	4252	3513	4100
	3698		4159	3157	3388	4253	3519	4101
	3699		4162	3158	3390	4267	3521	4102
	3700		4164	3159	3391	4268	3522	4104
	3702		4165	3160	3392	4269	3526	4105
	3705		4166	3161	3393	4270	3529	4106
	3707		4167	3162	3394	4272	3533	4107
	3708		4169	3163	3395	4273	3536	4109
	3709		4170	3164	3396	4274	3543	4110
	3711		4173	3165	3397	4276	3546	4111
	3712		4174	3166	3398	4281	3555	4113
	3713		4175	3167	3399	4293	3557	4117
	3714		4176	3168	3400	4302	3562	4119
	3716		4177	3169	3401	4303	3570	4122
	3717		4178	3170	3402	4305	3571	4124
	3718		4183	3171	3403	4306	3576	4125
	3720		4184	3172	3405	4312	3579	4126
	3721		4186	3173	3406	4315	3583	4128
	3722		4187	3174	3407	4325	3586	4129
	3724		4188	3175	3408	4333	3587	4130
	3725		4189	3176	3409	4340	3592	4131
	3726		4190	3177	3410	4342	3593	4132
	3727		4191	3178	3412	4343	3596	4135
	3729		4192	3179	3413	4344	3598	4138
	3730		4196	3180	3414	4350	3599	4140
	3731		4197	3181	3415	4351	3604	4146
	3732		4198	3182	3416	4354	3605	4150
	3733		4199	3183	3417	4357	3607	4152
	3734		4200	3184	3418	4362	3610	4157
	3736		4201	3185	3420	4365	3612	4158
	3738		4202	3186	3421	4367	3621	4160
	3741		4208	3187	3423	4368	3622	4168

TUMF ZONE	Central	Hemet/San Jacinto	Northwest		Pass	Southwest	
RivTAM TAZ							
	3742	4209	3188	3424	4370	3624	4171
	3743	4210	3189	3426	4373	3625	4182
	3744	4212	3190	3427	4376	3626	4203
	3745	4213	3191	3430	4382	3631	4204
	3746	4214	3192	3431	4383	3634	4206
	3747	4215	3193	3432	4388	3635	4207
	3750	4216	3194	3434	4390	3636	4223
	3751	4217	3195	3435	4394	3644	4235
	3753	4218	3196	3436	4396	3645	4294
	3754	4219	3197	3438	4397	3647	4348
	3755	4221	3198	3439	4398	3652	4375
	3756	4224	3199	3442	4399	3653	4908
	3757	4226	3200	3444	4400	3665	
	3758	4227	3201	3445	4401	3667	
	3759	4229	3202	3446	4402	3668	
	3760	4231	3203	3447	4408	3671	
	3761	4232	3204	3448	4409	3674	
	3762	4233	3205	3450	4411	3676	
	3763	4234	3206	3451	4412	3677	
	3764	4236	3207	3452	4413	3678	
	3765	4237	3208	3453	4414	3679	
	3767	4238	3209	3454	4415	3681	
	3769	4240	3210	3456	4416	3684	
	3770	4241	3211	3457	4417	3688	
	3771	4242	3212	3459	4420	3695	
	3773	4248	3213	3461	4421	3701	
	3775	4250	3214	3462	4423	3703	
	3777	4254	3215	3464	4424	3704	
	3779	4255	3216	3466	4425	3706	
	3780	4256	3217	3467	4426	3710	
	3781	4257	3218	3468	4427	3715	
	3782	4258	3219	3470	4428	3719	
	3783	4259	3220	3472	4429	3723	
	3784	4260	3221	3473	4431	3728	
	3785	4261	3222	3474	4432	3735	
	3786	4262	3223	3476	4435	3737	
	3788	4263	3224	3477	4437	3739	
	3789	4264	3225	3478	4438	3740	
	3790	4265	3226	3479	4440	3748	
	3791	4266	3227	3480	4441	3749	
	3792	4271	3228	3482	4443	3752	
	3796	4275	3229	3483		3766	
	3799	4277	3230	3484		3768	
	3800	4278	3231	3485		3772	
	3801	4279	3232	3486		3774	
	3802	4280	3233	3487		3776	
	3803	4282	3234	3488		3778	
	3804	4283	3235	3489		3787	
	3805	4284	3236	3490		3793	
	3806	4285	3237	3491		3794	
	3807	4286	3238	3495		3795	
	3808	4287	3239	3496		3797	
	3809	4288	3240	3497		3798	
	3810	4289	3241	3498		3813	
	3811	4290	3242	3499		3815	
	3812	4291	3243	3500		3817	
	3814	4292	3244	3501		3818	
	3816	4295	3245	3503		3822	
	3819	4296	3246	3504		3824	
	3820	4297	3247	3505		3835	
	3821	4298	3248	3506		3837	
	3823	4299	3249	3508		3838	
	3825	4300	3250	3509		3839	
	3826	4301	3251	3510		3840	
	3827	4304	3252	3512		3841	
	3828	4307	3253	3514		3843	
	3829	4308	3254	3515		3845	
	3830	4309	3255	3516		3847	

TUMF ZONE	Central	Hemet/San Jacinto	Northwest		Pass	Southwest
RivTAM TAZ						
	3831	4310	3256	3517		3848
	3832	4311	3257	3518		3852
	3833	4313	3258	3520		3854
	3834	4314	3259	3523		3856
	3836	4316	3260	3524		3865
	3842	4317	3261	3525		3866
	3844	4318	3262	3527		3867
	3846	4319	3263	3528		3873
	3849	4320	3264	3530		3874
	3850	4321	3265	3531		3880
	3851	4322	3266	3532		3884
	3853	4323	3267	3534		3889
	3855	4324	3268	3535		3890
	3857	4326	3269	3537		3891
	3858	4327	3270	3538		3892
	3859	4328	3271	3539		3894
	3860	4329	3272	3540		3896
	3861	4330	3273	3541		3897
	3862	4331	3274	3542		3898
	3863	4332	3275	3544		3905
	3864	4334	3276	3545		3907
	3868	4335	3277	3547		3908
	3869	4336	3278	3548		3913
	3870	4337	3279	3549		3915
	3871	4338	3280	3550		3916
	3872	4339	3281	3551		3923
	3875	4341	3282	3552		3925
	3876	4345	3283	3553		3928
	3877	4346	3284	3554		3932
	3878	4347	3285	3556		3935
	3879	4349	3286	3558		3936
	3881	4352	3287	3559		3937
	3882	4353	3288	3560		3938
	3883	4355	3289	3561		3939
	3885	4356	3290	3563		3940
	3886	4358	3291	3564		3941
	3887	4359	3292	3565		3942
	3888	4360	3293	3566		3943
	3893	4361	3294	3567		3944
	3895	4363	3295	3568		3946
	3899	4364	3297	3569		3947
	3900	4366	3298	3572		3951
	3901	4369	3299	3573		3952
	3902	4371	3300	3574		3958
	3903	4372	3301	3575		3959
	3904	4374	3302	3577		3961
	3906	4377	3303	3580		3962
	3909	4378	3304	3581		3963
	3910	4379	3305	3582		3964
	3911	4380	3306	3585		3968
	3912	4381	3307	3588		3969
	3914	4384	3308	3589		3971
	3917	4385	3309	3590		3972
	3918	4386	3310	3591		3973
	3919	4387	3311	3594		3974
	3920	4389	3312	3595		3975
	3921	4391	3313	3597		3976
	3922	4392	3314	3600		3977
	3924	4393	3315	3601		3980
	3926	4403	3316	3602		3981
	3929	4404	3317	3603		3983
	3930	4405	3318	3606		3984
	3931	4407	3319	3608		3985
	3933	4410	3320	3609		3987
	3934	4418	3321	3613		3991
	3945	4419	3322	3614		3992
	3948		3323	3615		3994
	3949		3324	3616		3995

TUMF ZONE	Central	Hemet/San Jacinto	Northwest		Pass	Southwest
RivTAM TAZ	3950 3953 3954 3955 3956 3957 3960 3965 3966 3967 3970 3978 3979 3982 3986 3988 3989 3990 3993 3997 3999 4000		3325 3326 3327 3328 3329 3331 3332 3333 3334 3335 3336 3337 3338 3339 3341 3342 3343 3344 3345 3346 3347 3348	3617 3618 3619 3623 3627 3628 3629 3632 3633 3637 3638 3639 3640 3641 3642 3643 3646 3649 3655 3657 3675		3996 3998 4001 4003 4009 4012 4013 4015 4017 4018 4019 4020 4021 4022 4024 4025 4027 4032 4033 4034 4035 4036

Appendix J - Western Riverside County Regional Trip Purpose

In order to establish the rough proportionality of the future traffic impacts associated with new residential development and new non-residential development, Year 2035 Base Scenario person trip productions from the Riverside County Travel Demand Model (RivTAM) were aggregated by trip purpose. The RivTAM model produces person trips (irrespective of mode choice) on the basis of five trip purposes including home-based-work (HBW), home-based-other (HBO), home-based-school K-12 (HBS), work-based-other (WBO), and other-based-other (OBO). Person trip productions were aggregated into home-based person trips (combining the first three purposes) and non-home-based person trips (combining the last two purposes). The home-based person trips represent 69.2% of the total future person trips, and the non-home-based person trips represent 30.8% of the total future person trips as shown in **Table 5.4**.

Exhibits J-1 through **J-6** of this Appendix include the RivTAM model data aggregated for each trip purpose between the respective TUMF zones. This data was subsequently applied to develop the trip purpose summary in **Table 5.4** and to estimate the rough proportionality of the TUMF network cost attributable to residential and non-residential land uses.

This approach for estimating the rough proportionality of the future traffic impacts associated with new residential development and new non-residential development, respectively, is consistent with the provisions of NCHRP Report #187 Quick Response Urban Travel Estimation Techniques and Transferable Parameters User's Guide (Transportation Research Board, 1978). NCHRP Report #187 details operational travel estimation techniques that are universally used for travel demand modeling. Chapter 2 of this report, which details trip generation estimation, states that "HBW (Home Based Work) and HBNW (Home Based Non Work) trips are generated at the households, whereas the NHB (Non-Home Based) trips are generated elsewhere." Consistent with NCHRP Report #187, aggregating person trip productions into home-based person trips (combining home-based-work, home-based-other and home-based-school K-12) and non-home-based person trips (combining work-based-other, and other-based-other) represents an appropriate way to allocate trip generation between residential and non-residential land uses for the purpose of estimating the rough proportionality of the TUMF fee.

EXHIBIT J-1
PERSON-TRIPS BY WRCOG TUMF ZONE
DAILY TRIPS FOR ALL TRIP PURPOSES

Attraction	Northwest	Central	Pass Area	Hemet/San Jacinto	Southwest	Outside WRCOG	TOTAL
Production							
Northwest	2,493,094	138,424	13,600	14,882	54,117	632,466	3,346,583
Central	219,376	1,012,657	24,773	58,412	105,189	158,846	1,579,253
Pass Area	32,845	35,077	450,767	22,757	8,044	122,064	671,555
Hemet/San Jacinto	29,921	57,952	22,425	973,625	57,145	56,226	1,197,294
Southwest	109,110	91,501	7,598	50,285	1,402,255	145,677	1,806,426
Outside WRCOG	933,715	182,772	146,337	69,106	129,411	69,452,244	
Sum of Trips Produced from WRCOG Zones Only							8,601,110

Based on Riverside County Travel Demand Model (RivTAM) Year 2035 Base Scenario

EXHIBIT J-2
PERSON-TRIPS BY WRCOG TUMF ZONE
DAILY HOME-BASED-WORK TRIPS ONLY

Attraction	Northwest	Central	Pass Area	Hemet/San Jacinto	Southwest	Outside WRCOG	TOTAL
Production							
Northwest	444,714	29,628	2,608	3,650	13,603	130,794	624,996
Central	74,340	134,667	6,798	16,818	27,469	29,864	289,956
Pass Area	7,989	6,056	67,965	5,561	1,694	15,567	104,832
Hemet/San Jacinto	7,906	12,502	4,976	137,452	16,516	6,672	186,023
Southwest	34,868	20,362	1,526	15,214	208,264	30,926	311,160
Outside WRCOG	222,873	33,003	34,533	16,510	29,769	13,649,570	
Sum of Trips Produced from WRCOG Zones Only							1,516,967

Based on Riverside County Travel Demand Model (RivTAM) Year 2035 Base Scenario

EXHIBIT J-3
PERSON-TRIPS BY WRCOG TUMF ZONE
DAILY HOME-BASED-OTHER TRIPS ONLY

Attraction	Northwest	Central	Pass Area	Hemet/San Jacinto	Southwest	Outside WRCOG	TOTAL
Production							
Northwest	1,001,867	44,471	5,143	5,980	20,137	268,654	1,346,252
Central	84,638	476,710	10,404	27,542	44,985	83,808	728,088
Pass Area	14,751	13,739	203,090	10,751	4,233	55,949	302,512
Hemet/San Jacinto	14,147	23,887	10,032	444,480	22,653	29,112	544,312
Southwest	45,819	38,654	4,212	21,603	613,466	81,848	805,604
Outside WRCOG	463,644	104,522	71,599	38,105	67,084	30,197,294	
Sum of Trips Produced from WRCOG Zones Only							3,726,768

Based on Riverside County Travel Demand Model (RivTAM) Year 2035 Base Scenario

EXHIBIT J-4
PERSON-TRIPS BY WRCOG TUMF ZONE
DAILY HOME-BASED-SCHOOL TRIPS ONLY

Attraction	Northwest	Central	Pass Area	Hemet/San Jacinto	Southwest	Outside WRCOG	TOTAL
Production							
Northwest	256,168	10,587	45	88	1,615	1,591	270,095
Central	10,631	128,873	149	1,187	9,377	574	150,791
Pass Area	3,644	7,938	25,344	937	249	6,955	45,067
Hemet/San Jacinto	1,673	7,476	257	63,624	3,776	1,999	78,805
Southwest	9,036	9,494	29	1,387	145,720	770	166,435
Outside WRCOG	5,170	994	298	278	645	4,807,171	
Sum of Trips Produced from WRCOG Zones Only							711,193

Based on Riverside County Travel Demand Model (RivTAM) Year 2035 Base Scenario

EXHIBIT J-5
PERSON-TRIPS BY WRCOG TUMF ZONE
DAILY WORK-BASED-OTHER TRIPS ONLY

Attraction	Northwest	Central	Pass Area	Hemet/San Jacinto	Southwest	Outside WRCOG	TOTAL
Production							
Northwest	155,220	13,944	1,534	1,188	5,453	66,046	243,385
Central	12,744	45,438	2,064	2,906	6,079	10,906	80,137
Pass Area	2,156	2,512	28,604	1,566	491	12,502	47,831
Hemet/San Jacinto	2,207	4,637	2,622	62,640	5,347	5,616	83,070
Southwest	6,002	6,137	406	3,132	85,763	6,853	108,293
Outside WRCOG	71,133	11,457	9,707	2,618	6,777	4,360,066	
Sum of Trips Produced from WRCOG Zones Only							562,715

Based on Riverside County Travel Demand Model (RivTAM) Year 2035 Base Scenario

EXHIBIT J-6
PERSON-TRIPS BY WRCOG TUMF ZONE
DAILY OTHER-BASED-OTHER TRIPS ONLY

Attraction	Northwest	Central	Pass Area	Hemet/San Jacinto	Southwest	Outside WRCOG	TOTAL
Production							
Northwest	635,125	39,794	4,270	3,976	13,309	165,381	861,855
Central	37,023	226,969	5,358	9,958	17,280	33,694	330,282
Pass Area	4,305	4,832	125,763	3,943	1,377	31,091	171,312
Hemet/San Jacinto	3,988	9,450	4,538	265,429	8,853	12,826	305,084
Southwest	13,384	16,854	1,425	8,949	349,043	25,280	414,935
Outside WRCOG	170,894	32,795	30,199	11,594	25,136	16,438,143	
Sum of Trips Produced from WRCOG Zones Only							2,083,468

Based on Riverside County Travel Demand Model (RivTAM) Year 2035 Base Scenario

Appendix K - Residential Fee Calculation

In general, the fee for the TUMF program is calculated based on the following formula:

$$\frac{\boxed{\text{Unit Cost Assumptions}} \times \boxed{\text{Recommended Network Improvements}}}{\boxed{\text{Change in Residential and Non-Residential Development}}} = \text{TUMF}$$

Applying this formula, Unit Cost Assumptions for the various eligible TUMF project types are used to estimate the overall cost to improve the TUMF Network as described in the TUMF Nexus Study. The resultant network improvement cost is then divided proportionally between various residential and non-residential development categories such that each new development type contributes its 'fair share' to the program. Any change in one formula variable has a related impact on the overall TUMF fee, although it is important to note that the resultant impact to the overall fee is not necessarily directly proportional to the formula variable change due to the intricacies of the fee calculation.

The residential fee was calculated by multiplying the estimated TUMF Network improvements cost attributable to mitigating the cumulative regional impacts of new development (**Section 4.0**) by the proportion of all regional trips that are generated by residential land uses (**Section 5.3**), and dividing this number by the projected increase in residential units between 2007 and 2035 (**Table 2.3**).

To account for the difference in trip generation rates between single-family residential units and multi-family residential units, the fee value was normalized for each of these housing types by first multiplying the proposed growth in households between 2007 and 2035 by the existing proportional share of each household type, and then multiplying the resultant values by the respective trip generation rate as published in the Institute of Traffic Engineers Trip Generation Manual, Eighth Edition, 2008. The respective fee values are presented in **Section 6.1**. **Exhibit K-1** details the calculation of the residential fee (and non-residential fee).

EXHIBIT K-1 Western Riverside County TUMF Estimate
by Percent of TUMF Share Weighted by Trip Generation Rate
Based on Needed Improvements to the Regional System of Highways and Arterials

Residential	Dwelling Units			Trip Generation Rate	Trip Change	Percentage of Trip Change	Fee/DU	
	2007	2035	Change					
Single Family Residential	395,409	552,154	156,745	9.57	1,500,050	53.4%	\$8,873	
Multi Family Residential	134,880	329,814	194,934	6.72	1,309,956	46.6%	\$6,231	
Total	530,289	881,968	351,679		2,810,006	100.0%		
Non-Residential	Employees			Trip Generation Rate	Trip Change	Percentage of Trip Change	Change in SF of GFA	Fee/SF of GFA
	2007	2035	Change					
Industrial	175,571	276,782	101,211	3.2	318,815	8.6%	57,535,808	\$1.73
Retail	39,576	87,170	47,594	15.4	732,948	19.7%	21,758,982	\$10.49
Service	256,813	595,039	338,226	4.2	1,420,549	38.1%	105,461,087	\$4.19
Government/Public Sector	43,954	131,842	87,888	14.3	1,252,404	33.6%	39,061,333	\$9.98
Total	515,914	1,090,833	574,919		3,724,715	100.0%	223,817,210	

Notes:

- trip generation rates based on ITE Trip Generation 8th Edition (2008) rates for weekday vehicle trip ends
- residential formula: [(TUMF cost share)(residential share of trips) / (change in housing units)] * (percentage of trip change)
- non-residential formula: [(TUMF cost share)(non-residential share of trips) / (change in SF of GFA)] * (percentage of trip change)

Calculation Inputs:

residential share of trips	69.2%
non-residential share of trips	30.8%
total TUMF cost	\$4,261,117,420
existing improvement funding	\$270,830,373
unfunded existing need cost	\$225,199,000
MAX TUMF VALUE	\$3,765,089,420
MAX TUMF SHARE	88.4%
Residential Value	\$2,605,442,000
Non-Residential Value	\$1,159,648,000

Appendix L - Non-Residential Fee Calculation

The non-residential fee was calculated by multiplying the estimated Regional System of Highways and Arterials improvements cost attributable to new development (**Section 4.0**) by the proportion of all regional trips that are generated by non-residential land uses (**Section 5.3**), and dividing this number by the projected increase in non-residential land use between 2007 and 2035 (**Table 2.3, Section 2.0**) and the proportional share of new employees in each sector.

In preparation for the fee calculation, Riverside County CDR employment data by sector was first converted to land use as square feet of gross floor area (SF GFA). Non-residential employee to gross floor area conversion factors were derived from two sources. These sources are:

- Cordoba Corporation/Parsons Brinckerhoff Quade and Douglas, Inc., Land Use Density Conversion Factors For The Long-Range Corridor Study San Bernardino and Riverside Counties, August 20, 1990.
- Orange County Transportation Authority (OCTA), Orange County Subarea Modeling Guidelines Manual, June 2001.

The employment conversion factors developed for use in the calculation of the non-residential fee are tabulated in **Exhibit L-1**. The relevant sections of these respective publications are included in this Appendix as **Exhibit L-2** and **L-3**.

To account for the difference in trip generation rates between the various employment sectors, the non-residential fee value for each sector was normalized by multiplying by the respective median trip generation rate for the range of associated land use types as published in the Institute of Traffic Engineers Trip Generation Manual, Eighth Edition, 2008. The respective fee values are presented in **Section 6.2**. The table detailing the calculation of the non-residential fee (and residential fee) is included in **Appendix K** as **Exhibit K-1**.

EXHIBIT L-1.1 Employment Conversion Factors

Employment Sector	Business by Land Use Category (1)	Employees	Gross Floor Area (TSF)	Conversion Rate (Employees/TSF)	Land Use Category (2)	Minimum Range Conversion Rate (Employees/TSF)	TUMF Employment Conversion Factors (Employees per TSF)
Industrial	Heavy Manufacturing	6,379	5,117	1.25	R&D/LI/BP	2.50	1.76
	General Manufacturing	11,603	6,103	1.90	Heavy Industry	2.00	
	Light Manufacturing	8,624	3,962	2.18	Warehouse	1.00	
	Manufacturing, Small Module	5,559	3,038	1.83			
	High Tech/Research	954	411	2.32			
	Wholesale, Trade Industry	6,120	4,140	1.48			
	Warehousing	119	279	0.43			
	General Industry	1,023	917	1.12			
	Total/Average	40,381	23,967	1.68	Average	1.83	
Retail	Retail Trade	34,821	20,125	1.73	Commercial	2.25	2.19
	Restaurant	23,345	4,061	5.75	Restaurant	3.00	
	Personnal, Rental and Repair	3,452	1,590	2.17			
	Equipment Rental	1,080	453	2.38			
	General Commercial	12,978	17,023	0.76			
	Total/Average	75,676	43,252	1.75	Average	2.63	
Service	Financial/Insurance/Real Estate	7,738	1,095	7.07	Office	3.00	3.21
	Small Office	3,945	548	7.20	Medical/PO/Bank	3.50	
	Professional Services	5,470	1,529	3.58	Hospital	2.50	
	Business Services	6,680	1,966	3.40			
	General Offices	8,900	3,886	2.29			
	Medical Services	9,006	3,201	2.81			
	Total/Average	41,739	12,225	3.41	Average	3.00	
Government/Public Sector					Government/Civic	3.00	2.25
					Library	1.50	
					Average	2.25	

Notes:

- Business by Land Use Categories Wholesale Trade Commercial and Automotive Repair were excluded as there is inconsistencies between the Land Use Density Conversion Factors For Long Range Corridor Study San Bernardino and Riverside Counties categorization, and the NAICS Major Group categorization.

- OCTA Typical Employment Conversion Factors for Hotel/Motel, Schools, Golf Course, Developed Park, Park and Agricultural were excluded as they are calculated from units other

- TUMF Employment Conversion Factor is the simple average of (1) and (2) Conversion Rates

(1) Cordoba Corporation/PBQD, Land Use Density Conversion Factors For Long Range Corridor Study San Bernardino and Riverside Counties, August 20, 1990. Table 8.

(2) OCTA, Orange County Subarea Model Guidelines Manual, June 2001. Appendix C.

EXHIBIT L-1.2 Population and Employment Estimates

Sector	2007	2035	Change	Employee Conversion Factor / Change in SF of GFA TSF	
Population	1,569,393	2,537,583	968,190		
Households					
Single-Family	395,409	552,154	156,745		
Multi-Family	134,880	329,814	194,934		
Totals	530,289	881,968	351,679		
Employees					
Industrial	175,571	276,782	101,211	1.76	57,535,808
Retail	39,576	87,170	47,594	2.19	21,758,982
Service	256,813	595,039	338,226	3.21	105,461,087
Government/Public Sector	43,954	131,842	87,888	2.25	39,061,333
Totals	515,914	1,090,833	574,919		223,817,210

Source:

- Riverside County CDR, May 2008

EXHIBIT L-1.3 Trip Generation Rate Comparison

Non-Residential										
	Employee Growth	SF Growth	ITE Median Trips Per Employee	ITE Median Trips per TSF	Trip Growth (SFGrowth * ITEMedian)	Calculated Trips per Employee	Average Trips Per Employee	Median Share Pass By Trips (Retail Uses)	Adjusted Trips Per Employee	
Industrial	101,211	57,535,808	3.2	5.4	310,693	3.1	3.2		3.2	
Retail	47,594	21,758,982	28.8	54.8	1,192,392	25.1	27.0	43%	15.4	
Service	338,226	105,461,087	4.6	12.2	1,286,625	3.8	4.2		4.2	
Public/Non Profit	87,888	39,061,333	16.1	27.9	1,089,811	12.4	14.3		14.3	
	574,919	223,817,210			3,879,522					

EXHIBIT L-1.4 SAMPLE ITE TRIP GENERATION RATES

Land Use Category	ITE Reference	Weekday Trips per TSF*	Weekday Trips per Employee	PM Peak Pass by Trips**
Industrial				
Truck Terminal	30	9.85	6.99	
General Light Industry	110	6.97	3.02	
General Heavy Industry	120	1.50	0.82	
Industrial Park	130	6.96	3.34	
Manufacturing	140	3.82	2.13	
Warehousing	150	3.59	3.89	
Average		5.45	3.37	
Median		5.39	3.18	
Retail				
Building Materials and Lumber	812	45.16	32.12	
Discount Superstore	813	53.13		28%
Specialty Retail Center	814	44.32	22.36	
Discount Store	815	57.24	28.84	17%
Hardware Store	816	51.29	53.21	26%
Nursery (Garden Center)	817	36.08	22.13	
Shopping Center	820	42.94		34%
Factory Outlet Center	823	26.59		
New Car Sales	841	33.34	21.14	
Auto Parts Store	843	61.91		43%
Tire Store	848	24.87		28%
Tire Superstore	849	20.36		
Supermarket	850	102.24	87.82	36%
Convenience Market	851	737.99		61%
Convenience Market with Fuel Pumps	853	845.60		63%
Discount Supermarket	854	96.82		23%
Discount Club	857	41.80	32.21	
Home Improvement Superstore	862	29.80		48%
Electronics Superstore	863	45.04		40%
Discount Home Furnishing Superstore	869	20.00		
Department Store	875	22.88		
Apparel Store	876	66.40		
Arts and Crafts Store	879	56.55		
Pharmacy without Drive Through	880	90.06		
Pharmacy with Drive Through	881	88.16		49%
Furniture Store	890	5.06	12.19	53%
Quality Restaurant	931	89.95		44%
High Turnover (Sit-Down) Restaurant	932	127.15		43%
Fast Food Restaurant without Drive Throug	933	716.00		
Fast Food Restaurant with Drive Through	934	496.12		49%
Coffee/Donut Shop with Drive Through	937	818.58		
Coffee/Donut Shop Drive Through No Sea	938	1800.00		
Average		212.29	34.67	40%
Median		54.84	28.84	43%
Service				
Day Care Center	565	79.26	28.13	
Hospital	610	16.50	5.20	
Nursing Home	620	7.58	6.55	
Clinic	630	31.45	7.75	
General Office	710	11.01	3.32	
Corporate Headquarters	714	7.98	2.33	
Single Tenant Office	715	11.57	3.62	
Medical-Dentist Office Building	720	36.13	8.91	
Office Park	750	11.42	3.50	
Research and Development Center	760	8.11	2.77	
Business Park	770	12.76	4.04	
Drive-in Bank	912	148.15	30.94	
Average		31.83	8.92	
Median		12.17	4.62	
Government/Public Sector				
Military Base	501		1.78	
Elementary School	520	15.43	15.71	
Middle/Junior High School	522	13.78	16.39	
High School	530	12.89	19.74	
Private School (K-12)	536		16.43	
Junior/Community College	540	27.49	15.55	
University/College	550		9.13	
Library	590	56.24	52.52	
Government Office Building	730	68.93	11.95	
State Motor Vehicles Department	731	166.02	44.54	
Post Office	732	108.19	28.32	
Government Office Complex	733	27.92	7.75	
Average		55.21	19.98	
Median		27.92	16.05	

Notes:

* - Average weekday daily trip generation data derived from ITE [Trip Generation \(8th Edition\)](#), 2008

** - Average weekday PM peak pass-by trip rates derived from ITE [Trip Generation Handbook \(2nd Edition\)](#), June 2004

EXHIBIT L-2

Land Use Density Conversion Factors For The Long-Range Corridor Study San Bernardino and Riverside Counties

Cordoba Corporation/Parsons Brinckerhoff Quade and Douglas, Inc., August 20, 1990.

**LAND USE DENSITY CONVERSION FACTORS
FOR THE LONG-RANGE CORRIDOR STUDY
SAN BERNARDINO AND RIVERSIDE COUNTIES**

Submitted to:

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

Submitted by:

**CORDOBA CORPORATION
617 South Olive Street, Suite 510
Los Angeles, California 90014**

**PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC.
505 South Main Street, Suite 900
Orange, California 92668**

August 20, 1990

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I. INTRODUCTION

The Southern California Association of Governments aims to identify appropriate transportation corridors in the San Bernardino and Riverside area. Currently, these two counties are experiencing rapid growth in terms of business development and housing. Therefore, it is likely that additional transportation systems will be necessary in order to accommodate an increased transportation demand from future growth.

In order to estimate future transportation needs, RIVSAN, a transportation computer model, will be used. The RIVSAN model requires the following land use conversion factors to estimate future needs:

- 1) Single-family dwelling units per acre
- 2) Multi-family dwelling units per acre
- 3) Retail employees per acre
- 4) Non-retail employees per acre

These conversion factors will be multiplied by the number of acres for each city by land use category in order to derive aggregate, buildout figures for the two-county area. From the buildout conditions, RIVSAN will calculate trips per day for the area to identify the concentration of trip patterns. From the RIVSAN output, SCAG will be able to identify where the corridors in the two-county area that will need to be protected, expanded or constructed.

Sources for the conversion factor data contained in this report include:

- 1) An original survey of 14 representative cities in the area.
- 2) A literature search of national planning organizations and other sources.
- 3) An independent data collection and research by Cordoba Corporation.

II. POPULATION/EMPLOYMENT DENSITY CONVERSION FACTOR DATA COLLECTION

In order to determine the appropriate conversion factors for the San Bernardino and Riverside Counties, a total of 14 incorporated cities were surveyed for population and employment density figures. These cities were selected by SCAG and its consultants, Parsons Brinckerhoff Quade & Douglas (PBQ&D) and Cordoba Corporation, as a representative sample of the area.

1. Study Area Description

A total of 14 cities in San Bernardino and Riverside Counties were chosen representing various sizes and geographical locations. The smallest city was Beaumont, with a population of 9,300. The largest city surveyed was Riverside, with a population of 211,758. Household sizes ranged from 1.99 in Hemet and 3.08 in Moreno Valley.

The 14 cities surveyed include:

- | | |
|------------------|--------------------|
| o Banning | o Beaumont |
| o Colton | o Corona |
| o Grand Terrace | o Hemet |
| o Lake Elsinore | o Moreno Valley |
| o Ontario | o Rancho Cucamonga |
| o Redlands | o Riverside |
| o San Bernardino | o Upland |

2. Survey Methodology

A survey of municipal land use was developed by Cordoba Corporation and approved by SCAG and PBQD project management. A copy of the survey is included in Appendix A. The survey included the following major information:

- o Units per acre by residential land use
- o Number of employees per acre by retail and non-retail commercial land uses
- o Number of employees per acre by industrial land uses

The surveys were distributed in March 1990. Prior to the distribution, each city was telephoned to advise that Cordoba would be requesting their participation with a major land use density survey. Simultaneously, a copy of the survey was faxed to each city. The Planning or Community Development Directors of each city received a letter from Cordoba Corporation requesting their cooperation with the survey. After a number of follow-up telephone calls, all surveys were returned. The Planning or Community Development Department provided currently available requested data. Some cities were not able to provide complete information.

3. Summary of Findings

The residential, commercial and industrial information provided by each city is summarized in Table 1.

3.1 Residential

All cities provided information on residential land use. The classification of residential land use categories varied for each city. However, eight categories ranging from Agricultural/Rural/Hillside to High residential appeared to be the most common. The data ranges of dwelling units per acre for each residential category are presented below:

<u>Resident Land Use Category</u>	<u>Dwelling Units Per Acre (Range)</u>	
	<u>Low</u>	<u>High</u>
Agricultural/Rural/Hillside	.20	1.0
Very Low/Estate	.50	4.75
Low	2.0	13.62
Low-Medium	3.0	9.0
Residential Suburban	8.0	15.94
Medium	12.0	24
Medium-High	16.0	36.0
High	16.0	36

Other less common categories included Mixed Use, Mobile Homes and Planned District which are included in Table 1.

3.2. Commercial

The data for commercial land use is provided according to the number of employees per acre for both retail and non-retail commercial uses. However, of the 14 cities surveyed, only three provided responses for commercial land use: Corona, Lake Elsinore and Riverside.

The number of Retail Employees Per Acre provided by the respondent cities ranged from 5 to 46.91 employee per acre. The Non-Retail category constituted a higher range, from 32 to 51 employees per acre.

The concentration of employees from this limited sample appear to be in the Central Business District and General Commercial categories for retail employees. For non-retail employees, the Office/Professional land use category was the highest with 50 to 52 employees per acre.

TABLE 1
POPULATION, HOUSEHOLD SIZE, RESIDENTIAL AND EMPLOYMENT DATA

	BANNING	BEUAMONT	COLTON	CORONA	GRAND TERRACE	HEMET	LAKE ELSINORE	MORENO VALLEY	ONTARIO
1989 POPULATION	19,152	9,300	37,900	61,035	10,859	33,334	14,986	112,000	128,510
1989 HOUSEHOLD SIZE	2.64	2.39	2.70	3.09	2.84	1.99	2.70	3.48	3.08
RESIDENTIAL (Dwelling Units per Acre)									
Ag/Rural/Hillside Res.				0.20	1.00	0.24		0.40	
Very Low/Estate	1.00	4.75	1.50	1.40	2.00		0.50	1.00	
Low	3.80	13.62	4.30	4.00	4.00	3.45	4.80	2.00	4.00
Low-Medium				3.90	9.00			3.00	
Res. Suburban								4.00	
Medium	8.00	14.91	8.00	11.50	12.00	15.94	10.00	8.00	14.95
Medium-High								12.00	
High	18.00		20.00	22.00		23.12	18.00	16.00	18.62
Mixed use							12.00		
Mobile Homes		10.91							
Planned District							3.10		
COMMERCIAL (Retail Emp. per Acre)									
CBD				46.91					
Gen. Comm.				46.91					
Neighborhood							24.00		
Tourist							29.00		
General							29.00		
Comm./Manu							17.00		
Retail Business & Office							24.00		
Visitor Commercial									
Service Commercial									
Automotive									
COMMERCIAL (Non-Ret Emp. per Acre)									
Comm./Manu							32.00		
Office/Prof.							52.00		
INDUSTRIAL (Non-Ret Emp. per Acre)									
General Industrial				17.42					
Light Industrial				29.04					
Industrial Park									
High Density Industry									
Low Density Industry									
Garden Industrial									
Air Industrial									
Limited							32.00		

TABLE 1
POPULATION, HOUSEHOLD SIZE, RESIDENTIAL AND EMPLOYMENT DATA

	RANCHO CUCAMONGA	REDLANDS	RIVERSIDE	SAN BERNARDINO	UPLAND	NUMBER OF RESPONSES	RANGE OF RESPONSES	AVG
1989 POPULATION	104,724	59,833	211,758	153,660	63,948	14	9,300 - 211,758	72,929
1989 HOUSEHOLD SIZE	3.21	2.67	2.84	2.60	2.66	14	1.99 - 3.48	2.78
RESIDENTIAL (Dwelling Units per Acre)								
Ag/Rural/Hillside Res.		0.20	0.20			6	.20 - 1.0	0.37
Very Low/Estate	1.75		1.50	1.00	2.00	11	.50 - 4.75	1.67
Low	3.50	5.00	3.00	3.10	3.00	14	2.0 - 13.62	4.40
Low-Medium	7.00		4.00	4.50	4.00	7	3.0 - 9.0	5.06
Res. Suburban				9.00	9.00	3	8.0 - 15.94	7.33
Medium		12.00		14.00	12.00	12	12.0 - 24.0	11.78
Medium-High	22.17		12.00	24.00	20.00	5	16.0 - 36.0	18.03
High	31.50		20.00	36.00	30.00	11	16.0 - 36.0	23.02
Mixed use						1	12	12.00
Mobile Homes					8.00	2	8.0 - 10.91	9.46
Planned District						1	3.10	3.10
COMMERCIAL (Retail Emp. per Acre)								
CBD						1	46.91	46.91
Gen. Comm.						1	46.91	46.91
Neighborhood						1	24	24
Tourist						1	29	29
General						1	29	29
Comm./Manu						1	17	17
Retail Business & Office			20.00			2	20 - 24	22
Visitor Commercial			15.00			1	15	15
Service Commercial			20.00			1	20	20
Automotive			5.00			1	5	5
COMMERCIAL (Non-Ret Emp. per Acre)								
Comm./Manu						1	32	32
Office/Prof.			50.00			2	50 - 52	51
INDUSTRIAL (Non-Ret Emp. per Acre)								
General Industrial			14.00			2	14.0 - 17.42	15.71
Light Industrial						1	29.04	29.04
Industrial Park			14.00			1	14	14
High Density Industry			14.00			1	14	14
Low Density Industry			4.00			1	4	4
Garden Industrial			14.00			1	14	14
Air Industrial			14.00			1	14	14
Limited								

3.3 *Industrial*

The industrial information gathered from the 14 cities was also limited; the same three cities (Corona, Lake Elsinore and Riverside) reported employee-per-acre figures. All industrial employees are classified as non-retail. The data collected for the industrial, non-retail category ranged from 4 to 29.04 employees per acre. Lake Elsinore reported 32 employees per acre, of industrial land use.

III. EMPLOYEE PER ACRE FIGURES

The response rate was relatively low for the commercial and industrial sections. Only three cities, Corona, Lake Elsinore and Riverside, partially completed the commercial and industrial sections of the questionnaire. The reason for not responding was lack of available data and shortage of available staff time. Due to the low response rate, it was not possible to develop accurate land use density conversion factors from the survey data. Secondary sources were explored, in order to determine better employee per acre figures.

The following sources were used to develop land use density conversion factors:

- o A literature search to identify standard, "rule of thumb" land use density conversion factors for general uses.
- o A review of land use density conversion factors used by other planning firms.

1. National Planning Organizations

In an attempt to fill the commercial and industrial conversion factor data gap, an extensive literature search of published information was conducted. The Urban Land Institute (ULI) and the American Planning Association (APA) were contacted regarding this data. Both ULI and APA are national, non-profit education and research organizations that sponsor a wide variety of education programs, interprets current land use trends, and disseminates pertinent information. Neither organization were able to provide adequate information.

ULI does offer a 1987 publication entitled "Parking Requirements for Shopping Centers" that includes average employee and customer parking requirements for shopping center space. From these averages it would be possible to estimate number of employees on the basis of numbers of parking spaces. Typically, fifteen percent of the parking spaces in a shopping center are used by employees. This estimate assumes that one parking space is occupied by one employee. Recent data shows that often one parking space is occupied by two carpooling employees. Therefore, this estimate would be questionable. In addition, this methodology only provides estimates for shopping centers and no other categories and land uses.

In addition to ULI and APA, the following sources were researched.

- o The UCLA Graduate Research Library
- o Graduate Management Library
- o The Housing, Real Estate and Urban Land Studies Library
- o The USC Library
- o The City of Los Angeles Public Library.
- o Building Owners and Managers Association (BOMA)

Of these sources, Builders and Owners Management Association (BOMA) had the most useful information. BOMA conducted a survey in 1988 regarding numbers of employees per square foot of office space. Buildings in San Diego, Los Angeles and Orange Counties were surveyed and classified as downtown or suburban facilities. The results of this survey are listed in Table 2, below.

**TABLE 2
AVERAGE OFFICE SPACE PER EMPLOYEE
(IN SQUARE FEET)**

	<u>San Diego County</u>	<u>Los Angeles County</u>	<u>Orange County</u>
Downtown Office Space	249	242	*
Suburban Office Space	288	200	224

* All office buildings in Orange County are considered suburban.
Source: BOMA, 1988

The Los Angeles Downtown office space figures do not apply to the subject study area, and are listed here for reference purposes only.

2. Other Sources

A report completed in May, 1990 by Cordoba Corporation estimated employment generation factors for office, retail, wholesale and warehouse uses in Downtown Los Angeles. This report included a review of "rule of thumb" employment ratios, literature search and review of available land use databases. The results of this research are listed in Table 3.

TABLE 3
EMPLOYMENT GENERATION FACTORS
BY LAND USE CATEGORIES
CENTRAL BUSINESS DISTRICT
LOS ANGELES

<u>Land Use Category</u>	<u>Square Feet Per Employee</u>	<u>Employees Per 1,000 Sq. Ft.</u>
Commercial Retail	333	3.00 employees
Commercial Non-retail (Office)	225	4.44 employees
Industrial	333	3.00 employees
Wholesale	500	2.00 employees
Warehouse	500	2.00 employees

Source: Cordoba Corporation, 1990

In general, most firms contacted did not develop land use conversion factors for the project area. The Research Network was the only firm that offered the results of their work completed for the City of Corona. The results are listed in Table 4.

TABLE 4
EMPLOYMENT GENERATION FACTORS
BY LAND USE CATEGORIES
CITY OF CORONA

<u>Land Use Type</u>	<u>Building Coverage</u>	<u>Square Feet Per Employee</u>
Industrial	40%	1,000
Research & Design	40%	325
Retail	35%	400
Office	35%	250

Source: Research Network, 1990

In order to calculate employees per square feet the Research Network used building coverage. Building coverage only includes the footprint of the structure. For example, a six story mid rise office building would have the same building coverage as a one story office building, because both buildings cover the same amount of land. Therefore, a better variable than building coverage is needed, in order to determine more accurate density conversion factors. Floor area ratio, which is total usable square feet divided by land area, was selected as the variable to calculate the density conversion factors.

3. Floor Area Ratio Survey and Analysis

The FAR was used to calculate employees per acre figures. In order to obtain accurate FAR figures for commercial/business districts in San Bernardino/Riverside Counties, fourteen subject cities were contacted. The city of Irvine was also contacted and used as a comparison to the subject cities.

Most of the cities estimated their FARs between 0.35 and 0.50. Many cities, however maintained no data regarding FARs.

Table 5 presents the results of the FAR survey for cities in Riverside, San Bernardino and Orange Counties. In summary, most cities did not have complete FAR information, if at all.

TABLE 5
FLOOR AREA RATIO SURVEY RESULTS
COMMERCIAL AND OFFICE CATEGORIES
RIVERSIDE AND SAN BERNARDINO COUNTIES

<u>City</u>	<u>Average Floor Area Ratio</u>
Irvine:	
- Airport Area Class A Office	.25
- Other Office	.35 - .50
Colton	.40 - .60
Riverside	.20 - 2.00
San Bernardino	.35 - 1.00
Redlands	.50
Upland	Legal limit ranging from .30-.50. No buildings are over two stories.
Hemet	Has no information regarding FAR (thirty-five foot height limit)
Rancho Cucamonga	Has no information regarding FAR
Banning	"
Grand Terrace	"
Beaumont	"
Lake Elsinore	"
Corona	"
Moreno Valley	"
Ontario	"

Source: Cordoba Corporation

Riverside, one of the larger cities within the study area, had a comprehensive list of FAR figures, broken down by land use categories. The figures are shown in Table 6.

**TABLE 6
FLOOR AREA RATIOS
CITY OF RIVERSIDE**

<u>Land Use Category</u>	<u>FAR Range</u>	<u>Average</u>
Commercial Services		
Neigh. Center	0.20 - 0.30	0.25
Comm. Center	0.25 - 0.30	0.30
Reg. Center	0.35 - 0.50	0.40
Auto. Park	0.25 - 0.35	0.30
Service Comm.	0.10 - 0.20	0.15
Ret./Bus/Off.	0.20 - 0.35	0.25
Visitor Commercial (Hotel/Motel)	N/A	
Downtown Mixed-Use Commercial/Office		
Low-Rise (1-3 st.)	0.37 - 0.75	0.50
Mid-Rise (4-6 st.)	0.75 - 1.50	1.15
High-Rise (6+ st.)	1.50 - 2.00	1.75
Intensive Industry		
Manufacturing	0.15 - 0.25	0.20
Distr.-Warehouse	0.10 - 0.20	0.15
Pub. St(Min-Ware.)	N/A	N/A
Out. Storage	N/A	N/A
Bus and Trucking Yard		
Business Park		
Assembly	0.15 - 0.25	0.20
Off/Wareh/Show.	0.20 - 0.30	0.25
Research/Dev.	0.30 - 0.40	0.35
Office		
Small Scale Office	0.35 - 0.75	0.50
Low-Rise (1-3 st.)	0.35 - 0.75	0.50
Mid-Rise (4-6 st.)	0.75 - 1.50	1.15
High-Rise* (6+ st.)	1.50 - 2.00	1.75

Source: Cordoba Corporation

4. Aggregate Employment Densities for Riverside and San Bernardino Counties

An alternative methodology was developed to calculate standard land use density conversion factors for Riverside and San Bernardino areas, using the FAR figures presented in Table 6.

Total numbers of employees by various categories, including manufacturing, commercial and office, in San Bernardino and Riverside Counties were acquired from Census Zip Business Patterns. The employment figures are based on the County Business Patterns report, completed in 1986, and do not include government employees and sole proprietorships that do not contribute to Social Security.

Urban Decision Systems (UDS), a research firm located in West Los Angeles estimated total square footage for each job category. Floor space estimates are based on industry norms for specific types of industries developed by Edward Ide Associates for the U.S. Department of Commerce, in a study called "Estimating Land and Floor Area Implicit in Employment Projections".

The most complete FAR information for the study area was received from the City of Riverside. The FAR figures were used in the analysis to calculate employees per acre. This methodology assumes that, for industrial uses, the average floor area ratio ranges between 0.25 and 0.35. For commercial and office uses, the figure would range between 0.30 and 0.40. Employee per acre figures were calculated using the FAR and total employees per square foot figures.

These calculations were completed for Riverside and San Bernardino counties and are listed in Table 7 through 9.

5. A Comparison of Riverside/San Bernardino Counties to Orange/San Diego Counties

Employee per acre figures were also calculated for San Diego and Orange Counties, as a likely future model, for Riverside and San Bernardino Counties.

- o Table 10 presents San Diego County.
- o Table 11 presents Orange County.
- o Table 12 presents Orange and San Diego counties combined.
- o Table 13 combines all four counties.

**TABLE 7
EMPLOYEES PER ACRE
SAN BERNARDINO COUNTY**

BUSINESS BY LAND USE	Employees *	Floor Space Sq. Ft.	Square Feet Per Employee	Average F.A.R	Employees per Acre
Manufacturing/Industrial	57,330	35,352,000	617	0.25	18
Heavy Manufacturing	7,749	5,356,000	691	0.20	13
General Manufacturing	14,438	8,223,000	570	0.20	15
Light Manufacturing	8,850	5,174,000	585	0.25	19
Manufacturing, Small Module	11,253	6,356,000	565	0.25	19
High Tech Activity and Research	3,964	805,000	203	0.35	75
Wholesale Trade Industrial	8,430	6,309,000	748	0.25	15
Warehousing	607	1,200,000	1,977	0.25	6
General Industrial	2,039	1,928,000	946	0.20	9
Commercial	97,045	58,243,000	600	0.30	22
Retail Trade	44,367	25,623,000	578	0.30	23
Restaurants and Bars	26,380	4,587,000	174	0.30	75
Personnal, Rental and Repair Services	4,538	1,980,000	436	0.30	30
Automotive Repair Services	2,615	2,291,000	876	0.30	15
Equipment Rental	1,491	536,000	359	0.30	36
Wholesale, Trade Commercial	2,120	2,157,000	1,017	0.25	11
General Commercial	15,535	21,069,000	1,356	0.40	13
Office	53,096	15,834,000	298	0.50	73
Finance/Insurance/Real Estate	8,966	1,337,000	149	0.50	146
Finance/Insurance/RE/Small Office	3,792	560,000	148	0.50	147
Professional Services	6,601	1,905,000	289	0.50	75
Business Services	10,201	2,908,000	285	0.50	76
General Office	13,328	5,698,000	428	0.50	51
Medical Services	10,207	3,426,000	336	0.50	65

* Employment figures do not include government, military and sole proprietorships.

Source: Urban Decision Systems (1989), Census Zip Business Patterns (1986)

Filename: Trans rv

**TABLE 8
EMPLOYEES PER ACRE
RIVERSIDE COUNTY**

BUSINESS BY LAND USE	Employees *	Floor Space Sq. Ft.	Square Feet Per Employee	Average F.A.R.	Employees per Acre
Manufacturing/Industrial	40,383	23,968,000	594	0.25	18
Heavy Manufacturing	6,379	5,117,000	802	0.20	11
General Manufacturing	11,603	6,103,000	526	0.20	17
Light Manufacturing	8,624	3,962,000	459	0.25	24
Manufacturing, Small Module	5,559	3,038,000	547	0.25	20
High Tech Activity and Research	954	411,000	431	0.35	35
Wholesale Trade Industrial	6,120	4,140,000	676	0.25	16
Warehousing	119	279,000	2,345	0.25	5
General Industrial	1,023	917,000	896	0.20	10
Commercial	79,067	46,304,000	586	0.30	22
Retail Trade	34,821	20,125,000	578	0.30	23
Restaurants and Bars	23,345	4,061,000	174	0.30	75
Personnal, Rental and Repair Services	3,452	1,590,000	461	0.30	28
Automotive Repair Services	1,870	1,619,000	866	0.30	15
Equipment Rental	1,080	453,000	419	0.30	31
Wholesale, Trade Commercial	1,521	1,434,000	943	0.25	12
General Commercial	12,978	17,023,000	1,312	0.40	13
Office	41,740	12,226,000	293	0.50	74
Finance/Insurance/Real Estate	7,738	1,095,000	142	0.50	154
Finance/Insurance/RE/Small Office	3,945	548,000	139	0.50	157
Professional Services	5,470	1,529,000	280	0.50	78
Business Services	6,680	1,966,000	294	0.50	74
General Office	8,900	3,886,000	437	0.50	50
Medical Services	9,006	3,201,000	355	0.50	61

* Employment figures do not include government, military and sole proprietorships.

Source: Urban Decision Systems (1989), Census Zip Business Patterns (1986)

Filename: Trans rv

TABLE 9
EMPLOYEES PER ACRE
RIVERSIDE AND SAN BERNARDINO COUNTY

BUSINESS BY LAND USE	Employees *	Floor Space Sq. Ft.	Square Feet Per Employee	Average F.A.R	Employees per Acre
Manufacturing/Industrial	97,713	59,320,000	607	0.25	18
Heavy Manufacturing	14,128	10,473,000	741	0.20	12
General Manufacturing	26,041	14,326,000	550	0.20	16
Light Manufacturing	17,474	9,136,000	523	0.25	21
Manufacturing, Small Module	16,812	9,394,000	559	0.25	19
High Tech Activity and Research	4,918	1,216,000	247	0.35	62
Wholesale Trade Industrial	14,550	10,449,000	718	0.25	15
Warehousing	726	1,479,000	2,037	0.25	5
General Industrial	3,062	2,845,000	929	0.20	9
Commercial	176,112	104,547,000	594	0.30	22
Retail Trade	79,188	45,748,000	578	0.30	23
Restaurants and Bars	49,725	8,648,000	174	0.30	75
Personnal, Rental and Repair Services	7,990	3,570,000	447	0.30	29
Automotive Repair Services	4,485	3,910,000	872	0.30	15
Equipment Rental	2,571	989,000	385	0.30	34
Wholesale, Trade Commercial	3,641	3,591,000	986	0.25	11
General Commercial	28,513	38,092,000	1,336	0.40	13
Office	94,836	28,060,000	296	0.50	74
Finance/Insurance/Real Estate	16,704	2,432,000	146	0.50	150
Finance/Insurance/RE/Small Office	7,737	1,108,000	143	0.50	152
Professional Services	12,071	3,434,000	284	0.50	77
Business Services	16,881	4,874,000	289	0.50	75
General Office	22,228	9,584,000	431	0.50	51
Medical Services	19,213	6,627,000	345	0.50	63

* Employment figures do not include government, military and sole proprietorships.

Source: Urban Decision Systems (1989), Census Zip Business Patterns (1986)

Filename: Trans rv

**TABLE 10
EMPLOYEES PER ACRE
SAN DIEGO COUNTY**

BUSINESS BY LAND USE	Employees *	Floor Space Sq. Ft.	Square Feet Per Employee	Average F.A.R	Employees per Acre
Manufacturing/Industrial	158,222	73,251,000	463	0.25	24
Heavy Manufacturing	14,731	5,883,000	399	0.20	22
General Manufacturing	30,176	12,892,000	427	0.20	20
Light Manufacturing	25,166	9,747,000	387	0.25	28
Manufacturing, Small Module	30,416	11,262,000	370	0.25	29
High Tech Activity and Research	25,809	8,030,000	311	0.35	49
Wholesale Trade Industrial	27,688	20,488,000	740	0.25	15
Warehousing	871	2,057,000	2,362	0.25	5
General Industrial	3,365	2,892,000	859	0.20	10
Commercial	236,888	139,861,000	590	0.30	22
Retail Trade	97,851	55,982,000	572	0.30	23
Restaurants and Bars	65,845	11,701,000	178	0.30	74
Personnal, Rental and Repair Services	14,959	7,329,000	490	0.30	27
Automotive Repair Services	5,995	6,711,000	1,119	0.30	12
Equipment Rental	3,431	1,141,000	333	0.30	39
Wholesale, Trade Commercial	9,158	8,516,000	930	0.25	12
General Commercial	39,648	48,483,000	1,223	0.40	14
Office	203,856	57,976,000	284	0.50	77
Finance/Insurance/Real Estate	39,107	6,036,000	154	0.50	141
Finance/Insurance/RE/Small Office	25,231	3,672,000	146	0.50	150
Professional Services	41,975	11,846,000	282	0.50	77
Business Services	31,332	8,646,000	276	0.50	79
General Office	37,811	11,184,000	296	0.50	74
Medical Services	28,400	9,573,000	337	0.50	65

* Employment figures do not include government, military and sole proprietorships.

Source: Urban Decision Systems (1989), Census Zip Business Patterns (1986)

Filename: TROCSDRV

**TABLE II
EMPLOYEES PER ACRE
ORANGE COUNTY**

BUSINESS BY LAND USE	Employees *	Floor Space Sq. Ft.	Square Feet Per Employee	Average F.A.R.	Employees per Acre
Manufacturing/Industrial	316,684	155,531,000	491	0.25	22
Heavy Manufacturing	12,886	7,097,000	551	0.20	16
General Manufacturing	52,241	31,970,000	612	0.20	14
Light Manufacturing	78,905	26,832,000	340	0.25	32
Manufacturing, Small Module	63,929	27,878,000	436	0.25	25
High Tech Activity and Research	48,609	16,640,000	342	0.35	45
Wholesale Trade Industrial	52,071	35,631,000	684	0.25	16
Warehousing	2,232	4,043,000	1,811	0.25	6
General Industrial	5,812	5,439,000	936	0.20	9
Commercial	286,375	172,310,000	602	0.30	22
Retail Trade	113,054	63,758,000	564	0.30	23
Restaurants and Bars	79,485	13,874,000	175	0.30	75
Personnal, Rental and Repair Services	17,448	8,168,000	468	0.30	28
Automotive Repair Services	6,742	5,699,000	845	0.30	15
Equipment Rental	3,864	1,224,000	317	0.30	41
Wholesale, Trade Commercial	18,720	16,560,000	885	0.25	12
General Commercial	47,063	63,072,000	1,340	0.40	13
Office	293,846	81,325,000	277	0.50	79
Finance/Insurance/Real Estate	61,865	9,448,000	153	0.50	143
Finance/Insurance/RE/Small Office	33,679	4,705,000	140	0.50	156
Professional Services	53,709	16,044,000	299	0.50	73
Business Services	58,608	15,959,000	272	0.50	80
General Office	52,207	24,153,000	463	0.50	47
Medical Services	33,779	11,015,000	326	0.50	67

* Employment figures do not include government, military and sole proprietorships.

Source: Urban Decision Systems (1989), Census Zip Business Patterns (1986)

Filename: TROCSDRV

TABLE 12
EMPLOYEES PER ACRE
TOTAL ORANGE AND SAN DIEGO COUNTIES

BUSINESS BY LAND USE	Employees *	Floor Space Sq. Ft.	Square Feet Per Employee	Average F.A.R.	Employees per Acre
Manufacturing/Industrial	474,906	228,782,000	482	0.25	23
Heavy Manufacturing	27,617	12,980,000	470	0.20	19
General Manufacturing	82,417	44,862,000	544	0.20	16
Light Manufacturing	104,071	36,579,000	351	0.25	31
Manufacturing, Small Module	94,345	39,140,000	415	0.25	26
High Tech Activity and Research	74,418	24,670,000	332	0.35	46
Wholesale Trade Industrial	79,759	56,119,000	704	0.25	15
Warehousing	3,103	6,100,000	1,966	0.25	6
General Industrial	9,177	8,331,000	908	0.20	10
Commercial	523,263	312,171,000	597	0.30	22
Retail Trade	210,905	119,740,000	568	0.30	23
Restaurants and Bars	145,330	25,575,000	176	0.30	74
Personnal, Rental and Repair Services	32,407	15,497,000	478	0.30	27
Automotive Repair Services	12,737	12,410,000	974	0.30	13
Equipment Rental	7,295	2,365,000	324	0.30	40
Wholesale, Trade Commercial	27,878	25,076,000	899	0.25	12
General Commercial	86,711	111,555,000	1,287	0.40	14
Office	497,702	139,301,000	280	0.50	78
Finance/Insurance/Real Estate	100,972	15,484,000	153	0.50	142
Finance/Insurance/RE/Small Office	58,910	8,377,000	142	0.50	153
Professional Services	95,684	27,890,000	291	0.50	75
Business Services	89,940	24,605,000	274	0.50	80
General Office	90,018	35,337,000	393	0.50	55
Medical Services	62,179	20,588,000	331	0.50	66

* Employment figures do not include government, military and sole proprietorships.

Source: Urban Decision Systems (1989), Census Zip Business Patterns (1986)

Filename: TROCSDRV

TABLE 13
EMPLOYEES PER ACRE
RIVERSIDE, SAN BERNARDINO, ORANGE AND SAN DIEGO COUNTIES

	Riverside	San Bernardino	Orange	San Diego	Average
Manufacturing/Industrial	18	18	22	24	21
Heavy Manufacturing	11	13	16	22	16
General Manufacturing	17	15	14	20	17
Light Manufacturing	24	19	32	28	26
Manufacturing, Small Module	20	19	25	29	23
High Tech Activity and Research	35	75	45	49	51
Wholesale Trade Industrial	16	15	16	15	16
Warehousing	5	6	6	5	6
General Industrial	10	9	9	10	10
Commercial	22	22	22	22	22
Retail Trade	23	23	23	23	23
Restaurants and Bars	75	75	75	74	75
Personnal, Rental and Repair Services	28	30	28	27	28
Automotive Repair Services	15	15	15	12	14
Equipment Rental	31	36	41	39	37
Wholesale, Trade Commercial	12	11	12	12	12
General Commercial	13	13	13	14	13
Office	74	73	79	77	76
Finance/Insurance/Real Estate	154	146	143	141	146
Finance/Insurance/RE/Small Office	157	147	156	150	153
Professional Services	78	75	73	77	76
Business Services	74	76	80	79	77
General Office	50	51	47	74	56
Medical Services	61	65	67	65	65

* Employment figures do not include government, military and sole proprietorships.

Source: Urban Decision Systems (1989), Census Zip Business Patterns (1986)

Filename: TREMPACRV

IV. GENERIC CONVERSION FACTORS

Due to the multiplicity of land use categories in the general plans of cities in San Bernardino and Riverside Counties, generic conversion factors are developed to standardize the conversion into the RIVSAN Transportation Model.

1. Employee Per Acre Comparison

For the commercial and industrial land use categories, Cordoba Corporation used the estimates presented in Table 12. Cordoba also reviewed the data for areas which are likely to resemble the San Bernardino and Riverside Counties in a buildout scenario. For this comparison, San Diego and Orange Counties were used as an appropriate reference. Table 14 presents a comparison of this information for industrial, commercial and office land use categories.

Although the three respondent cities do not offer data for each specific land use category, a comparison to Cordoba's estimates (San Diego and Orange Counties) with the information presented in Table 14 provides a useful cross reference of the appropriate number of employees per acre in each category. This reference served as a guide in the development of the recommended generic conversion factors presented in Table 15.

TABLE 14
EMPLOYEES PER ACRE COMPARISON

	<u>Cordoba</u>	<u>Corona</u>	<u>Lake Elsinore</u>	<u>Riverside</u>
Manufacturing/Ind.	23		32	14
Heavy	19			
General	16		17.42	
Light	31	33	29.04	
Wholesale	15			
Warehousing	6			
Commercial	22		46.91	
Retail Trade	23		17 - 29	5 - 20
Gen.	14			
Automotive	13			
Office	78		52	50

Source: Cordoba Corporation

2. Generic Conversion Factor Assumptions

A summary of the recommended generic conversion factors for Residential, Commercial, Industrial and Other land uses in the San Bernardino and Riverside Counties is presented in Table 15.

2.1 Residential

For the Residential conversion factors, a combination of the study area's average number of dwelling units per sub-category (Table 1) and Cordoba Corporation's estimates were used as the basis for the recommended factor. A comparison between the study area's average number of dwelling units and Cordoba's recommended generic conversion factor is presented below:

<u>Residential Category</u>	<u>Dwelling Units Per Acre</u>	
	<u>Study Area</u>	<u>Average Recommended Factor</u>
Estate/Hillside	0.37	0.5
Very Low Density	1.67	1.5
Low Density	4.40	5.0
Low Medium	5.06	8.0
Medium Density	11.78	12.0
High Density	18.03	18.0
Very High Density	23.02	30.0

Most of the residential generic conversion factors are similar to the study area's average. The most significant differences are in the Low Medium and Very High Density categories: 5.06 vs. 8.0 for Low Medium, and 23.02 vs. 30.0 for Very High Density. Cordoba recommends higher densities for each of these categories due to the anticipated expansion in this area. Densities for these categories can be expected to increase, and therefore, the respective generic conversion factor should account for this anticipated growth.

According to SCAG, the average single-family and multi-family household size is not currently reported separately as a standard. However, it is clear that a trend exists where single-family units tend to have a lower population than multi-family units. In this report, Cordoba uses the average household size for the study area (2.78) for both single-family and multi-family units. Although this data is entered separately for each. Therefore, Cordoba's model can accommodate distinct figures for each if such information is attained in the future.

2.2 Commercial and Industrial

For the Commercial and Industrial generic conversion factors, it was assumed that there will be a great similarity between the San Bernardino and Riverside Counties buildout scenarios and Orange and Diego Counties scenarios. Therefore, the estimates derived for employees per acre for these counties (Table 12) were used as the study area's commercial and industrial generic conversion factors.

2.3 Other Land Uses

Additional land use categories are listed in Table 15 which do not apply to residential, commercial or industrial categories. Open Space/Parks, Public Facilities and Other are land uses which exist in the study area and should be applied in the RIVSAN model. Recommended generic conversion factors for Open Space/Parks and Other are zero employees per acre. It is assumed that Public Facilities would be similar to the density of General Office land use in Orange and San Diego Counties (Table 12). Therefore, an average of 55 employees per acre is recommended for San Bernardino and Riverside Counties Public Facilities land use category.

Appendix B provides a comprehensive presentation of each city in the study area, its respective land uses, and recommended conversion factors for residential, commercial, industrial and other land uses. Each conversion factor is coded to identify the land use category used from Table 15.

TABLE 15
GENERIC CONVERSION FACTORS
RECOMMENDED FOR
RIVSAN MODEL INPUTS

Land Use Categories	Generic Conversion Factors			
	Avg. DU's/Acre		Avg. Employees/Acre	
	Sng. Fam.	Mlt. Fam.	Retail	Non-Retail
Estate/Hillside Residential (EHR)	0.5			
Very Low Density Residential (VLR)	1.5			
Low Density Residential (LR)	5			
Low Medium Residential (LMR)	8			
Medium Density Residential (MR)		12		
High Density Residential (HR)		18		
Very High Density Residential (VHR)		30		
Neighborhood Commercial (NC)			23	
General Commercial (GC)			14	
Office/CBD (OF)				78
Mid-Rise Office (MRO)				142
Mixed Use (HR), (NC)		9	12	
Light Industrial (LI)				31
General Industrial (GI)				16
Heavy/Research & Dev. Industrial (HI)				46
Open Space/Parks (OP)				0
Public Facilities (PF)				55
Other (O)				0

Source: Cordoba Corporation
Filename: SUMM

EXHIBIT L-3

Orange County Subarea Modeling Guidelines Manual
Orange County Transportation Authority (OCTA)
June 2001

TYPICAL EMPLOYMENT CONVERSION FACTORS
(June 2001)

Land Use Category	Conversion Rates Range	Employment Type (Percentate Ranges)		
		Retail	Service	Other
Commercial	2.25 - 2.75 employees/TSF ¹	60% - 90%	10% - 40%	0% - 5%
Office/Office Park	3.00 - 4.00 employees/TSF	0% - 5%	20% - 30%	65% - 80%
R&D/Light Industrial/Business Park	2.50 - 3.50 employees/TSF	0% - 5%	0% - 30%	60% - 100%
Heavy Industrial	2.00 - 2.50 employees/TSF	0%	0%	100%
Warehouse	1.00 - 2.00 employees/TSF	0%	0%	100%
Restaurant	3.00 - 5.00 employees/TSF	100%	0%	0%
Medical Office/Post-Office/Bank	3.50 - 4.50 employees/TSF	0% - 10%	70% - 100%	0% - 20%
Government Office/Civic Center	3.00 - 4.00 employees/TSF	0% - 5%	50% - 70%	25% - 50%
Hospital	2.50 - 3.00 employees/TSF	0%	70% - 80%	20% - 30%
Library/Museum	1.50 - 2.50 employees/TSF	0%	100%	0%
Hotel/Motel	0.75 - 1.25 employees/room	0% - 10%	70% - 80%	10% - 30%
Schools	0.08 - 0.12 employees/student	0%	0%	100%
Golf Course	0.50 - 0.70 employees/acre	0% - 10%	90% - 100%	0%
Developed Park/Athletic Fields	0.20 - 0.40 employees/acre	0%	80% - 100%	0% - 20%
Park	0.05 - 0.10 employees/acre	0%	80% - 100%	0% - 20%
Agricultural	0.01 - 0.05 employees/acre	0%	0%	100%

¹ Thousands of Square Feet