

TRANSPORTATION UNIFORM MITIGATION FEE

10-YEAR STRATEGIC PLAN AND TRANSPORTATION IMPROVEMENT PROGRAM DEVELOPMENT GUIDELINES

FINAL REPORT

Prepared for

The Western Riverside Council of Governments

In Cooperation with

The City of Banning
The City of Beaumont
The City of Calimesa
The City of Canyon Lake
The City of Corona
The City of Hemet
The City of Lake Elsinore
The City of Moreno Valley
The City of Murrieta
The City of Norco
The City of Perris
The City of Riverside
The City of San Jacinto
The City of Temecula
The County of Riverside

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1.0 INTRODUCTION

The TUMF Administration Plan adopted May 5, 2003 by the WRCOG Executive Committee indicates that the TUMF Public Works Committee (PWC) will be responsible for preparing a 10-Year Strategic Plan, preparing a 5-Year TIP which will be reviewed annually, and reviewing and recommending a Regionally Significant Arterials project priority list to the WRCOG TAC and Executive Committee. To guide the accomplishment of these various tasks, the PWC is also responsible for “developing objective criteria for project selection and prioritization including but not limited to the following factors: traffic safety issues potentially created by growth, regional significance, availability of matching funds, mitigation of congestion created by new development, system continuity, geographic balance, project readiness, and completed projects with reimbursement agreements.”

The requirement to develop a TUMF 10-Year Strategic Plan in accordance with the TUMF Administration Plan preempts the ability to establish objective project selection and prioritization criteria consistent with the goals of the TUMF program. The initial step in the process of prioritizing TUMF network improvements is the development of the 10-Year Strategic Plan that will lead to the development of project selection criteria consistent with the goals of the 10-Year Strategic Plan. This detailed project selection criteria will be applied regionally and customized for application in each zone to select the TUMF projects to be included in the Transportation Improvement Program (TIP).

2.0 10-YEAR STRATEGIC PLAN

The TUMF Administration Plan charges the WRCOG Executive Director and the PWC cooperatively with “development of a 10-Year Strategic Plan that identifies long term planning goals and objectives for implementation of the TUMF Program.” In addition, the 10-Year Strategic Plan is intended to establish broad priorities for implementation of TUMF related improvement projects that will lead to the development of a Transportation Improvement Program for specific project programming, funding and scheduling. The dual purpose of the 10-Year Strategic Plan requires the completion of two definitive steps in the development of the plan:

1. The confirmation of TUMF Program long term planning goals and objectives; and
2. Establishing broad parameters to support an initial evaluation screening of TUMF improvement projects.

2.1. Goals and Objectives

The underlying purpose of the TUMF program as indicated in the TUMF Nexus Study Final Report is “the need to establish a comprehensive funding source to mitigate the cumulative regional transportation impacts of new development on regional arterial highways.” As new development occurs in Western Riverside County, the cumulative transportation impacts of this new development is reflected in increased demand for transportation infrastructure leading to decreased levels of service, increased delay and increased congestion on regional transportation facilities, and an overall decline in regional mobility. The impacts of increased congestion and decreased mobility are further manifested in increased accident rates and vehicle emissions. Therefore, the need to invest in additional transportation infrastructure to meet the increased travel demand and to sustain pre-development traffic conditions to “keep traffic flowing” represents the fundamental premise of the TUMF program.

In accordance with the TUMF Administration Plan, the WRCOG Executive Director will consult with the PWC to cooperatively articulate and confirm the goals and objectives of the TUMF Program. The cooperative development of a concise set of program goals and objectives is consistent with the nature of the TUMF program as a cooperative initiative of 14 cities, the County of Riverside and the March Joint Powers Authority (JPA), and will ensure that the program goals and objectives for project implementation reflect the collective vision of the participating jurisdictions. To be consistent with the stated purpose of the TUMF Program, goals and objectives for project implementation include consideration of sustaining current levels of service, maintaining regional mobility, and responding to increased delay and congestion on the regional transportation system. Furthermore, goals and objectives include consideration of the relationship between areas of new development and the cumulative impact on the transportation system to focus TUMF investments in areas where new growth is occurring or where the impacts manifest.

Consistent with the purpose of the TUMF program, the primary goal of the TUMF program is to mitigate transportation system congestion caused by new development. As new development occurs in Western Riverside County, additional demand is placed on the regional transportation infrastructure to provide safe and convenient access for new residents and employees. As demand for the transportation system increases, mobility is reduced and congestion increases in the absence of additional infrastructure improvements. Through the payment of TUMF, new development is contributing revenues to partially fund improvements that will mitigate the transportation impacts of new developments. For this reason, focusing TUMF investments on those facilities most impacted by new development is the clearly the primary goal of the program.

The TUMF program is intended to explicitly address the cumulative regional impacts of new development, and as such, the focus of the TUMF program is improvements to the regional system of arterial highways that respond to the impacts of new development. Although the additional transportation demand generated by new development impacts all aspects of the transportation system, the TUMF program is predicated on mitigating the impacts to the regional arterial highway system. The regional arterial highway system provides a critical and convenient linkage between the residents and businesses of Western Riverside County. A review of regional highway system measures of performance (see Table 3.1 TUMF Nexus Study dated February 6, 2006) indicates that over one third of all vehicle miles of travel occur on the arterial highway system, emphasizing the critical connectivity function provided by this component of the transportation system. For this reason, enhancing the connectivity of the regional arterial highway system represents an important goal of the TUMF program.

As new development occurs, the impacts to the transportation system can manifest quickly, particularly in areas of rapid growth. The availability to leverage TUMF revenues to respond to deteriorating conditions on the transportation system is an important aspect of the TUMF program. Equally as important is the ability to complete projects in a timely manner so as to maximize the benefits of TUMF system improvements and to sustain system mobility. The flexibility to advance TUMF projects promptly through to completion is an important goal of the TUMF program. Ensuring the readiness of projects prior to selection for funding is an appropriate mechanism to allow projects to advance quickly to completion.

In establishing the TUMF program, the impact of developing new public facilities to serve the residents and businesses of Western Riverside County was factored into the determination of the program fee for different use types. However, it was acknowledged that charging the TUMF to the public agencies that are ultimately responsible for implementing the transportation system improvements was impractical. Furthermore, the implementing agencies in adopting the TUMF ordinances agreed to exempt various use types from paying the TUMF due to the community benefit of the associated use. As a result of the various program fee exemptions, the TUMF program incorporates a funding shortfall.

With regard to the inherent funding shortfall, the TUMF Administrative Plan states that the TUMF "program is not designed to be the only source of revenue to construct the identified facilities, and it will be necessary for matching funds from a variety of

available sources to be provided." By the nature of the program, it will be necessary for the implementing agencies to seek alternative matching funds to fill the TUMF funding gap. Securing additional matching funds for TUMF system improvements represents a key goal of the program that will enable the completion of all necessary TUMF projects.

The successful implementation of the TUMF program involves the cooperation and coordination of 14 cities, the County of Riverside and March JPA. While participation in the TUMF program reflects the regional nature of development impacts and each agencies commitment to share in the need to mitigate the cumulative impacts of new development, there is also a need to ensure the equitable distribution of TUMF projects between jurisdictions. To the extent that development occurs regionally, it is appropriate to ensure that TUMF program revenues are distributed to the benefit of all in the region. The application of a zonal fee structure for the local component of the TUMF program is one element of the program that is consistent with the goal to ensure the equitable distribution of TUMF program revenues.

Based on the preceding discussion, five goals of the TUMF program have been articulated as a basis for developing specific project priorities and selection criteria. These goals are summarized as follows:

Sustain Mobility – Mitigate the transportation system impacts of new development

System Continuity – Enhance the continuity of the regional arterial highway system

Project Development – Encourage systematic project development and provide flexibility to advance TUMF projects promptly through completion

Leverage Funds – Secure additional matching funds for TUMF system improvements

Regional Benefit – Ensure TUMF program revenues are distributed to maximize mitigation of new development impacts.

2.2. Broad Project Priorities

Building upon the goals and objectives defined during the previous subtask, preliminary project prioritization criteria was identified. These criteria are listed as follows in no particular order of significance:

- ◆ Regional Significance
- ◆ Mobility
- ◆ Level of Service
- ◆ System Continuity
- ◆ Project Readiness
- ◆ Matching Funds
- ◆ Right of Way Availability
- ◆ Safety
- ◆ Completed Projects with Reimbursement Agreements

Clearly all of the projects previously defined as part of the TUMF Nexus Study represent facilities of regional significance. The fundamental goal of the TUMF program is to remediate the cumulative regional impact of new development of the arterial highway system, thereby explicitly targeting those components of the arterial highway system of

regional significance. For this reason, the first of the criterion listed above is implicit to all projects considered as part of the TUMF and is not necessarily appropriate for distinguishing the relative merits of respective projects

Similarly, the establishing of broad project priorities for the 10-year strategic plan focuses on those projects on the “backbone” component of the Regional System of Highways and Arterials. These projects represent the facilities with the greatest regional significance due to the higher traffic volumes and trans-regional nature of the trips served. Consideration of “secondary” TUMF facilities has been deferred to individual zone committees using specific criteria for the respective zone based on the regional project selection criteria. To retain maximum flexibility for the respective zones to develop and administer a customized project prioritization process, secondary facilities will not be subjected to an initial screening as part of the development of the 10-year strategic plan.

For the purpose of screening candidate TUMF backbone projects to establish broad priorities for project implementation, three of the listed criteria were identified as having the most applicability for this level of evaluation. These criteria include mobility, level of service and system continuity. The balance of the preliminary criteria, including project readiness, matching funds, right of way availability, safety and complete projects are considered to be consistent with programming considerations and were deferred for application during the prioritization of specific projects for TUMF fund programming.

2.3. Backbone Network Evaluation

To accomplish backbone network evaluation, existing and future traffic performance information was derived primarily from the SCAG CTP Model used as the basis for establishing the original TUMF Nexus. This process involved the evaluation of various measures using three separate model highway network assignment scenarios. These three scenarios include:

Existing Base – Existing (2000) traffic on the existing (2000) highway network

Future No-Build – Future (2025) traffic on the existing (2000) highway network

Future Build – Future (2025) traffic on the existing (2000) highway network modified to include all TUMF backbone facility improvements identified in the TUMF Nexus Study

Average daily and peak period traffic volumes, average daily and peak period volume to capacity ratios, and average daily link speeds were reported as model outputs for the purpose of supporting the subsequent evaluation. **Figures 2.3.1, 2.3.2 and 2.3.3** illustrate the average daily traffic volumes as an output from the CTP Model. **Figures 2.3.4, 2.3.5 and 2.3.6** depict the average daily volume to capacity ratios as reflective of levels of service.

Results for each backbone roadway segment of the TUMF backbone network identified in the Nexus Study were tabulated based on the highest value for the segment. The tabulated values for the three scenarios were then compared to generate various measures of mobility and level of service performance for the evaluation.

Figure 2.3.1 Existing Base Average Daily Traffic Volumes

Figure 2.3.2 Future No-Build Average Daily Traffic Volumes

Figure 2.3.3 Future Build Average Daily Traffic Volumes

Figure 2.3.4 Existing Base Volume to Capacity Ratios

Figure 2.3.5 Future No-Build Volume to Capacity Ratios

Figure 2.3.6 Future Build Volume to Capacity Ratios

For select segments, modeled existing average daily traffic (ADT) volumes were compared to actual field collected ADT data to correct for notable inconsistencies. Future forecast traffic volumes and volume to capacity ratios were recalculated for corridors or segments where post processing was determined to be necessary.

Corridors and segments subjected to post processing included Cajalco Road from I-15 to I-215, Van Buren Boulevard from SR-60 to I-215, Green River Road from SR-91 to Paseo Grande, Foothill Boulevard from Lincoln to I-15, and Reche Canyon Road from Reche Vista to the San Bernardino County line. The adjusted values were then subsequently applied for the purpose of completing the evaluation.

The evaluation methodology for analyzing the backbone roadway segments involved the consideration of five measures of mobility and level of service. These measures were utilized to complete a comparison between the respective backbone network links, with the results provided as a rank of the specific projects relative effectiveness for that measure compared to all of the other links included in the evaluation. The results were then compiled in an evaluation matrix using a symbolic five point rating scale from most effective to least effective for each measure. These evaluation measures and rationale for applying each measure are described as follows:

- ◆ *Future Build ADT Volume* – the forecast future build ADT volume for each link to compare the relative magnitude of traffic expected to use the various backbone facilities with TUMF improvements implemented (the highest ADT volume is considered most effective for this measure)
- ◆ *Change in ADT Volume from Existing to Future Build* – the net change in traffic from existing to future build to compare the relative growth of traffic on the backbone facilities specifically resulting from anticipated new development in the region (the highest volume change is considered most effective for this measure)
- ◆ *Change in Volume to Capacity Ratio from Existing to Future No-Build* – the overall change in combined AM and PM peak period, peak directional volume to capacity ratio to compare the impact of future additional traffic on the backbone facilities if no changes are made to the existing network and thereby indicating the relative need for improvements to address the impacts of future traffic growth directly attributable to new development in the region (the highest volume to capacity ratio change is considered most effective for this measure)
- ◆ *Change in Volume to Capacity Ratio from Future No-Build to Future Build* – the overall change in combined AM and PM peak period, peak directional volume to capacity ratio to compare the relative effectiveness of TUMF improvements to the backbone system to mitigate the impacts of future traffic on the various facilities evaluated by improving level of service and reducing capacity constraint related congestion (the greatest reduction in volume to capacity ratio is considered most effective for this measure)
- ◆ *Change in Average Daily Link Speed from Future No-Build to Future Build* – the overall change in average daily link speed for all vehicles to compare the relative effectiveness of TUMF improvements to the backbone system to mitigate the impacts of future traffic on the various facilities evaluated by

improving overall traffic flow and thereby improving regional mobility (the greatest increase in average daily link speed is considered most effective for this measure)

In addition to the five mobility and level of service measures, a sixth measure for system continuity was developed. This measure, rated using the same symbolic five point scale represents a composite of overall rating score for three separate variables to assess the continuity of the respective facilities. These variables include:

- ◆ *Overall Facility (Corridor) Length* – the overall length of contiguous segments that constitute the fullest extents of the facility (or corridor comprising of multiple contiguous facilities)
- ◆ *Number of Jurisdictions Served* – the total number of participating jurisdictions represented along the fullest extents of the facility
- ◆ *Number of Interchanges or Intersections* – the total number of backbone to freeway interchanges, and backbone to backbone intersections that occur along the fullest extents of the facility

In some cases, routes were evaluated as alternatives to a core corridor; however the values for these alternatives were compared independently based on the fullest extents of each respective alternative and not the sum of all alternatives. Examples of such alternatives include the SR-79 Eastern Bypass and SR-79 Western Bypass, and Gilman Springs Road, Beaumont and Potrero as alternatives for the overall SR-79 corridor.

An overall rating was determined for the backbone roadway segments based on the average of the six measures described previously. The overall rating, indicated using the same symbolic five point scale, provides an overall assessment of the relative effectiveness of each TUMF segment to achieve the goals of the TUMF program. The Evaluation Matrix for roadway segments including the overall rating is summarized in **Table 2.3.1**.

Due to the unique nature of interchange improvements and in particular the need for increased interagency coordination with interchange projects, it was determined that interchange project on the backbone network would be evaluated separately from the balance of the backbone roadway segment. Utilizing the SCAG CTP Model outputs described previously, ADT volumes were compared for backbone roadway segment approaches to each interchange. Backbone interchange locations were ranked based on the approach volume performance measures using the same symbolic five point scale applied for the roadway segment evaluation. The Evaluation Matrix for interchanges including an overall rating is summarized in **Table 2.3.2**.

The overall ratings for both the backbone roadway segments and backbone interchanges were considered by the TUMF Public Works Directors Technical Advisory Committee (PWDTAC) in recommending broad priorities for funding and implementing TUMF system improvements to the various backbone network facilities. Utilizing the results of the Backbone Network Evaluation summarized in the two Evaluation Matrices, the PWDTAC recommended grouping the various backbone corridors into three separate priority group rating (or letter grade) categories.

Table 2.3.1 TUMF Backbone Network Roadway Segment Evaluation Matrix

WRCOG TUMF Backbone Network Evaluation						Segment Ratings Legend:							Segment Plan Group Rating
Summary Matrix						Mobility Ratings					System Continuity Rating	Overall Rating	
						ADT Volume		V/C Change		Average Speed			
Link Description	Street Name	From	To	City	Zone	Length	2025 Build	2025-2000	2000-2025	NoBuild-Build	Build-NoBuild		
11th/Case	Perris	Goetz	Perris	Central	0.16								B
Alessandro	Arlington	Trautwein	Riverside	Northwest	2.35								B
Alessandro	Trautwein	Vista Grande	Unincorporated	Northwest	1.61								B
Alessandro	Vista Grande	I-215	Unincorporated	Northwest	1.26								B
Alessandro	I-215	Perris	Moreno Valley	Central	3.22								B
Alessandro	Perris	Nason	Moreno Valley	Central	2.01								B
Alessandro	Nason	Moreno Beach	Moreno Valley	Central	0.99								B
Alessandro	Moreno Beach	Gilman Springs	Moreno Valley	Central	4.16								B
Arlington	North	Magnolia	Riverside	Northwest	5.86								C
Arlington	Magnolia	Alessandro	Riverside	Northwest	2.79								B
Beaumont	14th	I-10	Beaumont	Pass	1.37								B
Benton	SR-79	Eastern Bypass	Unincorporated	Southwest	2.39								C
Bundy Canyon	I-15	Murrieta	Unincorporated	Southwest	4.43								C
Cajalco	I-15	Temescal Canyon	Unincorporated	Northwest	0.61								A
Cajalco	Temescal Canyon	Harley John	Unincorporated	Northwest	9.98								A
Cajalco	Harley John	I-215	Unincorporated	Central	6.05								A
Clinton Keith	Palomar	I-15	Unincorporated	Southwest	0.67								B
Clinton Keith	I-15	Copper Craft	Murrieta	Southwest	1.94								A
Clinton Keith	Copper Craft	Toulon	Murrieta	Southwest	1.10								A
Clinton Keith	Toulon	I-215	Murrieta	Southwest	1.15								A
Clinton Keith	I-215	Meadowlark	Murrieta	Southwest	0.68								A
Clinton Keith	Meadowlark	SR-79	Unincorporated	Southwest	2.51								A
Domenigoni	SR-79 (Winchester)	Warren	Unincorporated	San Jacinto	3.19								C
Domenigoni	Warren	Sanderson	Hemet	San Jacinto	1.88								C
Domenigoni	Sanderson	State	Hemet	San Jacinto	2.26								C
Ethanac	SR-74	Keystone	Unincorporated	Central	1.07								C
Ethanac	Keystone	Goetz	Perris	Central	2.24								C
Ethanac	Goetz	Murrieta	Perris	Central	0.94								C
Ethanac	Murrieta	I-215	Perris	Central	0.98								C
Ethanac	I-215	Sherman	Perris	Central	0.54								C
Ethanac	Sherman	Matthews	Unincorporated	Central	0.51								C
Foothill	Paseo Grande	Lincoln	Corona	Northwest	3.49								B
Foothill	Lincoln	California	Corona	Northwest	1.80								B
Foothill	California	I-15	Corona	Northwest	0.91								B
French Valley	Winchester	Margarita	Temecula	Southwest	1.11								A
French Valley	Margarita	Murrieta Creek	Temecula	Southwest	2.26								A
French Valley	Murrieta Creek	Rancho California	Temecula	Southwest	2.36								A
French Valley	Rancho California	Front	Temecula	Southwest	1.86								A
Gilman Springs	SR-60	Alessandro	Moreno Valley	Central	1.95								B
Gilman Springs	Alessandro	Bridge	Unincorporated	Central	4.94								B
Gilman Springs	Bridge	Sanderson	Unincorporated	San Jacinto	2.93								B
Goetz	Case	Ethanac	Perris	Central	2.18								B
Goetz	Railroad Canyon	Newport	Canyon Lake	Southwest	0.51								A
Green River	SR-91	Dominguez Ranch	Corona	Northwest	1.06								A
Green River	Dominguez Ranch	Paisades	Corona	Northwest	0.59								B
Green River	Paisades	Paseo Grande	Corona	Northwest	1.85								B
Menifee	Ramona	SR-74 (Pinacate)	Unincorporated	Central	6.55								C
Menifee	SR-74 (Pinacate)	Simpson	Unincorporated	Central	2.54								C
Menifee	Simpson	Aldergate	Unincorporated	Southwest	1.02								C
Menifee	Aldergate	Newport	Unincorporated	Southwest	0.93								C
Menifee	Newport	Holland	Unincorporated	Southwest	0.68								C
Menifee	Holland	Garbani	Murrieta	Southwest	1.14								C
Menifee	Garbani	Scott	Murrieta	Southwest	0.99								C
Menifee	Scott	Keller	Murrieta	Southwest	1.16								C
Menifee	Keller	Clinton Keith	Murrieta	Southwest	2.01								C
Mid-County	Arantine Hills/Eagle Glen	I-15	Corona	Northwest	1.30								A
Mid-County	I-15	Harley John	Unincorporated	Northwest	10.58								A
Mid-County	Harley John	I-215	Unincorporated	Central	6.05								A
Mid-County	I-215	Rider	Perris	Central	4.63								A
Mid-County	Rider	Bridge	Unincorporated	Central	7.52								A
Mid-County	Bridge	Warren	Unincorporated	San Jacinto	1.65								A
Mid-County	Warren	Sanderson	San Jacinto	San Jacinto	1.80								A
Newport	Goetz	Murrieta	Unincorporated	Southwest	1.81								A
Newport	Murrieta	I-215	Unincorporated	Southwest	2.03								A
Newport	I-215	Menifee	Unincorporated	Southwest	1.03								A
Newport	Menifee	Lindenberger	Unincorporated	Southwest	1.84								A
Newport	Lindenberger	SR-79 (Winchester)	Unincorporated	Southwest	2.49								A
Perris	Reche Vista	Ironwood	Moreno Valley	Central	2.34								B
Perris	Ironwood	Sunnymead	Moreno Valley	Central	0.52								B
Perris	Sunnymead	Cactus	Moreno Valley	Central	2.01								B
Perris	Cactus	Oleander	Moreno Valley	Central	3.47								B
Perris	Oleander	Ramona	Perris	Central	1.04								B
Perris	Ramona	Nuevo	Perris	Central	3.03								B
Perris	Nuevo	11th	Perris	Central	1.70								B
Palmero	San Timoteo Canyon	1st	Beaumont	Pass	1.64								A
Palmero	1st	SR-79 (Beaumont)	Beaumont	Pass	2.03								A
Railroad Canyon	I-15	Canyon Hills	Lake Elsinore	Southwest	2.14								A
Railroad Canyon	Canyon Hills	Goetz	Canyon Lake	Southwest	2.18								A
Ramona	I-215	Perris	Perris	Central	1.51								A
Ramona	Perris	Evans	Perris	Central	1.04								A
Ramona	Evans	Rider	Perris	Central	2.08								A
Ramona	Rider	Pico	Unincorporated	Central	1.01								A
Ramona	Pico	Bridge	Unincorporated	Central	6.51								A
Ramona	Bridge	Warren	Unincorporated	San Jacinto	1.65								A
Ramona	Warren	Sanderson	San Jacinto	San Jacinto	1.80								A
Ramona	Sanderson	State	San Jacinto	San Jacinto	2.42								C
Ramona	State	Main	San Jacinto	San Jacinto	2.33								C
Ramona	Main	Cedar	San Jacinto	San Jacinto	2.11								C
Ramona	Cedar	SR-74	San Jacinto	San Jacinto	1.26								C
Reche Canyon	San Bernardino County	Reche Vista	Unincorporated	Central	3.43								A
Reche Vista	Reche Canyon	Heacock	Moreno Valley	Central	1.33								A
Schlesman	San Bernardino County	Harrison	Unincorporated	Northwest	1.49								A
Schlesman	Harrison	Cleveland	Unincorporated	Northwest	1.02								A
Schlesman	Cleveland	68th	Unincorporated	Northwest	0.80								A
Schlesman	68th	I-15	Unincorporated	Northwest	0.24								A B
Schlesman	I-15	Arlington	Unincorporated	Northwest	1.97								A B
Scott	Murrieta	I-215	Unincorporated	Southwest	2.04								A
Scott	I-215	SR-79 (Winchester)	Unincorporated	Southwest	5.04								A
SR-74	Matthews	Briggs	Unincorporated	Central	2.00								B
SR-74	Briggs	SR-79 (Winchester)	Unincorporated	Central	3.54								B
SR-74	Winchester	Warren	Hemet	San Jacinto	2.52								B
SR-74	I-15	Ethanac	Unincorporated	Southwest	5.06								B
SR-74	Ethanac	Ellis	Perris	Central	2.80								B
SR-74	Ellis	I-215	Perris	Central	2.48								B
SR-79 (Beaumont)	I-10	California	Beaumont	Pass	1.09								A
SR-79 (Lamb Canyon)	California	Gilman Springs	Unincorporated	Pass	5.36								A
SR-79 (Sanderson)	Gilman Springs	Ramona	Unincorporated	San Jacinto	1.62								A
SR-79 (San Jacinto Bypass)	Ramona	SR-74 (Florida)	Unincorporated	San Jacinto	6.50								A
SR-79 (Hemet Bypass)	SR-74 (Florida)	Domenigoni	Unincorporated	San Jacinto	6.00								A
SR-79 (Hemet Bypass)	Domenigoni	Winchester	Unincorporated	San Jacinto	1.50								A
SR-79 (Winchester)	Domenigoni	Keller	Unincorporated	Southwest	4.91								A
SR-79 (Winchester)	Keller	Thompson	Unincorporated	Southwest	2.50								A
SR-79 (Winchester)	Thompson	La Alba	Unincorporated	Southwest	1.79								A
SR-79 (Winchester)	La Alba	Hunter	Unincorporated	Southwest	0.49								A
SR-79 (Winchester)	Hunter	Murrieta Hot Springs	Unincorporated	Southwest	1.30								A
SR-79 (Winchester)	Murrieta Hot Springs	Jefferson	Unincorporated	Southwest	2.57								A
SR-79 (Eastern Bypass/Washington)	SR-79 (Winchester)	Borel	Unincorporated	Southwest	4.57								A B
SR-79 (Eastern Bypass)	Borel	Vino	Unincorporated	Southwest	2.83								A B
SR-79 (Eastern Bypass/Anza)	Vino	SR-79 (Constance)	Unincorporated	Southwest	3.96								A B
SR-79 (Eastern Bypass/Anza)	SR-79 (Constance)	Santa Rita	Unincorporated	Southwest	1.04								A B
SR-79 (Eastern Bypass/Anza)	Santa Rita	Fairview	Unincorporated	Southwest	1.76								A B
SR-79 (Eastern Bypass)	Fairview	Pala	Unincorporated	Southwest	1.48								A B
SR-79 (Eastern Bypass)	Pala	I-15	Unincorporated	Southwest	2.34								A B
Van Buren	SR-60	Bellevue	Unincorporated	Northwest	1.73								A
Van Buren	Bellevue	Santa Ana River	Unincorporated	Northwest	3.85								A
Van Buren	Santa Ana River	SR-91	Riverside	Northwest	3.81								A
Van Buren	SR-91	Mockingbird Canyon	Riverside	Northwest	3.48								A
Van Buren	Mockingbird Canyon	Wood	Unincorporated	Northwest	4.33								A
Van Buren	Wood	Trautwein	Riverside	Northwest	0.29								A
Van Buren	Trautwein	Orange Terrace	Riverside	Northwest	1.30								A
Van Buren	Orange Terrace	I-215	Unincorporated	Northwest	2.00								A

Table 2.3.2 TUMF Backbone Network Interchange Evaluation Matrix

WRCOG TUMF Backbone Network Evaluation						Interchange Ratings Legend:				Interchange Plan Group Rating	
Summary Matrix											
Link Description	Street Name	From	To	City	Zone	Length	INTERCHANGE LOCATION	Mobility Ratings			Overall Rating
								ADT Volume			
							2025 No-Build	2025 Build	2025-2000		
11th/Case	Perris		Goetz	Perris	Central	0.16					
Alessandro	Arlington		Trautwein	Riverside	Northwest	2.35					
Alessandro	Trautwein		Vista Grande	Unincorporated	Northwest	1.61					
Alessandro	Vista Grande		I-215	Unincorporated	Northwest	1.26					
Alessandro	I-215		Perris	Moreno Valley	Central	3.22					
Alessandro	Perris		Nason	Moreno Valley	Central	2.01					
Alessandro	Nason		Moreno Beach	Moreno Valley	Central	0.99					
Alessandro	Moreno Beach		Gilman Springs	Moreno Valley	Central	4.16					
Arlington	North		Magnolia	Riverside	Northwest	5.86					
Arlington	Magnolia		Alessandro	Riverside	Northwest	2.79					
Beaumont	14th		I-10	Beaumont	Pass	1.37					
Benton	SR-79		Eastern Bypass	Unincorporated	Southwest	2.39					
Bundy Canyon	I-15		Murrieta	Unincorporated	Southwest	4.43					
Cajalco	I-15		Temescal Canyon	Unincorporated	Northwest	0.61					
Cajalco	Temescal Canyon		Harley John	Unincorporated	Northwest	9.98					
Cajalco	Harley John		I-215	Unincorporated	Central	6.05					
Clinton Keith	Palomar		I-15	Unincorporated	Southwest	0.67					
Clinton Keith	I-15		Copper Craft	Murrieta	Southwest	1.94					
Clinton Keith	Copper Craft		Toulon	Murrieta	Southwest	1.10					
Clinton Keith	Toulon		I-215	Murrieta	Southwest	1.15					
Clinton Keith	I-215		Meadowlark	Murrieta	Southwest	0.68					
Clinton Keith	Meadowlark		SR-79	Unincorporated	Southwest	2.51					
Domenigoni	SR-79 (Winchester)		Warren	Unincorporated	San Jacinto	3.19					
Domenigoni	Warren		Sanderson	Hemet	San Jacinto	1.88					
Domenigoni	Sanderson		State	Hemet	San Jacinto	2.26					
Ethanac	SR-74		Keystone	Unincorporated	Central	1.07					
Ethanac	Keystone		Goetz	Perris	Central	2.24					
Ethanac	Goetz		Murrieta	Perris	Central	0.96					
Ethanac	Murrieta		I-215	Perris	Central	0.98					
Ethanac	I-215		Sherman	Perris	Central	0.54					
Ethanac	Sherman		Matthews	Unincorporated	Central	0.51					
Foothill	Paseo Grande		Lincoln	Corona	Northwest	3.49					
Foothill	Lincoln		California	Corona	Northwest	1.80					
Foothill	California		I-15	Corona	Northwest	0.91					
French Valley	Winchester		Margarita	Temecula	Southwest	1.11					
French Valley	Margarita		Murrieta Creek	Temecula	Southwest	2.26					
French Valley	Murrieta Creek		Rancho California	Temecula	Southwest	2.36					
French Valley	Rancho California		Front	Temecula	Southwest	1.86					
Gilman Springs	SR-60		Alessandro	Moreno Valley	Central	1.95					
Gilman Springs	Alessandro		Bridge	Unincorporated	Central	4.94					
Gilman Springs	Bridge		Sanderson	Unincorporated	San Jacinto	2.93					
Goetz	Case		Ethanac	Perris	Central	2.18					
Goetz	Railroad Canyon		Newport	Canyon Lake	Southwest	0.51					
Green River	SR-91		Dominguez Ranch	Corona	Northwest	1.06					
Green River	Dominguez Ranch		Paisades	Corona	Northwest	0.59					
Green River	Paisades		Paseo Grande	Corona	Northwest	1.85					
Menifee	Ramona		SR-74 (Pinacate)	Unincorporated	Central	6.55					
Menifee	SR-74 (Pinacate)		Simpson	Unincorporated	Central	2.54					
Menifee	Simpson		Aldergate	Unincorporated	Southwest	1.02					
Menifee	Aldergate		Newport	Unincorporated	Southwest	0.93					
Menifee	Newport		Holland	Unincorporated	Southwest	0.68					
Menifee	Holland		Garbani	Murrieta	Southwest	1.14					
Menifee	Garbani		Scott	Murrieta	Southwest	0.99					
Menifee	Scott		Keller	Murrieta	Southwest	1.16					
Menifee	Keller		Clinton Keith	Murrieta	Southwest	2.01					
Mid-County	Arantine Hills/Eagle Glen		I-15	Corona	Northwest	1.30					
Mid-County	I-15		Harley John	Unincorporated	Northwest	10.58					
Mid-County	Harley John		I-215	Unincorporated	Central	6.05					
Mid-County	I-215		Rider	Perris	Central	4.63					
Mid-County	Rider		Bridge	Unincorporated	Central	7.52					
Mid-County	Bridge		Warren	Unincorporated	San Jacinto	1.65					
Mid-County	Warren		Sanderson	San Jacinto	San Jacinto	1.80					
Newport	Goetz		Murrieta	Unincorporated	Southwest	1.81					
Newport	Murrieta		I-215	Unincorporated	Southwest	2.03					
Newport	I-215		Menifee	Unincorporated	Southwest	1.03					
Newport	Menifee		Lindenberger	Unincorporated	Southwest	1.84					
Newport	Lindenberger		SR-79 (Winchester)	Unincorporated	Southwest	2.49					
Perris	Reche Vista		Ironwood	Moreno Valley	Central	2.34					
Perris	Ironwood		Sunnymead	Moreno Valley	Central	0.52					
Perris	Sunnymead		Cactus	Moreno Valley	Central	2.01					
Perris	Cactus		Oleander	Moreno Valley	Central	3.47					
Perris	Oleander		Ramona	Perris	Central	1.04					
Perris	Ramona		Nuevo	Perris	Central	3.03					
Perris	Nuevo		11th	Perris	Central	1.70					
Potrero	San Timoteo Canyon		1st	Beaumont	Pass	1.64					
Potrero	1st		SR-79 (Beaumont)	Beaumont	Pass	2.03					
Railroad Canyon	I-15		Canyon Hills	Lake Elsinore	Southwest	2.14					
Railroad Canyon	Canyon Hills		Goetz	Canyon Lake	Southwest	2.18					
Ramona	I-215		Perris	Perris	Central	1.51					
Ramona	Perris		Evans	Perris	Central	1.04					
Ramona	Evans		Rider	Perris	Central	2.08					
Ramona	Rider		Pico	Unincorporated	Central	1.01					
Ramona	Pico		Bridge	Unincorporated	Central	6.51					
Ramona	Bridge		Warren	Unincorporated	San Jacinto	1.65					
Ramona	Warren		Sanderson	San Jacinto	San Jacinto	1.80					
Ramona	Sanderson		State	San Jacinto	San Jacinto	2.42					
Ramona	State		Main	San Jacinto	San Jacinto	2.33					
Ramona	Main		Cedar	San Jacinto	San Jacinto	2.11					
Ramona	Cedar		SR-74	San Jacinto	San Jacinto	1.26					
Reche Canyon	San Bernardino County		Reche Vista	Unincorporated	Central	3.43					
Reche Vista	San Bernardino County		Heacock	Moreno Valley	Central	1.33					
Schlesman	San Bernardino County		Harrison	Unincorporated	Northwest	1.49					
Schlesman	Harrison		Cleveland	Unincorporated	Northwest	1.02					
Schlesman	Cleveland		68th	Unincorporated	Northwest	0.80					
Schlesman	68th		I-15	Unincorporated	Northwest	0.24					
Schlesman	I-15		Arlington	Unincorporated	Northwest	1.97					
Scott	Murrieta		I-215	Unincorporated	Southwest	2.04					
Scott	I-215		SR-79 (Winchester)	Unincorporated	Southwest	5.04					
SR-74	Matthews		Briggs	Unincorporated	Central	2.00					
SR-74	Briggs		SR-79 (Winchester)	Unincorporated	Central	3.54					
SR-74	Winchester		Warren	Hemet	San Jacinto	2.52					
SR-74	I-15		Ethanac	Unincorporated	Southwest	5.06					
SR-74	Ethanac		Ellis	Perris	Central	2.80					
SR-74	Ellis		I-215	Perris	Central	2.48					
SR-79 (Beaumont)	I-10		California	Beaumont	Pass	1.09					
SR-79 (Lamb Canyon)	California		Gilman Springs	Unincorporated	Pass	5.36					
SR-79 (Sanderson)	Gilman Springs		Ramona	Unincorporated	San Jacinto	1.62					
SR-79 (San Jacinto Bypass)	Ramona		SR-74 (Florida)	Unincorporated	San Jacinto	6.50					
SR-79 (Hemet Bypass)	SR-74 (Florida)		Domenigoni	Unincorporated	San Jacinto	6.00					
SR-79 (Hemet Bypass)	Domenigoni		Winchester	Unincorporated	San Jacinto	1.50					
SR-79 (Winchester)	Domenigoni		Keller	Unincorporated	Southwest	4.91					
SR-79 (Winchester)	Keller		Thompson	Unincorporated	Southwest	2.50					
SR-79 (Winchester)	Thompson		La Alba	Unincorporated	Southwest	1.79					
SR-79 (Winchester)	La Alba		Hunter	Unincorporated	Southwest	0.49					
SR-79 (Winchester)	Hunter		Murrieta Hot Springs	Unincorporated	Southwest	1.30					
SR-79 (Winchester)	Murrieta Hot Springs		Jefferson	Unincorporated	Southwest	2.57					
SR-79 (Eastern Bypass/Washington)	SR-79 (Winchester)		Borel	Unincorporated	Southwest	4.57					
SR-79 (Eastern Bypass)	Borel		Vino	Unincorporated	Southwest	2.83					
SR-79 (Eastern Bypass/Anza)	Vino		SR-79 (Constance)	Unincorporated	Southwest	3.96					
SR-79 (Eastern Bypass/Anza)	SR-79 (Constance)		Santa Rita	Unincorporated	Southwest	1.04					
SR-79 (Eastern Bypass/Anza)	Santa Rita		Fairview	Unincorporated	Southwest	1.76					
SR-79 (Eastern Bypass)	Fairview		Pala	Unincorporated	Southwest	1.48					
SR-79 (Eastern Bypass)	Pala		I-15	Unincorporated	Southwest	2.34					
Van Buren	SR-60		Bellevue	Unincorporated	Northwest	1.73					
Van Buren	Bellevue		Santa Ana River	Unincorporated	Northwest	3.85					
Van Buren	Santa Ana River		SR-91	Riverside	Northwest	3.81					
Van Buren	SR-91		Mockingbird Canyon	Riverside	Northwest	3.48					
Van Buren	Mockingbird Canyon		Wood	Unincorporated	Northwest	4.33					
Van Buren	Wood		Trautwein	Riverside	Northwest	0.29					
Van Buren	Trautwein		Orange Terrace	Riverside	Northwest	1.30					
Van Buren	Orange Terrace		I-215	Unincorporated	Northwest	2.00					

The resultant priority group ratings for each backbone roadway segment and backbone interchange have also been included in the respective summary matrices. In select cases, multiple letter grades have been assigned to the backbone roadway segments to reflect differing levels of priority for the individual segment project development phases, typically dividing the planning and engineering phases from right-of-way acquisition and construction. Examples include the SR-79 Eastern Bypass, which has been identified as priority group 'A' for the planning phase of project development, and priority group 'B' for engineering, right-of-way acquisition and construction phases.

2.4. Regional Priority Group Project Costs

Based on the results of the evaluation of the backbone roadway segments and interchanges, and the estimated network eligible costs detailed in the TUMF Nexus Study, improvement costs totals were determined for the various backbone roadway segment Priority Groups. The maximum TUMF eligible improvement costs for each Priority Group are detailed in **Table 2.4.1** and are summarized below. The maximum TUMF eligible improvement costs are consistent with the roadway segment costs included in the TUMF Nexus Study 2005 Update and endorsed by the WRCOG Executive Committee at the February 6, 2006 meeting.

The maximum TUMF eligible improvement cost for all backbone facilities is \$2.516 billion. Based on the results of the evaluation of backbone facilities, approximately \$1.552 billion (61.7%) of the eligible improvement costs have been identified as having an 'A' group rating signifying projects with the highest priority for implementation. Approximately \$699.9 million (27.8%) of the eligible improvement costs have been identified as 'B' group rated projects, while \$265.0 million (10.5%) of the eligible improvement costs have been identified as 'C' group rated projects. Clearly, the 'A' group rated projects represent the majority of the TUMF program backbone component and accordingly represent the focus for programming projects during the initial 10 years of backbone project implementation.

Table 2.4.1 TUMF Backbone Network Rating Group Maximum Eligible Cost Estimates

STREETNAME	SEGMENT FROM	SEGMENT TO	Rating Group Segment Component Maximum TUMF Share			Rating Group Interchange Component Maximum TUMF Share			Segment Maximum TUMF Share
			A	B	C	A	B	C	
11th/Case	Perris	Goetz	\$0	\$602,000	\$0	\$0	\$0	\$0	\$602,000
Alessandro	Arlington	Trautwein	\$0	\$5,622,000	\$0	\$0	\$0	\$0	\$5,622,000
Alessandro	Trautwein	Vista Grande	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Alessandro	Vista Grande	I-215	\$0	\$5,151,000	\$0	\$0	\$0	\$0	\$5,151,000
Alessandro	I-215	Perris	\$0	\$12,194,000	\$0	\$0	\$3,379,000	\$0	\$15,573,000
Alessandro	Perris	Nason	\$0	\$15,220,000	\$0	\$0	\$0	\$0	\$15,220,000
Alessandro	Nason	Moreno Beach	\$0	\$3,755,000	\$0	\$0	\$0	\$0	\$3,755,000
Alessandro	Moreno Beach	Gilman Springs	\$0	\$12,411,000	\$0	\$0	\$0	\$0	\$12,411,000
Arlington	North	Magnolia	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Arlington	Magnolia	Alessandro	\$0	\$10,200,000	\$0	\$0	\$16,893,000	\$0	\$27,093,000
Beaumont	I-10	I-10	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Benton	SR-79	Eastern Bypass	\$0	\$0	\$7,145,000	\$0	\$0	\$0	\$7,145,000
Bundy Canyon	I-15	Murrieta	\$0	\$0	\$13,226,000	\$0	\$0	\$16,893,000	\$30,119,000
Cajalco	I-15	Temescal Canyon	\$0	\$0	\$0	\$33,785,000	\$0	\$0	\$33,785,000
Cajalco	Temescal Canyon	Harley John	\$40,273,000	\$0	\$0	\$0	\$0	\$0	\$40,273,000
Cajalco	Harley John	I-215	\$35,882,000	\$0	\$0	\$0	\$0	\$0	\$35,882,000
Clinton Keith	Palomar	I-15	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Clinton Keith	I-15	Copper Craft	\$5,784,000	\$0	\$0	\$16,893,000	\$0	\$0	\$22,677,000
Clinton Keith	Copper Craft	Toulon	\$1,645,000	\$0	\$0	\$0	\$0	\$0	\$1,645,000
Clinton Keith	Toulon	I-215	-\$11,284,000	\$0	\$0	\$33,785,000	\$0	\$0	\$22,501,000
Clinton Keith	I-215	Meadowlark	\$624,000	\$0	\$0	\$0	\$0	\$0	\$624,000
Clinton Keith	Meadowlark	SR-79	\$47,592,000	\$0	\$0	\$0	\$0	\$0	\$47,592,000
Domenigoni	SR-79 (Winchester)	Warren	\$0	\$0	\$15,110,000	\$0	\$0	\$0	\$15,110,000
Domenigoni	Warren	Sanderson	\$0	\$0	\$5,601,000	\$0	\$0	\$0	\$5,601,000
Domenigoni	Sanderson	State	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ethanac	SR-74	Keystone	\$0	\$0	\$6,393,000	\$0	\$0	\$0	\$6,393,000
Ethanac	Keystone	Goetz	\$0	\$0	\$18,988,000	\$0	\$0	\$0	\$18,988,000
Ethanac	Goetz	Murrieta	\$0	\$0	\$3,623,000	\$0	\$0	\$0	\$3,623,000
Ethanac	Murrieta	I-215	\$0	\$0	\$3,714,000	\$0	\$0	\$16,893,000	\$20,607,000
Ethanac	I-215	Sherman	\$0	\$0	\$1,858,000	\$0	\$0	\$0	\$1,858,000
Ethanac	Sherman	Matthews	\$0	\$0	\$32,514,000	\$0	\$0	\$0	\$32,514,000
Foothill	Paseo Grande	Lincoln	\$0	\$39,705,000	\$0	\$0	\$0	\$0	\$39,705,000
Foothill	Lincoln	California	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Foothill	California	I-15	\$0	\$3,445,000	\$0	\$3,379,000	\$0	\$0	\$6,824,000
French Valley	Winchester	Margarita	\$3,313,000	\$0	\$0	\$7,250,000	\$0	\$0	\$10,563,000
French Valley	Margarita	Murrieta Creek	\$21,279,000	\$0	\$0	\$67,425,000	\$0	\$0	\$88,704,000
French Valley	Murrieta Creek	Rancho California	\$24,977,000	\$0	\$0	\$0	\$0	\$0	\$24,977,000
French Valley	Rancho California	Front	\$26,416,000	\$0	\$0	\$33,785,000	\$0	\$0	\$60,201,000
Gilman Springs	SR-60	Alessandro	\$0	\$5,836,000	\$0	\$0	\$16,893,000	\$0	\$22,729,000
Gilman Springs	Alessandro	Bridge	\$0	\$19,657,000	\$0	\$0	\$0	\$0	\$19,657,000
Gilman Springs	Bridge	Sanderson	\$0	\$8,752,000	\$0	\$0	\$0	\$0	\$8,752,000
Goetz	Case	Ethanac	\$0	\$9,291,000	\$0	\$0	\$0	\$0	\$9,291,000
Goetz	Railroad Canyon	Newport	\$3,884,000	\$0	\$0	\$0	\$0	\$0	\$3,884,000
Green River	SR-91	Dominguez Ranch	\$4,472,000	\$0	\$0	\$3,379,000	\$0	\$0	\$7,851,000
Green River	Dominguez Ranch	Palisades	\$0	\$2,862,000	\$0	\$0	\$0	\$0	\$2,862,000
Green River	Palisades	Paseo Grande	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Menifee	Ramona	SR-74 (Pinacate)	\$0	\$0	\$19,552,000	\$0	\$0	\$0	\$19,552,000
Menifee	SR-74 (Pinacate)	Simpson	\$0	\$0	\$38,702,000	\$0	\$0	\$0	\$38,702,000
Menifee	Simpson	Aldergate	\$0	\$0	\$6,069,000	\$0	\$0	\$0	\$6,069,000
Menifee	Aldergate	Newport	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Menifee	Newport	Holland	\$0	\$0	\$2,035,000	\$0	\$0	\$0	\$2,035,000
Menifee	Holland	Garbani	\$0	\$0	\$6,794,000	\$0	\$0	\$0	\$6,794,000
Menifee	Garbani	Scott	\$0	\$0	\$2,957,000	\$0	\$0	\$0	\$2,957,000
Menifee	Scott	Keller	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Menifee	Keller	Clinton Keith	\$0	\$0	\$3,674,000	\$0	\$0	\$0	\$3,674,000
Mid-County	Arantine Hills/Eagle G	I-15	\$9,854,000	\$0	\$0	\$0	\$0	\$0	\$9,854,000
Mid-County	I-15	Harley John	\$63,230,000	\$0	\$0	\$67,425,000	\$0	\$0	\$130,655,000
Mid-County	Harley John	I-215	\$18,060,000	\$0	\$0	\$0	\$0	\$0	\$18,060,000
Mid-County	I-215	Rider	\$19,623,000	\$0	\$0	\$67,425,000	\$0	\$0	\$87,048,000
Mid-County	Rider	Bridge	\$24,544,000	\$0	\$0	\$0	\$0	\$0	\$24,544,000
Mid-County	Bridge	Warren	\$4,940,000	\$0	\$0	\$0	\$0	\$0	\$4,940,000
Mid-County	Warren	Sanderson	\$6,805,000	\$0	\$0	\$0	\$0	\$0	\$6,805,000
Newport	Goetz	Murrieta	\$13,910,000	\$0	\$0	\$0	\$0	\$0	\$13,910,000
Newport	Murrieta	I-215	\$6,051,000	\$0	\$0	\$16,893,000	\$0	\$0	\$22,944,000
Newport	I-215	Menifee	\$3,085,000	\$0	\$0	\$0	\$0	\$0	\$3,085,000
Newport	Menifee	Lindenberger	\$10,980,000	\$0	\$0	\$0	\$0	\$0	\$10,980,000
Newport	Lindenberger	SR-79 (Winchester)	\$22,305,000	\$0	\$0	\$0	\$0	\$0	\$22,305,000
Perris	Reche Vista	Ironwood	\$0	\$8,854,000	\$0	\$0	\$0	\$0	\$8,854,000
Perris	Ironwood	Sunnymead	\$0	\$1,963,000	\$0	\$0	\$16,893,000	\$0	\$18,856,000
Perris	Sunnymead	Cactus	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Perris	Cactus	Oleander	\$0	\$14,178,000	\$0	\$0	\$0	\$0	\$14,178,000
Perris	Oleander	Ramona	\$0	\$1,998,000	\$0	\$0	\$0	\$0	\$1,998,000
Perris	Ramona	Nuevo	\$0	\$9,059,000	\$0	\$0	\$0	\$0	\$9,059,000
Perris	Nuevo	11th	\$0	\$8,544,000	\$0	\$0	\$0	\$0	\$8,544,000
Potrero	San Timoteo Canyon	1st	\$45,099,000	\$0	\$0	\$33,785,000	\$0	\$0	\$78,884,000
Potrero	1st	SR-79 (Beaumont)	\$8,211,000	\$0	\$0	\$0	\$0	\$0	\$8,211,000
Railroad Canyon	I-15	Canyon Hills	\$2,200,000	\$0	\$0	\$33,785,000	\$0	\$0	\$35,985,000
Railroad Canyon	Canyon Hills	Goetz	\$10,537,000	\$0	\$0	\$0	\$0	\$0	\$10,537,000
Ramona	I-215	Perris	\$5,705,000	\$0	\$0	\$33,785,000	\$0	\$0	\$39,490,000
Ramona	Perris	Evans	\$6,046,000	\$0	\$0	\$0	\$0	\$0	\$6,046,000
Ramona	Evans	Rider	\$7,873,000	\$0	\$0	\$0	\$0	\$0	\$7,873,000
Ramona	Rider	Pico	\$3,012,000	\$0	\$0	\$0	\$0	\$0	\$3,012,000
Ramona	Pico	Bridge	\$43,065,000	\$0	\$0	\$0	\$0	\$0	\$43,065,000
Ramona	Bridge	Warren	\$9,881,000	\$0	\$0	\$0	\$0	\$0	\$9,881,000
Ramona	Warren	Sanderson	\$13,607,000	\$0	\$0	\$0	\$0	\$0	\$13,607,000
Ramona	Sanderson	State	\$0	\$0	\$18,352,000	\$0	\$0	\$0	\$18,352,000
Ramona	State	Main	\$0	\$0	\$8,194,000	\$0	\$0	\$0	\$8,194,000
Ramona	Main	Cedar	\$0	\$0	\$16,692,000	\$0	\$0	\$0	\$16,692,000
Ramona	Cedar	SR-74	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Reche Canyon	San Bernardino County	Reche Vista	\$17,429,000	\$0	\$0	\$0	\$0	\$0	\$17,429,000
Reche Vista	Reche Canyon	Heacock	\$6,443,000	\$0	\$0	\$0	\$0	\$0	\$6,443,000
Schliesman	San Bernardino County	Harrison	\$14,093,000	\$0	\$0	\$0	\$0	\$0	\$14,093,000
Schliesman	Harrison	Cleveland	\$11,574,000	\$0	\$0	\$0	\$0	\$0	\$11,574,000
Schliesman	Cleveland	68th	\$6,088,000	\$0	\$0	\$0	\$0	\$0	\$6,088,000
Schliesman	68th	I-15	\$272,600	\$2,411,400	\$0	\$0	\$67,425,000	\$0	\$70,109,000
Schliesman	I-15	Arlington	\$4,334,600	\$21,400,400	\$0	\$0	\$0	\$0	\$25,735,000
Scott	Murrieta	I-215	\$6,094,000	\$0	\$0	\$0	\$0	\$0	\$6,094,000
Scott	I-215	SR-79 (Winchester)	\$15,043,000	\$0	\$0	\$33,785,000	\$0	\$0	\$48,828,000
SR-74	Matthews	Briggs	\$0	\$5,974,000	\$0	\$0	\$0	\$0	\$5,974,000
SR-74	Briggs	SR-79 (Winchester)	\$0	\$9,603,000	\$0	\$0	\$0	\$0	\$9,603,000
SR-74	Winchester	Warren	\$0	\$5,449,000	\$0	\$0	\$0	\$0	\$5,449,000
SR-74	I-15	Ethanac	\$0	\$10,220,000	\$0	\$33,785,000	\$0	\$0	\$44,005,000
SR-74	Ethanac	Ellis	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SR-74	Ellis	I-215	\$0	\$0	\$0	\$33,785,000	\$0	\$0	\$33,785,000
SR-79 (Beaumont)	I-10	California	\$0	\$0	\$0	\$16,893,000	\$0	\$0	\$16,893,000
SR-79 (Lamb Canyon)	California	Gilman Springs	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SR-79 (Sanderson)	Gilman Springs	Ramona	\$21,631,000	\$0	\$0	\$0	\$33,785,000	\$0	\$55,416,000
SR-79 (San Jacinto Bypass)	Ramona	SR-74 (Florida)	\$58,247,000	\$0	\$0	\$0	\$33,785,000	\$0	\$92,032,000
SR-79 (Hemet Bypass)	SR-74 (Florida)	Domenigoni	\$60,046,000	\$0	\$0	\$0	\$33,785,000	\$0	\$93,831,000
SR-79 (Hemet Bypass)	Domenigoni	Winchester	\$13,442,000	\$0	\$0	\$0	\$0	\$0	\$13,442,000
SR-79 (Winchester)	Domenigoni	Keller	\$34,052,000	\$0	\$0	\$0	\$0	\$0	\$34,052,000
SR-79 (Winchester)	Keller	Thompson	\$16,049,000	\$0	\$0	\$0	\$0	\$0	\$16,049,000
SR-79 (Winchester)	Thompson	La Alba	\$11,673,000	\$0	\$0	\$0	\$0	\$0	\$11,673,000
SR-79 (Winchester)	La Alba	Hunter	\$1,854,000	\$0	\$0	\$0	\$0	\$0	\$1,854,000
SR-79 (Winchester)	Hunter	Murrieta Hot Springs	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SR-79 (Winchester)	Murrieta Hot Springs	Jefferson	\$0	\$0	\$0	\$16,893,000	\$0	\$0	\$16,893,000
SR-79 (Eastern Bypass/Wash	SR-79 (Winchester)	Borel	\$631,000	\$13,704,000	\$0	\$0	\$0	\$0	\$14,335,000
SR-79 (Eastern Bypass)	Borel	Vino	\$1,216,000	\$23,062,000	\$0	\$0	\$0	\$0	\$24,278,000
SR-79 (Eastern Bypass/Anza)	Vino	SR-79 (Constance)	\$784,000	\$15,195,000	\$0	\$0	\$0	\$0	\$15,979,000
SR-79 (Eastern Bypass/Anza)	SR-79 (Constance)	Santa Rita	\$507,000	\$9,302,000	\$0	\$0	\$0	\$0	\$9,809,000
SR-79 (Eastern Bypass/Anza)	Santa Rita	Fairview	\$348,000	\$6,741,000	\$0	\$0	\$0	\$0	\$7,089,000
SR-79 (Eastern Bypass)	Fairview	Pala	\$588,000	\$11,395,000	\$0	\$0	\$0	\$0	\$11,983,000
SR-79 (Eastern Bypass)	Pala	I-15	\$1,442,000	\$25,156,000	\$0	\$0	\$67,425,000	\$0	\$94,023,000
Van Buren	SR-60	Bellegrave	\$2,526,000	\$0	\$0	\$0	\$0	\$0	\$2,526,000
Van Buren	Bellegrave	Santa Ana River	\$6,096,000	\$0	\$0	\$7,250,000	\$0	\$0	\$13,346,000
Van Buren	Santa Ana River	SR-91	\$12,770,000	\$0	\$0	\$16,893,000	\$0	\$0	\$29,663,000
Van Buren	SR-91	Mockingbird Canyon	\$9,939,000	\$0	\$0	\$0	\$0	\$0	\$9,939,000
Van Buren	Mockingbird Canyon	Wood	\$12,928,000	\$0	\$0	\$0	\$0	\$0	\$12,928,000
Van Buren	Wood	Trautwein	\$1,099,000	\$0	\$0	\$0	\$0	\$0	\$1,099,000
Van Buren	Trautwein	Orange Terrace	\$2,454,000	\$0	\$0	\$0	\$0	\$0	\$2,454,000
Van Buren	Orange Terrace	I-215	\$7,569,000	\$0	\$0	\$67,425,000	\$0	\$0	\$74,994,000
			Plan Group Rating Segment Total Value			Plan Group Rating Interchange Total Value			\$2,516,384,000
			A	B	C	A	B	C	
			\$922,742,200	\$358,911,800	\$231,193,000	\$628,810,000	\$340,941,000	\$33,786,000	
			61.0%	23.7%	15.3%	62.7%	34.0%	3.4%	

3.0 TRANSPORTATION IMPROVEMENT PROGRAM

The TUMF Administration Plan charges the WRCOG Executive Director and the PWC cooperatively with “development of a five year Transportation Improvement Program (TIP) that identifies projects that are scheduled and funded for construction over a specified period of time and is reviewed on an annual basis.” The prioritization and selection of projects for inclusion in the TIP will reflect the two-tiered designation of TUMF network facilities in the TUMF Nexus Study Final Report. To balance regional priorities and local control needs, the TUMF Regional System of Highways and Arterials was divided into two distinct types of facilities:

1. Regionally significant (backbone) facilities; and
2. Sub-regionally significant (secondary) facilities.

The division of the network allows for the utilization of separate project selection processes reflecting the relative significance of potential projects, with backbone projects prioritized and selected through a cooperative regional process, while secondary projects would be selected through a cooperative process involving representatives of the respective sub-regional TUMF zone. For this reason, separate project selection criteria could be developed for project selection at the regional and zone level.

The TIP provides a multi-year program of projects for the purpose of establishing and defining project priorities for actual implementation. The TIP will establish the program of TUMF projects for implementation based on the anticipated amount of TUMF revenue for the same period. As a precursor to TIP project selection, WRCOG will establish estimated TUMF revenues for the coming five year period as the basis for programming an appropriate number of projects at both the regional and zone levels. The TIP will represent the consolidation of all projects selected for implementation by the regional TUMF TAC and the respective regional TUMF Committees, with the program being endorsed by the WRCOG Executive Committee as prescribed in the Administration Plan.

3.1. TIP Structure

Due to the nature of the program, those projects defined in the first (current) year of the TIP need to be ready for implementation. Projects in the current year of the program will have funding for implementation made available thereby requiring the project to proceed to ensure program funds can be fully utilized in a timely manner. The effectiveness of the TUMF program is predicated on the ability to complete necessary improvements to the network to mitigate the cumulative regional impacts of new development. Clearly, project readiness reflects the focus of projects for inclusion in the current year of the TIP. Typically projects in the current year of the TIP would advance from those previously included in the second year of the TIP.

The second year of the TIP reflects those projects that have advanced sufficiently through the project development process to be ready for implementation in the coming year. For this reason, the projects in the second year of the TIP again necessitate explicit consideration of project readiness, along with possible addition considerations such as matching fund availability and previous commitments. Selection of a project for inclusion in the second year of the TIP reflects a high level of commitment that the project is ready to proceed to implementation with candidate projects typically advancing from the remaining (out) years of the TIP.

The third, fourth and fifth years of the TIP (out years) provide the opportunity to identify projects with a relatively high priority for implementation. Furthermore the out years of the TIP provide several years of notice to participating agencies that the respective projects have been prioritized to advance, and could be expected to continue to do so provided key project milestones are completed to make the project ready for implementation. Selection of projects for the out years of the program provide the opportunity to focus on criteria having less emphasis on project readiness, but rather a more balanced range of programmatic criteria for consideration. The selection of projects for inclusion in the out years of the TIP would represent a key step in advancing a project from the Strategic Plan and would establish a general level of commitment for the project to proceed to implementation.

3.2. Regional Project Selection Process

Regional project selection criteria will build upon the goals and objectives of the TUMF 10-Year Strategic Plan to quantify specific elements that reflect these predefined program goals, and may include elements similar to those identified for the TUMF network guidelines. These criteria will place particular emphasis on the results of the project screening for the 10-Year Strategic Plan to prioritize those projects with the highest grade rankings.

Preliminary project prioritization criteria was identified in the Administration Plan. These criteria are listed as follows in no particular order of significance:

- ◆ Regional Significance
- ◆ Mobility
- ◆ Level of Service
- ◆ System Continuity
- ◆ Project Readiness
- ◆ Matching Funds
- ◆ Right of Way Availability
- ◆ Safety
- ◆ Completed Projects with Reimbursement Agreements

Implicit of the TUMF program is the concept of regional significance. It can be argued that all of the projects previously defined as part of the TUMF Nexus Study represent facilities of regional significance, and by inclusion in the RSHA, all projects in the TUMF program have been previously screen for regional significance. For this reason, the first of the criterion listed above is not necessarily appropriate for distinguishing the relative

merits of respective projects for the purpose of project prioritization for the Strategic Plan or TIP.

For the purpose of screening TUMF projects to establish broad priorities for implementation as part of the Strategic Plan development, three of the listed criteria were identified as having the most applicability for identifying longer term comparative broad project priorities. These criteria include mobility, level of service and system continuity. For the purpose of the Strategic Plan development, measures for each of the three criteria were defined. These measures generally focus on various aspects of system performance, with specific measures including:

- ◆ Mobility
 - Future Build ADT Volume
 - Change in ADT Volume (Existing to Future)
 - Change in Average Daily Link Speed
- ◆ Level of Service
 - Change in Volume to Capacity Ratio (Existing to Future)
 - Change in Volume to Capacity Ratio (Without Project to With Project)
- ◆ System Continuity
 - Overall Facility (Corridor) Length
 - Number of Jurisdictions Served
 - Number of Interchanges or Intersections

The balance of the preliminary criteria, including project readiness, matching funds, right of way availability, safety and completion of projects are considered to be more consistent with programming considerations and represent the focus of the criteria for TIP development. Additionally, mobility, level of service and system continuity measure are also considered appropriate to supplement the more programmatic considerations.

As described previously, the TIP provides the opportunity to establish multiple layers of project priority and commitment to facilitate the logical progression of a project from conception to implementation. The various components of the TIP will necessitate the consideration of differing criteria weights as projects advance.

For the out years of the TIP, criteria may include the consideration of a range of criteria such as consideration of project readiness, right-of-way availability, the availability of alternative partial funding for the project, consistency with previous project selections to ensure system continuity and equity in the project selection process. Additional criteria may include consideration of mobility and level of service performance measures such as current traffic volumes, delay and levels of service, in addition to system continuity and safety considerations.

While the Administration Plan identified an extensive range of preliminary project prioritization criteria to be considered, the ability to quantify performance measures for each criterion and to establish an implementable TUMF project prioritization process necessitates a refinement of each criterion. Performance measures for most of the

criteria outlined in the Administration plan can be determined from generally available data including traffic counts, travel demand forecasts and other characteristics of the specific project.

The notable exception is the determination of safety performance measures which can be more problematic based on the difficulty of obtaining necessary support data and with forecasting future traffic safety conditions based on the cumulative impacts of new development within the region. Due to the unique challenges in quantifying safety in the context of the TUMF program, safety issues will be included as a qualitative consideration to further refine project prioritization following the quantitative evaluation of candidate projects in accordance with the previously described process.

Right of Way Availability is considered integral to project readiness and indirectly related to the availability of matching funds marginalizing its suitability as an independent criterion. For these reasons, Right of Way Availability is not included as separate TUMF evaluation criteria but is considered as an element of Project Readiness criteria.

TUMF evaluation criteria and accompanying performance measures for the out years of the TIP are as follows:

- ◆ Mobility
 - Anticipated Change in ADT Volume
- ◆ Level of Service
 - Anticipated Change in Volume to Capacity Ratio (current to future without project)
 - Anticipated Change in Volume to Capacity Ratio (without project to with project)
 - Future Forecast Volume to Capacity Ratio (where v/c indicates poor levels of service)
- ◆ System Continuity
 - Special Project Type (gap closure, bottleneck elimination)
 - Multiple Participating Jurisdictions
- ◆ Project Readiness
 - Completion of Key Project Specific Milestones (right-of-way acquisition, utility relocation, environmental clearance, Project Study Reports, final engineering)
- ◆ Matching Funds
 - Availability of Matching Project Funding (Federal, State, Local)

Candidate projects for consideration to be included in the TUMF program would be identified based on a regional "Call for Projects" initiated by WRCOG. Participating local sponsoring agencies would respond to the Call for Projects by submitting project applications for desired improvements. Under the regional program, it would be appropriate to consider only those projects previously identified in the highest broad priority groups of the Strategic Plan as part of the "Call for Projects". Previously completed projects to be considered for reimbursement would be included in the "Call

for Projects" and will be evaluated and programmed using the same methodology as proposed projects.

Each of the identified project selection criterion is assigned a specific point value with projects to be scored against each of the criterion using a project scorecard or evaluation matrix. The composite project score is implicitly weighted by the maximum available measure score for each criterion. The combined score will be used as the basis for prioritizing and selecting regional TUMF projects for inclusion in the out years of the TIP. Examples of this method of project selection include the RCTC STIP project selection process and the CVAG TUMF project selection process. Utilizing these examples as a basis, appropriate performance measures and point values for the WRCOG TUMF project selection criteria will be outlined in the following section.

In addition to the evaluation of proposed new projects submitted by sponsoring agencies, it will be necessary to incorporate consideration of previously completed projects eligible for reimbursement under the provisions of the Administration Plan. Consideration of completed projects eligible for reimbursements will necessitate the evaluation of projects with previous Reimbursement Agreements to ensure an appropriate share of these projects are programmed for TUMF funding. To ensure an appropriate share of projects eligible for reimbursement are selected for funding, a review of the backlog of reimbursement projects will be completed during the selection process to establish a TUMF funding 'earmark' as a basis for reimbursement project programming.

For the second year of the TIP, project criteria consideration should be focused on two key areas and accompanying measures:

- ◆ Project Readiness
 - Ongoing Completion of Appropriate Project Specific Milestones
- ◆ Matching Funds
 - Availability of Matching Project Funding (Federal, State, Local).

For the purpose of project selection for the second year of the TIP, candidate projects (derived primarily from the out years of the program) would be screened specifically using the above referenced criteria, and projects prioritized based on the results of this refined screening.

Similarly, current year TIP project selection criteria should be focused explicitly on Project Readiness. At this stage in the project prioritization process, candidate projects would be advanced primarily from the second year of the TIP based on the anticipated level of TUMF funding available. Having previously been programmed for inclusion in the TIP thereby establishing some degree of priority, the key consideration for the current year of the TIP is the ability of the project to proceed to implementation thereby fully utilizing funding as it is made available. Therefore, the ability of the project sponsor to document completion of necessary key project milestones (such as right of way acquisition, environmental clearance, Project Study Reports, and final engineering) should be the primary focus of project selection.

3.2.1. Roadway Segment Project Selection Criteria

For the purpose of TIP project prioritization, all candidate out-year TUMF projects will be evaluated and scored using a point system based on key performance indicators, similar to those systems currently utilized by RCTC and CVAG for their respective transportation project selection processes. A comparison of the cumulative points obtained from each criterion will be the basis for determining the priority of projects to be programmed for implementation. The following criteria and point system will be used to rank the projects. The criteria described are applicable for projects constituting the expansion or addition of a roadway segment. Criteria for evaluating stand alone intersection, interchange or rail grade crossing improvements will be developed and described separately.

3.2.1.1. Mobility

Mobility criterion is used to measure the relative effectiveness of a project to serve the greatest number of vehicle trips generated by the impact of new development. The fundamental indicator of this mobility need is the anticipated growth in average daily traffic (ADT) volumes on a candidate facility.

The anticipated growth in traffic volumes can be determined using one of the following methodologies:

- ◆ The annualized change in ADT based on a comparison of the future forecast ADT volumes (derived from an approved regional or local travel demand forecast model) to the current observed ADT count.
- ◆ The annualized change in ADT based on a comparison of the future forecast ADT volumes (derived from an approved regional or local travel demand forecast model) to the estimated model base year ADT volume.
- ◆ The average annualized change in ADT based on a comparison of the current observed ADT count and at least two previously observed ADT counts for the same location recorded during or after 2000.

The annualized change in ADT for all projects will be stratified based on the determined values for all projects being evaluated and points will be allocated as follows increasing by quintile:

Annualized ADT Volume Change	TUMF Point Value
1 st (lowest) Quintile	0
2 nd Quintile	5
3 rd Quintile	10
4 th Quintile	15
5 th (highest) Quintile	20

3.2.1.2. Level of Service

The Level of Service (LOS) criteria is used to determine the need for roadway improvements based on forecasted volume to capacity ratio (v/c) as an indicator of level of service. Higher v/c equates to deteriorated level of service culminating with traffic flow breakdown and congestion when volume exceeds capacity. Future forecast v/c as a measure of facility utilization, an increase in v/c over time as an indicator of growing congestion, and the effectiveness of a particular project to reduce v/c will each be determined as a basis for evaluating level of service for candidate TUMF projects.

The primary measures of level of service for TUMF prioritization will be those measures relating to changes in v/c. Since the underlying purpose of the TUMF program is the mitigation of the cumulative transportation impacts of new development, the change in v/c and the ability to sustain levels of service provides the most relevant performance measures. The magnitude of v/c under future conditions will represent a secondary consideration where conditions indicate the potential for failing levels of service.

The three performance measures for level of service are as follows:

- ◆ Anticipated Change in Volume to Capacity Ratio (current to future without project)
- ◆ Anticipated Change in Volume to Capacity Ratio (without project to with project)
- ◆ Future Forecast Volume to Capacity Ratio (where v/c indicates poor levels of service)

The methodology for determining the anticipated change in volume to capacity ratio without the project from the current year to the TUMF future horizon year will be calculated based on the ADT for the particular segment derived from the annualized change in ADT as determined for the mobility criterion. Roadway capacities will be based on those prescribed in the Riverside County General Plan Circulation Element, as adopted October 7, 2003, summarized in **Table 3.2.1**.

The anticipated change in volume to capacity ratio without the project to with the project will be evaluated based on a comparison of the current year v/c without the project (as determined for the previous level of service measure) to the calculated v/c for current year traffic volumes with the anticipated increased capacity resulting from the completion of the proposed project. Similarly, the existing and proposed capacities will be based on the values provided in **Table 3.2.1**.

Future forecast v/c (as determined for the initial level of service measure) will also be evaluated to determine if unacceptable level of service thresholds have been exceeded. The range of unacceptable level of service thresholds include:

- ◆ LOS D: Characterized by high density traffic with generally stable flow.
- ◆ LOS E: Characterized by operating conditions at or near capacity and intermittent congestion.

- ◆ LOS F: Characterized by traffic volumes exceeding operation capacity and extreme congestion.

The level of service results for each measure will be stratified for all projects being evaluated and points will be allocated in accordance with the following:

V/C Change Existing to Future	V/C Change Without to With Project	Future Forecast V/C	TUMF Point Value
1 st (lowest) Quintile	1 st (lowest) Quintile	< 0.80 (LOS A/B/C)	0
2 nd Quintile	2 nd Quintile		2
3 rd Quintile	3 rd Quintile	0.81 – 0.90 (LOS D)	4
4 th Quintile	4 th Quintile	0.91 – 1.00 (LOS E)	7
5 th (highest) Quintile	5 th (highest) Quintile	> 1.00 (LOS F)	10

Table 3.2.1 Roadway Capacity and Level of Service Thresholds

Roadway Classification	Number of Lanes	Maximum Two-Way Traffic Volume (ADT) ⁽¹⁾ ⁽²⁾		
		Level of Service C	Level of Service D	Level of Service E
Collector	2	10,400	11,700	13,000
Secondary	4	20,700	23,300	25,900
Major	4	27,300	30,700	34,100
Arterial ⁽³⁾	2	14,400	16,200	18,000
Arterial	4	28,700	32,300	35,900
Mountain Arterial ⁽³⁾	2	12,900	14,500	16,100
Mountain Arterial	4	29,800	33,500	37,200
Urban Arterial	4	28,700	32,300	35,900
Urban Arterial	6	43,100	48,500	53,900
Urban Arterial	8	57,400	64,600	71,800
Expressway	4	32,700	36,800	40,900
Expressway	6	49,000	55,200	61,300
Expressway	8	65,400	73,500	81,700
Freeway Ramp ⁽⁴⁾	1	16,000	18,000	20,000

Source:
Riverside County Integrated Project General Plan Circulation Element, adopted by the Riverside County Board of Supervisors, October 7, 2003

Notes:
(1): All capacity figures are based on optimum conditions and are intended as guidelines for planning purposes only.
(2): Maximum two-way ADT values are based on the 1999 Modified Highway Capacity Manual Level of Service Tables as defined in the Riverside County Congestion Management Program.
(3): Two-lane roadways designated as future arterials that conform to arterial design standards for vertical and horizontal alignment are analyzed as arterials.
(4): Ramp capacity is given as a one-way traffic volume.

3.2.1.3. System Continuity

System continuity is a qualitative method for evaluating and prioritizing projects that accomplishing regional highway needs consistent with the cooperative nature of the TUMF program. System continuity emphasizes the prioritization of proposed projects

necessary to complete strategic links or eliminate bottlenecks in the regional highway system thereby facilitating the coordinated improvement of facilities traversing multiple jurisdictions within the TUMF region (or zone). Similarly system continuity emphasizes projects that involve the partnership of multiple TUMF participating agencies to accomplish coordinated regional highway improvements.

For special project types that accomplish coordinated regional highway improvements, points will be awarded in accordance with the type of improvements proposed. Special project types include contiguous extensions to previously programmed improvements, gap closures and bottleneck eliminations. Contiguous extensions are new segments that adjoin and extend an existing facility in accordance with the TUMF network. Alternatively, contiguous extensions are the expansion of existing facilities that adjoin and extend an existing facility to accomplish consistent lane configurations and capacities in accordance with the TUMF network. Gap closures are the completion of new segments that fill in gaps identified in the TUMF network. Bottleneck eliminations are the completion of expansions to existing facilities to accomplish lane configurations and capacities consistent with contiguous segments of the TUMF network.

To encourage interagency cooperation in the accomplishment of improvements to the TUMF network, points will be awarded to projects involving formal agreements between multiple TUMF participating agencies. TUMF participating agencies include each of the local jurisdictions actively participating in the TUMF program in accordance with a current locally adopted TUMF ordinance and the TUMF Administration Plan (presently including 14 Cities, the County of Riverside and the March JPA). Participating agencies also include any public agency with a current Memorandum of Understanding defining active participation in the TUMF program (presently including RCTC).

System Continuity points will be allocated in accordance with the following:

Special Project Types	Participating Jurisdictions	TUMF Point Value
Contiguous Extension	2	3
Gap Closure/ Bottleneck Elimination	3 or more	6

3.2.1.4. Project Readiness

Project Readiness is a qualitative method for evaluating and prioritizing projects that are able to be implemented promptly, thereby mitigating the cumulative impacts of new development and providing benefit to TUMF network users. Project readiness points will be allocated based on certification of the completion of key project specific milestones necessary to advance highway improvements to actual construction of capital infrastructure. Critical milestones include the completion of Project Study Reports, NEPA/CEQA environmental clearance, final engineering (plans, specifications and estimates), right-of-way acquisition and utility relocations.

Project readiness points will be issued for each critical milestone upon certification that the respective milestone has been completed (or is not required to be completed) in

accordance with all relevant statutory and procedural requirements. Project readiness points will be allocated cumulatively for each milestone completed in accordance with the following:

Project Milestone	TUMF Point Value
Project Study Report	2
NEPA/CEQA Environmental Clearance	3
Plans, Specifications and Estimates	4
Right of Way Acquisition	3
Utility Relocation	2

For the purpose of evaluating project applications for TUMF reimbursement (i.e. previously completed projects) project readiness will not be considered. Reimbursement projects will be evaluated using the balance of the project selection criteria and the resultant scores multiplied by 1.16 to reflect an equivalent maximum value of 100 points

3.2.1.5. Matching Funds

Recognizing the inherent funding shortfall in the TUMF program (as described in **Section 4.2**), Matching Funds criterion provides a means to prioritize those projects that are supported by matching funds that will assist in partially fulfilling the funding shortfall. Matching funds points will be issued proportional to the share or value of the maximum TUMF eligible project costs (as defined in the Nexus Study) that are derived from any alternate funding source other than TUMF revenues (or revenues derived from a source integrating TUMF credits or obligation discounts).

For projects with a maximum TUMF eligible cost of less than \$10 million, matching funds points will be allocated based on the percentage share of the maximum TUMF eligible project costs that are derived from any non-TUMF sources. For projects with a maximum TUMF eligible cost of \$10 million or greater, matching funds points will be allocated based on the actual dollar value of the maximum TUMF eligible project costs that are derived from any non-TUMF sources. Matching funds points will be allocated in accordance with the following table:

Alternative Fund Share Percentage (for TUMF Eligible Cost < \$10M)	Alternative Fund Share Dollar Value (for TUMF Eligible Cost ≤ \$10M)	TUMF Point Value
< 10.0%	<\$1,000,000	0
10.0% - 14.9%	\$1,000,000 - \$1,499,999	4
15.0% - 24.9%	\$1,500,000 - \$2,499,000	8
25.0% - 49.9%	\$2,500,000 - \$4,999,000	16
≥50.0%	≥ \$5,000,000	24

3.2.1.6. *Roadway Segment Project Selection Criteria Summary*

Table 3.2.2 summarizes the criteria, performance measures, thresholds and point values for evaluating proposed TUMF roadway segment improvement projects for inclusion in the Five-Year TIP. For each performance measure, the maximum point value has been highlighted in **bold** font for easy reference.

Based on the criteria and performance measures described in the table, the cumulative total of points earned by each project will serve to rank them in order of priority with the higher score out of a possible 100 points getting precedence over others. As mentioned previously, reimbursement projects will be evaluated using all criteria except Project Readiness and the resultant scores multiplied by 1.16 to reflect an equivalent maximum value of 100 points. This methodology is intended primarily for projects on the Backbone network. For the Secondary network, this methodology should serve as a framework that can be customized to respond to specific local needs.

Table 3.2.2 Roadway Segment Project Selection Criteria Summary

Criteria	Performance Measure	Performance Thresholds		Points
Mobility	Annualized ADT Volume Change	1 st (lowest) Quintile		0
		2 nd Quintile		5
		3 rd Quintile		10
		4 th Quintile		15
		5 th (highest) Quintile		20
Level of Service	V/C Change Existing to Future	1 st (lowest) Quintile		0
		2 nd Quintile		2
		3 rd Quintile		4
		4 th Quintile		7
		5 th (highest) Quintile		10
	V/C Change Without to With Project	1 st (lowest) Quintile		0
		2 nd Quintile		2
		3 rd Quintile		4
		4 th Quintile		7
		5 th (highest) Quintile		10
	Future Forecast V/C	< 0.80 (LOS A/B/C)		0
		0.81 – 0.90 (LOS D)		4
		0.91 – 1.00 (LOS E)		7
> 1.00 (LOS F)		10		
System Continuity	Special Project Types	Contiguous Extension		3
		Gap Closure/Bottleneck Elimination		6
	Participating Jurisdictions	2		3
		3 or more		6
Project Readiness	Project Milestones (scored cumulative)	Project Study Report		2
		NEPA/CEQA Environmental Clearance		3
		Plans, Specifications and Estimates		4
		Right of Way Acquisition		3
		Utility Relocation		2
Matching Funds	Alternative Fund Share Percentage/Dollar Value (for TUMF Eligible Cost <\$10M / ≥\$10M)	< 10.0%	<\$1,000,000	0
		10.0% - 14.9%	\$1,000,000 - \$1,499,999	4
		15.0% - 24.9%	\$1,500,000 - \$2,499,000	8
		25.0% - 49.9%	\$2,500,000 - \$4,999,000	16
		≥50.0%	≥ \$5,000,000	24
Maximum Possible Score				100

As described previously, projects would be advanced in the TIP based on the explicit consideration of project readiness and availability of matching funds. Candidate projects for inclusion in the second year of the TIP would be derived primarily from the out years of the program based on the initial priority ranking of the project at the time of inclusion in the TIP. Highest priority projects would be screened specifically using the applicable project readiness milestones and matching funds criteria. The candidate

projects would subsequently be prioritized based on the results of this refined screening and the anticipated availability of TUMF revenues for the program year.

Similarly, current year TIP projects would be derived primarily from the second year of the TIP and would be screened explicitly considering only Project Readiness criteria. At this stage in the project prioritization process the key consideration for the current year of the TIP is the ability of the project to proceed to implementation thereby fully utilizing funding as it is made available. Candidate projects for the current year of the TIP would be advanced based on having satisfied all applicable project milestones and the anticipated level of TUMF funding available.

3.2.2. Intersection Project Selection Criteria

Improvements to intersections that are proposed to be completed simultaneous with improvements to an encompassing eligible roadway segment will be considered integral to the overall improvement of the roadway segment. In this circumstance, the overall roadway segment will be evaluated for inclusion in the TIP in accordance with the previously described criteria and the intersection improvements incorporated as an element of the overall roadway segment improvements.

Where intersection improvements are proposed independent of roadway segment improvements, the intersection will be evaluated explicitly for consideration to be included in the out years of the TIP. For the purpose of evaluating intersections, System Continuity, Project Readiness and Matching Funds criteria will be consistent with the criteria, measures, thresholds and point values previously described for evaluating roadway segments. However, criteria for Mobility and Level of Service will be modified to specifically evaluate intersections.

3.2.2.1. Mobility

As described previously, mobility criterion is used to measure the relative effectiveness of a project to serve the greatest number of vehicle trips generated by the impact of new development. The fundamental indicator of this mobility need is the anticipated growth in average daily traffic (ADT) volumes on a candidate facility.

For the purpose of evaluating intersections independent of roadway segments, mobility will be determine based on the average of the annualized change in ADT for all approaches to the subject intersection. Consistent with the procedure for determining roadway segment ADT change, the anticipated growth in traffic volumes for each approach to an intersection can be determined using one of the following methodologies (although the same methodology must be utilized for all determining ADT change on approaches to the intersection):

- ◆ The annualized change in ADT based on a comparison of the future forecast ADT volumes (derived from an approved regional or local travel demand forecast model) to the current observed ADT count.

- ◆ The annualized change in ADT based on a comparison of the future forecast ADT volumes (derived from an approved regional or local travel demand forecast model) to the estimated model base year ADT volume.
- ◆ The average annualized change in ADT based on a comparison of the current observed ADT count and at least two previously observed ADT counts for the same location recorded during or after 2000.

The average annualized change in ADT for all approaches will be compared and stratified for all projects and points will be allocated as follows increasing by quintile:

Average Annualized Approach ADT Volume Change	TUMF Point Value
1 st (lowest) Quintile	0
2 nd Quintile	5
3 rd Quintile	10
4 th Quintile	15
5 th (highest) Quintile	20

3.2.2.2. Level of Service

The Level of Service (LOS) criteria is used to determine the need for intersection improvements based on forecasted average vehicle delay as an indicator of level of service. Higher average vehicle delay equates to deteriorated level of service culminating with traffic flow breakdown and congestion when delay exceeds acceptable thresholds. Future forecast delay as a measure of facility utilization, an increase in delay over time as an indicator of growing congestion, and the effectiveness of a particular project to reduce delay will each be determined as a basis for evaluating level of service for candidate TUMF projects.

The three performance measures for level of service are as follows:

- ◆ Anticipated Change in Average Vehicle Delay (current to future without project)
- ◆ Anticipated Change in Average Vehicle Delay (without project to with project)
- ◆ Future Forecast Average Vehicle Delay (where delay indicates poor levels of service)

The methodology for determining the anticipated change in average vehicle delay without the project from the current year to the TUMF future horizon year will be calculated based on the ADT for each approach derived from the annualized change in ADT as determined for the mobility criterion and allocated proportionately to the existing turning movement volumes at the intersection. Average vehicle delay for each intersection will be calculated using the methodology prescribed in the Transportation Research Board Highway Capacity Manual (HCM) 2000 Update (or the most recent release) and in accordance with the guidelines provided in Section 5.1 and Exhibit C of

the Riverside County Transportation Department Traffic Impact Analysis Preparation Guidelines (August 2005) attached at **Appendix A**.

The anticipated change in average vehicle delay without the project to with the project will be evaluated based on a comparison of the current year delay without the project (as determined for the previous level of service measure) to the calculated delay for current year traffic volumes with the anticipated improvement resulting from the completion of the proposed project. Similarly, the existing and proposed delays will be determined based on the HCM 2000 methodology.

Future forecast average vehicle delay (as determined for the initial level of service measure) will also be evaluated to determine if unacceptable level of service thresholds have been exceeded. Since only TUMF network to TUMF network intersections are eligible for funding under the TUMF program, it is assumed that all TUMF related intersection improvements programmed will result in signalization of the subject intersection. For this reason, the range of unacceptable level of service thresholds prescribed in HCM 2000 for signalized intersections is included as the parameters for this measure.

The level of service results for each measure will be stratified for all projects being evaluated and points will be allocated in accordance with the following:

Delay Change Existing to Future	Delay Change Without to With Project	Future Forecast Delay (in seconds)	TUMF Point Value
1 st (lowest) Quintile	1 st (lowest) Quintile	≤ 35.0 (LOS A/B/C)	0
2 nd Quintile	2 nd Quintile		2
3 rd Quintile	3 rd Quintile	35.1 – 55.0 (LOS D)	4
4 th Quintile	4 th Quintile	55.1 – 80.0 (LOS E)	7
5 th (highest) Quintile	5 th (highest) Quintile	> 80.0 (LOS F)	10

3.2.2.3. Intersection Improvement Project Selection Criteria Summary

Table 3.2.3 summarizes the criteria, performance measures, thresholds and point values for evaluating proposed TUMF intersection improvement projects for inclusion in the Five-Year TIP. For each performance measure, the maximum point value has been highlighted in **bold** font for easy reference.

Based on the criteria and performance measures described in the table, the cumulative total of points earned by each project will serve to rank them in order of priority with the higher score out of a possible 100 points getting precedence over others. Reimbursement projects will be evaluated using all criteria except Project Readiness and the resultant scores multiplied by 1.16 to reflect an equivalent maximum value of 100 points.

Table 3.2.3 Intersection Improvement Project Selection Criteria Summary

Criteria	Performance Measure	Performance Thresholds		Points
Mobility	Average Annualized Approach ADT Volume Change	1 st (lowest) Quintile		0
		2 nd Quintile		5
		3 rd Quintile		10
		4 th Quintile		15
		5 th (highest) Quintile		20
Level of Service	Delay Change Existing to Future	1 st (lowest) Quintile		0
		2 nd Quintile		2
		3 rd Quintile		4
		4 th Quintile		7
		5 th (highest) Quintile		10
	Delay Change Without to With Project	1 st (lowest) Quintile		0
		2 nd Quintile		2
		3 rd Quintile		4
		4 th Quintile		7
		5 th (highest) Quintile		10
	Future Forecast Delay (in seconds)	< 35.0 (LOS A/B/C)		0
		35.1 – 55.0 (LOS D)		4
		55.1 – 80.0 (LOS E)		7
> 80.0 (LOS F)		10		
System Continuity	Special Project Types	Contiguous Extension		3
		Gap Closure/Bottleneck Elimination		6
	Participating Jurisdictions	2		3
		3 or more		6
Project Readiness	Project Milestones (scored cumulative)	Project Study Report		2
		NEPA/CEQA Environmental Clearance		3
		Plans, Specifications and Estimates		4
		Right of Way Acquisition		3
		Utility Relocation		2
Matching Funds	Alternative Fund Share Percentage/Dollar Value (for TUMF Eligible Cost <\$10M / ≥\$10M)	< 10.0%	<\$1,000,000	0
		10.0% - 14.9%	\$1,000,000 - \$1,499,999	4
		15.0% - 24.9%	\$1,500,000 - \$2,499,000	8
		25.0% - 49.9%	\$2,500,000 - \$4,999,000	16
		≥50.0%	≥ \$5,000,000	24
Maximum Possible Score				100

3.2.3. Interchange Project Selection Criteria

Interchanges represent a vital interface between the arterial highway system serving intra-regional transportation needs, and the freeway system serving inter-regional trips. Due to the scale and cost of interchange improvement projects, and the importance of interchange improvements independent of adjacent arterial improvements, all

interchanges will be evaluated explicitly for consideration to be included in the out years of the TIP. For the purpose of evaluating interchanges, System Continuity, Project Readiness and Matching Funds criteria will be consistent with the criteria, measures, thresholds and point values previously described for evaluating roadway segments. However, criteria for Mobility and Level of Service will be modified to specifically evaluate interchanges.

3.2.3.1. *Mobility*

For the purpose of evaluating interchanges independent, mobility will be determine based on the average of the annualized change in ADT for the arterial approaches to the subject interchange. Consistent with the procedure for determining roadway segment ADT change, the anticipated growth in traffic volumes for each approach to an interchange can be determined using one of the following methodologies (although the same methodology must be utilized for all determining ADT change on approaches to the intersection):

- ◆ The annualized change in ADT based on a comparison of the future forecast ADT volumes (derived from an approved regional or local travel demand forecast model) to the current observed ADT count.
- ◆ The annualized change in ADT based on a comparison of the future forecast ADT volumes (derived from an approved regional or local travel demand forecast model) to the estimated model base year ADT volume.
- ◆ The average annualized change in ADT based on a comparison of the current observed ADT count and at least two previously observed ADT counts for the same location recorded during or after 2000.

The average annualized change in ADT for the arterial approaches to the interchange will be compared and stratified for all projects and points will be allocated as follows increasing by quintile:

Average Annualized Arterial Approach ADT Volume Change	TUMF Point Value
1 st (lowest) Quintile	0
2 nd Quintile	5
3 rd Quintile	10
4 th Quintile	15
5 th (highest) Quintile	20

3.2.3.2. *Level of Service*

For interchange projects, level of service (LOS) criteria is used to determine the need for interchange improvements based on average vehicle delay at the ramp intersections with the arterial streets and ramp volume to capacity ratio (v/c) as indicators of level of service. An increase in arterial delay and ramp v/c over time as an indicator of growing congestion, and the effectiveness of a particular project to reduce arterial

delay and ramp v/c will each be determined as a basis for evaluating level of service for candidate TUMF interchange projects.

The four performance measures for intersection level of service are as follows:

- ◆ Anticipated Change in Arterial Street/Ramp Intersection Average Vehicle Delay (current to future without project)
- ◆ Anticipated Change in Arterial Street/Ramp Intersection Average Vehicle Delay (without project to with project)
- ◆ Anticipated Change in Ramp Volume to Capacity Ratio (current to future without project)
- ◆ Anticipated Change in Ramp Volume to Capacity Ratio (without project to with project)

Interchanges inherently include some form of intersection between the interchange ramps and the intersection arterial street. The methodology for determining the anticipated change in average vehicle delay without the project from the current year to the TUMF future horizon year will be based on the ADT for each approach to the interchange derived from the annualized change in ADT as determined for the mobility criterion and allocated proportionately to the existing turning movement volumes at the ramp intersections. Average vehicle delay for each intersection will be calculated using the methodology prescribed in the Transportation Research Board Highway Capacity Manual (HCM) 2000 Update (or the most recent release) and in accordance with the guidelines provided in Section 5.1 and Exhibit C of the Riverside County Transportation Department Traffic Impact Analysis Preparation Guidelines (August 2005) attached at **Appendix A**. The average of the average vehicle delay calculated for each intersection associated with the interchange will be used as the basis for determining this measure.

The anticipated change in average vehicle delay without the project to with the project will be evaluated based on a comparison of the current year delay without the project (as determined for the previous level of service measure) to the delay for current year traffic volumes following the completion of the proposed project. The existing and proposed delays will be determined based on the HCM 2000 methodology with the average of the average vehicle delay for each intersection associated with the interchange used as the basis for determining this measure.

The anticipated change in the ramp volume to capacity ratio without the project from the current year to the future horizon year will be calculated utilizing the ramp turning movement volumes determined for the initial level of service measure. Ramp capacities will be based on those prescribed in the Riverside County Transportation Department Traffic Impact Analysis Preparation Guidelines (November 2002) summarized previously in **Table 3.2.1**, with the average v/c for all ramps being used as the basis for determining this measure.

The anticipated change in ramp volume to capacity ratio without the project to with the project will be evaluated based on a comparison of the current year v/c without the project (as determined for the previous level of service measure) to the calculated

ramp v/c for current year traffic volumes with the anticipated increased capacity resulting from the completion of the proposed project. The capacities will be based on the values provided in **Table 3.2.1**, and this measure will be determined based on the average v/c for all ramps constituting the interchange.

The level of service results for each measure will be stratified for all projects being evaluated and points will be allocated in accordance with the following:

Average Arterial/Ramp Intersection Delay Change Existing to Future	Average Arterial/Ramp Intersection Delay Change Without to With Project	TUMF Point Value
1 st (lowest) Quintile	1 st (lowest) Quintile	0
2 nd Quintile	2 nd Quintile	2
3 rd Quintile	3 rd Quintile	4
4 th Quintile	4 th Quintile	6
5 th (highest) Quintile	5 th (highest) Quintile	8

Average Ramp V/C Change Existing to Future	Average Ramp V/C Change Without to With Project	TUMF Point Value
1 st (lowest) Quintile	1 st (lowest) Quintile	0
2 nd Quintile	2 nd Quintile	1
3 rd Quintile	3 rd Quintile	3
4 th Quintile	4 th Quintile	5
5 th (highest) Quintile	5 th (highest) Quintile	7

3.2.3.3. *Interchange Project Selection Criteria Summary*

Table 3.2.4 summarizes the criteria, performance measures, thresholds and point values for evaluating proposed TUMF interchange improvement projects for inclusion in the Five-Year TIP. For each performance measure, the maximum point value has been highlighted in **bold** font for easy reference.

Based on the criteria and performance measures described in the table, the cumulative total of points earned by each project will serve to rank them in order of priority with the higher score out of a possible 100 points getting precedence over others. Reimbursement projects will be evaluated using all criteria except Project Readiness and the resultant scores multiplied by 1.16 to reflect an equivalent maximum value of 100 points.

Table 3.2.4 Interchange Improvement Project Selection Criteria Summary

Criteria	Performance Measure	Performance Thresholds		Points
Mobility	Average Annualized Approach Arterial Approach ADT Volume Change	1 st (lowest) Quintile		0
		2 nd Quintile		5
		3 rd Quintile		10
		4 th Quintile		15
		5 th (highest) Quintile		20
Level of Service	Average Arterial/Ramp Intersection Delay Change Existing to Future	1 st (lowest) Quintile		0
		2 nd Quintile		2
		3 rd Quintile		4
		4 th Quintile		6
		5 th (highest) Quintile		8
	Average Arterial/Ramp Intersection Delay Change Without to With Project	1 st (lowest) Quintile		0
		2 nd Quintile		2
		3 rd Quintile		4
		4 th Quintile		6
		5 th (highest) Quintile		8
	Average Ramp V/C Change Existing to Future	1 st (lowest) Quintile		0
		2 nd Quintile		1
		3 rd Quintile		3
		4 th Quintile		5
		5 th (highest) Quintile		7
	Average Ramp V/C Change Without to With Project	1 st (lowest) Quintile		0
2 nd Quintile		1		
3 rd Quintile		3		
4 th Quintile		5		
5 th (highest) Quintile		7		
System Continuity	Special Project Types	Contiguous Extension		3
		Gap Closure/Bottleneck Elimination		6
	Participating Jurisdictions	2		3
		3 or more		6
Project Readiness	Project Milestones (scored cumulative)	Project Study Report		2
		NEPA/CEQA Environmental Clearance		3
		Plans, Specifications and Estimates		4
		Right of Way Acquisition		3
		Utility Relocation		2
Matching Funds	Alternative Fund Share Percentage/Dollar Value <small>(for TUMF Eligible Cost <\$10M / ≥\$10M)</small>	< 10.0%	<\$1,000,000	0
		10.0% - 14.9%	\$1,000,000 - \$1,499,999	4
		15.0% - 24.9%	\$1,500,000 - \$2,499,000	8
		25.0% - 49.9%	\$2,500,000 - \$4,999,000	16
		≥50.0%	≥ \$5,000,000	24
Maximum Possible Score				100

3.2.4. Railroad Crossing Grade Separation Project Selection Criteria

All existing at-grade railroad crossings will be evaluated explicitly for consideration to funded for grade separation in the out years of the TIP. For the purpose of evaluating existing grade crossings, System Continuity, Project Readiness and Matching Funds criteria will be consistent with the criteria, measures, thresholds and point values previously described for evaluating roadway segments. However, criteria for Mobility and Level of Service will be modified to specifically evaluate railroad crossing grade separations.

Where railroad crossing grade separations are proposed as part of a new roadway facility identified in the TUMF program, the grade crossing will be considered integral to the roadway segment. In these circumstances, the overall roadway segment will be evaluated for inclusion in the TIP in accordance with the previously described criteria and the railroad crossing grade separation incorporated as an element of the overall roadway segment improvements.

3.2.4.1. Mobility and Level of Service

In February 2001, WRCOG in cooperation with RCTC completed a detailed analysis of railroad crossing grade separations for western Riverside County. The analysis results were presented in the Final Report for the Western Riverside County Comprehensive Transportation Analysis Goods Movement Analysis. The results of the Goods Movement Analysis of railroad crossing grade separations was subsequently utilized to support the Alameda Corridor East (ACE) Rail Crossing Priority program initiated by California Assembly Bill 2928 and encompassing the broader area of Riverside, San Bernardino, Los Angeles and Orange Counties.

Table 2-3 of the Goods Movement Analysis Final Report presents the results of the analysis of railroad crossings. The detailed analysis of mobility, level of service, safety, emissions and noise measures yielded a weighted score for each crossing location. These scores were subsequently used to rank each railroad crossing grade separation in order of priority.

Utilizing the work previously completed as part of the Goods Movement Analysis, the overall weighted scores for each crossing location will be used to establish the mobility and level of service score for further evaluating crossings for TUMF purposes. The overall weighted score identified in the Goods Movement Analysis will be divided by 100 to yield the equivalent of a maximum score of 50 points (which is the maximum possible score for mobility and level of service measures for other project types). The resultant score to be used as the combined mobility and level of service measure for evaluating each TUMF railroad crossing grade separation project is provided in **Table 3.2.5** for existing at-grade railroad crossings currently identified for grade separation in the TUMF program.

Table 3.2.5 Goods Movement Analysis Rail Crossing Adjusted Scores

Rail Line	Cross Street	Jurisdiction	Adjusted Score
BNSF & UP (SB SUB)	Iowa Av	Riverside	39
BNSF (SB SUB)	McKinley St	Corona	36
BNSF (SB SUB)	Magnolia Av	Riverside County	36
BNSF & UP (SB SUB)	Chicago Av	Riverside	34
UP (LA SUB)	Magnolia Av	Riverside	31
BNSF & UP (SB SUB)	Columbia Av	Riverside	29
BNSF (SB SUB)	Auto Center Dr	Corona	27
UP (YUMA MAIN)	Sunset Av	Banning	27
BNSF & UP (SB SUB)	Center St	Riverside County	25
BNSF (SB SUB)	Adams St	Riverside	24
BNSF (SB SUB)	Madison St	Riverside	22
UP (YUMA MAIN)	San Timoteo Canyon Rd	Calimesa	22
BNSF (SB SUB)	Railroad St	Corona	20
UP (YUMA MAIN)	Viele Av	Beaumont	11

Source: *Western Riverside County Comprehensive Transportation Plan Goods Movement Analysis Final Report (Table 2-3)*, Parsons Brinckerhoff, February 2001

3.2.4.2. Railroad Crossing Grade Separation Project Selection Criteria Summary

Table 3.2.6 summarizes the criteria, performance measures, thresholds and point values for evaluating proposed TUMF railroad crossing projects for inclusion in the Five-Year TIP. For each performance measure, the maximum point value has been highlighted in **bold** font for easy reference.

Based on the criteria and performance measures described in the table, the cumulative total of points earned by each project will serve to rank them in order of priority with the higher score out of a possible 100 points getting precedence over others. Reimbursement projects will be evaluated using all criteria except Project Readiness and the resultant scores multiplied by 1.16 to reflect an equivalent maximum value of 100 points.

Table 3.2.6 Railroad Crossing Grade Separation Project Selection Criteria Summary

Criteria	Performance Measure	Performance Thresholds		Points
Mobility and Level of Service	Adjusted Score from Goods Movement Analysis Final Report	Goods Movement Analysis (Table 2-3)		50
		<u>Overall Weighted Score</u> 1000		
System Continuity	Special Project Types	Configuous Extension		3
		Gap Closure/Bottleneck Elimination		6
	Participating Jurisdictions	2		3
		3 or more		6
Project Readiness	Project Milestones (scored cumulative)	Project Study Report		2
		NEPA/CEQA Environmental Clearance		3
		Plans, Specifications and Estimates		4
		Right of Way Acquisition		3
		Utility Relocation		2
Matching Funds	Alternative Fund Share Percentage/Dollar Value (for TUMF Eligible Cost <\$10M / ≥\$10M)	< 10.0%	<\$1,000,000	0
		10.0% - 14.9%	\$1,000,000 - \$1,499,999	4
		15.0% - 24.9%	\$1,500,000 - \$2,499,000	8
		25.0% - 49.9%	\$2,500,000 - \$4,999,000	16
		≥50.0%	≥ \$5,000,000	24
Maximum Possible Score				100

3.3. Zone Project Selection Process

To remain consistent with the intent of the TUMF zone structure, the development of project selection process for each zone will be assigned to the representative committee for each of the zones. This will provide the ability for the local zones to customize project selection criteria and the overall selection process that best reflects their specific needs. Project selection criteria and the project selection process for each zone will be developed building upon the process described previously for regional project selection, although it may also include additional considerations specific to the respective zone.

3.4. TUMF Revenue Forecasts

To serve as a basis for establishing a fiscally constrained program of projects for the TUMF TIP, revenue forecasts have been developed for the Five-Year period from Fiscal Year (FY) 2006-2007 through FY 2010-2011. Revenue forecasts for the purpose of TUMF project programming have been derived from a linear forecast of development activity within Western Riverside County based on the SCAG 2000 and 2030 demographic forecasts used as the basis for the 2005 update of the TUMF nexus analysis and fair share fee calculation. Utilizing the forecast annual rate of development activity in Western Riverside County, anticipated revenues were calculated based on the current program fee structure defined in the respective local ordinances (not adjusted for future inflation).

Table 3.4.1 provides the linear forecast of TUMF revenues based on the demographic assumptions underlying the TUMF nexus analysis and fee determination. Forecast revenues through the current TUMF horizon year (2030) indicate total revenues of \$4.02 billion which represents approximately 79.6% of the estimated maximum eligible cost of the TUMF program (\$5.05 billion). The difference between the linear revenue forecast and the maximum eligible program cost is the result of various factors including the delayed implementation of the TUMF program, the phasing of the non-residential sector fees and the exemption of public sector and government use development fees.

The linear revenue forecasts were subsequently normalized based on the actual revenues collected through the end of FY 2005-2006. **Table 3.4.2** provides a summary of the TUMF revenues received through the end of FY 2005-2006 (June 30, 2006) from participating jurisdictions that was used as the basis for normalizing the linear revenue forecasts. **Figure 3.4.1** is a chart comparing the TUMF linear revenue forecast with actual program revenues to date.

The normalization of forecast revenues was necessary to account for the present disparate rate of development activity between jurisdictions across Western Riverside County, revenues lost as a result of fee exemptions and/or credits applied in accordance with developer agreements and vesting maps, and inflation. The resultant forecasts are provided in **Table 3.4.3** which shows the breakdown of the estimated TUMF revenue allocations to the various program elements, based on the allocation prescribed in the TUMF Nexus Study. The normalized revenue forecast estimates that a total of \$567.9 million will be generated through the TUMF program during the next five years. This amount will be available for programming on TUMF improvements through this same time period and represents a rate of revenue generation of approximately $\frac{3}{4}$ of the linear revenue forecast, primarily reflecting revenues expected to be lost through fee exemptions and other program credits.

It is anticipated that the TUMF revenue forecasts will be re-calculated periodically to reflect the availability of addition information regarding fees collected by local jurisdictions. The revised revenue forecasts will provide the basis for subsequent revisions to the TUMF TIP enabling projects to be programmed in accordance with available revenues and to reflect the distribution of new development activity that is responsible for generating TUMF revenues.

Table 3.4.1 Linear TUMF Revenue Forecasts (2000-2030)

Year	Annual Linear SED Change					TOTAL REVENUE	CUMULATIVE REVENUE
	Single Family Residential 7,770 Units	Multi-Family Residential 5,672 Units	Industrial 2,612,478 Square Feet	Retail 1,876,537 Square Feet	Service 2,398,042 Square Feet		
2003	\$ 25,836,593	\$ 13,066,533	\$ -	\$ -	\$ -	\$ 38,903,126	\$ 38,903,126
2004	\$ 53,992,978	\$ 27,306,272	\$ 687,380	\$ 2,660,403	\$ 2,108,955	\$ 86,755,988	\$ 125,659,114
2005	\$ 56,312,770	\$ 28,479,478	\$ 2,062,139	\$ 7,981,208	\$ 6,326,866	\$ 101,162,462	\$ 226,821,576
2006	\$ 64,439,866	\$ 32,838,749	\$ 4,232,082	\$ 16,611,660	\$ 11,535,466	\$ 129,657,824	\$ 356,479,399
2007	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 509,175,847
2008	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 661,872,295
2009	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 814,568,742
2010	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 967,265,190
2011	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 1,119,961,638
2012	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 1,272,658,085
2013	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 1,425,354,533
2014	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 1,578,050,981
2015	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 1,730,747,428
2016	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 1,883,443,876
2017	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 2,036,140,324
2018	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 2,188,836,771
2019	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 2,341,533,219
2020	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 2,494,229,667
2021	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 2,646,926,114
2022	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 2,799,622,562
2023	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 2,952,319,010
2024	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 3,105,015,457
2025	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 3,257,711,905
2026	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 3,410,408,353
2027	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 3,563,104,800
2028	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 3,715,801,248
2029	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 3,868,497,696
2030	\$ 72,566,962	\$ 37,198,020	\$ 5,714,645	\$ 22,581,710	\$ 14,635,111	\$ 152,696,448	\$ 4,021,194,143
TOTAL	\$ 1,942,189,286	\$ 994,443,515	\$ 144,133,089	\$ 569,214,303	\$ 371,213,950	\$ 4,021,194,143	

Table 3.4.2 TUMF Revenues Generated by Jurisdiction through the End of FY05-06

Jurisdiction	Fiscal Year Totals				Total inception through June 06
	FY 02/03	FY 03/04	FY 04/05	FY 05/06	
Banning	\$0	\$1,443,050	\$1,094,208	\$847,599	\$3,384,857
Beaumont	\$0	\$222,350	\$1,091,760	\$2,152,484	\$3,466,594
Calimesa	\$0	\$26,600	\$108,296	\$65,232	\$200,128
Canyon Lake	\$0	\$36,675	\$150,486	\$203,882	\$391,043
Corona	\$13,300	\$2,001,650	\$2,581,103	\$4,235,665	\$8,831,717
Hemet	\$0	\$6,650	\$1,853,692	\$2,376,247	\$4,236,589
Lake Elsinore	\$146,300	\$1,170,400	\$1,682,876	\$6,526,363	\$9,525,939
March JPA	\$0	\$0	\$885,998	\$110,250	\$996,248
Moreno Valley	\$152,950	\$10,680,930	\$14,676,486	\$17,094,120	\$42,604,487
Murrieta	\$179,550	\$4,024,058	\$6,394,736	\$5,269,960	\$15,868,305
Norco	\$73,150	\$226,100	\$432,265	\$796,723	\$1,528,238
Perris	\$0	\$2,134,650	\$2,894,710	\$2,782,991	\$7,812,352
Riverside	\$0	\$3,566,607	\$13,202,230	\$18,351,728	\$35,120,565
San Jacinto	\$0	\$319,200	\$5,999,055	\$12,083,662	\$18,401,917
Temecula	\$438,900	\$897,750	\$1,013,165	\$5,939,102	\$8,288,917
County Central	\$119,700	\$6,506,102	\$8,498,177	\$14,138,108	\$29,262,088
County Hemet/San Jacinto	\$172,900	\$902,880	\$765,773	\$3,838,518	\$5,680,071
County Northwest	\$226,100	\$16,635,585	\$25,774,343	\$48,579,974	\$91,216,002
County Pass	\$6,650	\$219,450	\$699,972	\$942,482	\$1,868,554
County Southwest	\$1,328,304	\$22,192,522	\$25,039,976	\$36,900,428	\$85,461,230
Total	\$2,857,804	\$73,213,209	\$114,839,308	\$183,235,519	\$374,145,840

Figure 3.4.1 TUMF Program Revenue Comparison

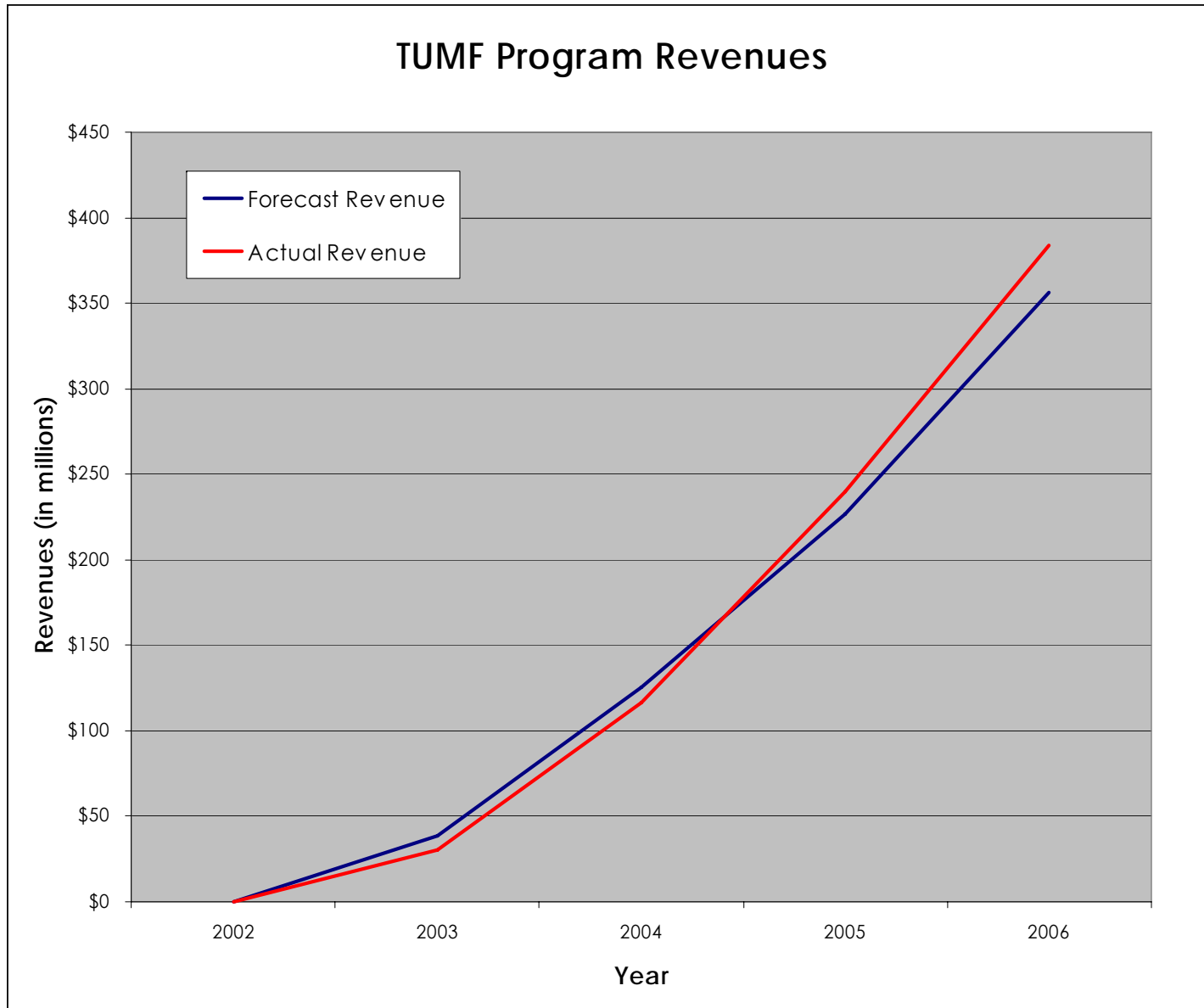


Table 3.4.3 Estimated TUMF Revenues for Programming by Zone (FY06-07 to FY10-11)

Allocation	Revenue Estimates					Total
	July 1, 2006 thru June 30, 2007	July 1, 2007 thru June 30, 2008	July 1, 2008 thru June 30, 2009	July 1, 2009 thru June 30, 2010	July 1, 2010 thru June 30, 2011	
Regional	\$ 53,209,000	\$ 53,873,000	\$ 54,545,000	\$ 55,226,000	\$ 55,914,000	\$ 272,767,000
Zone	\$ 53,210,000	\$ 53,873,000	\$ 54,545,000	\$ 55,225,000	\$ 55,915,000	\$ 272,768,000
Northwest	\$ 20,043,000	\$ 20,293,000	\$ 20,546,000	\$ 20,802,000	\$ 21,062,000	\$ 102,746,000
Southwest	\$ 17,749,000	\$ 17,971,000	\$ 18,195,000	\$ 18,422,000	\$ 18,652,000	\$ 90,989,000
Central	\$ 11,337,000	\$ 11,478,000	\$ 11,621,000	\$ 11,766,000	\$ 11,913,000	\$ 58,115,000
Hemet/San Jacinto	\$ 2,819,000	\$ 2,854,000	\$ 2,890,000	\$ 2,926,000	\$ 2,962,000	\$ 14,451,000
Pass	\$ 1,262,000	\$ 1,277,000	\$ 1,293,000	\$ 1,309,000	\$ 1,326,000	\$ 6,467,000
Transit	\$ 2,841,000	\$ 2,876,000	\$ 2,912,000	\$ 2,948,000	\$ 2,985,000	\$ 14,562,000
MSHCP	\$ 1,529,000	\$ 1,548,000	\$ 1,567,000	\$ 1,587,000	\$ 1,607,000	\$ 7,838,000
Total	\$ 110,789,000	\$ 112,170,000	\$ 113,569,000	\$ 114,986,000	\$ 116,421,000	\$ 567,935,000

3.4.1. Regional Priority Group 'A' Project Funding

As described in **Section 2.4**, the estimated cost to implement the TUMF eligible projects identified as Priority Group 'A' is \$1.552 billion. The implementation of Priority Group 'A' projects represents the focus of the project recommendations for the 10-Year Strategic Plan, and as such, requires consideration in the context of anticipated revenue flows.

Based on the linear forecast of TUMF revenues and the allocation of funding for the regional (backbone) element of the TUMF program, it is anticipated to take approximately 20 years to generate sufficient revenues to fully fund the implementation of all Priority Group 'A' projects, with revenues for backbone projects expected to exceed the Priority Group 'A' project costs by the end of 2025. When reviewed at the current rate of revenue generation, it is anticipated to take approximately 23 years (through 2028) to generate sufficient revenues to fully fund all Priority Group 'A' backbone projects.

The 20 to 23 year time frame for fully funding Priority Group 'A' projects is somewhat consistent with the intents of the 10-Year Plan to prioritize backbone projects for programming within the initial 10 years of the program. Extended lead time for the development of larger scale backbone projects reiterates the importance of initiating the highest priority backbone projects early to ensure that these projects are ready for construction as sufficient revenues become available. Clearly, all of the Priority Group 'A' backbone projects will not be able to be completed within the 10-Year horizon of this strategic plan. However, it will be essential to initiate Priority Group 'A' projects within the 10-Year time frame of the plan to ensure all necessary planning, environmental clearance, right-of-way acquisitions and design can be completed prior to TUMF funding for construction becoming available.

Additionally, the estimation of available TUMF revenues does not account for the ability of local jurisdictions as project implementing agencies to leverage alternate funding as a match against TUMF revenues. As described in **Section 4.4**, the inherent revenue shortfalls of the TUMF program make it essential that local participating agencies seek alternate matching funds to implement TUMF eligible improvement projects. It is estimated that approximately \$1.011 billion million in matching funds (20% of the estimated eligible TUMF project costs) will be required to make the TUMF program whole. The ability of local jurisdictions to leverage matching funds against TUMF revenues will aid to accelerate the implementation of TUMF projects based on available TUMF revenues in proportion to the share of matching funds provided.

4.0 TUMF IMPLEMENTATION POLICIES

4.1. Introduction

In addition to establishing guidance for the programming of improvements to the TUMF network for the initial ten years of the program, this strategic plan provides the opportunity to reiterate and clarify general policies for the implementation of TUMF. The implementation of the TUMF program, which is unprecedented in terms of its magnitude and complexity as a development impact mitigation fee program, presents a considerable challenge for participating local jurisdictions. The following general policies are intended to reiterate and clarify the provisions of the local TUMF ordinances, Administration Plan and Measure A with regard to the implementation of various aspects of the TUMF program. The explanation of these general policies facilitates consistent implementation of the TUMF program by all participating jurisdictions.

4.2. Measure A Funding Obligation

On November 5, 2002, 69.2% of the voters in Riverside County approved by supermajority a 30-year extension to the ½ cent county-wide sales tax dedicated to funding transportation infrastructure. By approving the County of Riverside ordinance that reauthorizes Measure A, the voters of Riverside County also formally linked the TUMF program to the sales tax measure.

Western Riverside County Section 5 of the Measure A Reauthorization Expenditure Plan (*Riverside County Transportation Improvement Plan*) attached to the enabling ordinance as Exhibit B states that “the TUMF Program shall be adopted according to all applicable laws and shall provide that the first \$400 million of TUMF revenues will be made available to the [Riverside County Transportation] Commission to fund equally the: 1) Regional Arterial System...and, 2) Development of New Corridors (“CETAP”).” Additionally, General Provisions Section 5 C of the Expenditure Plan requires that “the Commission shall not allocate [Measure A] funds to an individual city or the County for local streets and roads within the Western County...unless the local agency is certified by...the Commission or the Western Riverside County Association of Governments as applicable, to be a participant in the Transportation Uniform Mitigation Fee program.”

In response to these provisions of the Measure A Reauthorization Ordinance, WRCOG and RCTC executed a Memorandum of Understanding (MOU) to further amplify and clarify certain aspects of the relationship of Measure A to TUMF. The MOU, dated July 10, 2003 indicates the following specific requirements:

- ◆ To ensure compliance with the TUMF Nexus Study and in accordance with the Measure A Reauthorization Ordinance, TUMF revenues will be allocated as follows:

- 1.38 percent of all revenues to RCA for MSHCP related property acquisitions
- 48.7 percent of the net revenue balance to RCTC for regional arterials and CETAP development
- 48.7 percent of the net revenue balance shall be allocated to the five TUMF Improvement Zones which are outlined in the WRCOG TUMF Administrative Plan
- 2.6 percent of the net revenue balance shall be allocated to RTA for regional transit

Funds received by RCTC would be eligible for the development of regional arterials or for CETAP development needs including mitigation, although funding would be precluded from being spent on CETAP corridors that are not designated in the TUMF Nexus Study as being eligible for TUMF funding. The allocation to the TUMF Improvement Zones will ensure that an appropriate portion of the TUMF revenues are spent in the general area in which they are raised. The allocation for regional public transit use is an outgrowth of the WRCOG TUMF Nexus Study which provides funding for public transit needs.

- ◆ In some cases, in-kind improvements could be used in lieu of actual cash payments to satisfy the Measure A requirements. In-kind improvements counting toward the \$400 million Measure A obligation are limited to those TUMF eligible improvements made on any of high priority regional arterials designated by RCTC. The amount of in-kind improvements cannot exceed a maximum eligible cost value of \$200 million.
- ◆ The MOU covers the period between now and April 1, 2009, however once the \$400 million responsibility is satisfied, the requirements of the MOU will cease. Conversely, if the \$400 million responsibility is not satisfied by April 1, 2009, all TUMF revenues would revert to RCTC until the \$400 million is satisfied.

Consistent with the provisions of the MOU, WRCOG will develop the TUMF Transportation Improvement Program in cooperation with RCTC until the Measure A obligation has been satisfied. To facilitate the development of the TUMF TIP for regional arterial projects, RCTC, in conjunction with WRCOG, will initiate a 'Call for Projects' from participating local jurisdictions for candidate TUMF improvements on the high priority regional arterials designated by RCTC (and generally consistent with the Priority Group 'A' projects identified in this Strategic Plan). RCTC and WRCOG will cooperatively evaluate the candidate projects using the project selection process previously described in **Section 3.2**. The results of the project evaluation will lead to the recommendation (by RCTC) of a preferred program of regional arterial projects for inclusion in the TUMF TIP.

Similarly, WRCOG will coordinate with the five TUMF Improvement Zone Committees to develop a preferred program of zone projects for inclusion in the TUMF TIP. The recommended zone programs of projects will be consolidated in the TUMF TIP with those regional arterial projects recommended by RCTC. The TUMF Improvement Zone

Committees will have the option to program additional projects designated by RCTC as high priority regional arterials with the intent of counting the eligible cost value of these project toward the \$400 million Measure A obligation.

4.3. TUMF Eligible Arterial Highway Segment Improvements

The underlying purpose of the TUMF program as indicated in the TUMF Nexus Study Final Report is “the need to establish a comprehensive funding source to mitigate the cumulative regional transportation impacts of new development on regional arterial highways.” As new development occurs in Western Riverside County, the cumulative transportation impacts of this new development is reflected in increased demand for transportation infrastructure leading to decreased levels of service, increased delay and increased congestion on regional transportation facilities, and an overall decline in regional mobility. Funding the provision of additional transportation infrastructure to accommodate this increased demand caused by new development and to sustain current levels of service represents the fundamental premise of the TUMF program.

In the most general sense, the minimum level of transportation infrastructure improvement that provides additional capacity to the eligible components of the Regional System of Highways and Arterials previously identified in the TUMF Nexus Study (dated February 6, 2006) would be eligible to TUMF funding. Eligible infrastructure improvements would include the minimum level of capital infrastructure required to provide additional capacity in accordance with all pertinent statutory requirements. Eligible infrastructure improvements would also include the minimum amount of right-of-way acquisition, and associated displacements, demolitions and utility relocations, and all reasonable required planning, environmental clearance and mitigation, right-of-way documentation, engineering design, plan, specification and estimate preparation and construction management and oversight costs necessary to accomplish the project. Those elements of a project not required to facilitate capacity expansion, or in excess of the minimum level required to facilitate capacity expansion would not be considered eligible for TUMF funding.

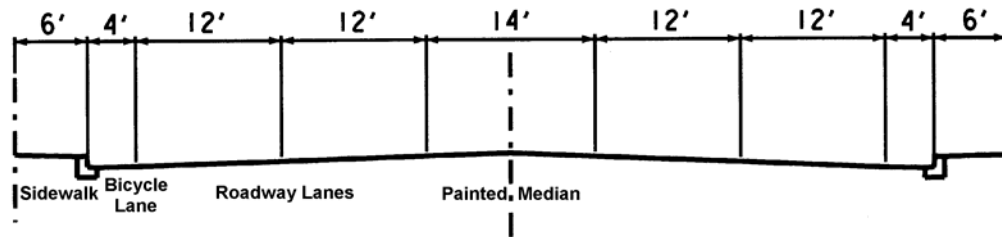
4.3.1. Typical Roadway Standard

For the purpose of calculating the “fair share” TUMF fee to be applied to new development under the TUMF program, planning level cost estimates were developed for necessary improvements to the Regional System of Highways and Arterials. Specifically for estimating the cost of constructing additional network roadway lanes and new network roadway segments, a Typical Roadway Standard for TUMF Network Improvements was recommended by the Technical Advisory Committee (TAC). The Typical Roadway Standard assumes the following standard design characteristics that are generally consistent with the minimum statutory requirements for roadway capacity expansion in the region:

- ◆ 12 foot wide asphaltic concrete roadway lanes;
- ◆ 14 foot painted median (or dual center left turn lane);
- ◆ 4 foot wide paved shoulder/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 4.3.1**.

Figure 4.3.1 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, each typically costing less than the implementation of the Typical Roadway Standard. Unless statutorily required, roadway improvements in excess of the Typical Roadway Standard (including, but not limited to, the use of Portland concrete cement (PCC) roadway lanes, raised barrier medians, parking lanes, landscaping, street lighting, aesthetic pavement treatments, separate bicycle paths, etc.) are not eligible for TUMF funding and will be the responsibility of the local developer or funding agency. Where improvements in excess of the Typical Roadway Standard are to be implemented, the equivalent value for implementing the Typical Roadway Standard will be eligible for funding as part of the TUMF program.

For simplicity, the Typical Roadway Standard is 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

Typical right-of-way acquisition costs would include 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
- ◆ Environmental documentation and mitigation

4.4. Maximum TUMF Funding Value

Clearly, the determination of TUMF eligible improvements will need to be considered on a project specific basis with a certain degree of discretion extended to the local funding agency to interpret the appropriateness of proposed improvements in the context of local statutory requirements and typical design standards. However, the underlying consideration in the eligibility determination of any specific improvements is the eligible cost value of the project prescribed in the detailed TUMF Network Cost Estimate table provided in Appendix F of the TUMF Nexus Study. Since the TUMF fee is explicitly tied to the specific improvement values prescribed in this table, the maximum TUMF funding available for the project cannot exceed the project components and pro-rated component values of the respective segment. Furthermore, those segments identified in the TUMF Network Cost Estimate table as having 'Obligated Funding and Existing Needs' are not considered eligible for TUMF funding for those segments and values prescribed in the table.

As a result of the TUMF Ordinance exemption of Government and Public Sector land uses and certain other land use types, and the phased implementation of other Non-Residential land uses, the TUMF program inherently includes a funding shortfall. Based on the estimated 'fair share' established in the TUMF Nexus Study, approximately 6% of the TUMF mitigation need can be attributed to the impact of Government and Public Sector land uses. Furthermore, approximately 7% of the TUMF revenues estimated as part of the TUMF Nexus Study assumptions have not been captured during the process of developing, adopting and implementing the TUMF program while a further 2% will not be captured as a result of the phasing of TUMF fee requirements for Non-Residential land uses. Finally approximately 5% of the estimated TUMF revenues will not be captured as a result of pre-existing local agency developer agreements and project vesting creating an overall program shortfall of approximately 20% or \$1.011 billion.

As described in the TUMF Administrative Plan, the TUMF "program is not designed to be the only source of revenue to construct the identified facilities, and it will be necessary for matching funds from a variety of available sources to be provided." Consistent with the narrative described in the Administrative Plan, the local implementing agencies have a responsibility to seek alternative funding sources to meet the TUMF program funding shortfall. Local agency match to meet the TUMF funding shortfall could include the utilization of traditional transportation funding sources (such as STP, CMAQ, Measure A and other discretionary federal, state or local transportation funds) and in-kind services (such as local agency planning, engineering or right of way acquisition). The local agency responsibility to seek alternative funding sources to meet the inherent program funding shortfall reiterates the need to ensure the maximum TUMF funding available for a project does not exceed the specific improvement values prescribed in the TUMF Network Cost Estimate table. In addition, the need to meet the program funding shortfall emphasizes the importance of considering and leveraging other sources of matching funds during project development, programming and implementation.

4.4.1. Component Value Sharing

Since the overall intent of the TUMF program is the accomplishment of required system improvements, it is desirable to retain some flexibility to 'share' the pro-rated value of the components of the TUMF Network Cost Estimate table between the respective components of the specific segment implementation, provided the appropriate improvements are fully completed within the total prescribed cost for the applicable components in the table. The flexibility to 'share' the component cost value for the implementation of TUMF segment improvements acknowledges the project specific variations in eligible project costs that cannot be adequately captured during the development of planning level cost estimates.

To protect the ability to accomplish the required system improvements, it will be appropriate to limit the maximum amount that can be shared between the appropriate segment components. Accordingly, up to 110% of the pro-rated value of a specific segment component is eligible to be funded using TUMF revenues that have been borrowed from a related project component for the same TUMF segment. In situations where the local implementing agency can satisfactorily document and guarantee to WRCOG that all the applicable TUMF required system improvements will be completed in accordance with the TUMF Nexus Study for a specific segment, the implementing agency will be able to utilize up to the full pro-rated value of the applicable components of the TUMF Network Cost Estimate table.

4.4.2. TUMF Network Eligible Arterial Highway Inter-Segment Fund Sharing *[\(Network Eligibility Revisions as adopted by the May 7, 2007 Executive Committee\)](#)*

The TUMF Program was set up as a program of averages, as such there will be projects that are built for more or less than the maximum cost share identified in the Nexus Study. On occasions where a project has been delivered for less than the maximum TUMF share, under certain conditions, the eligible TUMF funding balance remaining once a project is completed can be transferred to increase funding of another project component (an interchange or bridge structure etc.), that may otherwise exceed the allowable maximum share. Although funding within a large TUMF project may be transferred between project components, the maximum share of the entire project or affected TUMF network segment(s) cannot be exceeded. The maximum share threshold is a key principle of the program and is adhered to vigorously.

After thoroughly discussing the issue of transferring unused programmed TUMF funding from a specific completed project or phase to another under-funded component(s) within the same contiguous segment, the Public Works and WRCOG Technical Advisory committees established specific programmatic criteria. For transfer of funding to occur, the following conditions at a minimum must be met:

- the projects must be on the same facility;
- the project must be completed **before** any funds can be shifted from one project type to another;
- the shifting of eligibility must be within the same zone; if it is not, then both Zone Committees and the Executive Committee must approve the eligibility transfer;

- there **cannot** be a change in the fee or the maximum TUMF share as a result of the fund transfer;
- the entire segment/project must be completed between the project where the change occurs and a logical segment (no gaps) or the projects must be on the same project line in the Nexus Study;
- the Nexus Study Exhibit H-1 TUMF Network Detailed Cost Estimate and the map of the Regional System of Highways and Arterials must be amended and approved by the Executive Committee; and
- the Network amendments will occur only once a year.

APPENDIX A

Intersection Analysis Guidelines

Extract from
Traffic Impact Analysis Preparation Guide
Riverside County Transportation Department
August 2005

5.0 REQUIRED METHODOLOGY

5.1 Intersection Analysis

The Transportation Department requires the use of the Transportation Research Board - Highway Capacity Manual (HCM), 2000 Update, or most recent release. Unsignalized intersections are to be analyzed using Chapter 17 of the Highway Capacity Manual. Signalized intersection Level of Service shall be analyzed using the Operational Method as described in Chapter 16, Section II. Refer to Exhibit C for default input parameters. For default values not specifically provided in Exhibit C, the Engineer shall refer the HCM2000 or most recent release.

Exhibit C – Signalized Intersection Analysis Input Parameters

<u>Parameter</u>	<u>Value</u>
Base Saturation Flow Rate	1900 pc/hr/ln
Heavy Vehicle Factor	Determine % heavy vehicle in existing traffic stream based on count data or consultation with County Transportation Dept. Projects with truck intensive uses must convert project trips to passenger car equivalents (PCE=2). Truck intensive uses include heavy industrial, warehousing or as determined by the Transportation Department.
Grade	Include as appropriate
Exclusive Left Turn Lane	Peak Hour Volume > 100
Dual Left Turn Lanes	Peak Hour Volume > 300
Protected Left Turn Phasing	Left Turn Volume > 240 vph
Minimum Green Time	7 Seconds each movement in areas of light pedestrian activity. In areas of heavy pedestrian activity, the minimum green shall be calculated based on the methodology in the HCM.
Cycle Length	60 sec to 120 sec
Lost Time	Per HCM Exhibit 10-17 (below)

Major Street	Minor Street	Number of Phases	L (s)
Protected	Protected	4	16
Protected	Permitted	3	12
Permitted	Protected	3	12
Permitted	Permitted	2	8

* All above values from HCM 2000 Chapters 10 and 16. Any deviation from these parameters requires prior approval from Riverside County Transportation Department. Refer to HCM2000 for any default values not specifically identified here.

Intersection analyses should be conducted utilizing acceptable software based on HCM methodology. Closely spaced intersections are to be analyzed using analysis tools capable of accounting for turn lane storage, queue length, blockage, etc. such as Synchro.

Actual signal timing and peak hour factors should be collected in the field and utilized in the existing and near-term analyses. In cases where traffic is added from a significant number of cumulative projects, the consultant shall use their engineering judgment in the application of peak hour factors to maintain consistency with the existing conditions analyses. A peak hour factor of 1.0 shall be applied to buildout traffic conditions.