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REGIONAL FREEWAY AND HIGHWAY PROGRAM

Tentative Rebalancing Criteria, Weight Suggestions, and Table Definitions

Column	Table Heading	Description	Scoring Weights
1	Freeway	RFHP freeway or highway route designation.	
2	Corridor	RFHP freeway or highway corridor name.	
3	RTP Segment	Regional Transportation Plan (RTP) planning segments. These segments were identified during the development of this generation of the RTP in 2003.	
4	Project Type	Code for project type. The key to the types are noted in the lower left-hand footer of the table, and are as follows: GP - General Purpose Lane Widening. HOV - High Occupancy Vehicle (HOV) Lane Widening. TI - New Traffic Interchange. ROW - Right-of-way (ROW) Protection or Purchase. DHOV - Direct HOV Ramp Connection (in system traffic interchanges). S/W - System-wide project expenditures.	
5	RTP Proposal	Project proposal description recommended in the Regional Transportation Plan. These proposals were identified during the development of this generation of the RTP in 2003. Descriptions of projects outside of the program have also been identified.	
6	Length (miles)	Project length expressed in miles. All point projects, such as those at traffic interchanges, have been identified with a single mile length for calculating Crash Rate (column 14) and VMT growth (column 19).	
7	RTP Phase	Projects within the current generation of the RTP were identified with a five-year phase to correspond with their intended implementation throughout the life of the program. These phases are: Phase I - FY 2006 to FY 2010 Phase II - FY 2011 to FY 2015 Phase III - FY 2016 to FY 2020 Phase IV - FY 2021 to FY 2026 These phases represent their original intended phasing. Projects outside of this generation do not have a RTP Phase identification in Column 7.	
8	2003 RTP Estimate	Project cost estimates identified in 2003 for the proposed action as part of the original RTP Regional Freeway and Highway Program (RFHP) proposal.	
9	2012 Cost Opinion	From 2012, revised cost opinions for the proposed project actions. These opinions were developed during the last rebalancing of the RFHP by MAG Regional Council and represent the approved program amounts for the proposed project.	
10	2016 MAG Cost Opinion	Current cost opinions for the proposed project actions. These opinions have been revised to account for completed cost risk analysis (CRA) and cost risk analysis-value engineering (CRAVE) efforts, and available unit cost updates based upon recent ADOT bid histories for construction, design, and right-of-way.	
11	Rebalancing Notes	Pertinent notes related to the proposed project actions by MAG staff.	
12	Priorities: RFHP Legacy	Under the principle criteria of Project Priorities, this scoring accounts for the proposed project's position in the program prior to the 2009 and 2012 rebalancing efforts. Projects outside of the program were also scored. Given the time and expense needed for construction SR-24 and SR-30, phases of the project were scored. The following criteria was applied: 5 - If the project was originally intended for RTP Phase II, RTP Phase III, and the phase I construction of SR-24 of the program. 4 - Non-phased projects from RTP Phase IV (e.g., add lanes actions), remaining SR-24 projects, or the ROW phase of SR-30. 3 - Phase I construction of SR-30. 2 - Final build construction of SR-30. 1 - Projects presently outside of the RFHP.	25%
13	Crash Frequency	Three-year crash frequency data from the MAG/ADOT crash database.	

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Column	Table Heading	Description	Scoring Weights
14	Crash Rate (freq*vol)/ len	An approximation of the crash rates along the proposed project's length was determined to account for length and volume. For purposes of this rebalancing spreadsheet, the formula used consisted of multiplying the frequency by the volume and then dividing the project length (expressed in miles). This number was then multiplied by 1,000,000 to approximate a crash rate in MEV (millions of entering vehicles).	
15	Priorities: Safety	Under the principle criteria of Project Priorities, this scoring accounts for the safety needs and uses the data in column 14. The crash rates are divided by the spreadsheet program into quintiles, where projects located along segments with the highest crash rates received the maximum score of 5 and those with the lowest rates earned 1.	20%
16	Priorities: Economic Opporty	Under the principle criteria of Project Priorities, a qualitative measure assigned to the project based on its relative location to emerging economic development opportunities or function as a trade corridor. Scoring is between a maximum of 5 and minimum of 1. Generally, interstates scored the highest as these routes represent the region's primary freight corridors, while those routes primarily focused on accommodating commuters scored lower.	15%
17	Readiness: NEPA	Under the principle criteria of Project Readiness, a qualitative measure assigned to the project based on the degree of NEPA documentation needed and the ability to receive clearance in a timely manner. Scoring is between a maximum of 5 and minimum of 1. Projects that presently have NEPA clearances, or are potential categorical exclusions, received a 5. Projects in some phase of NEPA documentation development received a 4. Projects that have not begun the NEPA phase, but may be cleared through an Environmental Assessment (EA) received a 3. Projects that have not begun the NEPA phase, but may be cleared through an Environmental Impact Statement (EIS) received a 2. No projects received a 1.	10%
18	Readiness: ROW Utilities	Under the principle criteria of Project Readiness, a qualitative measure assigned to the project based on the anticipated level of right-of-way (ROW) need and the ability to easily accommodate existing utilities and address flood control. Scoring is between a maximum of 5 and minimum of 1. Projects not requiring ROW or additional flood control application received the highest score.	10%
19	2015-2030 VMT Growth	For the purposes of this rebalancing effort, forecasts from the MAG Travel Demand model were used for both the 2015 (representing base year) and 2030 (representing a period beyond the opening of the project) horizons. Forecasts were developed using the same modeling network that consisted of all projects open, including the RTP proposals for SR-24 and SR-30, to traffic in 2035 to account for projects that are not presently open to traffic. From these forecasts, vehicle-miles-traveled (VMT) statistics were computed for each project in 2015 and 2030. For scoring purposes, the growth in VMT was developed to account for project length.	
20	VMT Growth Factor	Under the principle criteria of Travel Demand, this scoring accounts for the VMT Growth and uses the data in column 19. The VMT Growths are divided by the spreadsheet program into quintiles, where projects located along segments with the highest VMT growth between 2015 and 2030 received the maximum score of 5 and those with the lowest growth earned 1.	7%
21	2015 Volume	Using the same travel demand data used to compute VMT growth in column 19, the model data from the 2015 simulations was used to identify a representative volume for the project segment. This volume is computed by taking the VMT for the segment and dividing it by the project length.	
22	2015 Volume Factor	Under the principle criteria of Travel Demand, this scoring accounts for the 2015 volume and uses the data in column 21. The 2015 volumes are divided by the spreadsheet program into quintiles, where projects located along segments with the highest 2015 volume received the maximum score of 5 and those with the lowest growth earned 1.	5%
23	2030 Volume	Using the same travel demand data used to compute VMT growth in column 19, the model data from the 2030 simulations was used to identify a representative volume for the project segment. This volume is computed by taking the VMT for the segment and dividing it by the project length.	
24	2030 Volume Factor	Under the principle criteria of Travel Demand, this scoring accounts for the 2030 volume and uses the data in column 23. The 2030 volumes are divided by the spreadsheet program into quintiles, where projects located along segments with the highest 2030 volume received the maximum score of 5 and those with the lowest growth earned 1.	3%

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Column	Table Heading	Description	Scoring Weights
25	Cost: Factor	Under the principle criteria of Funding Realities, this scoring accounts for the proposed project cost opinions and uses the 2016 data in column 9. The cost opinions are divided by the spreadsheet program into quintiles, where projects with lower costs received the maximum score of 5 and those with the higher costs earned 1.	5%
26	Weighted Score	The sum of the scores in columns 12, 15, 16, 17, 18, 20, 22, 24, and 25 multiplied by their criteria weights. The highest weighted score for a project is 5 and the minimum is 1.	
27	Rank	Based upon the scores in column 26, each project is ranked from 1 to 42.	
28	Cummulative Budget	Cumulative budget is a spreadsheet function to help select projects meeting the proposed program guidelines for inclusion in the rebalanced Regional Freeway and Highway Program. A red line is place by MAG staff representing the potential first grouping of projects for this rebalancing in 2016, and a green line has been placed for a second rebalancing that may occur by 2018.	