

|  |  | <u> </u>   |  |  |   |  |  |
|--|--|--|--|--|---|--|--|
| Project Name   | County   | Project Type   | Project Capital<br>Costs<br>(in millions of<br>2013 dollars)   | Total Annualized<br>2035 Benefits<br>(in millions of<br>2013 dollars)  | Total Annualized<br>2035 Costs<br>(in millions of<br>2013 dollars)  | Plan Bay Area<br>B/C Ratio   | B/C Ratio<br>(Nov. 2011<br>Draft)  |
| AL PROJECTS NOT PREVIOUSLY ASSESSED  |  |  |  |  |   |  |  |
| I-580 Express Bus (Dublin to Livermore)  | Alameda  | Transit<br>Efficiency  | 150  | 32   | 16  | 2  | n/a  |
| AC Transit Service Frequency Improvements (Restoration of 2009 Funding Levels) | Multi-County   | Transit<br>Efficiency  | 0  | 108  | 65  | 2  | n/a  |
| BART to Livermore (Phase 1: 1-Station DMU Extension with Bus Enhancements)     | Alameda  | Transit<br>Expansion   | 555  | 37   | 29  | 1  | n/a  |
| PROJECT COSTS BASED ON NEW INFORMATION FROM SPONSORS                           |  |  |  |  |   |  |  |
| VTA El Camino BRT  | Santa Clara  | Transit<br>Efficiency  | 239  | 28   | 12  | 2  | 1  |
| Geary Boulevard BRT  | San Francisco  | Transit<br>Efficiency  | 172  | 15   | 9   | 2  | 1  |
| PROJECT COSTS AND INCLUDED BENEFITS FROM HIGH-SPEED RAIL                       |  |  |  |  |   |  |  |
| Transbay Transit Center - Phase 2B (Caltrain Downtown Extension)               | San Francisco/<br>3434   | Transit<br>Expansion   | 2,348  | 108  | 31  | 4  | 0.8  |
| D ANNUALIZATION FOR PROJECT BENEFITS   |  |  |  |  |   |  |  |
| Truck & Motorcycle Retirement [BAAQMD program]                                 | Regional   | Climate  | 29   | 55   | 6   | 9  | 0.0  |
| Heavy-Duty Truck Replacement [BAAQMD program]                                  | Regional   | Climate  | 211  | 42   | 44  | 1  | 0.0  |
| EV Solar Installation [BAAQMD program]   | Regional   | Climate  | 25   | 1  | 2   | 0.8  | 0.0  |
|  | I-580 Express Bus (Dublin to Livermore)  AC Transit Service Frequency Improvements (Restoration of 2009 Funding Levels)  BART to Livermore (Phase 1: 1-Station DMU Extension with Bus Enhancements)  PROJECT COSTS BASED ON NEW INFORMATION FROM SPONSORS  VTA El Camino BRT  Geary Boulevard BRT  PROJECT COSTS AND INCLUDED BENEFITS FROM HIGH-SPEED RAIL  Transbay Transit Center - Phase 2B (Caltrain Downtown Extension)  D ANNUALIZATION FOR PROJECT BENEFITS  Truck & Motorcycle Retirement [BAAQMD program]  Heavy-Duty Truck Replacement [BAAQMD program] | I-580 Express Bus (Dublin to Livermore)  AC Transit Service Frequency Improvements (Restoration of 2009 Funding Levels)  BART to Livermore (Phase 1: 1-Station DMU Extension with Bus Enhancements)  PROJECT COSTS BASED ON NEW INFORMATION FROM SPONSORS  VTA EI Camino BRT  Geary Boulevard BRT  San Francisco  PROJECT COSTS AND INCLUDED BENEFITS FROM HIGH-SPEED RAIL  Transbay Transit Center - Phase 2B (Caltrain Downtown Extension)  Alameda  San Francisco 3434  D ANNUALIZATION FOR PROJECT BENEFITS  Truck & Motorcycle Retirement [BAAQMD program]  Regional  Heavy-Duty Truck Replacement [BAAQMD program] | AL PROJECTS NOT PREVIOUSLY ASSESSED  I-580 Express Bus (Dublin to Livermore)  AC Transit Service Frequency Improvements (Restoration of 2009 Funding Levels)  BART to Livermore (Phase 1: 1-Station DMU Extension with Bus Enhancements)  PROJECT COSTS BASED ON NEW INFORMATION FROM SPONSORS  VTA EI Camino BRT  Geary Boulevard BRT  Transit Efficiency  Transit Efficiency Transit | Project Name  County Project Type Costs (in millions of 2013 dollars)  AL PROJECTS NOT PREVIOUSLY ASSESSED  I-580 Express Bus (Dublin to Livermore) AC Transit Service Frequency Improvements (Restoration of 2009 Funding Levels) BART to Livermore (Phase 1: 1-Station DMU Extension with Bus Enhancements) BART to Livermore (Phase 1: 1-Station DMU Extension with Bus Enhancements) Alameda Transit Expansion FROJECT COSTS BASED ON NEW INFORMATION FROM SPONSORS  VTA EI Camino BRT Geary Boulevard BRT San Francisco Geary Boulevard BRT Transit Efficiency Transit Efficien | Project Name  County Project Type  Costs (in millions of 2013 dollars)  AL PROJECTS NOT PREVIOUSLY ASSESSED  I-580 Express Bus (Dublin to Livermore)  Alameda AC Transit Service Frequency Improvements (Restoration of 2009 Funding Levels)  BART to Livermore (Phase 1: 1-Station DMU Extension with Bus Enhancements)  BART to Livermore (Phase 1: 1-Station DMU Extension with Bus Enhancements)  VTA El Camino BRT  Geary Boulevard BRT  Fransit Efficiency  Geary Boulevard BRT  Transit Efficiency  Transit Expansion  Transit Efficiency  Transit Efficiency  Transit Expansion  Transit Efficiency  Transit Expansion  Transit Efficiency  Transit Expansion  Transit Efficiency  Transit Expansion  Transit Expansion | Project Name  County Project Type (in millions of 2013 dollars)  AL PROJECTS NOT PREVIOUSLY ASSESSED  I-580 Express Bus (Dublin to Livermore)  AC Transit Service Frequency Improvements (Restoration of 2009 Funding Levels)  BART to Livermore (Phase 1: 1-5tation DMU Extension with Bus Enhancements)  VTA EI Camino BRT  Geary Boulevard BRT  Geary Boulevard BRT  Transit Efficiency  Transit Cefficiency  Transit Efficiency  Transit Transit Efficiency  Transit Transit Transit Transit Efficiency  Transit Transit Transit Transit Transit Efficiency  Transit Transit Transit Transit Transit Transit Efficiency  Transit Transit Transit Transit Transit Transit Transit Expansion  D ANNUALIZATION FOR PROJECT BENEFITS  Truck & Motorcycle Retirement [BAAQMD program]  Regional  Climate  2035 Benefits (in millions of 2013 dollars)  2013 dollars)  2013 dollars)  2013 dollars)  2014 dollars)  2015 dollars)  2015 dollars)  2016 dollars)  2016 dollars)  2016 dollars)  2016 dollars)  2016 dollars)  2017 dollars)  2018 dollars)  2020 dollars)  2021 dollars)  2020 dollars)  2021 dollars)  2022 dollars)  2033 dollars)  2034 dollars)  2035 dollars)  2036 dollars)  2037 dollars)  2038 dollars)  2039 dollars  2039 dollars  2039 dollars  2039 dollars  2036 dollars  2037 dollars | Project Name  County Project Type Costs (in millions of 2013 dollars)  AL PROJECTS NOT PREVIOUSLY ASSESSED  1-580 Express Bus (Dublin to Livermore) AAlameda AC Transit Service Frequency Improvements (Restoration of 2009 Funding Levels) BART to Livermore (Phase 1: 1-Station DMU Extension with Bus Enhancements) Alameda AC Transit Efficiency Transit Expansion Transit Transit Expansion Transit Expansion Transit Transit Expansion Transit Transit Transit Center - Phase 2B (Caltrain Downtown Extension) Transit Truck & Motorcycle Retirement [BAAQMD program] Regional Climate 2035 Senterits (in millions of 2013 dollars) Transit Efficiency Transit Efficiency Transit Efficiency Transit Efficiency Transit Efficiency Transit Expansion Transit Trans |

Projects with slight adjustments to monetized benefits and/or costs since November that did **not** result in changes to the B/C ratio are omitted from the list above.

| B/C RATIO - COLOR           | KEY |
|-----------------------------|-----|
| High B/C                    |     |
| (B/C ratio greater than 10) |     |
| Medium-High B/C             |     |
| (B/C ratio between 5 and 9) |     |
| Medium-Low B/C              |     |
| (B/C ratio between 1 and 4) |     |
| Low B/C                     |     |
| (B/C ratio less than 1)     |     |

|        |                             |  |                     |                          |   |  |  |   |           |   |   | TRAVEL TI   | ME BENEFITS   |  |        | TRAVEL COST          | BENEFITS A    | AIR POLLUTAN    | NT BENEFITS   | COLLISIO                        | ONS & ACTIVE                  | TRANSPORT B                                 | ENEFITS               |
|--------|-----------------------------|--|---------------------|--------------------------|---|--|--|---|-----------|---|---|---|---|--|--------|----------------------|---------------|-----------------|---|---------------------------------|-------------------------------|---|-----------------------|
| Row# F | Project ID                  | Project Name   | County              | Project Type             | Project<br>Capital Costs<br>[in millions] | Net Annual<br>O&M Costs<br>[in millions] | Total Annualized<br>2035 Benefits<br>[in millions] | Total Annualized<br>2035 Costs<br>[in millions] | B/C Ratio | Auto/Truck [in<br>millions of<br>hours] | Auto/Truck<br>(Non-Recurr.<br>Delay) [in<br>millions of<br>hours] | Transit In-<br>Vehicle [in<br>millions of<br>hours] | Transit Out-of-<br>Vehicle [in<br>millions of<br>hours] | Walk/Bike [in<br>millions of<br>hours] | TOTAL  | VMT [in millions] Vi | ehicles Owned | PM2.5 [in tons] | CO <sub>2</sub> [in<br>thousands of<br>metric tons] | Fatalities due to<br>Collisions | Injuries due to<br>Collisions | Property<br>Damage Only<br>(PDO) Collisions | Active<br>Individuals |
| 1      | 22780                       | AC Transit Grand-MacArthur BRT   | ALA/3434            | Transit<br>Efficiency    | \$ 36.0                                   | \$ -                                     | \$ 31.5  | \$ 1.8  | 18        | (1.4)                                   | (0.1)   | 0.1   | (0.1)   | 0.0                                    | (1.5)  | (6)                  | (53)          | (0.9)           | (8)   | (0.1)                           | (4)                           | (7)   | 98                    |
| 2      | 22062                       | Irvington BART Station   | ALA                 | Transit<br>Efficiency    | \$ 123.0                                  | \$ -                                     | \$ 18.7  | \$ 1.5  | 12        | (0.6)                                   | (0.1)   | 0.2   | (0.1)   | (0.0)                                  | (0.6)  | (6)                  | (357)         | (0.5)           | (4)   | (0.1)                           | (4)                           | (6)   | 763                   |
| 3      | 94506                       | Fremont/Union City East-West Connector   | ALA                 | Arterial<br>Expansion    | \$ 190.0                                  | \$ 0.5                                   | \$ 65.5  | \$ 10.0   | 7         | (3.7)                                   | (0.2)   | 0.0   | 0.0   | 0.0                                    | (3.9)  | 2                    | 164           | (1.6)           | (20)  | (0.1)                           | (10)                          | 3   | (449)                 |
| 4      | 98207T                      | Alameda-Oakland BRT + Transit Access Improvements  | ALA                 | Transit<br>Efficiency    | \$ 15.8                                   | \$ 1.3                                   | \$ 13.6  | \$ 2.1  | 6         | (0.1)                                   | 0.0   | (0.0)   | (0.3)   | 0.0                                    | (0.4)  | (1)                  | 12            | 0.0             | 0   | (0.0)                           | (1)                           | (1)   | (200)                 |
| 5      | 22455                       | AC Transit East Bay BRT  | ALA/3434            | Transit<br>Efficiency    | \$ 211.0                                  | \$ 1.0                                   | \$ 62.0  | \$ 11.6   | 5         | (0.8)                                   | (0.0)   | (1.2)   | (0.9)   | (0.1)                                  | (3.0)  | 6                    | 187           | (0.3)           | (4)   | 0.0                             | 3                             | 8   | (100)                 |
| 6      | -                           | SR-84/I-680 Interchange Improvements + SR-84 Widening (Jack London to I-680)                                 | ALA                 | Highway<br>Expansion     | \$ 380.5                                  | \$ 1.7                                   | \$ 87.1  | \$ 20.7   | 4         | (5.0)                                   | (0.6)   | (0.1)   | 0.1   | (0.0)                                  | (5.6)  | 16                   | 446           | (1.4)           | (19)  | (0.0)                           | (2)                           | 23  | (624)                 |
| 7      | 580_BUS                     | I-580 Express Bus (Dublin to Livermore)  | ALA                 | Transit<br>Efficiency    | \$ 150.0                                  | \$ 8.1                                   | \$ 31.8  | \$ 16.4   | 2         | (1.2)                                   | (0.1)   | 0.5   | (0.2)   | (0.0)                                  | (1.0)  | (17)                 | (156)         | (0.8)           | (6)   | (0.2)                           | (12)                          | (18)  | 329                   |
| 8      | LBART                       | BART to Livermore (Phase 1: 1-Station DMU Extension with<br>Bus Enhancements)                                | ALA                 | Transit<br>Expansion     | \$ 555.3                                  | \$ 10.1                                  | \$ 36.7  | \$ 28.6   | 1         | (1.6)                                   | (0.2)   | 1.3   | (0.4)   | (0.1)                                  | (1.0)  | (19)                 | (482)         | (1.4)           | (12)  | (0.2)                           | (12)                          | (20)  | 486                   |
| 9      | 240196                      | BART to Livermore (Phase 1: 1-Station Rail Extension with<br>Bus Enhancements)                               | ALA                 | Transit<br>Expansion     | \$ 1,134.5                                | \$ 14.6                                  | \$ 49.6  | \$ 52.4   | 1         | (2.2)                                   | (0.3)   | 1.8   | (0.5)   | (0.1)                                  | (1.3)  | (26)                 | (651)         | (1.9)           | (16)  | (0.2)                           | (16)                          | (27)  | 657                   |
| 10     | 22667                       | BART to Livermore (Phases 1 & 2: Rail Extension)   | ALA                 | Transit<br>Expansion     | \$ 4,177.0                                | \$ 14.2                                  | \$ 56.7  | \$ 153.4  | 0.4       | (2.2)                                   | (0.3)   | 1.4   | (0.5)   | (0.1)                                  | (1.7)  | (26)                 | (651)         | (1.9)           | (16)  | (0.2)                           | (16)                          | (27)  | 657                   |
| 11     | 230101                      | Union City Commuter Rail Station + Dumbarton Rail Segment<br>G Improvements                                  | ALA/3434            | Transit<br>Efficiency    | \$ 180.0                                  | \$ -                                     | \$ (0.1)   | \$ 2.3  | 0.0       | (0.1)                                   | 0.1   | 0.0   | 0.0   | (0.0)                                  | 0.0    | (1)                  | (8)           | 0.0             | 0   | (0.0)                           | (1)                           | (1)   | 29                    |
| 12     | 22400                       | SR-239 Expressway Construction (Brentwood to Tracy)  | СС                  | Highway<br>Expansion     | \$ 372.7                                  | \$ 1.9                                   | \$ 143.8   | \$ 20.6   | 7         | (8.5)                                   | (0.2)   | 0.0   | 0.0   | (0.0)                                  | (8.6)  | 18                   | 363           | (2.7)           | (38)  | (0.4)                           | (32)                          | 28  | (553)                 |
| 13     |                             | I-680/SR-4 Interchange Improvements + SR-4 Widening<br>(Morello Avenue to SR-242)                            | СС                  | Highway<br>Expansion     | \$ 396.3                                  | \$ 1.4                                   | \$ 65.4  | \$ 21.2   | 3         | (2.8)                                   | (0.5)   | (0.4)   | (0.3)   | 0.0                                    | (4.0)  | 6                    | 2,774         | 0.2             | 6   | (0.1)                           | (6)                           | 19  | (244)                 |
| 14     | 22605                       | SR-4 Bypass Completion (SR-160 to Walnut Avenue)   | СС                  | Highway<br>Expansion     | \$ 149.9                                  | \$ 1.1                                   | \$ 15.5  | \$ 8.6  | 2         | (0.6)                                   | (0.0)   | 0.0   | (0.0)   | (0.0)                                  | (0.6)  | (5)                  | (32)          | 0.2             | 8   | (0.5)                           | (38)                          | (5)   | (16)                  |
| 15     | 22343                       | I-680 Express Bus Service Frequency Improvements (Phase 2)   | СС                  | Transit<br>Efficiency    | \$ 59.7                                   | \$ 6.4                                   | \$ 12.2  | \$ 10.7   | 1         | (0.5)                                   | 0.0   | 0.2   | (0.1)   | (0.0)                                  | (0.4)  | (4)                  | (181)         | (0.4)           | (3)   | (0.0)                           | (3)                           | (4)   | 333                   |
| 16     | 230252                      | Marin Countywide Bus Service Frequency Improvements  | MRN                 | Transit<br>Efficiency    | \$ -                                      | \$ 12.3                                  | \$ 8.9   | \$ 12.3   | 0.7       | (0.3)                                   | (0.0)   | 0.5   | (0.1)   | (0.1)                                  | 0.0    | (8)                  | (475)         | (0.4)           | (3)   | (0.1)                           | (6)                           | (8)   | 1,439                 |
| 17     | 240182                      | BART Metro Program (including Bay Fair Connection and Civic Center Turnback)                                 | Multi-Cty.          | Transit<br>Efficiency    | \$ 650.0                                  | \$ (18.5)                                | \$ 161.3   | \$ (10.4)                                       | >60       | (3.0)                                   | (0.2)   | 0.9   | (2.6)   | (0.1)                                  | (5.0)  | (31)                 | (1,373)       | (1.9)           | (17)  | (0.3)                           | (21)                          | (32)  | 2,735                 |
| 18     | 240523,<br>240060           | US-101 HOV Lanes (Whipple Avenue to Cesar Chavez Street)   | Multi-Cty.          | Road<br>Efficiency       | \$ 330.7                                  | \$ 2.8                                   | \$ 122.7   | \$ 19.3   | 6         | (5.0)                                   | (1.2)   | (0.4)   | (0.0)   | 0.1                                    | (6.5)  | (29)                 | (451)         | (0.8)           | (1)   | (0.2)                           | (14)                          | (5)   | (281)                 |
| 19     | НОТе                        | CTC Application + Alameda County Authorized Lanes Express<br>Lanes Network                                   | Multi-Cty.          | Express Lanes<br>Network | \$ 2,364.0                                | \$ -                                     | \$ 601.6   | \$ 118.2  | 5         | (15.7)                                  | (24.3)  | (2.7)   | (0.6)   | (0.3)                                  | (43.5) | 235                  | 5,456         | 9.8             | 39  | 1.3                             | 78                            | 298   | (5,050)               |
| 20     |                             | Caltrain Service Frequency Improvements (6-Train Service during Peak Hours) + Electrification (SF to Tamien) | Multi-Cty.          | Transit<br>Efficiency    | \$ 847.7                                  | \$ 5.6                                   | \$ 152.5   | \$ 33.9   | 5         | (3.3)                                   | (0.3)   | 1.0   | (1.5)   | (0.0)                                  | (4.1)  | (69)                 | (2,438)       | (3.0)           | (23)  | (0.6)                           | (42)                          | (70)  | 5,760                 |
| 21     | 22227,<br>240328,<br>240334 | BRT, and Southern Intermodal Terminal)   | Multi-Cty.          | Transit<br>Efficiency    | \$ 215.7                                  | \$ 3.7                                   | \$ 36.1  | \$ 14.5   | 2         | (1.5)                                   | (0.0)   | (0.1)   | (0.1)   | (0.0)                                  | (1.7)  | (6)                  | (174)         | (1.0)           | (9)   | (0.1)                           | (7)                           | (5)   | (105)                 |
| 22     | 00BART                      | BART Service Frequency Improvements  | Multi-Cty.          | Transit<br>Efficiency    | \$ 1,274.7                                | \$ 13.1                                  | \$ 126.0   | \$ 55.6   | 2         | (3.2)                                   | (0.4)   | 1.2   | (1.5)   | (0.0)                                  | (3.8)  | (42)                 | (1,390)       | (2.6)           | (23)  | (0.4)                           | (28)                          | (43)  | 2,753                 |
| 23     | 230604                      | Bay Bridge Contraflow Lane   | Multi-Cty.          | Road<br>Efficiency       | \$ 610.5                                  | \$ -                                     | \$ 66.8  | \$ 30.5   | 2         | (2.7)                                   | 0.1   | (2.6)   | 0.3   | 0.1                                    | (4.9)  | (7)                  | 317           | (1.2)           | (11)  | 0.4                             | 32                            | 4   | (2,591)               |
| 24     | 240018                      | Dumbarton Corridor Express Bus   | Multi-Cty.          | Transit<br>Efficiency    | \$ 101.0                                  | \$ 4.5                                   | \$ 22.6  | \$ 11.7   | 2         | (0.5)                                   | (0.1)   | 0.4   | (0.4)   | (0.0)                                  | (0.6)  | (6)                  | (200)         | (0.4)           | (4)   | (0.1)                           | (4)                           | (6)   | 552                   |
| 25     |                             | WETA Service Expansion (Treasure Island, Berkeley/Albany,<br>Richmond, Hercules, and Redwood City)           | Multi-Cty./<br>3434 | Transit<br>Expansion     | \$ 320.2                                  | \$ 15.7                                  | \$ 41.3  | \$ 22.1   | 2         | (2.8)                                   | (0.3)   | 0.7   | 0.6   | 0.0                                    | (1.8)  | (27)                 | (790)         | (1.9)           | (16)  | (0.3)                           | (18)                          | (28)  | 1,714                 |
| 26     | 240699                      | AC Transit Service Frequency Improvements (Restoration of 2009 Funding Levels)                               | Multi-Cty.          | Transit<br>Efficiency    | \$ -                                      | \$ 64.9                                  | \$ 108.5   | \$ 64.9   | 2         | (1.8)                                   | (0.2)   | 1.8   | (2.4)   | (0.2)                                  | (2.6)  | (29)                 | (1,847)       | (1.4)           | (11)  | (0.3)                           | (20)                          | (28)  | (4,761)               |
| 27     | 230055                      | Golden Gate Ferry Service Frequency Improvements   | Multi-Cty.          | Transit<br>Efficiency    | \$ 34.4                                   | \$ 3.3                                   | \$ 5.8   | \$ 4.4  | 1         | (0.4)                                   | (0.0)   | 0.5   | 0.0   | (0.0)                                  | 0.0    | (4)                  | (286)         | (0.4)           | (3)   | (0.1)                           | (4)                           | (4)   | 661                   |
| 28     | 240521,<br>240134,<br>21627 | ICaltrain Vision (10-Train Service during Peak Hours) +  | Multi-Cty.          | Transit<br>Efficiency    | \$ 5,598.7                                | \$ 33.7                                  | \$ 272.0   | \$ 220.3  | 1         | (5.6)                                   | (0.5)   | 2.3   | (2.8)   | (0.1)                                  | (6.9)  | (124)                | (4,553)       | (5.7)           | (44)  | (1.1)                           | (75)                          | (126)                                       | 10,025                |
| 29     | 00ACT1                      | AC Transit Frequent Transit Network  | Multi-Cty.          | Transit<br>Efficiency    | \$ 654.3                                  | \$ 463.6                                 | \$ 605.7   | \$ 510.3  | 1         | (12.7)                                  | (1.3)   | 13.0  | (11.6)  | (0.6)                                  | (13.2) | (173)                | (9,548)       | (8.7)           | (72)  | (1.7)                           | (118)                         | (171)                                       | 9,442                 |

|        |   |                     |                         |   |  |  |            |          |   |   | TRAVEL TI   | ME BENEFITS   |  |         | TRAVEL COS          | T BENEFITS     | AIR POLLUTA     | NT BENEFITS                             | COLLISIO                        | NS & ACTIVE                   | TRANSPORT BE                                | ENEFITS               |
|--------|---|---------------------|-------------------------|---|--|--|------------|----------|---|---|---|---|--|---------|---------------------|----------------|-----------------|---|---------------------------------|-------------------------------|---|-----------------------|
| Row# F | Project ID Project Name   | County              | Project Type            | Project<br>Capital Costs<br>[in millions] | Net Annual<br>O&M Costs<br>[in millions] | Total Annualized<br>2035 Benefits<br>[in millions] |            | /C Ratio | Auto/Truck [in<br>millions of<br>hours] | Auto/Truck<br>(Non-Recurr.<br>Delay) [in<br>millions of<br>hours] | Transit In-<br>Vehicle [in<br>millions of<br>hours] | Transit Out-of-<br>Vehicle [in<br>millions of<br>hours] | Walk/Bike [in<br>millions of<br>hours] | TOTAL   | VMT [in millions] \ | Vehicles Owned | PM2.5 [in tons] | CO2 [in<br>thousands of<br>metric tons] | Fatalities due to<br>Collisions | Injuries due to<br>Collisions | Property<br>Damage Only<br>(PDO) Collisions | Active<br>Individuals |
| 30     | 98147,<br>240691 Marin-Sonoma Narrows (Phase 2: HOV Lanes)                  | Multi-Cty.          | Road<br>Efficiency      | \$ 300.0                                  | \$ 2.7                                   | \$ 20.0  | \$ 17.7    | 1        | (0.5)                                   | (0.4)   | (0.4)   | (0.1)   | 0.0                                    | (1.4)   | 14                  | 235            | 0.5             | 9                                       | 0.1                             | 8                             | 17  | (601)                 |
| 31     | 240216 Dumbarton Rail   | Multi-Cty./<br>3434 | Transit<br>Expansion    | \$ 755.0                                  | \$ 11.1                                  | \$ 30.7  | \$ 36.3    | 0.8      | (1.1)                                   | (0.2)   | 0.4   | (0.1)   | (0.0)                                  | (1.0)   | (16)                | (502)          | (0.9)           | (8)                                     | (0.2)                           | (11)                          | (16)  | 942                   |
| 32     | 240676,<br>240675,<br>240677 Cost Deferrals)                                | Multi-Cty./<br>3434 | Transit<br>Expansion    | \$ 282.9                                  | 3.8                                      | \$ 9.7   | \$ 13.2    | 0.7      | (0.3)                                   | (0.1)   | 0.1   | (0.1)   | (0.0)                                  | (0.3)   | (5)                 | (161)          | (0.2)           | (1)                                     | (0.0)                           | (3)                           | (5)   | 252                   |
| 33     | 230219,<br>230314 Golden Gate Bus Service Frequency Improvements            | Multi-Cty.          | Transit<br>Efficiency   | \$ 143.2                                  | \$ 18.9                                  | \$ 15.7  | \$ 29.1    | 0.5      | (0.3)                                   | (0.0)   | 0.3   | (0.3)   | (0.0)                                  | (0.4)   | (5)                 | (144)          | (0.3)           | (2)                                     | (0.0)                           | (4)                           | (5)   | 248                   |
| 34     | 98139 ACE Service Expansion   | Multi-Cty./<br>3434 | Transit<br>Efficiency   | \$ 600.0                                  | \$ 46.5                                  | \$ 19.1  | \$ 66.5    | 0.3      | (0.8)                                   | (0.2)   | (0.2)   | 0.3   | (0.0)                                  | (0.9)   | (17)                | (267)          | (1.0)           | (8)                                     | (0.2)                           | (11)                          | (19)  | 537                   |
| 35     | 22009 Capitol Corridor Service Frequency Improvements (Oakland to San Jose) | Multi-Cty./<br>3434 | Transit<br>Efficiency   | \$ 508.5                                  | 5 1.2                                    | \$ 1.0   | \$ 18.2    | 0.1      | (0.1)                                   | (0.0)   | 0.0   | 0.0   | (0.0)                                  | (0.1)   | 1                   | (12)           | (0.0)           | (0)                                     | 0.0                             | 0                             | 1   | 29                    |
| 36     | 240617 SR-29 HOV Lanes and BRT (Napa Junction to Vallejo)                   | NAP                 | Road<br>Efficiency      | \$ 60.0                                   | 5 1.2                                    | \$ 10.9  | \$ 4.2     | 3        | (0.4)                                   | (0.2)   | (0.0)   | 0.0   | 0.0                                    | (0.5)   | (1)                 | (45)           | 0.0             | 3                                       | (0.1)                           | (11)                          | (0)   | 976                   |
| 37     | 230419 Freeway Performance Initiative                                       | Reg.                | FPI                     | \$ 2,991.0                                | 5 54.2                                   | \$ 3,174.9   | \$ 202.5   | 16       | (155.9)                                 | (9.8)   | (2.9)   | (0.9)   | (0.5)                                  | (170.0) | (65)                | (5,163)        | (100.1)         | (2,100)                                 | (29.0)                          | 201                           | 4   | (3,021)               |
| 38     | 240582 Truck & Motorcycle Retirement [BAAQMD program]                       | Reg.                | Climate                 | \$ 5.7                                    | \$ 0.3                                   | \$ 54.5  | \$ 6.0     | 9        | n/a                                     | n/a   | n/a   | n/a   | n/a                                    | n/a     | n/a                 | n/a            | (63.0)          | 0                                       | n/a                             | n/a                           | n/a   | n/a                   |
| 39     | n/a Local Streets and Roads Capital Maintenance Needs                       | Reg.                | Maintenance             | \$ -                                      | \$ 280.0                                 | \$ 1,369.3   | \$ 280.0   | 5        | n/a                                     | n/a   | n/a   | n/a   | n/a                                    | n/a     | n/a                 | n/a            | n/a             | n/a                                     | n/a                             | n/a                           | n/a   | n/a                   |
| 40     | 240410 Transportation for Livable Communities                               | Reg.                | TLC                     | \$ 7,131.3                                | 5 0.0                                    | \$ 874.8   | \$ 254.7   | 3        | (15.3)                                  | (0.6)   | (1.5)   | (1.7)   | 2.6                                    | (16.5)  | (392)               | (27,961)       | (7.7)           | (174)                                   | (4.2)                           | (298)                         | (461)                                       | 167,639               |
| 41     | 22247 Regional Bikeway Network  | Reg.                | Bike/Ped                | \$ 1,464.0                                | -  | \$ 124.5   | \$ 73.2    | 2        | (1.2)                                   | (0.1)   | (0.1)   | (0.1)   | 0.2                                    | (1.4)   | (34)                | (2,417)        | (0.7)           | (15)                                    | (0.4)                           | (26)                          | (40)  | 54,406                |
| 42     | n/a New Freedom Program   | Reg.                | Lifeline/New<br>Freedom | \$ -                                      | \$ 2.0                                   | \$ 3.3   | \$ 2.0     | 2        | n/a                                     | n/a   | n/a   | n/a   | n/a                                    | n/a     | n/a                 | n/a            | n/a             | n/a                                     | n/a                             | n/a                           | n/a   | n/a                   |
| 43     | 230550 Climate Initiatives (5-year program)                                 | Reg.                | Climate                 | \$ 560.0                                  | <b>;</b> -                               | \$ 158.0   | \$ 112.0   | 1        | (0.8)                                   | (0.0)   | (0.1)   | (0.1)   | 0.1                                    | (0.9)   | (21)                | (1,497)        | (0.4)           | (2,216)                                 | (0.2)                           | (16)                          | (25)  | n/a                   |
| 44     | n/a Transit Capital Maintenance Needs                                       | Reg.                | Maintenance             | \$ -                                      | \$ 1,285.7                               | \$ 1,787.1   | \$ 1,285.7 | 1        | n/a                                     | n/a   | n/a   | n/a   | n/a                                    | n/a     | n/a                 | n/a            | n/a             | n/a                                     | n/a                             | n/a                           | n/a   | n/a                   |
| 45     | 240577 Heavy-Duty Truck Replacement [BAAQMD program]                        | Reg.                | Climate                 | \$ 42.2                                   | \$ 1.8                                   | \$ 41.8  | \$ 44.0    | 1        | n/a                                     | n/a   | n/a   | n/a   | n/a                                    | n/a     | n/a                 | n/a            | (48.0)          | 0                                       | n/a                             | n/a                           | n/a   | n/a                   |
| 46     | 240589 EV Solar Installation [BAAQMD program]                               | Reg.                | Climate                 | \$ 1.3                                    | \$ 0.3                                   | \$ 1.1   | \$ 1.5     | 0.8      | n/a                                     | n/a   | n/a   | n/a   | n/a                                    | n/a     | n/a                 | n/a            | 0.0             | (13)                                    | n/a                             | n/a                           | n/a   | n/a                   |
| 47     | 240690 Lifeline Transportation Program                                      | Reg.                | Lifeline/New<br>Freedom | \$ -                                      | \$ 119.0                                 | \$ 10.0  | \$ 119.0   | 0.1      | (0.2)                                   | (0.0)   | (0.0)   | (0.0)   | 0.0                                    | (0.2)   | (6)                 | 418            | (0.1)           | (3)                                     | (0.1)                           | (4)                           | (7)   | n/a                   |
| 48     | 240694 Treasure Island Congestion Pricing                                   | SF                  | Pricing                 | \$ 58.9                                   | \$ -                                     | \$ 69.1  | \$ 1.2     | 59       | (2.3)                                   | (0.1)   | 1.3   | (0.5)   | 0.0                                    | (1.7)   | (25)                | (1,540)        | (1.4)           | (11)                                    | (0.2)                           | (18)                          | (25)  | 2,483                 |
| 49     | 240522 Congestion Pricing Pilot   | SF                  | Pricing                 | \$ 101.8                                  | <b>-</b>                                 | \$ 227.4   | \$ 5.1     | 45       | (6.3)                                   | (0.2)   | 4.3   | (1.5)   | 1.2                                    | (2.4)   | (85)                | (9,583)        | (4.6)           | (40)                                    | (1.0)                           | (75)                          | (91)  | 11,899                |
| 50     | 240171 SFMTA Transit Effectiveness Project                                  | SF                  | Transit<br>Efficiency   | \$ 156.9                                  | <b>-</b>                                 | \$ 89.5  | \$ 7.8     | 11       | (2.1)                                   | (0.2)   | 1.0   | (1.7)   | (0.1)                                  | (3.1)   | (11)                | (311)          | (1.5)           | (14)                                    | (0.1)                           | (8)                           | (10)  | (3,811)               |
| 51     | 230161 Van Ness Avenue BRT  | SF/3434             | Transit<br>Efficiency   | \$ 139.5                                  | <b>;</b> -                               | \$ 44.1  | \$ 7.0     | 6        | (1.2)                                   | (0.1)   | (0.4)   | (0.1)   | (0.1)                                  | (2.0)   | (11)                | (340)          | (0.9)           | (8)                                     | (0.1)                           | (9)                           | (12)  | 895                   |
| 52     | 240155 Better Market Street   | SF                  | Transit<br>Efficiency   | \$ 200.0                                  | <b>;</b> -                               | \$ 56.5  | \$ 10.0    | 6        | (2.0)                                   | (0.4)   | (0.9)   | (0.2)   | 0.3                                    | (3.1)   | (12)                | 436            | (0.4)           | (1)                                     | (0.2)                           | (14)                          | (2)   | (423)                 |
| 53     | 240557 Oakdale Caltrain Station   | SF                  | Transit<br>Efficiency   | \$ 51.2                                   | -  | \$ 2.8   | \$ 0.6     | 4        | (0.1)                                   | 0.0   | 0.1   | (0.0)   | (0.0)                                  | (0.0)   | (1)                 | (68)           | (0.1)           | (1)                                     | (0.0)                           | (1)                           | (2)   | 76                    |
| 54     | 230290 Transbay Transit Center - Phase 2B (Caltrain Downtown Extension)     | SF/3434             | Transit<br>Expansion    | \$ 2,348.0                                | 5 1.4                                    | \$ 107.9   | \$ 30.8    | 4        | (5.4)                                   | (0.2)   | 1.8   | (0.9)   | (0.0)                                  | (4.7)   | (22)                | (545)          | (1.0)           | (8)                                     | (0.2)                           | (14)                          | (22)  | 942                   |
| 55     | 240147 Southeast Waterfront Transportation Improvements                     | SF                  | Transit<br>Efficiency   | \$ 397.0                                  | 5 16.1                                   | \$ 88.1  | \$ 36.0    | 2        | (1.7)                                   | (0.1)   | 0.2   | (1.4)   | (0.1)                                  | (3.0)   | (12)                | (558)          | (1.0)           | (9)                                     | (0.2)                           | (13)                          | (11)  | (756)                 |
| 56     | 00MUNI Muni Service Frequency Improvements                                  | SF                  | Transit<br>Efficiency   | \$ -                                      | 5 14.0                                   | \$ 24.7  | \$ 14.0    | 2        | (0.2)                                   | 0.0   | 0.2   | (0.7)   | 0.0                                    | (0.7)   | (1)                 | (58)           | (0.0)           | (0)                                     | (0.0)                           | (2)                           | (1)   | (1,058)               |
| 57     | 230164 Geary Boulevard BRT  | SF                  | Transit<br>Efficiency   | \$ 172.3                                  | <b>5</b> -                               | \$ 15.1  | \$ 8.6     | 2        | (0.1)                                   | 0.0   | 0.1   | (0.3)   | (0.0)                                  | (0.3)   | (2)                 | (191)          | (0.1)           | (2)                                     | (0.0)                           | (1)                           | (2)   | 463                   |
| 58     | 240526 SFCTA Transit Performance Initiative                                 | SF                  | Transit<br>Efficiency   | \$ 489.8                                  | <b>5</b> -                               | \$ 28.4  | \$ 16.3    | 2        | (0.4)                                   | (0.1)   | (0.6)   | (0.1)   | (0.1)                                  | (1.2)   | (5)                 | (404)          | (0.4)           | (3)                                     | (0.1)                           | (4)                           | (5)   | 338                   |
| 59     | 240545 Parkmerced Light Rail Corridor                                       | SF                  | Transit<br>Efficiency   | \$ 76.0                                   | \$ 2.0                                   | \$ 6.3   | \$ 4.5     | 1        | (0.2)                                   | 0.1   | 0.4   | (0.2)   | (0.1)                                  | (0.0)   | (0)                 | (168)          | (0.1)           | (1)                                     | (0.0)                           | (1)                           | (0)   | (135)                 |
| 60     | 22415 Historic Streetcar Expansion Program                                  | SF                  | Transit<br>Efficiency   | \$ 66.4                                   | \$ 7.2                                   | \$ 8.6   | \$ 9.4     | 0.9      | (0.3)                                   | 0.0   | 0.1   | 0.0   | (0.2)                                  | (0.3)   | (1)                 | (306)          | (0.2)           | (1)                                     | (0.0)                           | (1)                           | (0)   | 76                    |
| 61     | 22274 ITS Improvements in San Mateo County                                  | SM                  | Road<br>Efficiency      | \$ 65.7                                   | 5 0.3                                    | \$ 56.0  | \$ 3.6     | 16       | (2.7)                                   | (0.2)   | (0.1)   | (0.0)   | (0.0)                                  | (3.0)   | (1)                 | (82)           | (1.8)           | (37)                                    | (0.5)                           | 4                             | 0   | (48)                  |

|      |  |          |                          |   |  |               |   |           |   |   | TRAVEL T  | IME BENEFITS  |  |        | TRAVEL COS        | T BENEFITS A   | AIR POLLUTA     | NT BENEFITS                             | COLLISION                       | IS & ACTIVE 1                 | TRANSPORT B                                 | BENEFITS              |
|------|--|----------|--------------------------|---|--|---------------|---|-----------|---|---|---|---|--|--------|-------------------|----------------|-----------------|---|---------------------------------|-------------------------------|---|-----------------------|
| Row# | Project ID Project Name  | County   | Project Type             | Project<br>Capital Costs<br>[in millions] | Net Annual<br>O&M Costs<br>[in millions] | 2035 Benefits | Total Annualized<br>2035 Costs<br>[in millions] | B/C Ratio | Auto/Truck [in<br>millions of<br>hours] | Auto/Truck<br>(Non-Recurr.<br>Delay) [in<br>millions of<br>hours] | Transit In-<br>Vehicle [in<br>millions of<br>hours] | Transit Out-of-<br>Vehicle [in<br>millions of<br>hours] | Walk/Bike [in<br>millions of<br>hours] | TOTAL  | VMT [in millions] | Vehicles Owned | PM2.5 [in tons] | CO2 [in<br>thousands of<br>metric tons] | Fatalities due to<br>Collisions | Injuries due to<br>Collisions | Property<br>Damage Only<br>(PDO) Collisions | Active<br>Individuals |
| 62   | 240026 SamTrans El Camino BRT  | SM       | Transit<br>Efficiency    | \$ 120.0                                  | \$ 19                                    | 0.0 \$ 59.1   | \$ 25.0   | 2         | (2.9)                                   | (0.2)   | 0.8   | (0.2)   | (0.0)                                  | (2.4)  | (14)              | (593)          | (1.7)           | (17)                                    | (0.1)                           | (10)                          | (13)  | 3,253                 |
| 63   | San Mateo Countywide Shuttle Service Frequency Improvements                    | SM       | Transit<br>Efficiency    | \$ -                                      | \$ 6                                     | 5.3 \$ 10.3   | \$ 6.3  | 2         | (0.5)                                   | 0.0   | 0.4   | (0.0)   | (0.0)                                  | (0.1)  | (7)               | (404)          | (0.4)           | (3)                                     | (0.1)                           | (5)                           | (6)   | 1,321                 |
| 64   | 240494 ITS Improvements in Santa Clara County                                  | SCL      | Road<br>Efficiency       | \$ 319.5                                  | \$ 32                                    | 2.0 \$ 752.2  | \$ 48.0   | 16        | (36.9)                                  | (2.3)   | (0.7)   | (0.2)   | (0.1)                                  | (40.3) | (15)              | (1,230)        | (23.7)          | (498)                                   | (6.9)                           | 48                            | 1   | (715)                 |
| 65   | SR-85 Auxiliary Lanes (El Camino Real to Winchester Boulevard)                 | SCL      | Road<br>Efficiency       | \$ 197.8                                  | \$ 1                                     | 7 \$ 81.0     | \$ 11.6   | 7         | (3.7)                                   | (1.1)   | (0.1)   | 0.0   | 0.0                                    | (4.9)  | 0                 | (179)          | (0.3)           | 2                                       | (0.1)                           | (9)                           | 16  | (125)                 |
| 66   | HOTd Silicon Valley Express Lanes Network                                      | SCL      | Express Lanes<br>Network | \$ 1,398.0                                | \$ -                                     | \$ 407.8      | \$ 69.9   | 6         | (13.4)                                  | (23.8)  | (2.6)   | (0.5)   | (0.3)                                  | (40.6) | 471               | 13,292         | 17.6            | 78                                      | 3.2                             | 208                           | 544   | (5,430)               |
| 67   | 240375 BART to San Jose/Santa Clara (Phase 2: Berryessa to Santa Clara)        | SCL/3434 | Transit<br>Expansion     | \$ 4,094.3                                | \$ 18                                    | 3.7 \$ 323.5  | \$ 69.9   | 5         | (8.5)                                   | (1.0)   | 3.4   | (2.9)   | (0.1)                                  | (9.1)  | (161)             | (6,667)        | (7.7)           | (63)                                    | (1.5)                           | (106)                         | (164)                                       | 12,117                |
| 68   | 230294 New SR-152 Alignment  | SCL      | Highway<br>Expansion     | \$ 775.8                                  | \$ 1                                     | 9 \$ 147.8    | \$ 40.7   | 4         | (8.0)                                   | (0.1)   | (0.1)   | 0.0   | (0.0)                                  | (8.1)  | 21                | 257            | (1.3)           | (6)                                     | (1.9)                           | (152)                         | 20  | (194)                 |
| 69   | 240119 VTA El Camino BRT   | SCL      | Transit<br>Efficiency    | \$ 239.0                                  | \$ -                                     | \$ 28.1       | \$ 12.0   | 2         | (0.9)                                   | (0.1)   | (0.0)   | (0.0)   | (0.1)                                  | (1.0)  | (12)              | (638)          | (0.8)           | (6)                                     | (0.1)                           | (8)                           | (12)  | 1,501                 |
| 70   | Capitol Expressway Light Rail Extension (Phase 2: to Eastridge Transit Center) | SCL      | Transit<br>Expansion     | \$ 276.0                                  | \$ 0                                     | 0.9 \$ 3.8    | \$ 8.3  | 0.5       | (0.3)                                   | 0.0   | 0.2   | 0.1   | (0.0)                                  | (0.0)  | (5)               | (297)          | (0.2)           | (1)                                     | (0.1)                           | (4)                           | (5)   | 1,012                 |
| 71   | 230547 Monterey Highway BRT  | SCL      | Transit<br>Efficiency    | \$ 140.0                                  | \$ 29                                    | 9.6 \$ 15.0   | \$ 36.6   | 0.4       | (0.2)                                   | 0.0   | 0.3   | (0.4)   | 0.0                                    | (0.3)  | (3)               | (203)          | (0.2)           | (2)                                     | (0.0)                           | (2)                           | (3)   | 297                   |
| 72   | 22019 Downtown East Valley (Phase 2: LRT)                                      | SCL/3434 | Transit<br>Expansion     | \$ 307.2                                  | \$ 5                                     | 5.4 \$ 4.8    | \$ 15.6   | 0.3       | (0.2)                                   | 0.0   | 0.3   | (0.0)   | (0.1)                                  | 0.0    | (3)               | (331)          | (0.2)           | (1)                                     | (0.0)                           | (4)                           | (3)   | 755                   |
| 73   | 230554 Sunnyvale-Cupertino BRT   | SCL      | Transit<br>Efficiency    | \$ 100.0                                  | \$ 21                                    | 1 \$ 4.8      | \$ 26.1   | 0.2       | (0.1)                                   | 0.0   | 0.1   | (0.1)   | 0.0                                    | (0.0)  | (0)               | (147)          | (0.1)           | (1)                                     | (0.0)                           | (0)                           | 0   | 959                   |
| 74   | 22978 Capitol Expressway Light Rail Extension (Phases 2 & 3: to Nieman)        | SCL      | Transit<br>Expansion     | \$ 434.8                                  | \$ 4                                     | 1.2 \$ 2.8    | \$ 18.7   | 0.2       | (0.3)                                   | (0.0)   | 0.3   | 0.1   | (0.0)                                  | 0.1    | (6)               | (414)          | (0.3)           | (2)                                     | (0.1)                           | (4)                           | (6)   | 1,407                 |
| 75   | 98119 Vasona Light Rail Extension (Phase 2)                                    | SCL      | Transit<br>Expansion     | \$ 176.0                                  | \$ 0                                     | 0.6 \$ 0.1    | \$ 6.5  | 0.0       | (0.2)                                   | 0.1   | 0.2   | 0.0   | (0.0)                                  | 0.1    | (3)               | (211)          | (0.1)           | (2)                                     | (0.0)                           | (2)                           | (3)   | 622                   |
| 76   | 230468 I-80 Auxiliary Lanes (Airbase Parkway to I-680)                         | SOL      | Road<br>Efficiency       | \$ 50.0                                   | \$ 1                                     | 0 \$ 18.0     | \$ 3.5  | 5         | (1.1)                                   | (0.1)   | 0.1   | 0.0   | 0.0                                    | (1.1)  | 3                 | (13)           | 0.1             | 2                                       | (0.1)                           | (9)                           | 4   | (399)                 |
| 77   | Fairfield/Vacaville Capitol Corridor Station (Phases 1, 2, and 3)              | SOL      | Transit<br>Efficiency    | \$ 54.0                                   | \$ -                                     | \$ 2.0        | \$ 0.7  | 3         | (0.2)                                   | 0.0   | 0.0   | (0.0)   | (0.0)                                  | (0.1)  | 1                 | (26)           | (0.1)           | (1)                                     | 0.0                             | 0                             | 1   | 26                    |
| 78   | 240650 Sonoma Countywide Bus Service Frequency Improvements                    | SON      | Transit<br>Efficiency    | \$ 427.8                                  | \$ 10                                    | 32.0          | \$ 41.0   | 0.8       | (0.6)                                   | (0.0)   | 0.6   | (0.5)   | (0.1)                                  | (0.6)  | (9)               | (914)          | (0.5)           | (3)                                     | (0.1)                           | (6)                           | (8)   | 2,594                 |



|                             |  |                            |              |                 |                                      |  |               |             |                                       | TRAVEL T               | IME BENEFIT                | S         |             |                      | TRAVEL COST            | BENEFITS  |         | AIR F    | OLLUTANT RE     | DUCTION BE | NEFITS      | COLLISIO                             | NS, ACTIVE TRANSP                                | ORT, & NOISE REDI     | JCTION BENEFIT | rs     |
|-----------------------------|--|----------------------------|--------------|-----------------|--------------------------------------|--|---------------|-------------|---------------------------------------|------------------------|----------------------------|-----------|-------------|----------------------|------------------------|-----------|---------|----------|-----------------|------------|-------------|--------------------------------------|--|-----------------------|----------------|--------|
| Row # Project l             | D Project Name Co  | ounty Projec               | t Type       | Capital Costs O | et Annual<br>&M Costs<br>n millions] | Total Annualized<br>2035 Benefits<br>[in millions] |               |             | Auto/ Truck<br>(Non-Recurr.<br>Delay) | Transit In-<br>Vehicle | Transit Out-of-<br>Vehicle | Walk/Bike | TOTAL       | Vehicle<br>Operating | Vehicle F<br>Ownership | Parking T | TOTAL   | PM2.5    | CO <sub>2</sub> | Other      | ΤΟΤΔΙ       | talities due to Inju<br>Collisions C | ries due to Property Damage Only (PDO) Collision | Active Transport<br>s | Noise T        | TOTAL  |
| 1 227                       | 80 AC Transit Grand-MacArthur BRT ALA  | /3434 Tra                  | nsit<br>ency | \$ 36.0 \$      | -                                    | \$ 31.5  | \$ 1.8 18     | \$ 22.6     | 2.2                                   | \$ (0.8)               | \$ 3.9                     | \$ (0.1)  | \$ 27.7     | 5 1.8                | \$ 0.3 \$              | 0.1 \$    | 2.3     | \$ 0.4   | \$ 0.5          | \$ 0.0     | \$ 0.9 \$   | 0.3 \$                               | 0.3 \$ 0.0                                       | \$ 0.1 \$             | 0.0 \$         | 0.7    |
| 2 220                       | 62 Irvington BART Station A  | ALA Effici                 |              | \$ 123.0 \$     | -                                    | \$ 18.7  | \$ 1.5 12     | \$ 10.7     | 1.3                                   | \$ (3.5)               | \$ 3.1                     | \$ 0.2    | \$ 11.8     | \$ 1.8               | \$ 2.2 \$              | 1.0 \$    | 5.1     | \$ 0.2   | \$ 0.2          | \$ 0.0     | \$ 0.4 \$   | 0.3 \$                               | 0.2 \$ 0.0                                       | \$ 0.9 \$             | 0.0 \$         | 1.5    |
| 3 945                       | 06 Fremont/Union City East-West Connector A  | ALA Expa                   | rial         | \$ 190.0 \$     | 0.5                                  | \$ 65.5  | \$ 10.0 7     | \$ 62.1     | 3.7                                   | \$ (0.2)               | \$ (0.8)                   | \$ (0.2)  | \$ 64.6     | \$ (0.7)             | \$ (1.0) \$            | (0.1) \$  | (1.8)   | \$ 0.8   | \$ 1.1          | \$ 0.0     | \$ 1.9 \$   | 0.6 \$                               | 0.7 \$ (0.0                                      | ) \$ (0.5) \$         | (0.0) \$       | 0.7    |
| 4 9820                      | 7T Alameda-Oakland BRT + Transit Access Improvements A   | ALA Effici                 | nsit         | \$ 15.8 \$      | 1.3                                  | \$ 13.6  | \$ 2.1 6      | \$ 1.9 \$   | 6 (0.4)                               | \$ 0.6                 | \$ 11.5                    | \$ (0.1)  | \$ 13.6     | \$ 0.2               | \$ (0.1) \$            | (0.0) \$  | 0.1     | \$ (0.0) | \$ (0.0)        | \$ (0.0)   | \$ (0.0) \$ | 0.1 \$                               | 0.1 \$ 0.0                                       | \$ (0.2) \$           | 0.0 \$         | (0.1)  |
| 5 224                       | 55 AC Transit East Bay BRT ALA   | /3434 Tra                  | nsit ,       | \$ 211.0 \$     | 1.0                                  | \$ 62.0  | \$ 11.6 5     | \$ 13.3 \$  | 0.6                                   | \$ 19.6                | \$ 30.2                    | \$ 1.6    | \$ 65.3     | \$ (1.8)             | \$ (1.2) \$            | (0.1) \$  | (3.1)   | \$ 0.1   | \$ 0.2          | \$ 0.0     | \$ 0.3 \$   | (0.2) \$                             | (0.2) \$ (0.0                                    | ) \$ (0.1) \$         | (0.0) \$       | (0.5)  |
|                             | 52, SR-84/I-680 Interchange Improvements + SR-84 Widening 76 (Jack London to I-680)                                      | ALA Expa                   | way          | \$ 380.5 \$     | 1.7                                  | \$ 87.1  | \$ 20.7 4     | \$ 83.4     | 10.8                                  | \$ 1.5                 | \$ (2.3)                   | \$ 0.1    | \$ 93.5     | \$ (4.4)             | \$ (2.8) \$            | (0.2) \$  | (7.4)   | \$ 0.7   | \$ 1.0          | \$ (0.0)   | \$ 1.7 \$   | 0.0 \$                               | 0.1 \$ (0.3                                      | ) \$ (0.7) \$         | (0.0) \$       | (0.7)  |
|                             | , i  | ALA Effici                 | nsit         | \$ 150.0 \$     | 8.1                                  | \$ 31.8  | \$ 16.4 2     | \$ 20.9     | 1.6                                   | \$ (8.1)               | \$ 5.5                     | \$ 0.1    | \$ 20.0     | \$ 4.8               | \$ 2.9 \$              | 0.5 \$    | 8.3     | \$ 0.4   | \$ 0.4          | \$ (0.0)   | \$ 0.7 \$   | 0.8 \$                               | 0.8 \$ 0.0                                       | \$ 1.2 \$             | 0.0 \$         | 2.8    |
| 8 LBA                       | BART to Livermore (Phase 1: 1-Station DMU Extension with Bus Enhancements)   | ALA Expa                   | nsit         | \$ 555.3 \$     | 10.1                                 | \$ 36.7  | \$ 28.6 1     | \$ 26.9     | 4.1                                   | \$ (21.5)              | \$ 13.0                    | \$ 1.4    | \$ 23.9     | \$ 5.4               | \$ 3.0 \$              | 0.7 \$    | 9.2     | \$ 0.7   | \$ 0.7          | \$ 0.0     | \$ 1.4 \$   | 0.8 \$                               | 0.8 \$ 0.0                                       | \$ 0.6 \$             | 0.0 \$         | 2.2    |
| 9 2401                      | 96 BART to Livermore (Phase 1: 1-Station Rail Extension with Bus Enhancements)   | ALA Expa                   | nsit         | \$ 1,134.5 \$   | 14.6                                 | \$ 49.6  | \$ 52.4 1     | \$ 36.4 \$  | 5.6                                   | \$ (29.0)              | \$ 17.5                    | \$ 1.9    | \$ 32.4     | \$ 7.3               | \$ 4.1 \$              | 1.0 \$    | 12.4    | \$ 0.9   | \$ 0.9          | \$ 0.0     | \$ 1.8 \$   | 1.0 \$                               | 1.0 \$ 0.3                                       | \$ 0.8 \$             | 0.1 \$         | 3.0    |
| 10 226                      | , i  | ALA Expa                   | nsit         | \$ 4,177.0 \$   | 14.2                                 | \$ 56.7  | \$ 153.4 0.4  | \$ 36.4     | 5.6                                   | \$ (21.9)              | \$ 17.5                    | \$ 1.9    | \$ 39.5     | 5 7.3                | \$ 4.1 \$              | 1.0 \$    | 12.4    | \$ 0.9   | \$ 0.9          | \$ 0.0     | \$ 1.8 \$   | 1.0 \$                               | 1.0 \$ 0.3                                       | \$ 0.8 \$             | 0.1 \$         | 3.0    |
| 11 2301                     | Union City Commuter Rail Station + Dumbarton Rail Segment G Improvements   | /3434 Effici               | nsit         | \$ 180.0 \$     | -                                    | \$ (0.1)   | \$ 2.3 0.0    | \$ 1.0 \$   | (1.2)                                 | \$ (0.1)               | \$ (0.2)                   | \$ 0.0    | \$ (0.5)    | \$ 0.2               | \$ 0.1 \$              | 0.0 \$    | 0.3     | \$ (0.0) | \$ (0.0)        | \$ 0.0     | \$ (0.0) \$ | 0.1 \$                               | 0.1 \$ 0.0                                       | \$ 0.0 \$             | 0.0 \$         | 0.2    |
| 12 224                      |  | CC High                    | way          | \$ 372.7 \$     | 1.9                                  | \$ 143.8   | \$ 20.6 7     | \$ 142.2 \$ | 3.6                                   | \$ (0.1)               | \$ (1.2)                   | \$ 0.3    | \$ 144.8    | \$ (5.2)             | \$ (2.3) \$            | - \$      | (7.5)   | \$ 1.3   | \$ 2.1          | \$ (0.0)   | \$ 3.4 \$   | 1.8 \$                               | 2.1 \$ (0.3                                      | ) \$ (0.7) \$         | (0.0) \$       | 3.1    |
|                             | 05, I-680/SR-4 Interchange Improvements + SR-4 Widening 50 (Morello Avenue to SR-242)                                    | CC High                    |              | \$ 396.3 \$     | 1.4                                  | \$ 65.4  | \$ 21.2 3     | \$ 47.5     | 7.8                                   | \$ 5.9                 | \$ 10.9                    | \$ (0.1)  | \$ 71.9     | \$ (1.5)             | \$ (3.4) \$            | - \$      | (4.9)   | \$ (0.1) | \$ (0.3)        | \$ (0.1)   | \$ (0.5)    | 0.2 \$                               | 0.4 \$ (0.0                                      | ) \$ (1.5) \$         | (0.0) \$       | (1.0)  |
| 14 226                      | 05 SR-4 Bypass Completion (SR-160 to Walnut Avenue)  | CC High                    |              | \$ 149.9 \$     | 1.1                                  | \$ 15.5  | \$ 8.6 2      | \$ 9.4 \$   | 0.2                                   | \$ (0.1)               | \$ 0.1                     | \$ 0.1    | \$ 9.7      | \$ 1.5               | \$ 0.2 \$              | 0.0 \$    | 1.7     | \$ (0.1) | \$ (0.4)        | \$ (0.0)   | \$ (0.6) \$ | 2.2 \$                               | 2.4 \$ 0.0                                       | \$ (0.0) \$           | 0.0 \$         | 4.6    |
| 15 223                      | 43 I-680 Express Bus Service Frequency Improvements (Phase 2)  | CC Tra                     |              | \$ 59.7 \$      | 6.4                                  | \$ 12.2  | \$ 10.7 1     | \$ 8.1 \$   | 6 (0.1)                               | \$ (2.5)               | \$ 3.1                     | \$ 0.1    | \$ 8.7      | \$ 1.1               | \$ 1.1 \$              | 0.0 \$    | 2.3     | \$ 0.2   | \$ 0.2          | \$ 0.0     | \$ 0.4 \$   | 0.2 \$                               | 0.2 \$ 0.0                                       | \$ 0.4 \$             | 0.0 \$         | 0.8    |
| 16 2302                     | 52 Marin Countywide Bus Service Frequency Improvements M   | IRN Effici                 | ,            | \$ - \$         | 12.3                                 | \$ 8.9   | \$ 12.3 0.7   | \$ 5.5 \$   | 0.1                                   | \$ (8.7)               | \$ 3.1                     | \$ 1.0    | \$ 1.0      | \$ 2.4               | \$ 3.0 \$              | - \$      | 5.3     | \$ 0.2   | \$ 0.2          | \$ 0.0     | \$ 0.3 \$   | 0.0 \$                               | 0.4 \$ 0.0                                       | \$ 1.8 \$             | 0.0 \$         | 2.2    |
| 17 2401                     | 82 BART Metro Program (including Bay Fair Connection and Civic Center Turnback)  | ti-Cty. Tra                |              | \$ 650.0 \$     | (18.5)                               | \$ 161.3   | \$ (10.4) >60 | \$ 50.1     | 3.8                                   | \$ (14.1)              | \$ 91.1                    | \$ 1.3    | \$ 132.2    | \$ 8.8               | \$ 8.6 \$              | 3.6 \$    | 21.0    | \$ 0.9   | \$ 0.9          | \$ 0.0     | \$ 1.9 \$   | 1.3 \$                               | 1.3 \$ 0.3                                       | \$ 3.3 \$             | 0.1 \$         | 6.2    |
| 18 24052<br>2400            |  | Ro                         | ad           | \$ 330.7 \$     | 2.8                                  | \$ 122.7   | \$ 19.3 6     | \$ 84.2     | 19.6                                  | \$ 5.7                 | \$ 1.2                     | \$ (1.5)  | \$ 109.3    | \$ 8.0               | \$ 2.8 \$              | 0.9 \$    | 11.7    | \$ 0.4   | \$ 0.0          | \$ (0.2)   | \$ 0.2 \$   | 0.8 \$                               | 0.9 \$ 0.0                                       | \$ (0.3) \$           | 0.1 \$         | 1.4    |
| 19 HO                       | Te CTC Application + Alameda County Authorized Lanes Express Muli  | ti-Cty. Express            |              | \$ 2,364.0 \$   | -                                    | \$ 601.6   | \$ 118.2 5    | \$ 252.7    | 412.3                                 | \$ 43.2                | \$ 20.6                    | \$ 4.3    | \$ 733.0    | \$ (66.0)            | \$ (34.3) \$           | (5.3) \$  | (105.5) | \$ (4.8) | \$ (2.2)        | \$ (0.7)   | \$ (7.6) \$ | (5.9) \$                             | (5.0) \$ (0.7)                                   | ) \$ (6.2) \$         | (0.6) \$       | (18.3) |
|                             | 34, Caltrain Service Frequency Improvements (6-Train Service 27 during Peak Hours) + Electrification (SF to Tamien)      | ti-Cty. Tra                |              | \$ 847.7 \$     | 5.6                                  | \$ 152.5   | \$ 33.9 5     | \$ 54.3     | 5.2                                   | \$ (16.7)              | \$ 52.8                    | \$ 0.2    | \$ 96.0     | \$ 19.4              | \$ 15.3 \$             | 6.3 \$    | 41.1    | \$ 1.4   | \$ 1.3          | \$ 0.0     | \$ 2.7 \$   | 2.7 \$                               | 2.7 \$ 0.2                                       | \$ 7.0 \$             | 0.2 \$         | 12.8   |
| 21 24032<br>24032           | 28, BRT, and Southern Intermodal Terminal) Muli  | ti-Cty. Tra                |              | \$ 215.7 \$     | 3.7                                  | \$ 36.1  | \$ 14.5 2     | \$ 25.2     | 0.7                                   | \$ 1.1                 | \$ 3.7                     | \$ 0.0    | \$ 30.8     | \$ 1.8               | \$ 1.1 \$              | 0.7 \$    | 3.6     | \$ 0.5   | \$ 0.5          | \$ 0.0     | \$ 1.0 \$   | 0.4 \$                               | 0.4 \$ 0.0                                       | \$ (0.1) \$           | 0.0 \$         | 0.7    |
| 22 00BA                     | RT BART Service Frequency Improvements Mult  | ti-Cty. Tra                | ,            | \$ 1,274.7 \$   | 13.1                                 | \$ 126.0   | \$ 55.6 2     | \$ 53.6     | 6.1                                   | \$ (20.0)              | \$ 51.5                    | \$ 0.8    | \$ 92.0     | \$ 11.7              | \$ 8.7 \$              | 3.7 \$    | 24.1    | \$ 1.3   | \$ 1.3          | \$ 0.1     | \$ 2.6 \$   | 1.8 \$                               | 1.8 \$ 0.3                                       | \$ 3.4 \$             | 0.1 \$         | 7.2    |
| 23 2306                     | 04 Bay Bridge Contraflow Lane Mult   | ti-Cty. Ro                 |              | \$ 610.5 \$     | -                                    | \$ 66.8  | \$ 30.5 2     | \$ 47.0     | (1.2)                                 | \$ 41.3                | \$ (11.5)                  | \$ (0.9)  | \$ 74.7     | \$ 2.1               | \$ (2.0) \$            | (2.1) \$  | (2.0)   | \$ 0.6   | \$ 0.6          | \$ 0.0     | \$ 1.2 \$   | (1.9) \$                             | (2.1) \$ (0.0                                    | ) \$ (3.2) \$         | 0.0 \$         | (7.1)  |
| 24 2400                     | 18 Dumbarton Corridor Express Bus Mul  | ti-Cty. Tra                |              | \$ 101.0 \$     | 4.5                                  | \$ 22.6  | \$ 11.7 2     | \$ 8.0      | 5 1.4                                 | \$ (6.8)               | \$ 14.7                    | \$ 0.7    | \$ 18.1     | \$ 1.6               | \$ 1.3 \$              | 0.3 \$    | 3.2     | \$ 0.2   | \$ 0.2          | \$ 0.0     | \$ 0.4 \$   | 0.0 \$                               | 0.3 \$ 0.0                                       | \$ 0.7 \$             | 0.0 \$         | 1.0    |
|                             | L12, L12, WETA Service Expansion (Treasure Island, Berkeley/Albany, Mult L13, Richmond, Hercules, and Redwood City) L10, | ti-Cty./ Tra<br>434 Expa   |              | \$ 320.2 \$     | 15.7                                 | \$ 41.3  | \$ 22.1 2     | \$ 46.5 \$  | 5 4.6                                 | \$ (10.7)              | \$ (20.9)                  | \$ (0.1)  | \$ 19.5 \$  | \$ 7.7               | \$ 5.0 \$              | 4.0 \$    | 16.7    | \$ 0.9   | \$ 0.9          | \$ 0.0     | \$ 1.8 \$   | 0.0 \$                               | 1.1 \$ 0.3                                       | \$ 2.1 \$             | 0.1 \$         | 3.4    |
| 26 2406                     | AC Transit Service Frequency Improvements (Restoration of  | ti-Cty. Effici             |              | \$ - \$         | 64.9                                 | \$ 108.5   | \$ 64.9 2     | \$ 29.4 \$  | 5 2.7                                 | \$ (29.5)              | \$ 84.9                    | \$ 2.4    | \$ 89.8     | \$ 8.1               | \$ 11.6 \$             | 0.7 \$    | 20.4    | \$ 0.7   | \$ 0.6          | \$ 0.0     | \$ 1.3 \$   | 1.3 \$                               | 1.3 \$ 0.3                                       | \$ (5.8) \$           | 0.1 \$         | (3.1)  |
| 27 2300                     |  | ti-Cty. Effici             | nsit         | \$ 34.4 \$      | 3.3                                  | \$ 5.8   | \$ 4.4 1      | \$ 6.7 \$   | 5 0.4                                 | \$ (7.5)               | \$ (0.1)                   | \$ 0.1    | \$ (0.4) \$ | 5 1.2                | \$ 1.8 \$              | 1.4 \$    | 4.5     | \$ 0.2   | \$ 0.2          | \$ 0.0     | \$ 0.4 \$   | 0.2 \$                               | 0.2 \$ 0.0                                       | \$ 0.8 \$             | 0.0 \$         | 1.3    |
| 24052<br>28 24013<br>216    | Caltrain Vision (10-Train Service during Peak Hours) +  84, Electrification (SE to Tamien)                               | ti-Cty. Tra                | nsit         | \$ 5,598.7 \$   | 33.7                                 | \$ 272.0   | \$ 220.3 1    | \$ 93.9     | 9.3                                   | \$ (36.4)              | \$ 100.2                   | \$ 1.9    | \$ 168.9    | \$ 34.8              | \$ 28.6 \$             | 11.8 \$   | 75.2    | \$ 2.8   | \$ 2.5          | \$ 0.1     | \$ 5.3 \$   | 5.0 \$                               | 4.8 \$ 0.3                                       | \$ 12.2 \$            | 0.3 \$         | 22.6   |
|                             |  | ti-Cty. Tra                |              | \$ 654.3 \$     | 463.6                                | \$ 605.7   | \$ 510.3 1    | \$ 212.2 \$ | 21.7                                  | \$ (208.1)             | \$ 410.4                   | \$ 10.2   | \$ 446.4    | \$ 48.6              | \$ 60.1 \$             | 14.7 \$   | 123.4   | \$ 4.3   | \$ 4.0          | \$ 0.1     | \$ 8.4 \$   | 7.6 \$                               | 7.5 \$ 0.4                                       | \$ 11.5 \$            | 0.4 \$         | 27.5   |
| 30 981 <sup>4</sup><br>2406 |  | ti-Cty. Ro                 | ad ,         | \$ 300.0 \$     | 2.7                                  | \$ 20.0  | \$ 17.7 1     | \$ 11.2 \$  | 6.0                                   | \$ 6.3                 | \$ 4.8                     | \$ (0.1)  | \$ 28.2     | \$ (3.9)             | \$ (1.5) \$            | (0.1) \$  | (5.5)   | \$ (0.3) | \$ (0.5)        | \$ (0.0)   | \$ (0.8)    | (0.5) \$                             | (0.5) \$ (0.0                                    | ) \$ (0.7) \$         | (0.0) \$       | (1.8)  |
| 31 2402                     |  | ti-Cty./ Tra<br>434 Expa   | nsit         | \$ 755.0 \$     | 11.1                                 | \$ 30.7  | \$ 36.3 0.8   | \$ 18.4 \$  | 2.6                                   | \$ (7.1)               | \$ 4.5                     | \$ 0.0    | \$ 18.5     | \$ 4.4               | \$ 3.2 \$              | 1.1 \$    | 8.6     | \$ 0.4   | \$ 0.4          | \$ 0.0     | \$ 0.9 \$   | 0.7 \$                               | 0.7 \$ 0.0                                       | \$ 1.1 \$             | 0.0 \$         | 2.6    |
| 32 24067<br>24067           | 76, SMART (Phase 2: Extensions to Cloverdale & Larkspur + IOS Mult   | ti-Cty./ Tra<br>434 Expa   | nsit         | \$ 282.9 \$     | 3.8                                  | \$ 9.7   | \$ 13.2 0.7   | \$ 4.1      | 1.1                                   | \$ (2.2)               | \$ 3.2                     | \$ 0.1    | \$ 6.2      | \$ 1.5               | \$ 1.0 \$              | 0.1 \$    | 2.6     | \$ 0.1   | \$ 0.1          | \$ 0.0     | \$ 0.2 \$   | 0.2 \$                               | 0.2 \$ 0.0                                       | \$ 0.3 \$             | 0.0 \$         | 0.7    |
| 33 23021<br>2303            |  | ti-Cty. Tra                |              | \$ 143.2 \$     | 18.9                                 | \$ 15.7  | \$ 29.1 0.5   | \$ 5.7      | 0.2                                   | \$ (5.3)               | \$ 10.7                    | \$ 0.7    | \$ 12.0     | 5 1.4                | \$ 0.9 \$              | 0.6 \$    | 2.9     | \$ 0.1   | \$ 0.1          | \$ 0.0     | \$ 0.3 \$   | 0.0 \$                               | 0.2 \$ 0.0                                       | \$ 0.3 \$             | 0.0 \$         | 0.6    |
| 34 981                      |  | ti-Cty./ Tra<br>434 Effici | nsit         | \$ 600.0 \$     | 46.5                                 | \$ 19.1  | \$ 66.5 0.3   | \$ 13.5     | 3.8                                   | \$ 2.7                 | \$ (11.0)                  | \$ 0.1    | \$ 9.1      | \$ 4.9               | \$ 1.9 \$              | 0.1 \$    | 6.8     | \$ 0.5   | \$ 0.4          | \$ 0.0     | \$ 1.0 \$   | 0.8 \$                               | 0.7 \$ 0.0                                       | \$ 0.7 \$             | 0.0 \$         | 2.3    |
| 35 220                      | Capitol Corridor Service Frequency Improvements (Oakland Mult  |                            | nsit         | \$ 508.5 \$     | 1.2                                  | \$ 1.0   | \$ 18.2 0.1   | \$ 1.8 \$   | 0.4                                   | \$ (0.4)               | \$ (0.7)                   | \$ 0.0    | \$ 1.2      | \$ (0.3)             | \$ 0.1 \$              | 0.0 \$    | (0.2)   | \$ 0.0   | \$ 0.0          | \$ 0.0     | \$ 0.0 \$   | (0.0) \$                             | (0.0) \$ (0.0                                    | ) \$ 0.0 \$           | (0.0) \$       | (0.0)  |
|                             |  | IAP Ro                     | ad ,         | \$ 60.0 \$      | 1.2                                  | \$ 10.9  | \$ 4.2 3      | \$ 6.1      | 2.6                                   | \$ 0.2                 | \$ (1.0)                   | \$ (0.1)  | \$ 7.8      | \$ 0.4               | \$ 0.3 \$              | - \$      | 0.7     | \$ (0.0) | \$ (0.2)        | \$ (0.0)   | \$ (0.2)    | 0.7 \$                               | 0.7 \$ 0.0                                       | \$ 1.2 \$             | 0.0 \$         | 2.6    |
| 37 2304                     | 19 Freeway Performance Initiative R  | leg. Fl                    |              | \$ 2,991.0 \$   | 54.2                                 | \$ 3,174.9   | \$ 202.5 16   | \$ 2,608.5  | 166.9                                 | \$ 46.9                | \$ 30.0                    | \$ 7.7    | \$ 2,860.0  | \$ 17.3              | \$ 19.0 \$             | (1.6) \$  | 34.7    | \$ 48.8  | \$ 116.3        | \$ 1.2     | \$ 166.3 \$ | 133.0 \$                             | (12.9) \$ (0.0                                   | ) \$ (6.3) \$         | 0.1 \$         | 113.9  |

|      |            |  |          |                          |   |  |  |            |           |            |                                       | TRAVEL TIM   | 1E BENEFITS              |           |         |                      | TRAVEL CO            | ST BENEFIT | S          | All     | POLLUTANT R | EDUCTION BENEF | ITS    | COLI                            | ISIONS, ACTIVE | TRANSPORT, & NOI                                    | E REDUCTION | BENEFITS     |
|------|------------|--|----------|--------------------------|---|--|--|------------|-----------|------------|---------------------------------------|--------------|--------------------------|-----------|---------|----------------------|----------------------|------------|------------|---------|-------------|----------------|--------|---------------------------------|----------------|---|-------------|--------------|
| Row# | Project ID | Project Name   | County   | Project Type             | Project<br>Capital Costs<br>[in millions] | Net Annual<br>O&M Costs<br>[in millions] | Total Annualized<br>2035 Benefits<br>[in millions] |            | B/C Ratio | Auto/Truck | Auto/ Truck<br>(Non-Recurr.<br>Delay) |              | ansit Out-of-<br>Vehicle | Walk/Bike | TOTAL   | Vehicle<br>Operating | Vehicle<br>Ownership | Parking    | TOTAL      | PM2.5   | CO2         | Other          | TOTAL  | Fatalities due to<br>Collisions | Collisions     | Property<br>mage Only Active Trans<br>O) Collisions | oort Noise  | TOTAL        |
| 38   | 240582     | Truck & Motorcycle Retirement [BAAQMD program]                                 | Reg.     | Climate                  | \$ 5.7                                    | \$ 0.3                                   | \$ 54.5  | \$ 6.0     | 9         | n/a        | n/a                                   | n/a          | n/a                      | n/a       | n/a     | n/a                  | n/a                  | n/a        | n/a        | \$ 30.9 | \$ -        | \$ 23.6 \$     | 54.5   | n/a                             | n/a            | n/a r   | /a n/a      | n/a          |
| 39   | n/a        | Local Streets and Roads Capital Maintenance Needs                              | Reg.     | Maintenance              | \$ -                                      | \$ 280.0                                 | \$ 1,369.3   | \$ 280.0   | 5         | n/a        | n/a                                   | n/a          | n/a                      | n/a       | n/a     | n/a                  | n/a                  | n/a        | n/a        | n/a     | n/a         | n/a            | n/a    | n/a                             | n/a            | n/a r   | /a n/a      | n/a          |
| 40   | 240410     | Transportation for Livable Communities   | Reg.     | TLC                      | \$ 7,131.3                                | \$ 0.0                                   | \$ 874.8   | \$ 254.7   | 3         | \$ 256.1   | \$ 10.3                               | \$ 23.8 \$   | 59.8 \$                  | (41.2) \$ | 308.8   | \$ 105.4 \$          | 175.9                | 26.1       | \$ 307.4   | \$ 3.7  | \$ 9.7      | \$ 0.6 \$      | 14.0   | \$ 19.4                         | \$ 19.1 \$     | 1.1 \$ 20   | .5 \$ 0.5   | \$ 244.6     |
| 41   | 22247      | Regional Bikeway Network   | Reg.     | Bike/Ped                 | \$ 1,464.0                                | \$ -                                     | \$ 124.5   | \$ 73.2    | 2         | \$ 22.2    | \$ 0.9                                | \$ 2.1 \$    | 5.2 \$                   | (3.6) \$  | 26.8    | \$ 9.1               | 15.2                 | 2.3        | \$ 26.6    | \$ 0.3  | \$ 0.8      | \$ 0.1 \$      | 1.2    | \$ 1.7                          | \$ 1.7 \$      | 0.1 \$ 6  | .4 \$ 0.0   | \$ 69.9      |
| 42   | n/a        | New Freedom Program  | Reg.     | Lifeline/New<br>Freedom  | \$ -                                      | \$ 2.0                                   | \$ 3.3   | \$ 2.0     | 2         | n/a        | n/a                                   | n/a          | n/a                      | n/a       | n/a     | n/a                  | n/a                  | n/a        | n/a        | n/a     | n/a         | n/a            | n/a    | n/a                             | n/a            | n/a r   | /a n/a      | n/a          |
| 43   | 230550     | Climate Initiatives (5-year program)   | Reg.     | Climate                  | \$ 560.0                                  | \$ -                                     | \$ 158.0   | \$ 112.0   | 1         | \$ 13.7    | \$ 0.6                                | \$ 1.3 \$    | 3.2 \$                   | (2.2) \$  | \$ 16.5 | \$ 5.6               | 9.4                  | 1.4        | \$ 16.5    | \$ 0.2  | \$ 122.6    | \$ 0.0 \$      | 122.9  | \$ 1.0                          | \$ 1.0 \$      | 0.1   | /a \$ 0.0   | \$ 2.1       |
| 44   | n/a        | Transit Capital Maintenance Needs  | Reg.     | Maintenance              | \$ -                                      | \$ 1,285.7                               | \$ 1,787.1   | \$ 1,285.7 | 1         | n/a        | n/a                                   | n/a          | n/a                      | n/a       | n/a     | n/a                  | n/a                  | n/a        | n/a        | n/a     | n/a         | n/a            | n/a    | n/a                             | n/a            | n/a r   | /a n/a      | n/a          |
| 45   | 240577     | Heavy-Duty Truck Replacement [BAAQMD program]                                  | Reg.     | Climate                  | \$ 42.2                                   | \$ 1.8                                   | \$ 41.8  | \$ 44.0    | 1         | n/a        | n/a                                   | n/a          | n/a                      | n/a       | n/a     | n/a                  | n/a                  | n/a        | n/a        | \$ 23.5 | \$ -        | \$ 18.3 \$     | 41.8   | n/a                             | n/a            | n/a r   | /a n/a      | n/a          |
| 46   | 240589     | EV Solar Installation [BAAQMD program]   | Reg.     | Climate                  | \$ 1.3                                    | \$ 0.3                                   | \$ 1.1   | \$ 1.5     | 0.8       | n/a        | n/a                                   | n/a          | n/a                      | n/a       | n/a     | n/a                  | n/a                  | n/a        | n/a        | \$ -    | \$ 0.7      | \$ 0.4 \$      | 1.1    | n/a                             | n/a            | n/a r   | /a n/a      | n/a          |
| 47   | 240690     | Lifeline Transportation Program  | Reg.     | Lifeline/New<br>Freedom  | \$ -                                      | \$ 119.0                                 | \$ 10.0  | \$ 119.0   | 0.1       | \$ 3.8     | \$ 0.2                                | \$ 0.4 \$    | 0.9 \$                   | (0.6) \$  | \$ 4.6  | \$ 1.6               | 2.6                  | 0.4        | \$ 4.6     | \$ 0.1  | \$ 0.1      | \$ 0.0 \$      | 0.2    | \$ 0.3                          | \$ 0.3 \$      | 0.0   | /a \$ 0.0   | \$ 0.6       |
| 48   | 240694     | Treasure Island Congestion Pricing   | SF       | Pricing                  | \$ 58.9                                   | \$ -                                     | \$ 69.1  | \$ 1.2     | 59        | \$ 39.4    | \$ 2.2                                | \$ (20.1) \$ | 18.3 \$                  | (0.1) \$  | 39.7    | \$ 7.1 \$            | 9.7                  | 6.0        | \$ 22.7    | \$ 0.7  | \$ 0.6      | \$ 0.0 \$      | 1.3    | \$ 1.1                          | \$ 1.1 \$      | 0.1 \$  | .0 \$ 0.1   | \$ 5.4       |
| 49   | 240522     | Congestion Pricing Pilot   | SF       | Pricing                  | \$ 101.8                                  | \$ -                                     | \$ 227.4   | \$ 5.1     | 45        | \$ 105.7   | \$ 2.8                                | \$ (68.2) \$ | 52.3 \$                  | (19.8) \$ | 72.7    | \$ 23.7              | 60.3                 | 41.6       | \$ 125.6   | \$ 2.2  | \$ 2.2      | \$ 0.1 \$      | 4.5    | \$ 4.8                          | \$ 4.8 \$      | 0.2 \$ 1  | .5 \$ 0.2   | 2 \$ 24.5    |
| 50   | 240171     | SFMTA Transit Effectiveness Project  | SF       | Transit<br>Efficiency    | \$ 156.9                                  | \$ -                                     | \$ 89.5  | \$ 7.8     | 11        | \$ 34.8    | \$ 3.1                                | \$ (16.5) \$ | 61.3 \$                  | 2.3       | \$ 85.0 | \$ 3.0 \$            | 2.0                  | 1.6        | \$ 6.6     | \$ 0.7  | \$ 0.8      | \$ 0.0 \$      | 1.5    | \$ 0.5                          | \$ 0.5 \$      | 0.0 \$ (  | .6) \$ 0.0  | \$ (3.6)     |
| 51   | 230161     | Van Ness Avenue BRT  | SF/3434  | Transit<br>Efficiency    | \$ 139.5                                  | \$ -                                     | \$ 44.1  | \$ 7.0     | 6         | \$ 20.8    | \$ 2.5                                | \$ 6.8 \$    | 3.4 \$                   | 1.4 \$    | 34.8    | \$ 3.1 \$            | 2.1                  | 1.4        | \$ 6.7     | \$ 0.5  | \$ 0.4      | \$ 0.0 \$      | 0.9    | \$ 0.0                          | \$ 0.6 \$      | 0.0 \$  | .1 \$ 0.0   | \$ 1.7       |
| 52   | 240155     | Better Market Street   | SF       | Transit<br>Efficiency    | \$ 200.0                                  | \$ -                                     | \$ 56.5  | \$ 10.0    | 6         | \$ 33.6    | \$ 6.5                                | \$ 14.9 \$   | 5.6 \$                   | (5.3) \$  | 55.2    | \$ 3.4 \$            | (0.5)                | (0.9)      | \$ 2.0     | \$ 0.2  | \$ 0.0      | \$ (0.0) \$    | 0.2    | \$ 0.8                          | \$ 0.9 \$      | 0.0 \$ (  | .7) \$ 0.0  | \$ (0.9)     |
| 53   | 240557     | Oakdale Caltrain Station   | SF       | Transit<br>Efficiency    | \$ 51.2                                   | \$ -                                     | \$ 2.8   | \$ 0.6     | 4         | \$ 2.4     | \$ (0.6)                              | \$ (2.0) \$  | 1.4 \$                   | 0.1       | 5 1.3   | \$ 0.4 \$            | 0.4                  | 0.2        | \$ 1.1     | \$ 0.1  | \$ 0.1      | \$ 0.0 \$      | 0.1    | \$ 0.1                          | \$ 0.1 \$      | 0.0 \$  | .1 \$ 0.0   | \$ 0.3       |
| 54   | 230290     | Transbay Transit Center - Phase 2B (Caltrain Downtown<br>Extension)            | SF/3434  | Transit<br>Expansion     | \$ 2,348.0                                | \$ 1.4                                   | \$ 107.9   | \$ 30.8    | 4         | \$ 87.9    | \$ 2.6                                | \$ (29.2) \$ | 31.4 \$                  | 0.7       | 93.3    | \$ 6.0               | 3.4                  | 2.1        | \$ 11.5    | \$ 0.5  | \$ 0.4      | \$ 0.0 \$      | 0.9    | \$ 0.0                          | \$ 0.9 \$      | 0.1 \$  | .1 \$ 0.1   | \$ 2.1       |
| 55   | 240147     | Southeast Waterfront Transportation Improvements                               | SF       | Transit<br>Efficiency    | \$ 397.0                                  | \$ 16.1                                  | \$ 88.1  | \$ 36.0    | 2         | \$ 28.1    | \$ 1.7                                | \$ (3.9) \$  | 50.2 \$                  | 0.9       | 5 77.0  | \$ 3.3 \$            | 3.5                  | 2.5        | \$ 9.3     | \$ 0.5  | \$ 0.5      | \$ 0.0 \$      | 1.0    | \$ 0.8                          | \$ 0.8 \$      | 0.0 \$ (  | .9) \$ 0.0  | \$ 0.7       |
| 56   | 00MUNI     | Muni Service Frequency Improvements  | SF       | Transit<br>Efficiency    | \$ -                                      | \$ 14.0                                  | \$ 24.7  | \$ 14.0    | 2         | \$ 3.3     | \$ (0.3)                              | \$ (2.6) \$  | 25.1 \$                  | (0.4)     | \$ 25.0 | \$ 0.2               | 0.4                  | 0.3        | \$ 0.8     | \$ 0.0  | \$ 0.0      | \$ (0.0) \$    | 0.0    | \$ 0.1                          | \$ 0.1 \$      | 0.0 \$ (  | .3) \$ 0.0  | \$ (1.1)     |
| 57   | 230164     | Geary Boulevard BRT  | SF       | Transit<br>Efficiency    | \$ 172.3                                  | \$ -                                     | \$ 15.1  | \$ 8.6     | 2         | \$ 2.2     | \$ (0.7)                              | \$ (1.9) \$  | 11.2 \$                  | 0.8 \$    | 11.5    | \$ 0.6               | 1.2                  | 0.9        | \$ 2.7     | \$ 0.1  | \$ 0.1      | \$ 0.0 \$      | 0.2    | \$ 0.1                          | \$ 0.1 \$      | 0.0 \$  | .6 \$ 0.0   | \$ 0.8       |
| 58   | 240526     | SFCTA Transit Performance Initiative   | SF       | Transit<br>Efficiency    | \$ 489.8                                  | \$ -                                     | \$ 28.4  | \$ 16.3    | 2         | \$ 7.1     | \$ 0.9                                | \$ 9.4 \$    | 2.6 \$                   | 1.1 \$    | 5 21.1  | \$ 1.3 \$            | 2.5                  | 2.0        | \$ 5.9     | \$ 0.2  | \$ 0.2      | \$ 0.0 \$      | 0.4    | \$ 0.3                          | \$ 0.3 \$      | 0.0 \$  | .4 \$ 0.0   | \$ 1.0       |
| 59   | 240545     | Parkmerced Light Rail Corridor   | SF       | Transit<br>Efficiency    | \$ 76.0                                   | \$ 2.0                                   | \$ 6.3   | \$ 4.5     | 1         | \$ 3.7     | \$ (1.2)                              | \$ (5.9) \$  | 6.1 \$                   | 1.5 \$    | \$ 4.2  | \$ 0.1 \$            | 1.1                  | 0.8        | \$ 2.0     | \$ 0.1  | \$ 0.1      | \$ 0.0 \$      | 0.1    | \$ 0.1                          | \$ 0.1 \$      | 0.0 \$ (  | .2) \$ 0.0  | \$ (0.1)     |
| 60   | 22415      | Historic Streetcar Expansion Program   | SF       | Transit<br>Efficiency    | \$ 66.4                                   | \$ 7.2                                   | \$ 8.6   | \$ 9.4     | 0.9       | \$ 4.9     | \$ (0.1)                              | \$ (1.4) \$  | (1.6) \$                 | 2.6       | \$ 4.4  | \$ 0.2               | 1.9                  | 1.6        | \$ 3.7     | \$ 0.1  | \$ 0.1      | \$ 0.0 \$      | 0.2    | \$ 0.1                          | \$ 0.1 \$      | 0.0 \$  | .1 \$ 0.0   | \$ 0.3       |
| 61   | 22274      | ITS Improvements in San Mateo County   | SM       | Road<br>Efficiency       | \$ 65.7                                   | \$ 0.3                                   | \$ 56.0  | \$ 3.6     | 16        | \$ 46.0    | \$ 2.9                                | \$ 0.8 \$    | 0.5 \$                   | 0.1 \$    | 5 50.4  | \$ 0.3               | 0.3                  | (0.0)      | \$ 0.6     | \$ 0.9  | \$ 2.0      | \$ 0.0 \$      | 2.9    | \$ 2.3                          | \$ (0.2) \$    | (0.0) \$ (  | .1) \$ 0.0  | \$ 2.0       |
| 62   |            | SamTrans El Camino BRT   | SM       | Transit<br>Efficiency    | \$ 120.0                                  | \$ 19.0                                  | \$ 59.1  | \$ 25.0    | 2         | \$ 47.9    | \$ 3.1                                | \$ (13.4) \$ | 6.6 \$                   | 0.4 \$    | \$ 44.7 | \$ 3.9 \$            | 3.7                  | 0.3        | \$ 7.9     | \$ 0.8  | \$ 1.0      | \$ 0.0 \$      | 1.8    | \$ 0.0                          | \$ 0.6 \$      | 0.0 \$  | .0 \$ 0.0   | \$ 4.6       |
| 63   | 22268      | San Mateo Countywide Shuttle Service Frequency<br>Improvements                 | SM       | Transit<br>Efficiency    | \$ -                                      | \$ 6.3                                   | \$ 10.3  | \$ 6.3     | 2         | \$ 8.6     | \$ (0.3)                              | \$ (6.9) \$  | 1.2 \$                   | 0.3       | \$ 3.0  | \$ 1.9 \$            | 2.5                  | 0.2        | \$ 4.7     | \$ 0.2  | \$ 0.1      | \$ 0.0 \$      | 0.3    | \$ 0.3                          | \$ 0.3 \$      | 0.0 \$  | .6 \$ 0.0   | \$ 2.2       |
| 64   |            | ITS Improvements in Santa Clara County   | SCL      | Road<br>Efficiency       | \$ 319.5                                  | \$ 32.0                                  | \$ 752.2   | \$ 48.0    | 16        | \$ 618.0   | \$ 39.5                               | \$ 11.1 \$   | 7.1 \$                   | 1.8 \$    | 677.6   | \$ 4.1 \$            | 4.5                  | (0.4)      | \$ 8.2     | \$ 11.6 | \$ 27.5     | \$ 0.3 \$      | 39.4   | \$ 31.5                         | \$ (3.0) \$    | (0.0) \$ (  | .5) \$ 0.0  | \$ 27.0      |
| 65   | 240431     | SR-85 Auxiliary Lanes (El Camino Real to Winchester<br>Boulevard)              | SCL      | Road<br>Efficiency       | \$ 197.8                                  | \$ 1.7                                   | \$ 81.0  | \$ 11.6    | 7         | \$ 61.9    | \$ 19.3                               | \$ 1.3 \$    | (0.8) \$                 | (0.1) \$  | \$ 81.6 | \$ (0.1)             | (1.1)                | (0.0)      | \$ (1.2)   | \$ 0.1  | \$ (0.1)    | \$ (0.1) \$    | (0.1)  | \$ 0.4                          | \$ 0.6 \$      | (0.0) \$ (  | .2) \$ (0.0 | 0) \$ 0.8    |
| 66   |            | Silicon Valley Express Lanes Network   | SCL      | Express Lanes<br>Network | \$ 1,398.0                                | \$ -                                     | \$ 407.8   | \$ 69.9    | 6         | \$ 210.7   | \$ 404.0                              | \$ 41.0 \$   | 18.5 \$                  | 5.5 \$    | 679.6   | \$ (132.0)           | (83.6)               | (5.5)      | \$ (221.1) | \$ (8.6 | ) \$ (4.3)  | \$ (0.9) \$    | (13.8) | \$ (14.5)                       | \$ (13.3) \$   | (1.3) \$ (  | .6) \$ (1.2 | 2) \$ (37.0) |
| 67   | 740375     | BART to San Jose/Santa Clara (Phase 2: Berryessa to Santa<br>Clara)            | SCL/3434 | Transit<br>Expansion     | \$ 4,094.3                                | \$ 18.7                                  | \$ 323.5   | \$ 69.9    | 5         | \$ 142.3   | \$ 16.5                               | \$ (55.1) \$ | 101.8 \$                 | 1.7 \$    | 207.3   | \$ 45.3              | 33.7                 | 3.9        | \$ 82.9    | \$ 3.7  | \$ 3.5      | \$ 0.1 \$      | 7.3    | \$ 6.9                          | \$ 6.8 \$      | 0.4 \$ 1  | .6 \$ 0.4   | \$ 26.0      |
| 68   | 230294     | New SR-152 Alignment   | SCL      | Highway<br>Expansion     | \$ 775.8                                  | \$ 1.9                                   | \$ 147.8   | \$ 40.7    | 4         | \$ 134.1   | \$ 1.0                                | \$ 1.0 \$    | (0.1) \$                 | 0.4       | 136.4   | \$ (6.0)             | (1.6)                | (0.0)      | \$ (7.6)   | \$ 0.6  | \$ 0.3      | \$ (0.0) \$    | 0.9    | \$ 8.8                          | \$ 9.7 \$      | (0.1) \$ (  | .2) \$ (0.1 | 1) \$ 18.2   |
| 69   |            | VTA El Camino BRT  | SCL      | Transit<br>Efficiency    | \$ 239.0                                  | \$ -                                     | \$ 28.1  | \$ 12.0    | 2         | \$ 14.9    | \$ 1.4                                | \$ 0.1 \$    | 0.3 \$                   | 0.9       | 17.5    | \$ 3.4 \$            | 4.0                  | 0.1        | \$ 7.5     | \$ 0.4  | \$ 0.3      | \$ 0.0 \$      | 0.7    | \$ 0.0                          | \$ 0.5 \$      | 0.0 \$  | .8 \$ 0.0   | \$ 2.4       |
| 70   | 22956      | Capitol Expressway Light Rail Extension (Phase 2: to Eastridge Transit Center) | SCL      | Transit<br>Expansion     | \$ 276.0                                  | \$ 0.9                                   | \$ 3.8   | \$ 8.3     | 0.5       | \$ 5.1     | \$ (0.2)                              | \$ (3.3) \$  | (2.7) \$                 | 0.0 \$    | 5 (1.1) | \$ 1.3 \$            | 1.9 \$               | 0.1        | \$ 3.3     | \$ 0.1  | \$ 0.0      | \$ 0.0 \$      | 0.1    | \$ 0.0                          | \$ 0.3 \$      | 0.0 \$  | .2 \$ 0.0   | \$ 1.5       |
| 71   | 230547     | Monterey Highway BRT   | SCL      | Transit<br>Efficiency    | \$ 140.0                                  | \$ 29.6                                  | \$ 15.0  | \$ 36.6    | 0.4       | \$ 3.8     | \$ (0.4)                              | \$ (4.8) \$  | 14.0 \$                  | (0.5)     | 5 12.1  | \$ 0.7               | 1.3                  | 0.0        | \$ 2.1     | \$ 0.1  | \$ 0.1      | \$ 0.0 \$      | 0.2    | \$ 0.1                          | \$ 0.1 \$      | 0.0 \$  | .4 \$ 0.0   | \$ 0.6       |
| 72   | 22019      | Downtown East Valley (Phase 2: LRT)  | SCL/3434 | Transit<br>Expansion     | \$ 307.2                                  | \$ 5.4                                   | \$ 4.8   | \$ 15.6    | 0.3       | \$ 2.9     | \$ (0.5)                              | \$ (4.2) \$  | 1.3 \$                   | 0.8       | 5 0.4   | \$ 0.9               | 2.1                  | 0.1        | \$ 3.0     | \$ 0.1  | \$ 0.1      | \$ 0.0 \$      | 0.2    | \$ 0.0                          | \$ 0.2 \$      | 0.0 \$  | .9 \$ 0.0   | \$ 1.2       |
| 73   |            | Sunnyvale-Cupertino BRT  | SCL      | Transit<br>Efficiency    | \$ 100.0                                  | \$ 21.1                                  | \$ 4.8   | \$ 26.1    | 0.2       | \$ 2.5     | \$ (0.8)                              | \$ (2.4) \$  | 3.3 \$                   | (0.1)     | 2.5     | \$ 0.1               | 0.9                  | 0.0        | \$ 1.0     | \$ 0.1  | \$ 0.1      | \$ 0.0 \$      | 0.1    | \$ 0.0                          | \$ 0.0 \$      | (0.0) \$  | .2 \$ 0.0   | \$ 1.2       |
| 74   | 22978      | Capitol Expressway Light Rail Extension (Phases 2 & 3: to<br>Nieman)           | SCL      | Transit<br>Expansion     | \$ 434.8                                  | \$ 4.2                                   | \$ 2.8   | \$ 18.7    | 0.2       | \$ 4.8     | \$ 0.6                                | \$ (5.3) \$  | (4.2) \$                 | 0.1 \$    | (3.8)   | \$ 1.7               | 2.6                  | 0.1        | \$ 4.4     | \$ 0.1  | \$ 0.1      | \$ 0.0 \$      | 0.2    | \$ 0.0                          | \$ 0.3 \$      | 0.0 \$  | .7 \$ 0.0   | \$ 2.0       |
| 75   | 98119      | Vasona Light Rail Extension (Phase 2)  | SCL      | Transit<br>Expansion     | \$ 176.0                                  | \$ 0.6                                   | \$ 0.1   | \$ 6.5     | 0.0       | \$ 3.0     | \$ (1.8)                              | \$ (2.9) \$  | (1.6) \$                 | 0.1       | (3.2)   | \$ 0.7               | 1.3                  | 0.0        | \$ 2.1     | \$ 0.1  | \$ 0.1      | \$ 0.0 \$      | 0.2    | \$ 0.1                          | \$ 0.1 \$      | 0.0 \$  | .8 \$ 0.0   | \$ 1.1       |
| 76   | 230468     | I-80 Auxiliary Lanes (Airbase Parkway to I-680)                                | SOL      | Road<br>Efficiency       | \$ 50.0                                   | \$ 1.0                                   | \$ 18.0  | \$ 3.5     | 5         | \$ 18.9    | \$ 2.1                                | \$ (1.6) \$  | (0.9) \$                 | (0.1)     | 18.3    | \$ (0.8)             | 0.1                  | (0.0)      | \$ (0.7)   | \$ (0.0 | ) \$ (0.1)  | \$ (0.0) \$    | (0.2)  | \$ 0.5                          | \$ 0.6 \$      | (0.0) \$ (  | .5) \$ (0.0 | 0) \$ 0.6    |
| 77   | 21341      | Fairfield/Vacaville Capitol Corridor Station (Phases 1, 2, and 3)              | SOL      | Transit<br>Efficiency    | \$ 54.0                                   | \$ -                                     | \$ 2.0   | \$ 0.7     | 3         | \$ 2.8     | \$ (0.7)                              | \$ (0.7) \$  | 0.6 \$                   | 0.0       | \$ 2.0  | \$ (0.3)             | 0.2                  | 0.0        | \$ (0.1)   | \$ 0.0  | \$ 0.0      | \$ (0.0) \$    | 0.1    | \$ (0.0)                        | \$ (0.0) \$    | (0.0) \$  | .0 \$ (0.0  | 0.0          |
| 78   | 240650     | Sonoma Countywide Bus Service Frequency Improvements                           | SON      | Transit<br>Efficiency    | \$ 427.8                                  | \$ 10.4                                  | \$ 32.0  | \$ 41.0    | 0.8       | \$ 10.0    | \$ 0.2                                | \$ (10.2) \$ | 17.4 \$                  | 1.4 \$    | 18.8    | \$ 2.5               | 5.7                  | 0.9        | \$ 9.2     | \$ 0.2  | \$ 0.1      | \$ (0.0) \$    | 0.4    | \$ 0.0                          | \$ 0.4 \$      | 0.0 \$  | .2 \$ 0.0   | \$ 3.6       |





## Memorandum

TO: Dave Vautin, MTC

FROM: Krista Jeannotte and Doug Sallman

DATE: January 23, 2012

RE: Plan Bay Area Project Assessment: Benefit-Cost Analysis Sensitivity Testing

The following memorandum summarizes the sensitivity testing results for the Plan Bay Area Project Performance Assessment benefit-cost (B/C) analysis. The following sensitivity assessments were performed in order to measure how the analysis results could be affected by changes in methodological and technical assumptions:

- 1. Valuing nonrecurring delay at three (3) times the travel time value;
- 2. Adjusting transit operations and maintenance (O&M) costs to reflect potential cost savings;
- 3. Valuing CO<sub>2</sub> at a substantially higher value of \$178.33 per ton;
- 4. Slightly adjusting collision valuations to match USDOT standards for the value of life;
- 5. Increasing the noise valuation;
- 6. Decreasing travel time valuations substantially.

For each sensitivity test, detailed tables (included in Appendix A) present the total annualized benefits, total annualized costs, B/C ratio, and ranking from highest B/C to lowest, for both the original B/C assessment and then adjusted to reflect the impact of the particular sensitivity test. The B/C ratios are color coded according to high, medium-high, medium-low, and low ratings as shown in the table to the right. In addition, summary tables are provided for each sensitivity test, highlighting projects with significant changes to their B/C ratios, B/C ranking, and/or B/C rating.

| B/C RATIO - COLOR           | KEY |
|-----------------------------|-----|
| High B/C                    |     |
| (B/C ratio greater than 10) |     |
| Medium-High B/C             |     |
| (B/C ratio between 5 and 9) |     |
| Medium-Low B/C              |     |
| (B/C ratio between 1 and 4) |     |
| Low B/C                     |     |
| (B/C ratio less than 1)     |     |

## (1) Valuing Nonrecurring Delay at Three Times the Value of Travel Time

## **Test Rationale**

The previous RTP analysis (2007) used a value equal to three times the recurring in-vehicle travel time. More recent research under the Strategic Highway Research Program (SHRP) suggests a lower valuation – in the range of 0.9 to 1.2 times the value of recurring in-vehicle travel time – is more appropriate for application to non-recurring travel time. Therefore, the benefit valuation for non-recurring travel time delay for the Plan Bay Area performance assessment was set to a value equal to the value used for recurring travel time to reflect this new research. For this sensitivity test, nonrecurring delay was valued at three times the travel time value, consistent with the 2007 RTP performance assessment.

## **Key Impacts for Specific Projects**

As visible in the Appendix Table A-1, this sensitivity test resulted in some shifting of projects within the B/C ratings and rankings:

- Three projects, SR-85 Auxiliary Lanes, Silicon Valley Express Lanes Network, and CTC Application + Alameda County Authorized Lanes Express Lanes Network, shifted from medium-high B/C rating to high with B/C ratios more than doubling the original B/C value for two of the cases. Two of these projects also realized the greatest movement in the rankings with the Silicon Valley Express Lanes project moving from a rank of 17 to 5 and CTC Application + Alameda County Authorized Lanes Express Lanes Network moving from 20 to 11.
- BART to San Jose/Santa Clara (Phase 2: Berryessa to Santa Clara) and SR-84/I-680 Interchange Improvements + SR-84 Widening (Pigeon Pass to I-680) also moved up in their tiering from medium-low to medium-high.
- Two of the project B/C ratings shifted downward, from medium-low to low, Fairfield/Vacaville Capitol Corridor Station (Phases 1, 2, and 3) and Parkmerced Light Rail Corridor. The Fairfield/Vacaville station project decreased in rankings from 31 to 63. This degradation in project performance is due to both projects having substantial disbenefits from non-recurring delay.
- Dumbarton Transit Corridor (Phase 2: Commuter Rail) shifted from low to medium-low rating.

The key changes in B/C results are shown in Table 1.



Table 1. Key B/C Changes for Sensitivity Test - Three Times Non-Recurring Delay Value

| Alt   | RTPID#           | Alternative  | Mode               | County           | Original Total<br>Annualized<br>Benefits (in<br>millions of<br>2013 dollars) | Adjusted<br>Total<br>Annualized<br>Benefits (in<br>millions of<br>2013 dollars) | Original Total<br>Annualized<br>Costs (in<br>millions of<br>2013 dollars) | Adjusted Total Annualized Costs (in millions of 2013 dollars) | Original<br>B/C | Adjusted<br>B/C | Percent<br>Change<br>B/C | Original<br>Rank | Adjusted<br>Rank |
|-------|------------------|--|--------------------|------------------|--|---|---|---|-----------------|-----------------|--------------------------|------------------|------------------|
|       |                  | Silicon Valley Express Lanes   | Express Lanes      | Multi-           |  |   |   |   |                 |                 |                          |                  |                  |
| Alt36 | HOTd             | Network  | Network            | County           | \$408  | \$1,216   | \$70  | \$70  | 6               | 17              | 198%                     | 17               | 5                |
| Alt49 | НОТе             | CTC Application + Alameda<br>County Authorized Lanes Express<br>Lanes Network      |                    | Multi-<br>County | \$602  | \$1,426   | \$118   | \$118   | 5               | 12              | 137%                     | 20               | 11               |
| Alt61 | 22009            | Capitol Corridor Service   | Transit Efficiency | Multi-           | \$1  | \$2   | \$18  | \$18  | 0.1             | 0.1             | 84%                      | 75               | 75               |
| Alt1  | 98147,<br>240691 | Marin-Sonoma Narrows (Phase 2: HOV Lanes)  |                    | Multi-<br>County | \$20   | \$32  | \$18  | \$18  | 1               | 2               | 60%                      | 58               | 43               |
| Alt25 | 240431           | SR-85 Auxiliary Lanes (El Camino<br>Real to Winchester Boulevard)                  |                    | Santa<br>Clara   | \$81   | \$120   | \$12  | \$12  | 7               | 10              | 48%                      | 12               | 12               |
| Alt23 | 240062           | SR-84/I-680 Interchange<br>Improvements + SR-84 Widening<br>(Pigeon Pass to I-680) | Highway Expansion  | Alameda          | \$87   | \$109   | \$21  | \$21  | 4               | 5               | 25%                      | 26               | 22               |
| Alt74 | 240216           | Dumbarton Transit Corridor<br>(Phase 2: Commuter Rail)                             | <b>-</b>           | Alameda          | \$31   | \$36  | \$36  | \$36  | 0.8             | 1               | 17%                      | 62               | 58               |
|       |                  | BART to San Jose/Santa Clara<br>(Phase 2: Berryessa to Santa                       |                    | Santa            |  |   |   |   |                 |                 |                          |                  |                  |
| Alt13 | 240375           | Clara)   | Transit Expansion  | Clara            | \$324  | \$357   | \$70  | \$70  | 5               | 5               | 10%                      | 23               | 23               |
| Alt91 | 98207T           | Access Improvements  | Transit Efficiency | Alameda          | \$14   | \$13  | \$2   | \$2   | 6               | 6               | -5%                      | 14               | 20               |
| Alt55 |                  | Parkmerced Light Rail Corridor   | Transit Efficiency | San<br>Francisco | \$6  | \$4   | \$5   | \$5   | 1               | 0.9             | -37%                     | 52               | 62               |
| Alt56 | 240557           | Oakdale Caltrain Station   |                    | San              | \$3<br>\$2   | \$2<br>\$1  | \$1<br>64   | \$1   | 4               | 3               | -42%                     | 25               | 34               |
| Alt51 | 21341            | Fairfield/Vacaville Capitol  | Transit Efficiency | Solano           | <b>\$2</b>   | <b>\$1</b>  | \$1   | \$1   | 3               | 0.8             | -72%                     | 31               | 63               |

## **Key Impacts by Project Type**

**Highway Expansion** – B/C ratios increased nominally for all of the highway expansion projects. There were no significant changes in rankings, except for SR-239 Expressway Construction (Brentwood to Tracy) which decreased from a ranking of 11 to 15, mostly as a result of other projects improving.

**Road Efficiency** – B/C ratios increased moderately for road efficiency projects. The most significant improvement in ranking was for Marin-Sonoma Narrows (Phase 2: HOV Lanes) which increased in B/C from 1 to 2 and a ranking of 58 to 43.

**Transit Efficiency** – B/C ratio changes were mixed for transit efficiency as a result of this sensitivity test. Two projects ratings decreased from medium-low to low (Fairfield/Vacaville Capitol Corridor Station and Parkmerced Light Rail Corridor).

**Transit Expansion** - Impacts of the sensitivity text on transit expansion was nominal.



## (2) Adjusted Transit O&M Costs

## **Test Rationale**

For this test, O&M costs were adjusted to reflect a ten percent reduction in projects' gross O&M costs (due to potential cost savings from MTC's Transit Sustainability Project). Net O&M costs for these projects were then recalculated using the same farebox recovery ratios.

## **Key Impacts for Specific Projects**

Appendix Table A-2 presents the results of this adjusted transit O&M cost sensitivity test. Few projects were impacted by this test but two projects did shift in rating, BART to San Jose/Santa Clara (Phase 2: Berryessa to Santa Clara) and Historic Streetcar Expansion Program, improved from the medium-high to high and low to medium-low rating, respectively. The Alameda-Oakland BRT + Transit Access Improvements project improved in ranking from 14 to 11. The key changes in B/C are shown in Table 2.

Table 2. Key B/C Changes for Sensitivity Test - Adjusted Transit O&M Costs

|       |         |                                   |                    |             | Original Total<br>Annualized | Adjusted<br>Total<br>Annualized | Original Total Annualized | Adjusted<br>Total<br>Annualized |          |          |         |          |          |
|-------|---------|-----------------------------------|--------------------|-------------|------------------------------|---------------------------------|---------------------------|---------------------------------|----------|----------|---------|----------|----------|
|       |         |                                   |                    |             | Benefits (in                 | Benefits (in                    | Costs (in                 | Costs (in                       |          |          | Percent |          |          |
|       |         |                                   |                    |             | millions of                  | millions of                     | millions of               | millions of                     | Original | Adjusted |         | Original | Adjusted |
| Alt   | RTPID#  | Alternative                       | Mode               | Country     |                              |                                 | 2013 dollars)             |                                 | B/C      | B/C      | B/C     |          | Rank     |
|       |         |                                   |                    | County      |                              |                                 |                           |                                 |          |          |         | Rank     |          |
| Alt13 | 240375  | BART to San Jose/Santa Clara      | Transit Expansion  | Santa Clara | \$324                        | \$324                           | \$70                      | \$64                            | 5        | 5        | -8%     | 23       | 22       |
| Alt62 | 22415   | Historic Streetcar Expansion      | Transit Efficiency | San         | \$9                          | \$9                             | \$9                       | \$9                             | 0.9      | 1        | -11%    | 61       | 59       |
| Alt91 | 98207T  | Alameda-Oakland BRT + Transit     | Transit Efficiency | Alameda     | \$14                         | \$14                            | \$2                       | \$2                             | 6        | 7        | -11%    | 14       | 11       |
| Alt63 | 230055  | Golden Gate Ferry Service         | Transit Efficiency | Multi-      | \$6                          | \$6                             | \$4                       | \$4                             | 1        | 2        | -16%    | 53       | 50       |
| Alt86 | 00MUNI  | Muni Service Frequency            | Transit Efficiency | San         | \$25                         | \$25                            | \$14                      | \$12                            | 2        | 2        | -17%    | 43       | 40       |
|       | 22511,  |                                   |                    |             |                              |                                 |                           |                                 |          |          |         |          |          |
|       | 22512,  |                                   |                    |             |                              |                                 |                           |                                 |          |          |         |          |          |
|       | 22122,  | WETA Service Expansion            |                    |             |                              |                                 |                           |                                 |          |          |         |          |          |
|       | 230613, | (Treasure Island,                 |                    |             |                              |                                 |                           |                                 |          |          |         |          |          |
|       | 22120,  | Berkeley/Albany, Richmond,        |                    | Multi-      |                              |                                 |                           |                                 |          |          |         |          |          |
| Alt9  | 230581  | Hercules, and Redwood City)       | Transit Expansion  | County      | \$41                         | \$41                            | \$22                      | \$19                            | 2        | 2        | -18%    | 41       | 38       |
|       |         | Caltrain Vision (10-Train Service |                    |             |                              |                                 |                           |                                 |          |          |         |          |          |
|       |         | during Peak Hours) +              |                    |             |                              |                                 |                           |                                 |          |          |         |          |          |
|       | 240521, | Electrification (San Francisco to |                    | Multi-      |                              |                                 |                           |                                 |          |          |         |          |          |
| Alt34 | 21627   | Tamien)                           | Transit Efficiency | County      | \$272                        | \$272                           | \$220                     | \$183                           | 1        | 1        | -21%    | 55       | 51       |

## **Key Impacts by Project Type**

**Highway Expansion - No impact.** 

**Road Efficiency -** No impact.

**Transit Efficiency** – The B/C ratios remained the same or had minor improvements for several of the transit efficiency projects. There were no significant changes in rankings with the most significant improvement coming from the Alameda-Oakland BRT + Transit Access Improvements project which increased from a ranking of 14 to 11.

**Transit Expansion** – This sensitivity test resulted in nominal improvements to transit expansion projects.



## (3) *Value CO*<sub>2</sub> *at* \$178.33

## **Test Rationale**

The value of carbon dioxide emissions in the Transportation 2035 project assessment, conducted in 2008, was based on guidance issued in December 2007 by the United Kingdom Department for Environment, Food and Rural Affairs. For consistency with other regional plans, the current RTP performance assessment CO<sub>2</sub> valuation was obtained from the Bay Area Air Quality Management District (BAAQMD), and uprated for future years to reflect the additional damage caused by incremental accumulation of CO<sub>2</sub> over time. This sensitivity test reflects the substantially greater valuation of CO<sub>2</sub> developed in the United Kingdom (\$178.33/metric ton), indicating how relying on a higher value of CO<sub>2</sub> emissions might affect B/C ratios.

## **Key Impacts for Specific Projects**

B/C ratios and ranking changes were minimal as a result of this test, as seen in Appendix Table A-3. Climate Initiatives (5-year program) resulted in a significant change with a B/C increase from 1 to 4 and a ranking increase from 50 to 27. The EV Solar Installation [BAAQMD program] also realized an improvement in rating from low to medium-low, a B/C increase from 0.8 to 2, and an increase in ranking from 64 to 43. The key changes in B/C are shown in Table 3.

Table 3. Key B/C Changes for Sensitivity Test - Value CO<sub>2</sub> at \$178.33

| Alt    | RTPID# | Alternative   | Mode              | County      | Original Total<br>Annualized<br>Benefits (in<br>millions of<br>2013 dollars) | Annualized<br>Benefits (in<br>millions of | Original Total<br>Annualized<br>Costs (in<br>millions of<br>2013 dollars) | Annualized<br>Costs (in<br>millions of | _   | Adjusted<br>B/C | Percent<br>Change<br>B/C | Original<br>Rank | Adjusted<br>Rank |
|--------|--------|---|-------------------|-------------|--|---|---|--|-----|-----------------|--------------------------|------------------|------------------|
| Alt100 | 230550 | Climate Initiatives (5-year program)                | Climate           | Regional    | \$158  | \$431                                     | \$112   | \$112                                  | 1   | 4               | 172%                     | 50               | 27               |
| Alt48  | 98119  | Vasona Light Rail Extension<br>(Phase 2)            | Transit Expansion | Santa Clara | \$0.1  | \$0.4                                     | \$6   | \$6                                    | 0.0 | 0.1             | 163%                     | 76               | 76               |
| Alt103 | 240589 | EV Solar Installation [BAAQMD program]              | Climate           | Regional    | \$1  | \$3                                       | \$2   | \$2                                    | 0.8 | 2               | 143%                     | 64               | 43               |
| Alt58  | 240617 | SR-29 HOV Lanes & BRT (Napa<br>Junction to Vallejo) | Road Efficiency   | Napa        | \$11   | \$10                                      | \$4   | \$4                                    | 3   | 2               | -4%                      | 32               | 34               |

## **Key Impacts by Project Type**

**Highway Expansion** – The B/C impacts on the highway expansion projects were mixed with some projects slightly increasing and others decreasing. The most significant change is to the ranking of the SR-4 Bypass Completion project which decreased from 42 to 50.

**Road Efficiency** – Impacts were also mixed for road efficiency projects with almost no significant impact on the B/C ratios or rankings.

**Transit Efficiency** – All of the transit efficiency projects either remained the same or slightly improved the B/C ratio as a result of this sensitivity test.

**Transit Expansion** – This sensitivity test resulted in either no or nominal improvements to transit expansion projects.



## (4) Collisions at U.S. DOT Value of Life Economic Values

## **Test Rationale**

This sensitivity test involved adjusting the values of collisions to reflect those used for the U.S. DOT. Per the U.S. DOT's *Treatment of the Economic Value of a Statistical Life in Departmental Analysis- 2011 Interim Adjustment* memorandum dated July 2011, fatalities are valued at \$6.2 million in 2011 dollars with a 1.6 percent annual growth rate. Injury and property damage only (PDO) rates are not directly provided, so the percentages of injury and PDO to fatal accidents from the Caltrans Life-Cycle Benefit-Cost Analysis - Economic Parameters 2010 were used to compute the values for injury and PDOs.

## **Key Impacts for Specific Projects**

As shown in Appendix Table A-4, this sensitivity test had virtually no impact on the B/C ratios and rankings. SR-4 Bypass Completion (SR-160 to Walnut Avenue) resulted in the most substantial change, an improvement in rankings from 42 to 39. The key changes in B/C are shown in Table 4.

Table 4. Key B/C Changes for Sensitivity Test - Collisions

| Alt   | RTPID# | Alternative  | Mode                     | County       | Original Total<br>Annualized<br>Benefits (in<br>millions of<br>2013 dollars) | Adjusted<br>Total<br>Annualized<br>Benefits (in<br>millions of<br>2013 dollars) | Original Total<br>Annualized<br>Costs (in<br>millions of<br>2013 dollars) | Annualized<br>Costs (in<br>millions of | Original<br>B/C | Adjusted<br>B/C | Percent<br>Change<br>B/C | Original<br>Rank | Adjusted<br>Rank |
|-------|--------|--|--------------------------|--------------|--|---|---|--|-----------------|-----------------|--------------------------|------------------|------------------|
| Alt48 | 98119  | Vasona Light Rail Extension<br>(Phase 2)                                       | Transit Expansion        | Santa Clara  | \$0.1  | \$0.3   | \$6   | \$6                                    | 0.0             | 0.0             | 101%                     | 76               | 76               |
| Alt45 |        | Union City Commuter Rail Station<br>+ Dumbarton Rail Segment G<br>Improvements |                          | Alameda      | -\$0.1   | -\$0.03   | \$2   | \$2                                    | (0.0)           | (0.0)           | 67%                      | 77               | 77               |
| Alt73 |        | SR-4 Bypass Completion (SR-160 to Walnut Avenue)                               | Highway Expansion        |              | \$15   | \$17  | \$9   | \$9                                    | 2               | 2               | 12%                      | 42               | 39               |
| Alt49 | НОТе   | Express Lanes Network E  | Express Lanes<br>Network | Multi-County | \$602  | \$594   | \$118   | \$118                                  | 5               | 5               | -1%                      | 20               | 21               |
| Alt36 | HOTd   | Silicon Valley Express Lanes<br>Network  | Express Lanes<br>Network | Multi-County | \$408  | \$391   | \$70  | <b>\$70</b>                            | 6               | 6               | -4%                      | 17               | 18               |

## **Key Impacts by Project Type**

**Highway Expansion** – The collision valuation sensitivity test resulted in no or very little reductions in B/C ratios for highway expansion projects.

**Road Efficiency** – Impacts were mixed for road efficiency projects with almost no impact on the B/C ratios or rankings.

**Transit Efficiency** – The transit efficiency projects either remained the same or slightly decreased the B/C ratio as a result of this sensitivity test.

**Transit Expansion** – This sensitivity test resulted in either no or nominal disbenefits to the B/C of the transit expansion projects.



## (5) Increased Noise Valuation

Noise benefits were valued at a level five times greater to reflect more of the health impacts associated with the projects. As there was no available literature indicating a specific higher value to use, we assumed a very significant increase noise benefit valuation to determine the maximum impact such a revision could cause. As shown in Appendix Table A-5, this test resulted in almost no impacts to the B/C ratios and rankings. The key changes in B/C are shown in Table 5.

Table 5. Key B/C Changes for Sensitivity Test - Increased Noise Valuation

| Alt   | RTPID# | Alternative  | Mode                  | County         | Original Total<br>Annualized<br>Benefits (in<br>millions of<br>2013 dollars) | Annualized<br>Benefits (in<br>millions of | Original Total<br>Annualized<br>Costs (in<br>millions of<br>2013 dollars) | Annualized<br>Costs (in<br>millions of |       | Adjusted<br>B/C | Percent<br>Change<br>B/C | Original<br>Rank | Adjusted<br>Rank |
|-------|--------|--|-----------------------|----------------|--|---|---|--|-------|-----------------|--------------------------|------------------|------------------|
| Alt48 | 98119  | Vasona Light Rail Extension<br>(Phase 2)                                       | Transit<br>Expansion  | Santa<br>Clara | \$0.1  | \$0.2                                     | \$6   | \$6                                    | 0.0   | 0.0             | 19%                      | 76               | 76               |
| Alt45 | 230101 | Union City Commuter Rail Station<br>+ Dumbarton Rail Segment G<br>Improvements | Transit<br>Efficiency | Alameda        | -\$0.1   | -\$0.1                                    | \$2   | \$2                                    | (0.0) | (0.0)           | 10%                      | 77               | 77               |

## (6) Decreased Travel Time Valuations by 30% and 50%

## **Test Rationale**

The value of time used in the project performance assessment is equal to one half the median wage rate of Bay Area residents. The value of travel time was reduced first by 30 percent and then by 50 percent for this sensitivity test. The 30 percent reduction is approximately equivalent to half the median post-tax wage rate of Bay Area residents. The 50 percent test reduction attempted to see how a very significant reduction in travel time benefit valuations might affect benefit-cost ratios and project rankings.

## **Key Impacts for Specific Projects**

Appendix Tables A-6a and A-6b present the results of this test. This test resulted in the most significant impacts to the B/C ratios and rankings:

- In the case of the 30 percent reduction test, two high rated projects were reduced to medium-high level and ten medium-high level projects decreased to medium-low (all but two of the projects in that B/C tier). Additionally, four projects shifted from medium-low to low.
- For the 50 percent travel time reduction test, six high level projects decreased to medium-high, ten medium-high rated projects decreased to medium-low, and eight medium-low projects shifted down to low.
- The Silicon Valley Express Lanes Network project realized the greatest impact as a result of the travel time adjustments with the B/C ratio in the 50 percent test decreasing from six to one, a reduction in the rankings from 17 to 51.



• The largest improvement in ranking is for the Local Streets and Roads Capital Maintenance Needs program which would increase from 22 to 12.

The key changes in B/C ratios are shown in Table 6; because the 50 percent reduction test impacts a greater number of total projects, this table solely focuses on the impacts of that test.

## **Key Impacts by Project Type**

**Highway Expansion** – Reducing travel time valuation resulted in significant decreases in B/C for the highway expansion projects, especially under the 50 percent reduction sensitivity test. The SR-239 Expressway Construction (Brentwood to Tracy) project resulted in a reduction in B/C of 7 to 3, as well as a decrease in ranking of 11 to 15.

**Road Efficiency** – The roadway efficiency projects were significantly negatively impacted as a result of this sensitivity test, except the Bay Bridge Contraflow Lane which remained the same. The ITS Improvements projects in Santa Clara and San Mateo counties realized a shifting from the high rating to medium-high as a result of the 50 percent reduction in travel time valuation test.

**Transit Efficiency** – The transit efficiency projects were also significantly impacted by the travel time valuation sensitivity test, with benefits often decreasing by half in many of the 50 percent reduction test. The AC Transit Grand-MacArthur BRT, Irvington BART Station, and SFMTA Transit Effectiveness Projects all decreased from the high rating tier to the medium-high as a result of the 50 percent test.

**Transit Expansion** – This sensitivity test resulted in a mix of impacts to the B/C of the transit expansion projects with those seeing improvements being minor improvements. BART to Livermore (Phase 1) decreased from the medium-low to low rating as a result of the 50 percent test.



Table 6. Key B/C Changes for Sensitivity Test - Decreased Travel Time Valuations by 50%

|                |                  | , , ,  |                    |                     |                |               |                |               |          |          |              |          |          |
|----------------|------------------|--|--------------------|---------------------|----------------|---------------|----------------|---------------|----------|----------|--------------|----------|----------|
|                |                  |  |                    |                     |                | Adjusted      |                | Adjusted      |          |          |              |          |          |
|                |                  |  |                    |                     | Original Total | Total         | Original Total | Total         |          |          |              |          |          |
|                |                  |  |                    |                     | Annualized     | Annualized    | Annualized     | Annualized    |          |          |              |          |          |
|                |                  |  |                    |                     | Benefits (in   | Benefits (in  | Costs (in      | Costs (in     |          |          | Percent      |          |          |
|                |                  |  |                    |                     | millions of    | millions of   | millions of    | millions of   | Original | Adjusted | Change       | Original | Adjusted |
| Alt            | RTPID#           | Alternative  | Mode               | County              | 2013 dollars)  | 2013 dollars) | 2013 dollars)  | 2013 dollars) | B/C      | B/C      | B/C          | Rank     | Rank     |
|                |                  |  |                    |                     |                |               |                |               |          |          |              |          |          |
|                |                  |  | Transit            |                     | 44.            |               | 4-             | 4.            |          |          |              |          |          |
| Alt48          | 98119            | Vasona Light Rail Extension (Phase 2)              | Expansion          | Santa Clara         | \$0.1          | \$2           | \$6            | \$6           | 0.0      | 0.3      | 1134%        | 76       | 70       |
|                |                  | Union City Commuter Rail Station +                 | L                  |                     |                |               |                |               |          |          |              |          |          |
|                |                  | Dumbarton Rail Segment G                           | Transit            | l                   |                | 4             |                | 4-            | ()       |          |              |          |          |
| Alt45          | 230101           | Improvements                                       | Efficiency         | Alameda             | -\$0.1         | \$0.2         | \$2            | \$2           | (0.0)    | 0.1      | 316%         | 77       | 76       |
|                |                  | Caltrain Vision (10-Train Service                  | L                  |                     |                |               |                |               |          |          |              |          |          |
|                | 240521,          | during Peak Hours) + Electrification               | Transit            | Multi-              |                | 4             |                | 4             | _        |          |              |          |          |
| Alt34          | 21627            | (San Francisco to Tamien)                          | Efficiency         | County              | \$272          | \$188         | \$220          | \$220         | 1        | 0.9      | -31%         | 55       | 56       |
|                |                  |  | Transit            |                     |                |               |                |               |          |          |              |          |          |
| Alt53          | 22062            | Irvington BART Station                             | Efficiency         | Alameda             | \$19           | \$13          | \$2            | \$2           | 12       | 8        | -31%         | 8        | 9        |
|                |                  | BART to Livermore (Phase 1: 1-Station              |                    |                     |                |               |                |               |          |          |              |          |          |
|                |                  | Rail Extension with Bus                            | Transit            |                     |                |               |                |               |          |          |              |          |          |
| Alt54          | 240196           | Enhancements)                                      | Expansion          | Alameda             | \$50           | \$33          | \$52           | \$52          | 1        | 0.6      | -33%         | 60       | 62       |
|                |                  | BART to Livermore (Phase 1: 1-Station              |                    |                     |                |               |                |               |          |          |              |          |          |
|                |                  | DMU Extension with Bus                             | Transit            |                     |                |               |                |               |          |          |              |          |          |
| Alt107         | LBART            | Enhancements)                                      | Expansion          | Alameda             | \$37           | \$25          | \$29           | \$29          | 1        | 0.9      | -33%         | 54       | 55       |
|                |                  |  | Transit            | San                 |                |               |                |               |          |          |              |          |          |
| Alt55          | 240545           | Parkmerced Light Rail Corridor                     | Efficiency         | Francisco           | \$6            | \$4           | \$5            | \$5           | 1        | 0.9      | -34%         | 52       | 53       |
|                |                  | BART to Livermore (Phases 1 & 2: Rail              | Transit            |                     |                |               |                |               |          |          |              |          |          |
| Alt39          | 22667            | Extension)   | Expansion          | Alameda             | \$57           | \$37          | \$153          | \$153         | 0.4      | 0.2      | -35%         | 70       | 73       |
|                |                  | I-680 Express Bus Service Frequency                | Transit            | Contra              |                |               |                |               |          |          |              |          |          |
| Alt67          | 22343            | Improvements (Phase 2)                             | Efficiency         | Costa               | \$12           | \$8           | \$11           | \$11          | 1        | 0.7      | -36%         | 57       | 59       |
|                |                  |  | Transit            | Multi-              |                |               |                |               |          |          |              |          |          |
| Alt83          | 00ACT1           | AC Transit Frequent Transit Network                | Efficiency         | County              | \$606          | \$382         | \$510          | \$510         | 1        | 0.7      | -37%         | 56       | 58       |
|                |                  |  | Transit            | San                 |                |               |                |               |          |          |              |          |          |
| Alt21          | 230161           | Van Ness Avenue BRT                                | Efficiency         | Francisco           | \$44           | \$27          | \$7            | \$7           | 6        | 4        | -39%         | 16       | 13       |
|                |                  |  | Transit            |                     |                |               |                |               |          |          |              |          |          |
| Alt71          | 22780            | AC Transit Grand-MacArthur BRT                     | Efficiency         | Alameda             | \$32           | \$18          | \$2            | \$2           | 18       | 10       | -44%         | 4        | 4        |
|                | 240060,          | US-101 Express Lanes - Whipple to                  | Road               | Multi-              |                |               |                | ·             |          |          |              |          |          |
| Alt14          | 240523           | County Line  | Efficiency         | County              | \$123          | \$68          | \$19           | \$19          | 6        | 4        | -45%         | 15       | 14       |
|                |                  | ITS Improvements in San Mateo                      | Road               |                     |                |               |                |               |          |          |              |          |          |
| Alt104         | 22274            | County   | Efficiency         | San Mateo           | \$56           | \$31          | \$4            | \$4           | 16       | 9        | -45%         | 5        | 6        |
| Alt105         | 240494           | ITS Improvements in Santa Clara                    | Road               | Santa Clara         | \$752          | \$413         | \$48           | \$48          | 16       | 9        | -45%         | 5        | 6        |
| Alt5           | 230419           | Freeway Performance Initiative                     | FPI                | Regional            | \$3,175        | \$1,745       | \$202          | \$202         | 16       | 9        | -45%         | 5        | 6        |
|                |                  |  | Transit            | San                 |                |               |                |               |          |          |              |          |          |
| Alt57          | 240171           | SFMTA Transit Effectiveness Project                | Efficiency         | Francisco           | \$90           | \$47          | \$8            | \$8           | 11       | 6        | -47%         | 9        | 11       |
|                |                  | ,  | Transit            | San                 | 7              | T             |                | 7-            |          |          | ,.           |          |          |
| Alt80          | 240155           | Better Market Street                               | Efficiency         | Francisco           | \$56           | \$29          | \$10           | \$10          | 6        | 3        | -49%         | 18       | 22       |
| 7.11.00        | 210200           | Fremont/Union City East-West                       | Arterial           |                     | Ų,             | Ų-10          | <b>V20</b>     | 720           | Ť        |          | 1570         |          |          |
| Alt27          | 94506            | Connector  | Expansion          | Alameda             | \$65           | \$33          | \$10           | \$10          | 7        | 3        | -49%         | 13       | 18       |
| AILE           | 34300            | Alameda-Oakland BRT + Transit                      | Transit            | Alaineda            | ,0J            | 755           | <b>910</b>     | 710           |          | ,        | -43/0        | 13       | 10       |
| A1+O1          | 98207T           |  |                    | Alamada             | 614            | 67            | ća             | 62            | _        | 3        | -50%         | 14       | 10       |
| Alt91          | 3020/1           | Access Improvements                                | Efficiency         | Alameda             | \$14           | \$7           | \$2            | \$2           | 6        | - 5      | -30%         | 14       | 19       |
| A1+44          | 22400            | SR-239 Expressway Construction                     | Highway            | Santa Clara         | \$144          | 671           | \$21           | \$21          | 7        | 3        | -50%         | 11       | 15       |
| Alt44          | 22400            | (Brentwood to Tracy) Muni Service Frequency        | Expansion          | Santa Clara<br>San  | \$144          | \$71          | ŞZI            | \$21          | ,        | 3        | -50%         | - 11     | 15       |
| VI+6C          | 000411011        |  | Transit            |                     | ćar            | \$12          | 614            | 614           | 2        | 0.9      | -50%         | 43       | 54       |
| Alt86<br>Alt32 | 230468           | Improvements I-80 Auxiliary Lanes (Airbase Parkway | Efficiency<br>Road | Francisco<br>Solano | \$25<br>\$18   | \$12<br>\$9   | \$14<br>\$4    | \$14<br>\$4   | 5        | 3        | -50%<br>-51% | 21       | 24       |
| Alt8           | 22455            | AC Transit East Bay BRT                            | Transit            | Alameda             | \$62           | \$29          | \$4<br>\$12    | \$4<br>\$12   | 5        | 3        | -51%         | 19       | 23       |
|                | 100              |  | Express            |                     | 702            | <u> </u>      |                | 7             |          |          | 23/0         |          |          |
|                |                  |  | Lanes              | Multi-              |                |               |                |               |          |          |              |          |          |
| Alt49          | НОТе             | Express Lanes Network E                            | Network            | County              | \$602          | \$235         | \$118          | \$118         | 5        | 2        | -61%         | 20       | 27       |
| A11-13         | 98147,           | Marin-Sonoma Narrows (Phase 2:                     | Road               | Multi-              | 700Z           | 7433          | 7110           | 7110          | 3        |          | -01/0        | 20       |          |
| Al+1           | 98147,<br>240691 | HOV Lanes)   |                    |                     | ėzo.           | ¢c.           | ¢10            | ¢10           | 1        | 0.3      | 700/         | E0       | 67       |
| Alt1           | 240091           | nov tailes)  | Efficiency         | County              | \$20           | \$6           | \$18           | \$18          | 1        | 0.3      | -70%         | 58       | 67       |
|                |                  |  | Express<br>Lanes   | Multi-              |                |               |                |               |          |          |              |          |          |
| Alt36          | HOTd             | Silicon Valley Express Lanes Network               |                    |                     | \$400          | ¢co           | \$70           | 670           | 6        |          | 920/         | 17       | E4       |
| MILOD          | пота             | Silicon valley express Lanes NetWork               | Network            | County              | \$408          | \$68          | Ş/U            | \$70          | 0        | 1        | -83%         | 17       | 51       |

<u>APPENDIX A</u>
Table A-1. Benefit-Cost Sensitivity Testing - Non-Recurring Delay at Three Times the Value of Travel Time

|   |   |  |  |  | Original Total                        | Adjusted Total               | Original Total               | Adjusted Total               |                          |                          |                           |                      |                      |
|---|---|--|--|--|---------------------------------------|------------------------------|------------------------------|------------------------------|--------------------------|--------------------------|---------------------------|----------------------|----------------------|
|   |   |  |  |  | Annualized                            | Annualized                   | Annualized                   | Annualized                   |                          |                          |                           |                      |                      |
|   |   |  |  |  | Benefits (in                          | Benefits (in                 | Costs (in                    | Costs (in                    |                          | 0 diverse d              | Percent                   | Original             |                      |
| Alt   | RTPID#  | Alternative  | Mode   | County   | millions of 2013<br>dollars)          | millions of<br>2013 dollars) | millions of<br>2013 dollars) | millions of<br>2013 dollars) | Original B/C             | Adjusted<br>B/C          | Change<br>B/C             | Original .<br>Rank   | Adjusted<br>Rank     |
| Alt90   | 240182  | BART Metro Program   | Transit Efficiency   | Multi-County   | \$161                                 | \$169                        | -\$4                         | -\$4                         | >60                      | >60                      | Б/С                       | 1                    | 1                    |
| Alt93   | 240694  | Treasure Island Congestion Pricing   | Pricing  | Regional   | \$69                                  | \$74                         | \$1                          | \$1                          | 59                       | 62                       | 6%                        | 2                    | 2                    |
| Alt85   | 240522  | Congestion Pricing Pilot   | Pricing  | San Francisco  | \$227                                 | \$233                        | \$5                          | \$5                          | 45                       | 46                       | 2%                        | 3                    | 3                    |
| Alt71   | 22780   | AC Transit Grand-MacArthur BRT   | Transit Efficiency   | Alameda  | \$32                                  | \$36                         | \$2                          | \$2                          | 18                       | 20                       | 14%                       | 4                    | 4                    |
| Alt5  | 230419  | Freeway Performance Initiative   | FPI .  | Regional   | \$3,175                               | \$3,509                      | \$202                        | \$202                        | 16                       | 17                       | 11%                       | 5                    | 8                    |
| Alt104<br>Alt105  | 22274<br>240494   | ITS Improvements in San Mateo County ITS Improvements in Santa Clara County  | Road Efficiency Road Efficiency  | San Mateo<br>Santa Clara   | \$56<br>\$752                         | \$62<br>\$831                | \$4<br>\$48                  | \$4<br>\$48                  | 16<br>16                 | 17<br>17                 | 11%<br>11%                | 5                    | 6                    |
| Alt53   | 22062   | Irvington BART Station   | Transit Efficiency   | Alameda  | \$19                                  | \$21                         | \$2                          | \$2                          | 12                       | 14                       | 14%                       | 8                    | 9                    |
| Alt57   | 240171  | SFMTA Transit Effectiveness Project  | Transit Efficiency   | San Francisco  | \$90                                  | \$96                         | \$8                          | \$8                          | 11                       | 12                       | 7%                        | 9                    | 10                   |
| Alt95   | 240582  | Truck & Motorcycle Retirement [BAAQMD program]   | Transit Efficiency   | Regional   | \$55                                  | \$55                         | \$6                          | \$6                          | 9                        | 9                        | 0%                        | 10                   | 13                   |
| Alt44   | 22400   | SR-239 Expressway Construction (Brentwood to Tracy)  | Highway Expansion  | Santa Clara  | \$144                                 | \$151                        | \$21                         | \$21                         | 7                        | 7                        | 5%                        | 11                   | 15                   |
|   |   |  |  |  |                                       |                              |                              | 4                            |                          |                          |                           |                      |                      |
| Alt25<br>Alt27  | 240431<br>94506   | SR-85 Auxiliary Lanes (El Camino Real to Winchester Boulevard) Fremont/Union City East-West Connector  | Road Efficiency Arterial Expansion   | Santa Clara<br>Alameda   | \$81<br>\$65                          | \$120<br>\$73                | \$12<br>\$10                 | \$12<br>\$10                 | 7                        | 10<br>7                  | 48%<br>11%                | 12<br>13             | 12<br>16             |
| Alt91   | 98207T  | Alameda-Oakland BRT + Transit Access Improvements  | Transit Efficiency   | Alameda  | \$14                                  | \$13                         | \$2                          | \$2                          | 6                        | 6                        | -5%                       | 14                   | 20                   |
| Alt14   | 240060, 240523  | US-101 Express Lanes - Whipple to County Line  | Road Efficiency  | Multi-County   | \$123                                 | \$162                        | \$19                         | \$19                         | 6                        | 8                        | 32%                       | 15                   | 14                   |
| Alt21   | 230161  | Van Ness Avenue BRT  | Transit Efficiency   | San Francisco  | \$44                                  | \$49                         | \$7                          | \$7                          | 6                        | 7                        | 11%                       | 16                   | 17                   |
| Alt36   | HOTd  | Silicon Valley Express Lanes Network   | Express Lanes Netw   | Multi-County   | \$408                                 | \$1,216                      | \$70                         | \$70                         | 6                        | 17                       | 198%                      | 17                   | 5                    |
| Alt80   | 240155  | Better Market Street   | Transit Efficiency   | San Francisco  | \$56                                  | \$69                         | \$10                         | \$10                         | 6                        | 7                        | 23%                       | 18                   | 18                   |
| Alt8  | 22455   | AC Transit East Bay BRT  | Transit Efficiency   | Alameda  | \$62                                  | \$63                         | \$12                         | \$12                         | 5                        | 5                        | 2%                        | 19                   | 21                   |
| Alt49   | НОТе  | CTC Application + Alameda County Authorized Lanes Express Lanes Network  | Express Lanes Netw   | Multi County   | \$602                                 | \$1,426                      | \$118                        | \$118                        | 5                        | 12                       | 137%                      | 20                   | 11                   |
| Alt32   | 230468  | I-80 Auxiliary Lanes (Airbase Parkway to I-680)  | Road Efficiency  | Solano   | \$18                                  | \$22                         | \$4                          | \$4                          | 5                        | 6                        | 23%                       | 21                   | 19                   |
| Alt96   | n/a   | Local Streets and Roads Capital Maintenance Needs  | Maintenance  | Regional   | \$1,369                               | \$1,369                      | \$280                        | \$280                        | 5                        | 5                        | 0%                        | 22                   | 24                   |
|   | ,- <u>-</u>   |  |  |  | . /                                   | . ,                          |                              |                              |                          |                          |                           |                      |                      |
| Alt13   | 240375  | BART to San Jose/Santa Clara (Phase 2: Berryessa to Santa Clara)   | Transit Expansion  | Santa Clara  | \$324                                 | \$357                        | \$70                         | \$70                         | 5                        | 5                        | 10%                       | 23                   | 23                   |
|   |   | Caltrain Service Frequency Improvements (6-Train Service   |  |  |                                       |                              |                              |                              |                          |                          |                           |                      |                      |
| Alt47   | 240134  | during Peak Hours) + Electrification (San Francisco To Tamien)   | Transit Efficiency   | Multi-County   | \$153                                 | \$163                        | \$34                         | \$34                         | 5                        | 5                        | 7%                        | 24                   | 25                   |
| Alt56   | 240557  | Oakdale Caltrain Station   | Transit Efficiency   | San Francisco  | \$3                                   | \$2                          | \$1                          | \$1                          | 4                        | 3                        | -42%                      | 25                   | 34                   |
| Alt23   | 240062  | SR-84/I-680 Interchange Improvements + SR-84 Widening  | Highway Evpansion  | Alamada  | \$87                                  | \$109                        | \$21                         | \$21                         | 4                        | 5                        | 359/                      | 26                   | 22                   |
| Alt38   | 230294  | (Pigeon Pass to I-680)<br>New SR-152 Alignment   | Highway Expansion<br>Highway Expansion   |  | \$148                                 | \$109                        | \$41                         | \$41                         | 4                        | 4                        | 25%<br>1%                 | 27                   | 28                   |
| Alt15   | 230290  | Transbay Transit Center - Phase 2B (Caltrain Downtown  | Transit Expansion  | Multi-County   | \$108                                 | \$113                        | \$31                         | \$31                         | 4                        | 4                        | 5%                        | 28                   | 29                   |
| Alt97   | 240410  | Transportation for Livable Communities   | TLC  | Regional   | \$875                                 | \$875                        | \$255                        | \$255                        | 3                        | 3                        | 0%                        | 29                   | 30                   |
| Alt6  | 21205, 22350  | I-680/SR-4 Interchange Improvements + SR-4 Widening (Morello   |  |  | \$65                                  | \$81                         | \$21                         | \$21                         | 3                        | 4                        | 24%                       | 30                   | 26                   |
| Alt51   | 21341   | Fairfield/Vacaville Capitol Corridor Station (Phases 1, 2, and 3)  | Transit Efficiency   | Solano   | \$2                                   | \$1                          | \$1                          | \$1                          | 3                        | 0.8                      | -72%                      | 31                   | 63                   |
| Alt58   | 240617<br>22227, 240328,                                      | SR-29 HOV Lanes & BRT (Napa Junction to Vallejo) Geneva Avenue Corridor Improvements (Roadway Extension,   | Road Efficiency  | Napa   | \$11                                  | \$16                         | \$4                          | \$4                          | 3                        | 4                        | 47%                       | 32                   | 27                   |
| Alt66   | 240334  | BRT, and Southern Intermodal Terminal)   | Transit Efficiency   | Multi-County   | \$36                                  | \$38                         | \$15                         | \$15                         | 2                        | 3                        | 4%                        | 33                   | 32                   |
| Alt87   | 240147  | Southeast Waterfront Transportation Improvements   | Transit Efficiency   | San Francisco  | \$88                                  | \$91                         | \$36                         | \$36                         | 2                        | 3                        | 4%                        | 34                   | 35                   |
| Alt17   | 240026  | SamTrans El Camino BRT   | Transit Efficiency   | San Mateo  | \$59                                  | \$65                         | \$25                         | \$25                         | 2                        | 3                        | 11%                       | 35                   | 31                   |
| Alt24   | 240119  | VTA El Camino BRT  | Transit Efficiency   | Santa Clara  | \$28                                  | \$31                         | \$12                         | \$12                         | 2                        | 3                        | 10%                       | 36                   | 33                   |
| Alt77   | 00BART  | BART Service Frequency Improvements  | Transit Efficiency   | Multi-County   | \$126                                 | \$138                        | \$56                         | \$56                         | 2                        | 2                        | 10%                       | 37                   | 36                   |
| Alt84   | 230604  | Bay Bridge Contraflow Lane   | Road Efficiency  | Multi-County   | \$67                                  | \$67                         | \$31                         | \$31                         | 2                        | 2                        | 0%                        | 38                   | 38                   |
| Alt88<br>Alt33  | 580_BUS   | I-580 Express Bus (Dublin to Livermore)  | Transit Efficiency Transit Efficiency  | Alameda  | \$32                                  | \$35<br>\$25                 | \$16<br>\$12                 | \$16                         | 2                        | 2                        | 10%<br>12%                | 39<br>40             | 40<br>39             |
| AILSS   | 240018<br>22511, 22512,                                       | Dumbarton Transit Corridor (Phase 1: Express Bus)  | Transit Efficiency   | Alameda  | \$23                                  | \$25                         | \$12                         | \$12                         |                          |                          | 12%                       | 40                   | 39                   |
|   | 22122, 230613,  | WETA Service Expansion (Treasure Island, Berkeley/Albany,  |  |  |                                       |                              |                              |                              |                          |                          | 1 1                       |                      |                      |
| Alt9  | 22120, 230581   | Richmond, Hercules, and Redwood City)  | Transit Expansion  | Multi-County   | \$41                                  | \$51                         | \$22                         | \$22                         | 2                        | 2                        | 22%                       | 41                   | 37                   |
| Alt73   | 22605   | SR-4 Bypass Completion (SR-160 to Walnut Avenue)   | Highway Expansion  | Contra Costa   | \$15                                  | \$16                         | \$9                          | \$9                          | 2                        | 2                        | 2%                        | 42                   | 42                   |
| Alt86   | 00MUNI  | Muni Service Frequency Improvements  | Transit Efficiency   | San Francisco  | \$25                                  | \$24                         | \$14                         | \$14                         | 2                        | 2                        | -3%                       | 43                   | 45                   |
| Alt2  | 230164  | Geary Boulevard BRT  | Transit Efficiency   | San Francisco  | \$15                                  | \$14                         | \$9                          | \$9                          | 2                        | 2                        | -9%                       | 44                   | 48                   |
| Alt75   | 240526  | SFCTA Transit Performance Initiative   | Transit Efficiency   | San Francisco  | \$28                                  | \$30                         | \$16                         | \$16                         | 2                        | 2                        | 6%                        | 45                   | 41                   |
| Alt98   | 22247   | Regional Bikeway Network AC Transit Service Frequency Improvements (Restoration of   | Bike/Ped   | Regional   | \$124                                 | \$124                        | \$73                         | \$73                         |                          | 2                        | 0%                        | 46                   | 46                   |
| Alt106  | 240699  | 2009 Funding Levels)   | Transit Efficiency   | Alameda  | \$108                                 | \$114                        | \$65                         | \$65                         | 2                        | 2                        | 5%                        | 47                   | 44                   |
| Alt99   | n/a   | New Freedom Program  | Maintenance  | Regional   | \$3                                   | \$3                          | \$2                          | \$2                          | 2                        | 2                        | 0%                        | 48                   | 47                   |
|   |   | San Mateo Countywide Shuttle Service Frequency   |  |  |                                       |                              |                              |                              |                          |                          |                           |                      |                      |
| Alt43   | 22268   | Improvements   | Transit Efficiency   | San Mateo  | \$10                                  | \$10                         | \$6                          | \$6                          | 2                        | 2                        | -5%                       | 49                   | 50                   |
| Alt100  | 230550  | Climate Initiatives (5-year program)   | Climate<br>Maintenance   | Regional   | \$158                                 | \$159                        | \$112                        | \$112                        | 1 1                      | 1                        | 1%                        | 50                   | 52                   |
| Alt101<br>Alt55   | n/a<br>240545   | Transit Capital Maintenance Needs Parkmerced Light Rail Corridor   | Transit Efficiency   | Regional<br>San Francisco  | \$1,787<br>\$6                        | \$1,787<br>\$4               | \$1,286<br>\$5               | \$1,286<br>\$5               | 1                        | 0.9                      | 0%<br>-37%                | 51<br>52             | 53<br>62             |
| Alt63   | 230055  | Golden Gate Ferry Service Frequency Improvements   | Transit Efficiency   | Multi-County   | \$6                                   | \$7                          | \$4                          | \$4                          | 1                        | 2                        | 15%                       | 53                   | 51                   |
|   |   | BART to Livermore (Phase 1: 1-Station DMU Extension with Bus   |  |  | , , , , , , , , , , , , , , , , , , , |                              | T -                          | -                            |                          |                          |                           |                      |                      |
| Alt107  | LBART   | Enhancements)  | Transit Expansion  | Alameda  | \$37                                  | \$45                         | \$29                         | \$29                         | 1                        | 2                        | 22%                       | 54                   | 49                   |
|   |   | Caltrain Vision (10-Train Service during Peak Hours) +   |  | I  | I                                     |                              | l . –                        |                              |                          |                          | ( T                       |                      |                      |
| Alt34   | 240521, 21627   | Electrification (San Francisco to Tamien)  | Transit Efficiency   | Multi-County   | \$272                                 | \$291                        | \$220                        | \$220                        | 1                        | 1                        | 7%                        | 55                   | 54                   |
| Alt83   | 00ACT1<br>22343   | AC Transit Frequent Transit Network I-680 Express Bus Service Frequency Improvements (Phase 2)   | Transit Efficiency Transit Efficiency  | Multi-County   | \$606                                 | \$649                        | \$510                        | \$510                        | 1                        | 1                        | 7%                        | 56                   | 55                   |
| Alt67<br>Alt1   | 22343<br>98147, 240691  | I-680 Express Bus Service Frequency Improvements (Phase 2) Marin-Sonoma Narrows (Phase 2: HOV Lanes)   | Road Efficiency  | Contra Costa<br>Multi-County   | \$12<br>\$20                          | \$12<br>\$32                 | \$11<br>\$18                 | \$11<br>\$18                 | 1                        | 2                        | -1%<br>60%                | 57<br>58             | 57<br>43             |
|   | 30247, 240031   | BART to Livermore (Phase 1: 1-Station Rail Extension with Bus  |  | ara county   |                                       | <b>732</b>                   | 710                          | <b>710</b>                   |                          |                          | 55/6                      | - 55                 | .,                   |
| Alt54   | 240196  | Enhancements)  | Transit Expansion  | Alameda  | \$50                                  | \$61                         | \$52                         | \$52                         | 1                        | 1                        | 22%                       | 60                   | 56                   |
| Alt102  | 240577  | Heavy-Duty Truck Replacement [BAAQMD program]  | Climate  | Regional   | \$42                                  | \$42                         | \$44                         | \$44                         | 1                        | 1                        | 0%                        | 59                   | 59                   |
| Alt62   | 22415   | Historic Streetcar Expansion Program   | Transit Efficiency   | San Francisco  | \$9                                   | \$8                          | \$9                          | \$9                          | 0.9                      | 0.9                      | -3%                       | 61                   | 61                   |
| Alt74<br>Alt41  | 240216<br>240650  | Dumbarton Transit Corridor (Phase 2: Commuter Rail) Sonoma Countywide Bus Service Frequency Improvements   | Transit Expansion Transit Efficiency   | Alameda  | \$31<br>\$32                          | \$36<br>\$32                 | \$36<br>\$41                 | \$36<br>\$41                 | 0.8                      | 1                        | 17%<br>1%                 | 62                   | 58                   |
| Alt103  | 240589  | EV Solar Installation [BAAQMD program]   | Climate  | Sonoma<br>Regional   | \$32<br>\$1                           | \$32<br>\$1                  | \$41                         | \$41<br>\$2                  | 0.8                      | 0.8                      | 0%                        | 63<br>64             | 64<br>65             |
|   | 240676, 240675,   | SMART (Phase 2: Extensions to Cloverdale & Larkspur + IOS Cost   |  |  | ·-                                    |                              |                              |                              |                          |                          |                           |                      |                      |
| Alt16   | 240677  | Deferrals)   | Transit Expansion  | Multi-County   | \$10                                  | \$12                         | \$13                         | \$13                         | 0.7                      | 0.9                      | 23%                       | 65                   | 60                   |
| Alt22   | 230252  | Marin Countywide Bus Service Frequency Improvements  | Transit Efficiency   | Marin  | \$9                                   | \$9                          | \$12                         | \$12                         | 0.7                      | 0.7                      | 3%                        | 66                   | 66                   |
| Alt40   | 230219, 230314  | Golden Gate Bus Service Frequency Improvements   | Transit Efficiency   | Multi-County   | \$16                                  | \$16                         | \$29                         | \$29                         | 0.5                      | 0.6                      | 3%                        | 67                   | 67                   |
| Alt10   | 22956   | Capitol Expressway Light Rail Extension (Phase 2: to Eastridge<br>Transit Center)  | Tenneit Ev   | Santa Ci   | \$4                                   | \$3                          | \$8                          | ėn.                          | 0.5                      | 0.4                      | -11%                      | 68                   | 69                   |
| IAICIU  |   | Monterey Highway BRT   | Transit Expansion Transit Efficiency   | Santa Clara<br>Santa Clara   | \$4<br>\$15                           | \$3<br>\$14                  | \$8<br>\$37                  | \$8<br>\$37                  | 0.5                      | 0.4                      | -11%<br>-5%               | 68                   | 71                   |
|   |   |  |  | Alameda  | \$57                                  | \$68                         | \$153                        | \$153                        | 0.4                      | 0.4                      | 20%                       | 70                   | 68                   |
| Alt50<br>Alt39  | 230547<br>22667   | BART to Livermore (Phases 1 & 2: Rail Extension)   | Transit Expansion  |  |                                       |                              |                              |                              |                          |                          |                           |                      |                      |
| Alt50<br>Alt39<br>Alt30                                     | 230547<br>22667<br>22019                                      | BART to Livermore (Phases 1 & 2: Rail Extension) Downtown East Valley (Phase 2: LRT)   | Transit Expansion  | Santa Clara  | \$5                                   | \$4                          | \$16                         | \$16                         | 0.3                      | 0.2                      | -20%                      | 71                   | 72                   |
| Alt39<br>Alt30<br>Alt79                                     | 230547<br>22667<br>22019<br>98139                             | BART to Livermore (Phases 1 & 2: Rail Extension) Downtown East Valley (Phase 2: LRT) ACE Expansion   | Transit Expansion Transit Efficiency   | Santa Clara<br>Alameda   | \$19                                  | \$27                         | \$67                         | \$67                         | 0.3                      | 0.4                      | 40%                       | 72                   | 70                   |
| Alt50<br>Alt39<br>Alt30                                     | 230547<br>22667<br>22019                                      | BART to Livermore (Phases 1 & 2: Rail Extension) Downtown East Valley (Phase 2: LRT) ACE Expansion Sunnyvale-Cupertino BRT   | Transit Expansion  | Santa Clara  |                                       |                              |                              |                              |                          |                          |                           |                      |                      |
| Alt39<br>Alt30<br>Alt79                                     | 230547<br>22667<br>22019<br>98139                             | BART to Livermore (Phases 1 & 2: Rail Extension) Downtown East Valley (Phase 2: LRT) ACE Expansion   | Transit Expansion Transit Efficiency   | Santa Clara<br>Alameda   | \$19                                  | \$27                         | \$67                         | \$67<br>\$26<br>\$19         | 0.3                      | 0.4                      | 40%                       | 72                   | 70                   |
| Alt50<br>Alt39<br>Alt30<br>Alt79<br>Alt52<br>Alt19<br>Alt61 | 230547<br>22667<br>22019<br>98139<br>230554<br>22978<br>22009 | BART to Livermore (Phases 1 & 2: Rail Extension) Downtown East Valley (Phase 2: LRT) ACE Expansion Sunnyvale-Cupertino BRT Capitol Expressway Light Rail Extension (Phases 2 & 3: to Nieman) Capitol Corridor Service Frequency Improvements (Oakland to   | Transit Expansion Transit Efficiency Transit Efficiency Transit Expansion Transit Efficiency | Santa Clara<br>Alameda<br>Santa Clara<br>Santa Clara<br>Multi-County | \$19<br>\$5<br>\$3<br>\$1             | \$27<br>\$3<br>\$4<br>\$2    | \$67<br>\$26<br>\$19<br>\$18 | \$67<br>\$26<br>\$19<br>\$18 | 0.3<br>0.2<br>0.2<br>0.1 | 0.4<br>0.1<br>0.2<br>0.1 | 40%<br>-32%<br>45%<br>84% | 72<br>73<br>74<br>75 | 70<br>74<br>73<br>75 |
| Alt39<br>Alt30<br>Alt79<br>Alt52<br>Alt19                   | 230547<br>22667<br>22019<br>98139<br>230554                   | BART to Livermore (Phases 1 & 2: Rail Extension)  Downtown East Valley (Phase 2: LRT)  ACE Expansion  Sunnyvale-Cupertino BRT  Capitol Expressway Light Rail Extension (Phases 2 & 3: to  Nieman)  Capitol Corridor Service Frequency Improvements (Oakland to  Vasonas Light Rail Extension (Phase 2) | Transit Expansion Transit Efficiency Transit Efficiency Transit Expansion                    | Santa Clara<br>Alameda<br>Santa Clara<br>Santa Clara                 | \$19<br>\$5<br>\$3                    | \$27<br>\$3<br>\$4           | \$67<br>\$26<br>\$19         | \$67<br>\$26<br>\$19         | 0.3<br>0.2<br>0.2        | 0.4 0.1 0.2              | 40%<br>-32%<br>45%        | 72<br>73<br>74       | 70<br>74<br>73       |
| Alt39<br>Alt30<br>Alt79<br>Alt52<br>Alt19<br>Alt61          | 230547<br>22667<br>22019<br>98139<br>230554<br>22978<br>22009 | BART to Livermore (Phases 1 & 2: Rail Extension) Downtown East Valley (Phase 2: LRT) ACE Expansion Sunnyvale-Cupertino BRT Capitol Expressway Light Rail Extension (Phases 2 & 3: to Nieman) Capitol Corridor Service Frequency Improvements (Oakland to   | Transit Expansion Transit Efficiency Transit Efficiency Transit Expansion Transit Efficiency | Santa Clara<br>Alameda<br>Santa Clara<br>Santa Clara<br>Multi-County | \$19<br>\$5<br>\$3<br>\$1             | \$27<br>\$3<br>\$4<br>\$2    | \$67<br>\$26<br>\$19<br>\$18 | \$67<br>\$26<br>\$19<br>\$18 | 0.3<br>0.2<br>0.2<br>0.1 | 0.4<br>0.1<br>0.2<br>0.1 | 40%<br>-32%<br>45%<br>84% | 72<br>73<br>74<br>75 | 70<br>74<br>73<br>75 |



# <u>APPENDIX A</u> Table A-2. Benefit-Cost Sensitivity Testing - Adjusted Transit O&M Costs

|                  |                          |  |                                       |                             |                  |                |                | 1              |            |            |            |          |          |
|------------------|--------------------------|--|---------------------------------------|-----------------------------|------------------|----------------|----------------|----------------|------------|------------|------------|----------|----------|
|                  |                          |  |                                       |                             | Original Total   | Adjusted Total | Original Total | Adjusted Total |            |            |            |          |          |
|                  |                          |  |                                       |                             | Annualized       | Annualized     | Annualized     | Annualized     |            |            |            |          |          |
|                  |                          |  |                                       |                             | Benefits (in     | Benefits (in   | Costs (in      | Costs (in      |            |            | Percent    |          |          |
|                  |                          |  |                                       |                             | millions of 2013 |                | millions of    | millions of    | Original   | Adjusted   | Change     | Original | Adjusted |
| Alt              | RTPID#                   | Alternative  | Mode                                  | County                      | dollars)         | 2013 dollars)  | 2013 dollars)  | 2013 dollars)  | B/C        | B/C        | B/C        | Rank     | Rank     |
| Alt90            | 240182                   | BART Metro Program   | Transit Efficiency                    | Multi-County                |                  | \$161          | -\$4           | -\$4           | >60        | >60        | -          | 1        | 1        |
| Alt93            | 240694                   | Treasure Island Congestion Pricing   | Pricing                               | Regional                    | \$69             | \$69           | \$1            | \$1            | 59         | 59         | 0%         | 2        | 2        |
| Alt85            | 240522                   | Congestion Pricing Pilot   | Pricing                               | San Francisco               | \$227            | \$227          | \$5            | \$5            | 45         | 45         | 0%         | 3        | 3        |
| Alt71            | 22780                    | AC Transit Grand-MacArthur BRT   | Transit Efficiency FPI                | Alameda                     | \$32             | \$32           | \$2            | \$2            | 18         | 18         | 0%         | 4        | 4        |
| Alt5             | 230419                   | Freeway Performance Initiative   |                                       | Regional                    | \$3,175          | \$3,175        | \$202          | \$202          | 16         | 16         | 0%         | 5        | 7        |
| Alt104<br>Alt105 | 22274<br>240494          | ITS Improvements in San Mateo County ITS Improvements in Santa Clara County  | Road Efficiency Road Efficiency       | San Mateo<br>Santa Clara    | \$56<br>\$752    | \$56<br>\$752  | \$4<br>\$48    | \$4<br>\$48    | 16<br>16   | 16<br>16   | 0%<br>0%   | 5        | 5        |
| Alt53            | 22062                    | Irvington BART Station   | Transit Efficiency                    | Alameda                     | \$19             | \$19           | \$2            | \$2            | 12         | 12         | 0%         | 8        | 8        |
| Alt57            | 240171                   | SFMTA Transit Effectiveness Project  | Transit Efficiency                    | San Francisco               | \$90             | \$90           | \$8            | \$8            | 11         | 11         | 0%         | 9        | 9        |
| Alt95            | 240582                   | Truck & Motorcycle Retirement [BAAQMD program]   | Climate                               | Regional                    | \$55             | \$55           | \$6            | \$6            | 9          | 9          | 0%         | 10       | 10       |
| Alt44            | 22400                    | SR-239 Expressway Construction (Brentwood to Tracy)  | Highway Expansion                     | Santa Clara                 | \$144            | \$144          | \$21           | \$21           | 7          | 7          | 0%         | 11       | 12       |
|                  |                          |  |                                       |                             |                  |                |                |                |            |            |            |          |          |
| Alt25            | 240431                   | SR-85 Auxiliary Lanes (El Camino Real to Winchester Boulevard)   | Road Efficiency                       | Santa Clara                 | \$81             | \$81           | \$12           | \$12           | 7          | 7          | 0%         | 12       | 13       |
| Alt27            | 94506                    | Fremont/Union City East-West Connector   | Arterial Expansion                    | Alameda                     | \$65             | \$65           | \$10           | \$10           | 7          | 7          | 0%         | 13       | 14       |
| Alt91            | 98207T                   | Alameda-Oakland BRT + Transit Access Improvements  | Transit Efficiency                    | Alameda                     | \$14             | \$14           | \$2            | \$2            | 6          | 7          | -11%       | 14       | 11       |
| Alt14            | 240060, 240523           | US-101 Express Lanes - Whipple to County Line  | Road Efficiency                       | Multi-County                | \$123            | \$123          | \$19           | \$19           | 6          | 6          | 0%         | 15       | 15       |
| Alt21            | 230161                   | Van Ness Avenue BRT  | Transit Efficiency                    | San Francisco               | \$44             | \$44           | \$7            | \$7            | 6          | 6          | 0%         | 16       | 16       |
| Alt36<br>Alt80   | HOTd<br>240155           | Silicon Valley Express Lanes Network Better Market Street  | Express Lanes Netw                    | Multi-County                | \$408            | \$408<br>\$56  | \$70<br>\$10   | \$70<br>\$10   | 6          | 6          | 0%<br>0%   | 17<br>18 | 17<br>18 |
| Alt8             | 22455                    | AC Transit East Bay BRT  | Transit Efficiency Transit Efficiency | San Francisco<br>Alameda    | \$56<br>\$62     | \$62           | \$10           | \$10           | 5          | 5          | -1%        | 19       | 19       |
| Alt49            | HOTe                     | Express Lanes Network E  |                                       | Multi-County                | \$602            | \$602          | \$118          | \$118          | 5          | 5          | 0%         | 20       | 20       |
| Alt32            | 230468                   | I-80 Auxiliary Lanes (Airbase Parkway to I-680)  | Road Efficiency                       | Solano                      | \$18             | \$18           | \$4            | \$4            | 5          | 5          | 0%         | 21       | 21       |
| Alt96            | n/a                      | Local Streets and Roads Capital Maintenance Needs  | Maintenance                           | Regional                    | \$1,369          | \$1,369        | \$280          | \$280          | 5          | 5          | 0%         | 22       | 23       |
|                  | .,,-                     | The state of the s |                                       |                             | ,-,-33           | ,-,-,-         | ,,             | ,              |            |            |            |          |          |
| Alt13            | 240375                   | BART to San Jose/Santa Clara (Phase 2: Berryessa to Santa Clara)   | Transit Expansion                     | Santa Clara                 | \$324            | \$324          | \$70           | \$64           | 5          | 5          | -8%        | 23       | 22       |
|                  |                          | Caltrain Service Frequency Improvements (6-Train Service   |                                       |                             |                  |                |                |                |            |            |            |          |          |
| Alt47            | 240134                   | during Peak Hours) + Electrification (San Francisco To Tamien)   | Transit Efficiency                    | Multi-County                | \$153            | \$153          | \$34           | \$33           | 5          | 5          | -3%        | 24       | 24       |
| Alt56            | 240557                   | Oakdale Caltrain Station   | Transit Efficiency                    | San Francisco               | \$3              | \$3            | \$1            | \$1            | 4          | 4          | 0%         | 25       | 25       |
|                  | [                        | SR-84/I-680 Interchange Improvements + SR-84 Widening  |                                       |                             | l                |                |                |                |            |            |            |          |          |
| Alt23            | 240062                   | (Pige on Pass to I-680)  | Highway Expansion                     |                             | \$87             | \$87           | \$21           | \$21           | 4          | 4          | 0%         | 26       | 26       |
| Alt38            | 230294                   | New SR-152 Alignment   | Highway Expansion                     | Santa Clara                 | \$148            | \$148          | \$41           | \$41           | 4          | 4          | 0%         | 27       | 27       |
| A 141 F          | 220200                   | Transbay Transit Center - Phase 2B (Caltrain Downtown Extension)   | Tonasia Formanai an                   | 54ls: Cass                  | \$108            | \$108          | ćas            | 624            | 4          | 4          | 00/        | 20       | 20       |
| Alt15<br>Alt97   | 230290<br>240410         |  | Transit Expansion TLC                 | Multi-County                | \$108            | \$108          | \$31<br>\$255  | \$31<br>\$255  | 3          | 3          | 0%         | 28<br>29 | 28       |
| Alt6             | 21205, 22350             | Transportation for Livable Communities I-680/SR-4 Interchange Improvements + SR-4 Widening   | Highway Expansion                     | Regional<br>Contra Costa    | \$65             | \$65           | \$255<br>\$21  | \$255<br>\$21  | 3          | 3          | 0%<br>0%   | 30       | 30       |
| Alt51            | 21341                    | Fairfield/Vacaville Capitol Corridor Station (Phases 1, 2, and 3)  | Transit Efficiency                    | Solano                      | \$2              | \$2            | \$1            | \$1            | 3          | 3          | 0%         | 31       | 31       |
| Alt58            | 240617                   | SR-29 HOV Lanes & BRT (Napa Junction to Vallejo)   | Road Efficiency                       | Napa                        | \$11             | \$11           | \$4            | \$4            | 3          | 3          | -1%        | 32       | 33       |
|                  | 22227, 240328,           | Geneva Avenue Corridor Improvements (Roadway Extension,  | ,                                     | •                           |                  |                |                |                |            |            |            |          |          |
| Alt66            | 240334                   | BRT, and Southern Intermodal Terminal)   | Transit Efficiency                    | Multi-County                | \$36             | \$36           | \$15           | \$14           | 2          | 3          | -4%        | 33       | 35       |
| Alt87            | 240147                   | Southeast Waterfront Transportation Improvements   | Transit Efficiency                    | San Francisco               | \$88             | \$88           | \$36           | \$34           | 2          | 3          | -7%        | 34       | 32       |
| Alt17            | 240026                   | SamTrans El Camino BRT   | Transit Efficiency                    | San Mateo                   | \$59             | \$59           | \$25           | \$23           | 2          | 3          | -10%       | 35       | 34       |
| Alt24            | 240119                   | VTA El Camino BRT  | Transit Efficiency                    | Santa Clara                 | \$28             | \$28           | \$12           | \$12           | 2          | 2          | 0%         | 36       | 37       |
| Alt77            | 00BART                   | BART Service Frequency Improvements  | Transit Efficiency                    | Multi-County                | \$126            | \$126          | \$56           | \$52           | 2          | 2          | -7%        | 37       | 36       |
| Alt84            | 230604                   | Bay Bridge Contraflow Lane   | Road Efficiency                       | Multi-County                | \$67             | \$67           | \$31           | \$31           | 2          | 2          | 0%         | 38       | 39       |
| Alt88            | 580_BUS                  | I-580 Express Bus (Dublin to Livermore)  | Transit Efficiency                    | Alameda                     | \$32             | \$32           | \$16           | \$16           | 2          | 2          | 0%         | 39       | 42       |
| Alt33            | 240018<br>22511, 22512,  | Dumbarton Transit Corridor (Phase 1: Express Bus)  | Transit Efficiency                    | Alameda                     | \$23             | \$23           | \$12           | \$11           | 2          | 2          | -5%        | 40       | 41       |
|                  | 22122, 230613,           | WETA Service Expansion (Treasure Island, Berkeley/Albany,  |                                       |                             |                  |                |                |                |            |            |            |          |          |
| Alt9             | 22120, 230581            | Richmond, Hercules, and Redwood City)  | Transit Expansion                     | Multi-County                | \$41             | \$41           | \$22           | \$19           | 2          | 2          | -18%       | 41       | 38       |
| Alt73            | 22605                    | SR-4 Bypass Completion (SR-160 to Walnut Avenue)   | Highway Expansion                     |                             | \$15             | \$15           | \$9            | \$9            | 2          | 2          | 0%         | 42       | 44       |
| Alt86            | 00MUNI                   | Muni Service Frequency Improvements  | Transit Efficiency                    | San Francisco               | \$25             | \$25           | \$14           | \$12           | 2          | 2          | -17%       | 43       | 40       |
| Alt2             | 230164                   | Geary Boulevard BRT  | Transit Efficiency                    | San Francisco               | \$15             | \$15           | \$9            | \$9            | 2          | 2          | 0%         | 44       | 46       |
| Alt75            | 240526                   | SFCTA Transit Performance Initiative   | Transit Efficiency                    | San Francisco               | \$28             | \$28           | \$16           | \$16           | 2          | 2          | 0%         | 45       | 47       |
| Alt98            | 22247                    | Regional Bikeway Network   | Bike/Ped                              | Regional                    | \$124            | \$124          | \$73           | \$73           | 2          | 2          | 0%         | 46       | 48       |
| Alt106           | 240699                   | AC Transit Service Frequency Improvements (Restoration of  | Transit Efficiency                    | Alameda                     | \$108            | \$108          | \$65           | \$58           | 2          | 2          | -11%       | 47       | 43       |
| Alt99            | n/a                      | New Freedom Program  | Maintenance                           | Regional                    | \$3              | \$3            | \$2            | \$2            | 2          | 2          | 0%         | 48       | 49       |
| A1443            | 22200                    | San Mateo Countywide Shuttle Service Frequency<br>Improvements   | Transit Efficience                    | San Mateo                   | 610              | 610            | 60             | ėr.            | 2          | 2          | 109/       | 49       | 4E       |
| Alt43<br>Alt100  | 22268<br>230550          | Climate Initiatives (5-year program)   | Transit Efficiency Climate            | San Mateo<br>Regional       | \$10<br>\$158    | \$10<br>\$158  | \$6<br>\$112   | \$6<br>\$112   | 1          | 1          | -10%<br>0% | 50       | 45<br>53 |
| Alt100           | n/a                      | Transit Capital Maintenance Needs  | Maintenance                           | Regional                    | \$1,787          | \$1,787        | \$1,286        | \$1,286        | 1          | 1          | 0%         | 51       | 54       |
| Alt55            | 240545                   | Parkmerced Light Rail Corridor   | Transit Efficiency                    | San Francisco               | \$6              | \$6            | \$5            | \$4            | 1          | 1          | -7%        | 52       | 52       |
| Alt63            | 230055                   | Golden Gate Ferry Service Frequency Improvements   | Transit Efficiency                    | Multi-County                | \$6              | \$6            | \$4            | \$4            | 1          | 2          | -16%       | 53       | 50       |
| Alt107           | LBART                    | BART to Livermore (Phase 1: 1-Station DMU Extension with Bus   | Transit Expansion                     | Alameda                     | \$37             | \$37           | \$29           | \$28           | 1          | 1          | -3%        | 54       | 56       |
|                  | l                        | Caltrain Vision (10-Train Service during Peak Hours) +   |                                       |                             | l                |                |                |                |            |            |            |          |          |
| Alt34            | 240521, 21627            | Electrification (San Francisco to Tamien)  | Transit Efficiency                    | Multi-County                | \$272            | \$272          | \$220          | \$183          | 1          | 1          | -21%       | 55       | 51       |
| Alt83            | 00ACT1                   | AC Transit Frequent Transit Network  | Transit Efficiency                    | Multi-County                | \$606            | \$606          | \$510          | \$453          | 1          | 1          | -13%       | 56       | 55       |
| Alt67            | 22343                    | I-680 Express Bus Service Frequency Improvements (Phase 2) Marin-Sonoma Narrows (Phase 2: HOV Lanes)   | Transit Efficiency                    | Contra Costa                | \$12<br>\$20     | \$12           | \$11<br>¢10    | \$10<br>\$10   | 1          | 1          | -8%        | 57<br>E0 | 57       |
| Alt1             | 98147, 240691            | BART to Livermore (Phase 1: 1-Station Rail Extension with Bus  | Road Efficiency                       | Multi-County                | \$20             | \$20           | \$18           | \$18           | 1          | 1          | 0%         | 58       | 58       |
| Alt54            | 240196                   | Enhancements)  | Transit Expansion                     | Alameda                     | \$50             | \$50           | \$52           | \$51           | 1          | 1          | -3%        | 60       | 60       |
| Alt102           | 240577                   | Heavy-Duty Truck Replacement [BAAQMD program]  | Climate                               | Regional                    | \$42             | \$42           | \$44           | \$44           | 1          | 1          | -3%<br>0%  | 59       | 61       |
| Alt62            | 22415                    | Historic Streetcar Expansion Program   | Transit Efficiency                    | San Francisco               | \$9              | \$9            | \$9            | \$9            | 0.9        | 1          | -11%       | 61       | 59       |
| Alt74            | 240216                   | Dumbarton Transit Corridor (Phase 2: Commuter Rail)  | Transit Expansion                     | Alameda                     | \$31             | \$31           | \$36           | \$35           | 0.8        | 0.9        | -4%        | 62       | 62       |
| Alt41            | 240650                   | Sonoma Countywide Bus Service Frequency Improvements   | Transit Efficiency                    | Sonoma                      | \$32             | \$32           | \$41           | \$40           | 0.8        | 0.8        | -3%        | 63       | 64       |
| Alt103           | 240589                   | EV Solar Installation [BAAQMD program]   | Climate                               | Regional                    | \$1              | \$1            | \$2            | \$2            | 0.8        | 0.8        | 0%         | 64       | 66       |
|                  | 240676, 240675,          | SMART (Phase 2: Extensions to Cloverdale & Larkspur + IOS Cost   |                                       |                             | 40.5             | ***            | 4              | 44-            |            |            |            | C.       | C.       |
| Alt16            | 240677                   | Deferrals)   | Transit Expansion                     | Multi-County                | \$10             | \$10           | \$13           | \$13           | 0.7        | 0.8        | -4%        | 65       | 65       |
| Alt22            | 230252<br>230219, 230314 | Marin Countywide Bus Service Frequency Improvements  | Transit Efficiency                    | Marin<br>Multi County       | \$9<br>\$16      | \$9<br>\$16    | \$12<br>\$20   | \$11<br>\$27   | 0.7        | 0.8        | -14%       | 66       | 63       |
| Alt40            | 230219, 230314           | Golden Gate Bus Service Frequency Improvements   | Transit Efficiency                    | Multi-County                | \$16             | \$16           | \$29           | \$27           | 0.5        | 0.6        | -8%        | 67       | 67       |
| Alt10            | 22956                    | Capitol Expressway Light Rail Extension (Phase 2: to Eastridge<br>Transit Center)  | Transit Expansion                     | Santa Clara                 | \$4              | \$4            | \$8            | \$8            | 0.5        | 0.5        | -1%        | 68       | 68       |
| Alt10            | 230547                   | Monterey Highway BRT   | Transit Expansion Transit Efficiency  | Santa Clara<br>Santa Clara  | \$4<br>\$15      | \$4<br>\$15    | \$8            | \$8<br>\$33    | 0.5<br>0.4 | 0.5        | -1%        | 69       | 69       |
| Alt39            | 22667                    | BART to Livermore (Phases 1 & 2: Rail Extension)   | Transit Expansion                     | Alameda                     | \$57             | \$57           | \$153          | \$149          | 0.4        | 0.5<br>0.4 | -3%        | 70       | 70       |
| Alt30            | 22019                    | Downtown East Valley (Phase 2: LRT)  | Transit Expansion                     | Santa Clara                 | \$5              | \$5            | \$16           | \$15           | 0.3        | 0.3        | -5%        | 71       | 71       |
| Alt79            | 98139                    | ACE Expansion  | Transit Efficiency                    | Alameda                     | \$19             | \$19           | \$67           | \$60           | 0.3        | 0.3<br>0.2 | -10%       | 72       | 72       |
| Alt52            | 230554                   | Sunnyvale-Cupertino BRT  | Transit Efficiency                    | Santa Clara                 | \$5              | \$5            | \$26           | \$24           | 0.2        | 0.2        | -10%       | 73       | 73       |
| A1440            | 22070                    | Capitol Expressway Light Rail Extension (Phases 2 & 3: to  | Transit Everenia                      | Santa Class                 |                  | ės.            | 610            | ¢10            | 0.2        | 0.2        | 20/        | 70       | 70       |
| Alt19<br>Alt61   | 22978<br>22009           | Nieman) Capitol Corridor Service Frequency Improvements (Oakland to  | Transit Expansion Transit Efficiency  | Santa Clara<br>Multi-County | \$3<br>\$1       | \$3<br>\$1     | \$19<br>\$18   | \$18<br>\$18   | 0.2        | 0.2        | -2%<br>-1% | 74<br>75 | 74<br>75 |
| Alt48            | 98119                    | Vasona Light Rail Extension (Phase 2)  | Transit Expansion                     | Santa Clara                 | \$0.1            | \$0.1          | \$6            | \$18<br>\$6    | 0.0        | 0.0        | -1%        | 76       | 76       |
|                  |                          | Union City Commuter Rail Station + Dumbarton Rail Segment G  | punoroll                              |                             | ,,,,             |                | -,-            |                |            |            | _,,,       |          |          |
| Alt45            | 230101                   | Improvements   | Transit Efficiency                    | Alameda                     | -\$0.1           | -\$0.1         | \$2            | \$2            | (0.0)      | (0.0)      | 0%         | 77       | 77       |
|                  |                          |  |                                       |                             |                  |                |                |                |            |            |            |          |          |



# $\frac{APPENDIX\ A}{Table\ A-3.\ Benefit-Cost\ Sensitivity\ Testing\ -\ Value\ CO_2\ at\ \$178.33\ per\ metric\ ton}$

|                 |                                 |   |  |                                | Original Total             | Adjusted Total             | Original Total          | Adjusted Total          |            |            |           |           |           |
|-----------------|---------------------------------|---|--|--------------------------------|----------------------------|----------------------------|-------------------------|-------------------------|------------|------------|-----------|-----------|-----------|
|                 |                                 |   |  |                                | Annualized<br>Benefits (in | Annualized<br>Benefits (in | Annualized<br>Costs (in | Annualized<br>Costs (in |            |            | Percent   |           |           |
|                 |                                 |   |  |                                | millions of 2013           | millions of                | millions of             | millions of             | Original   | Adjusted   | Change    | Original  | Adjusted  |
| Alt<br>Alt90    | RTPID#<br>240182                | Alternative BART Metro Program  | Mode<br>Transit Efficiency               | County<br>Multi-County         | dollars)<br>\$161          | 2013 dollars)<br>\$163     | 2013 dollars)<br>-\$4   | 2013 dollars)<br>-\$4   | B/C<br>>60 | B/C<br>>60 | B/C       | Rank<br>1 | Rank<br>1 |
| Alt93           | 240694                          | Treasure Island Congestion Pricing  | Pricing                                  | Regional                       | \$69                       | \$70                       | \$1                     | \$1                     | 59         | 60         | 2%        | 2         | 2         |
| Alt85<br>Alt71  | 240522<br>22780                 | Congestion Pricing Pilot AC Transit Grand-MacArthur BRT   | Pricing<br>Transit Efficiency            | San Francisco<br>Alameda       | \$227<br>\$32              | \$232<br>\$33              | \$5<br>\$2              | \$5<br>\$2              | 45<br>18   | 46<br>18   | 2%<br>3%  | 3         | 3         |
| Alt104          | 22274                           | ITS Improvements in San Mateo County  | Road Efficiency                          | San Mateo                      | \$56                       | \$61                       | \$4                     | \$4                     | 16         | 17         | 8%        | 5         | 5         |
| Alt105<br>Alt5  | 240494<br>230419                | ITS Improvements in Santa Clara County Freeway Performance Initiative   | Road Efficiency                          | Santa Clara<br>Regional        | \$752<br>\$3,175           | \$813<br>\$3,433           | \$48<br>\$202           | \$48<br>\$202           | 16<br>16   | 17<br>17   | 8%<br>8%  | 5         | 6<br>7    |
| Alt53           | 22062                           | Irvington BART Station  | Transit Efficiency                       | Alameda                        | \$19                       | \$19                       | \$202                   | \$202                   | 12         | 12         | 2%        | 8         | 8         |
| Alt57           |                                 | SFMTA Transit Effectiveness Project   | Transit Efficiency                       | San Francisco                  | \$90                       | \$91                       | \$8                     | \$8                     | 11         | 12         | 2%        | 9         | 9         |
| Alt95<br>Alt44  | 240582<br>22400                 | Truck & Motorcycle Retirement [BAAQMD program] SR-239 Expressway Construction (Brentwood to Tracy)            | Transit Efficiency Highway Expansion     | Regional<br>Santa Clara        | \$55<br>\$144              | \$55<br>\$148              | \$6<br>\$21             | \$6<br>\$21             | 9<br>7     | 9<br>7     | 0%<br>3%  | 10<br>11  | 10<br>11  |
|                 |                                 |   |  |                                |                            |                            |                         |                         |            |            |           |           |           |
| Alt25<br>Alt27  |                                 | SR-85 Auxiliary Lanes (El Camino Real to Winchester Boulevard) Fremont/Union City East-West Connector         | Road Efficiency  Arterial Expansion      | Santa Clara<br>Alameda         | \$81<br>\$65               | \$81<br>\$68               | \$12<br>\$10            | \$12<br>\$10            | 7          | 7          | 0%<br>4%  | 12<br>13  | 12<br>13  |
| Alt91           | 98207T                          | Alameda-Oakland BRT + Transit Access Improvements   | Transit Efficiency                       | Alameda                        | \$14                       | \$14                       | \$2                     | \$2                     | 6          | 6          | 0%        | 14        | 14        |
| Alt14<br>Alt21  | 240060, 240523<br>230161        | US-101 Express Lanes - Whipple to County Line Van Ness Avenue BRT   | Road Efficiency Transit Efficiency       | Multi-County<br>San Francisco  | \$123<br>\$44              | \$123<br>\$45              | \$19<br>\$7             | \$19<br>\$7             | 6          | 6          | 0%<br>2%  | 15<br>16  | 16<br>15  |
| Alt36           | HOTd                            | Silicon Valley Express Lanes Network  | Express Lanes Netw                       |                                |                            | \$398                      | \$70                    | \$70                    | 6          | 6          | -2%       | 17        | 17        |
| Alt80           | 240155                          | Better Market Street  | Transit Efficiency                       | San Francisco                  | \$56                       | \$57                       | \$10                    | \$10                    | 6          | 6          | 0%        | 18        | 18        |
| Alt8<br>Alt49   | 22455<br>HOTe                   | AC Transit East Bay BRT Express Lanes Network E   | Transit Efficiency<br>Express Lanes Netw | Alameda<br>Multi-County        | \$62<br>\$602              | \$62<br>\$597              | \$12<br>\$118           | \$12<br>\$118           | 5          | 5          | 1%<br>-1% | 19<br>20  | 19<br>20  |
| Alt32           | 230468                          | I-80 Auxiliary Lanes (Airbase Parkway to I-680)   | Road Efficiency                          | Solano                         | \$18                       | \$18                       | \$4                     | \$4                     | 5          | 5          | -1%       | 21        | 21        |
| Alt96           | n/a                             | Local Streets and Roads Capital Maintenance Needs   | Maintenance                              | Regional                       | \$1,369                    | \$1,369                    | \$280                   | \$280                   | 5          | 5          | 0%        | 22        | 22        |
| Alt13           | 240375                          | BART to San Jose/Santa Clara (Phase 2: Berryessa to Santa Clara)  | Transit Expansion                        | Santa Clara                    | \$324                      | \$331                      | \$70                    | \$70                    | 5          | 5          | 2%        | 23        | 23        |
|                 | 240424                          | Caltrain Service Frequency Improvements (6-Train Service  |  |                                | ****                       | ****                       | 424                     | 624                     | _          | _          | 20/       |           | 25        |
| Alt47<br>Alt56  | 240134<br>240557                | during Peak Hours) + Electrification (San Francisco To Tamien) Oakdale Caltrain Station                       | Transit Efficiency Transit Efficiency    | Multi-County<br>San Francisco  | \$153<br>\$3               | \$155<br>\$3               | \$34<br>\$1             | \$34<br>\$1             | 5<br>4     | 5          | 2%<br>6%  | 24<br>25  | 25<br>24  |
|                 |                                 | SR-84/I-680 Interchange Improvements + SR-84 Widening   |  |                                |                            |                            |                         |                         |            |            |           |           |           |
| Alt23<br>Alt38  | 240062<br>230294                | (Pigeon Pass to I-680)<br>New SR-152 Alignment  | Highway Expansion<br>Highway Expansion   |                                | \$87<br>\$148              | \$89<br>\$149              | \$21<br>\$41            | \$21<br>\$41            | 4          | 4          | 3%<br>1%  | 26<br>27  | 26<br>28  |
| Alt15           | 230290                          | Transbay Transit Center - Phase 2B (Caltrain Downtown   | Transit Expansion                        | Multi-County                   | \$108                      | \$109                      | \$31                    | \$31                    | 4          | 4          | 1%        | 28        | 29        |
| Alt97<br>Alt6   | 240410<br>21205, 22350          | Transportation for Livable Communities I-680/SR-4 Interchange Improvements + SR-4 Widening                    | TLC<br>Highway Expansion                 | Regional<br>Contra Costa       | \$875<br>\$65              | \$875<br>\$65              | \$255<br>\$21           | \$255<br>\$21           | 3          | 3          | 0%<br>-1% | 29<br>30  | 30<br>31  |
| Alt51           | 21341                           | Fairfield/Vacaville Capitol Corridor Station (Phases 1, 2, and 3)   | Transit Efficiency                       | Solano                         | \$2                        | \$2                        | \$1                     | \$1                     | 3          | 3          | 4%        | 31        | 32        |
| Alt58           | 240617                          | SR-29 HOV Lanes & BRT (Napa Junction to Vallejo)  | Road Efficiency                          | Napa                           | \$11                       | \$10                       | \$4                     | \$4                     | 3          | 2          | -4%       | 32        | 34        |
| Alt66           | 22227, 240328,<br>240334        | Geneva Avenue Corridor Improvements (Roadway Extension,<br>BRT, and Southern Intermodal Terminal)             | Transit Efficiency                       | Multi-County                   | \$36                       | \$37                       | \$15                    | \$15                    | 2          | 3          | 3%        | 33        | 33        |
| Alt87           | 240147                          | Southeast Waterfront Transportation Improvements  | Transit Efficiency                       | San Francisco                  | \$88                       | \$89                       | \$36                    | \$36                    | 2          | 2          | 1%        | 34        | 35        |
| Alt17<br>Alt24  | 240026<br>240119                | SamTrans El Camino BRT VTA El Camino BRT  | Transit Efficiency Transit Efficiency    | San Mateo<br>Santa Clara       | \$59<br>\$28               | \$61<br>\$29               | \$25<br>\$12            | \$25<br>\$12            | 2          | 2          | 4%<br>3%  | 35<br>36  | 36<br>37  |
| Alt77           |                                 | BART Service Frequency Improvements   | Transit Efficiency                       | Multi-County                   | \$126                      | \$129                      | \$56                    | \$56                    | 2          | 2          | 2%        | 37        | 38        |
| Alt84           | 230604                          | Bay Bridge Contraflow Lane  | Road Efficiency                          | Multi-County                   | \$67                       | \$67                       | \$31                    | \$31                    | 2          | 2          | 0%        | 38        | 39        |
| Alt88<br>Alt33  | 580_BUS<br>240018               | I-580 Express Bus (Dublin to Livermore)  Dumbarton Transit Corridor (Phase 1: Express Bus)                    | Transit Efficiency Transit Efficiency    | Alameda<br>Alameda             | \$32<br>\$23               | \$33<br>\$23               | \$16<br>\$12            | \$16<br>\$12            | 2          | 2          | 2%<br>2%  | 39<br>40  | 40<br>41  |
|                 | 22511, 22512,                   |   |  |                                |                            |                            |                         |                         |            |            |           |           |           |
| Alt9            | 22122, 230613,<br>22120, 230581 | WETA Service Expansion (Treasure Island, Berkeley/Albany,<br>Richmond, Hercules, and Redwood City)            | Transit Expansion                        | Multi-County                   | \$41                       | \$43                       | \$22                    | \$22                    | 2          | 2          | 5%        | 41        | 42        |
| Alt73           | 22605                           | SR-4 Bypass Completion (SR-160 to Walnut Avenue)  | Highway Expansion                        |                                | \$15                       | \$14                       | \$9                     | \$9                     | 2          | 2          | -6%       | 42        | 50        |
| Alt86<br>Alt2   | 00MUNI                          | Muni Service Frequency Improvements   | Transit Efficiency                       | San Francisco<br>San Francisco | \$25                       | \$25                       | \$14                    | \$14<br>¢0              | 2          | 2          | 0%        | 43<br>44  | 45        |
| Alt75           | 230164<br>240526                | Geary Boulevard BRT SFCTA Transit Performance Initiative  | Transit Efficiency Transit Efficiency    | San Francisco                  | \$15<br>\$28               | \$15<br>\$29               | \$9<br>\$16             | \$9<br>\$16             | 2          | 2          | 2%<br>1%  | 45        | 44<br>46  |
| Alt98           |                                 | Regional Bikeway Network  | Bike/Ped                                 | Regional                       | \$124                      | \$124                      | \$73                    | \$73                    | 2          | 2          | 0%        | 46        | 47        |
| Alt106          | 240699                          | AC Transit Service Frequency Improvements (Restoration of 2009 Funding Levels)                                | Transit Efficiency                       | Alameda                        | \$108                      | \$110                      | \$65                    | \$65                    | 2          | 2          | 1%        | 47        | 49        |
| Alt99           | n/a                             | New Freedom Program   | Maintenance                              | Regional                       | \$3                        | \$3                        | \$2                     | \$2                     | 2          | 2          | 0%        | 48        | 51        |
| Alt43           | 22268                           | San Mateo Countywide Shuttle Service Frequency Improvements   | Transit Efficiency                       | Con Make a                     | \$10                       | \$11                       | ¢c.                     | \$6                     |            | _          | 3%        | 49        | 48        |
| Alt100          |                                 | Climate Initiatives (5-year program)  | Climate                                  | San Mateo<br>Regional          | \$158                      | \$431                      | \$6<br>\$112            | \$112                   | 1          | 4          | 172%      | 50        | 27        |
| Alt101<br>Alt55 | n/a<br>240545                   | Transit Capital Maintenance Needs Parkmerced Light Rail Corridor  | Maintenance<br>Transit Efficiency        | Regional<br>San Francisco      | \$1,787<br>\$6             | \$1,787<br>\$6             | \$1,286<br>\$5          | \$1,286<br>\$5          | 1          | 1          | 0%<br>2%  | 51<br>52  | 53<br>52  |
| Alt63           |                                 | Golden Gate Ferry Service Frequency Improvements  | Transit Efficiency                       | Multi-County                   | \$6                        | \$6                        | \$4                     | \$4                     | 1          | 1          | 7%        | 53        | 54        |
| A1440-          |                                 | BART to Livermore (Phase 1: 1-Station DMU Extension with Bus  |  |                                |                            | ćao                        | ćao                     | 630                     | 1          | 1          | 40/       | F4        |           |
| Alt107          | LBART                           | Enhancements)  Caltrain Vision (10-Train Service during Peak Hours) +   | Transit Expansion                        | Alameda                        | \$37                       | \$38                       | \$29                    | \$29                    | 1          | 1          | 4%        | 54        | 55        |
| Alt34           |                                 | Electrification (San Francisco to Tamien)   | Transit Efficiency                       | Multi-County                   | \$272                      | \$278                      | \$220                   | \$220                   | 1          | 1          | 2%        | 55        | 56        |
| Alt83<br>Alt67  | 00ACT1<br>22343                 | AC Transit Frequent Transit Network I-680 Express Bus Service Frequency Improvements (Phase 2)                | Transit Efficiency Transit Efficiency    | Multi-County<br>Contra Costa   | \$606<br>\$12              | \$615<br>\$13              | \$510<br>\$11           | \$510<br>\$11           | 1          | 1          | 1%<br>3%  | 56<br>57  | 57<br>58  |
| Alt1            |                                 | Marin-Sonoma Narrows (Phase 2: HOV Lanes)   | Road Efficiency                          | Multi-County                   | \$20                       | \$19                       | \$18                    | \$18                    | 1          | 1          | -5%       | 58        | 59        |
| Alt54           | 240196                          | BART to Livermore (Phase 1: 1-Station Rail Extension with Bus<br>Enhancements)                                | Transit Expansion                        | Alameda                        | \$50                       | \$52                       | \$52                    | \$52                    | 1          | 1          | 4%        | 60        | 60        |
| Alt102          | 240577                          | Ennancements) Heavy-Duty Truck Replacement [BAAQMD program]   | Climate                                  | Regional                       | \$41.80                    | \$42                       | \$44                    | \$44                    | 1          | 1          | 0%        | 59        | 61        |
| Alt62           | 22415                           | Historic Streetcar Expansion Program  | Transit Efficiency                       | San Francisco                  | \$9                        | \$9                        | \$9                     | \$9                     | 0.9        | 0.9        | 2%        | 61        | 62        |
| Alt74<br>Alt41  | 240216<br>240650                | Dumbarton Transit Corridor (Phase 2: Commuter Rail) Sonoma Countywide Bus Service Frequency Improvements      | Transit Expansion Transit Efficiency     | Alameda<br>Sonoma              | \$31<br>\$32               | \$32<br>\$32               | \$36<br>\$41            | \$36<br>\$41            | 0.8        | 0.9        | 3%<br>1%  | 62<br>63  | 63<br>64  |
| Alt103          | 240589                          | EV Solar Installation [BAAQMD program]  | Climate                                  | Regional                       | \$1                        | \$3                        | \$2                     | \$2                     | 0.8        | 2          | 143%      | 64        | 43        |
| Alt16           | 240676, 240675,<br>240677       | SMART (Phase 2: Extensions to Cloverdale & Larkspur + IOS Cost<br>Deferrals)                                  | Transit Expansion                        | Multi-County                   | \$10                       | \$10                       | \$13                    | \$13                    | 0.7        | 0.7        | 2%        | 65        | 66        |
| Alt22           | 230252                          | Marin Countywide Bus Service Frequency Improvements   | Transit Efficiency                       | Marin                          | \$9                        | \$9                        | \$12                    | \$12                    | 0.7        | 0.8        | 4%        | 66        | 65        |
| Alt40           | 230219, 230314                  | Golden Gate Bus Service Frequency Improvements Capitol Expressway Light Rail Extension (Phase 2: to Eastridge | Transit Efficiency                       | Multi-County                   | \$16                       | \$16                       | \$29                    | \$29                    | 0.5        | 0.5        | 2%        | 67        | 67        |
| Alt10           | 22956                           | Transit Center)   | Transit Expansion                        | Santa Clara                    | \$4                        | \$4                        | \$8                     | \$8                     | 0.5        | 0.5        | 3%        | 68        | 68        |
| Alt50<br>Alt39  |                                 | Monterey Highway BRT BART to Livermore (Phases 1 & 2: Rail Extension)   | Transit Efficiency Transit Expansion     | Santa Clara<br>Alameda         | \$15<br>\$57               | \$15<br>\$59               | \$37<br>\$153           | \$37<br>\$153           | 0.4<br>0.4 | 0.4        | 1%<br>3%  | 69<br>70  | 69<br>70  |
| Alt30           | 22019                           | Downtown East Valley (Phase 2: LRT)   | Transit Expansion                        | Santa Clara                    | \$5                        | \$5                        | \$16                    | \$16                    | 0.3        | 0.3        | 4%        | 71        | 71        |
| Alt79<br>Alt52  | 98139<br>230554                 | ACE Expansion Sunnyvale-Cupertino BRT   | Transit Efficiency Transit Efficiency    | Alameda<br>Santa Clara         | \$19<br>\$5                | \$20<br>\$5                | \$67<br>\$26            | \$67<br>\$26            | 0.3<br>0.2 | 0.3        | 5%<br>3%  | 72<br>73  | 72<br>73  |
|                 |                                 | Capitol Expressway Light Rail Extension (Phases 2 & 3: to   |  |                                |                            |                            |                         |                         |            |            |           |           |           |
| Alt19<br>Alt61  |                                 | Nieman) Capitol Corridor Service Frequency Improvements (Oakland to   | Transit Expansion Transit Efficiency     | Santa Clara<br>Multi-County    | \$3<br>\$1                 | \$3<br>\$1                 | \$19<br>\$18            | \$19<br>\$18            | 0.2        | 0.2        | 8%<br>3%  | 74<br>75  | 74<br>75  |
| Alt48           | 98119                           | Vasona Light Rail Extension (Phase 2)   | Transit Expansion                        | Santa Clara                    | \$0.1                      | \$0.4                      | \$6                     | \$6                     | 0.0        | 0.1        | 163%      | 76        | 76        |
| VI+4L           |                                 | Union City Commuter Rail Station + Dumbarton Rail Segment G   | Transit Efficia                          | Alamoda                        | -\$0.1                     | -\$0.1                     | \$2                     | ės                      | (0.0)      | (0.0)      | _110/     | 77        | 77        |
| Alt45           | 230101                          | Improvements  | Transit Efficiency                       | Alameda                        | -\$0.1                     | -\$0.1                     | şΖ                      | \$2                     | (0.0)      | (0.0)      | -11%      | - //      | - //      |



## APPENDIX A

Table A-4. Benefit-Cost Sensitivity Testing - Crashes at U.S. DOT Value of Life Economic Values

|                 |                         |   |  |                                | Original Total             | Adjusted Total             |                         |                         |          |          |             |          |          |
|-----------------|-------------------------|---|--|--------------------------------|----------------------------|----------------------------|-------------------------|-------------------------|----------|----------|-------------|----------|----------|
|                 |                         |   |  |                                | Annualized<br>Benefits (in | Annualized<br>Benefits (in | Annualized<br>Costs (in | Annualized<br>Costs (in |          |          | Percent     |          |          |
|                 |                         |   |  |                                | millions of 2013           |                            | millions of             | millions of             | Original | Adjusted | Change      | Original | Adjusted |
| Alt             | RTPID#                  | Alternative   | Mode                                     | County                         | dollars)                   | 2013 dollars)              | 2013 dollars)           | 2013 dollars)           | B/C      | B/C      | B/C         | Rank     | Rank     |
| Alt90           | 240182                  | BART Metro Program  | Transit Efficiency                       | Multi-County                   | \$161                      | \$163                      | -\$4                    | -\$4                    | >60      | >60      | -           | 1        | 1        |
| Alt93<br>Alt85  | 240694<br>240522        | Treasure Island Congestion Pricing Congestion Pricing Pilot   | Pricing<br>Pricing                       | Regional<br>San Francisco      | \$69<br>\$227              | \$70<br>\$232              | \$1<br>\$5              | \$1<br>\$5              | 59<br>45 | 60<br>46 | 2%<br>2%    | 3        | 3        |
| Alt71           | 22780                   | AC Transit Grand-MacArthur BRT  | Transit Efficiency                       | Alameda                        | \$32                       | \$32                       | \$2                     | \$2                     | 18       | 18       | 1%          | 4        | 4        |
| Alt104          | 22274                   | ITS Improvements in San Mateo County  | Road Efficiency                          | San Mateo                      | \$56                       | \$57                       | \$4                     | \$4                     | 16       | 16       | 1%          | 5        | 5        |
| Alt105          | 240494                  | ITS Improvements in Santa Clara County  | Road Efficiency                          | Santa Clara                    | \$752                      | \$763                      | \$48                    | \$48                    | 16       | 16       | 1%          | 5        | 5        |
| Alt5<br>Alt53   | 230419<br>22062         | Freeway Performance Initiative Irvington BART Station   | Transit Efficiency                       | Regional<br>Alameda            | \$3,175<br>\$19            | \$3,222<br>\$19            | \$202<br>\$2            | \$202<br>\$2            | 16<br>12 | 16<br>12 | 1%<br>1%    | 5<br>8   | 7        |
| Alt57           |                         | SFMTA Transit Effectiveness Project   | Transit Efficiency                       | San Francisco                  | \$90                       | \$90                       | \$8                     | \$8                     | 11       | 11       | 1%          | 9        | 9        |
| Alt95           | 240582                  | Truck & Motorcycle Retirement [BAAQMD program]  | Transit Efficiency                       | Regional                       | \$55                       | \$55                       | \$6                     | \$6                     | 9        | 9        | 0%          | 10       | 10       |
| Alt44           | 22400                   | SR-239 Expressway Construction (Brentwood to Tracy)   | Highway Expansion                        | Santa Clara                    | \$144                      | \$145                      | \$21                    | \$21                    | 7        | 7        | 1%          | 11       | 11       |
| Alt25           | 240431                  | SR-85 Auxiliary Lanes (El Camino Real to Winchester Boulevard)  | Road Efficiency                          | Santa Clara                    | \$81                       | \$81                       | \$12                    | \$12                    | 7        | 7        | 0%          | 12       | 12       |
| Alt27           | 94506                   | Fremont/Union City East-West Connector  | Arterial Expansion                       | Alameda                        | \$65                       | \$66                       | \$10                    | \$10                    | 7        | 7        | 1%          | 13       | 13       |
| Alt91           | 98207T                  | Alameda-Oakland BRT + Transit Access Improvements   | Transit Efficiency                       | Alameda                        | \$14                       | \$14                       | \$2                     | \$2                     | 6        | 7        | 0%          | 14       | 14       |
| Alt14           |                         | US-101 Express Lanes - Whipple to County Line   | Road Efficiency                          | Multi-County                   | \$123                      | \$123                      | \$19                    | \$19                    | 6        | 6        | 1%          | 15       | 15       |
| Alt21<br>Alt36  | 230161<br>HOTd          | Van Ness Avenue BRT<br>Silicon Valley Express Lanes Network   | Transit Efficiency<br>Express Lanes Netw | San Francisco                  | \$44<br>\$408              | \$44<br>\$391              | \$7<br>\$70             | \$7<br>\$70             | 6        | 6        | 1%<br>-4%   | 16<br>17 | 16<br>18 |
| Alt80           | 240155                  | Better Market Street  | Transit Efficiency                       | San Francisco                  | \$56                       | \$57                       | \$10                    | \$10                    | 6        | 6        | 1%          | 18       | 17       |
| Alt8            | 22455                   | AC Transit East Bay BRT   | Transit Efficiency                       | Alameda                        | \$62                       | \$62                       | \$12                    | \$12                    | 5        | 5        | 0%          | 19       | 19       |
| Alt49           | НОТе                    | Express Lanes Network E   | Express Lanes Netw                       | Multi-County                   | \$602                      | \$594                      | \$118                   | \$118                   | 5        | 5        | -1%         | 20       | 21       |
| Alt32           | 230468                  | I-80 Auxiliary Lanes (Airbase Parkway to I-680)   | Road Efficiency                          | Solano                         | \$18                       | \$18                       | \$4                     | \$4                     | 5        | 5        | 2%          | 21       | 20       |
| Alt96           | n/a                     | Local Streets and Roads Capital Maintenance Needs   | Maintenance                              | Regional                       | \$1,369                    | \$1,369                    | \$280                   | \$280                   | 5        | 5        | 0%          | 22       | 22       |
| Alt13           | 240375                  | BART to San Jose/Santa Clara (Phase 2: Berryessa to Santa Clara)                                      | Transit Expansion                        | Santa Clara                    | \$324                      | \$331                      | \$70                    | \$70                    | 5        | 5        | 2%          | 23       | 23       |
|                 |                         | Caltrain Service Frequency Improvements (6-Train Service  | punsion                                  |                                | ,,,,,,                     | ,,,,,,                     | 1 ,,,,                  | ,,,                     |          |          |             |          |          |
| Alt47           | 240134                  | during Peak Hours) + Electrification (San Francisco To Tamien)  | Transit Efficiency                       | Multi-County                   | \$153                      | \$155                      | \$34                    | \$34                    | 5        | 5        | 2%          | 24       | 24       |
| Alt56           | 240557                  | Oakdale Caltrain Station  | Transit Efficiency                       | San Francisco                  | \$3                        | \$3                        | \$1                     | \$1                     | 4        | 5        | 3%          | 25       | 25       |
| Alt23           | 240062                  | SR-84/I-680 Interchange Improvements + SR-84 Widening (Pigeon Pass to I-680)                          | Highway Expansion                        | Alameda                        | \$87                       | \$87                       | \$21                    | \$21                    | 4        | 4        | 0%          | 26       | 26       |
| Alt38           |                         | New SR-152 Alignment  | Highway Expansion                        |                                | \$148                      | \$155                      | \$41                    | \$41                    | 4        | 4        | 5%          | 27       | 27       |
| Alt15           | 230290                  | Transbay Transit Center - Phase 2B (Caltrain Downtown   | Transit Expansion                        | Multi-County                   | \$108                      | \$109                      | \$31                    | \$31                    | 4        | 4        | 1%          | 28       | 28       |
| Alt97           | 240410                  | Transportation for Livable Communities I-680/SR-4 Interchange Improvements + SR-4 Widening            | TLC                                      | Regional                       | \$875                      | \$875                      | \$255                   | \$255                   | 3        | 3        | 0%<br>0%    | 29       | 29       |
| Alt6<br>Alt51   |                         | Fairfield/Vacaville Capitol Corridor Station (Phases 1, 2, and 3)                                     | Highway Expansion Transit Efficiency     | Solano                         | \$65<br>\$2                | \$65<br>\$2                | \$21<br>\$1             | \$21<br>\$1             | 3        | 3        | -1%         | 30<br>31 | 30<br>31 |
| Alt58           | 240617                  | SR-29 HOV Lanes & BRT (Napa Junction to Vallejo)  | Road Efficiency                          | Napa                           | \$11                       | \$11                       | \$4                     | \$4                     | 3        | 3        | 5%          | 32       | 32       |
|                 | 22227, 240328,          | Geneva Avenue Corridor Improvements (Roadway Extension,   |  |                                |                            |                            |                         |                         |          |          |             |          |          |
| Alt66           | 240334                  | BRT, and Southern Intermodal Terminal)  | Transit Efficiency                       | Multi-County                   | \$36                       | \$36                       | \$15                    | \$15                    | 2        | 3        | 1%          | 33       | 33       |
| Alt87<br>Alt17  | 240147<br>240026        | Southeast Waterfront Transportation Improvements SamTrans El Camino BRT                               | Transit Efficiency Transit Efficiency    | San Francisco<br>San Mateo     | \$88<br>\$59               | \$89<br>\$59               | \$36<br>\$25            | \$36<br>\$25            | 2        | 2        | 1%<br>1%    | 34<br>35 | 34<br>36 |
| Alt24           | 240119                  | VTA El Camino BRT   | Transit Efficiency                       | Santa Clara                    | \$28                       | \$28                       | \$12                    | \$12                    | 2        | 2        | 1%          | 36       | 35       |
| Alt77           | 00BART                  | BART Service Frequency Improvements   | Transit Efficiency                       | Multi-County                   | \$126                      | \$128                      | \$56                    | \$56                    | 2        | 2        | 2%          | 37       | 37       |
| Alt84           | 230604                  | Bay Bridge Contraflow Lane  | Road Efficiency                          | Multi-County                   | \$67                       | \$67                       | \$31                    | \$31                    | 2        | 2        | 0%          | 38       | 38       |
| Alt88<br>Alt33  | 580_BUS<br>240018       | I-580 Express Bus (Dublin to Livermore)   | Transit Efficiency                       | Alameda                        | \$32                       | \$33                       | \$16                    | \$16                    | 2        | 2        | 3%          | 39<br>40 | 40       |
| Alt33           | 240018                  | Dumbarton Transit Corridor (Phase 1: Express Bus)   | Transit Efficiency                       | Alameda                        | \$23                       | \$23                       | \$12                    | \$12                    |          | 2        | 1%          | 40       | 41       |
|                 |                         | WETA Service Expansion (Treasure Island, Berkeley/Albany,   |  |                                |                            |                            |                         |                         |          |          |             |          |          |
| Alt9            |                         | Richmond, Hercules, and Redwood City)   | Transit Expansion                        | Multi-County                   | \$41                       | \$42                       | \$22                    | \$22                    | 2        | 2        | 2%          | 41       | 42       |
| Alt73           | 22605                   | SR-4 Bypass Completion (SR-160 to Walnut Avenue)  | Highway Expansion                        | Contra Costa                   | \$15                       | \$17                       | \$9                     | \$9                     | 2        | 2        | 12%         | 42       | 39       |
| Alt86<br>Alt2   | 00MUNI<br>230164        | Muni Service Frequency Improvements Geary Boulevard BRT   | Transit Efficiency Transit Efficiency    | San Francisco<br>San Francisco | \$25<br>\$15               | \$25<br>\$15               | \$14<br>\$9             | \$14<br>\$9             | 2        | 2        | 0%<br>1%    | 43<br>44 | 43<br>44 |
| Alt75           | 240526                  | SFCTA Transit Performance Initiative  | Transit Efficiency                       | San Francisco                  | \$28                       | \$29                       | \$16                    | \$16                    | 2        | 2        | 1%          | 45       | 45       |
| Alt98           | 22247                   | Regional Bikeway Network  | Bike/Ped                                 | Regional                       | \$124                      | \$124                      | \$73                    | \$73                    | 2        | 2        | 0%          | 46       | 46       |
|                 |                         | AC Transit Service Frequency Improvements (Restoration of   |  |                                |                            |                            |                         |                         |          |          |             |          |          |
| Alt106          | 240699                  | 2009 Funding Levels)  | Transit Efficiency                       | Alameda                        | \$108                      | \$110                      | \$65                    | \$65                    | 2        | 2        | 1%          | 47       | 47       |
| Alt99           | n/a                     | New Freedom Program San Mateo Countywide Shuttle Service Frequency                                    | Maintenance                              | Regional                       | \$3                        | \$3                        | \$2                     | \$2                     |          | 2        | 0%          | 48       | 49       |
| Alt43           | 22268                   | Improvements  | Transit Efficiency                       | San Mateo                      | \$10                       | \$11                       | \$6                     | \$6                     | 2        | 2        | 3%          | 49       | 48       |
| Alt100          | 230550                  | Climate Initiatives (5-year program)  | Climate                                  | Regional                       | \$158                      | \$159                      | \$112                   | \$112                   | 1        | 1        | 1%          | 50       | 50       |
| Alt101<br>Alt55 | n/a<br>240545           | Transit Capital Maintenance Needs Parkmerced Light Rail Corridor                                      | Maintenance<br>Transit Efficiency        | Regional<br>San Francisco      | \$1,787<br>\$6             | \$1,787<br>\$6             | \$1,286<br>\$5          | \$1,286<br>\$5          | 1        | 1        | 0%<br>1%    | 51<br>52 | 52<br>51 |
| Alt63           | 230055                  | Golden Gate Ferry Service Frequency Improvements  | Transit Efficiency                       | Multi-County                   | \$6                        | \$6                        | \$4                     | \$4                     | 1        | 1        | 4%          | 53       | 53       |
|                 |                         | BART to Livermore (Phase 1: 1-Station DMU Extension with Bus  |  |                                |                            |                            |                         | Ţ.                      |          |          |             |          |          |
| Alt107          | LBART                   | Enhancements)   | Transit Expansion                        | Alameda                        | \$37                       | \$38                       | \$29                    | \$29                    | 1        | 1        | 2%          | 54       | 54       |
| 41:2-           | 240524 2:               | Caltrain Vision (10-Train Service during Peak Hours) +  | Transit Fff: -                           | 84k. C                         | 4075                       | 447-                       | 400-                    | 4225                    |          |          |             |          |          |
| Alt34<br>Alt83  | 240521, 21627<br>00ACT1 | Electrification (San Francisco to Tamien) AC Transit Frequent Transit Network                         | Transit Efficiency Transit Efficiency    | Multi-County<br>Multi-County   | \$272<br>\$606             | \$277<br>\$613             | \$220<br>\$510          | \$220<br>\$510          | 1        | 1        | 2%<br>1%    | 55<br>56 | 55<br>56 |
| Alt67           | 22343                   | I-680 Express Bus Service Frequency Improvements (Phase 2)  | Transit Efficiency                       | Contra Costa                   | \$12                       | \$12                       | \$11                    | \$11                    | 1        | 1        | 2%          | 57       | 57       |
| Alt1            |                         | Marin-Sonoma Narrows (Phase 2: HOV Lanes)   | Road Efficiency                          | Multi-County                   | \$20                       | \$19                       | \$18                    | \$18                    | 1        | 1        | -3%         | 58       | 58       |
|                 |                         | BART to Livermore (Phase 1: 1-Station Rail Extension with Bus   |  | l                              |                            |                            | l .                     |                         |          |          |             |          |          |
| Alt54<br>Alt102 | 240196<br>240577        | Enhancements) Heavy-Duty Truck Replacement [BAAQMD program]   | Transit Expansion<br>Climate             | Alameda<br>Regional            | \$50<br>\$42               | \$51<br>\$42               | \$52<br>\$44            | \$52<br>\$44            | 1        | 1        | 2%<br>0%    | 60<br>59 | 59<br>60 |
| Alt62           |                         | Historic Streetcar Expansion Program  | Transit Efficiency                       | San Francisco                  | \$9                        | \$9                        | \$9                     | \$44                    | 0.9      | 0.9      | 1%          | 61       | 61       |
| Alt74           | 240216                  | Dumbarton Transit Corridor (Phase 2: Commuter Rail)   | Transit Expansion                        | Alameda                        | \$31                       | \$31                       | \$36                    | \$36                    | 0.8      | 0.9      | 2%          | 62       | 62       |
| Alt41           |                         | Sonoma Countywide Bus Service Frequency Improvements  | Transit Efficiency                       | Sonoma                         | \$32                       | \$32                       | \$41                    | \$41                    | 0.8      | 0.8      | 1%          | 63       | 63       |
| Alt103          |                         | EV Solar Installation [BAAQMD program] SMART (Phase 2: Extensions to Cloverdale & Larkspur + IOS Cost | Climate                                  | Regional                       | \$1                        | \$1                        | \$2                     | \$2                     | 0.8      | 0.8      | 0%          | 64       | 64       |
| Alt16           | 240677                  | Deferrals)  | Transit Expansion                        | Multi-County                   | \$10                       | \$10                       | \$13                    | \$13                    | 0.7      | 0.7      | 2%          | 65       | 66       |
| Alt22           | 230252                  | Marin Countywide Bus Service Frequency Improvements   | Transit Efficiency                       | Marin                          | \$9                        | \$9                        | \$12                    | \$12                    | 0.7      | 0.7      | 3%          | 66       | 65       |
| Alt40           | 230219, 230314          | Golden Gate Bus Service Frequency Improvements  | Transit Efficiency                       | Multi-County                   | \$16                       | \$16                       | \$29                    | \$29                    | 0.5      | 0.5      | 1%          | 67       | 67       |
| Alt10           | 22956                   | Capitol Expressway Light Rail Extension (Phase 2: to Eastridge<br>Transit Center)                     | Transit Expansion                        | Santa Clara                    | \$4                        | \$4                        | \$8                     | \$8                     | 0.5      | 0.5      | 4%          | 60       | 60       |
| Alt10<br>Alt50  |                         | Monterey Highway BRT  | Transit Expansion Transit Efficiency     | Santa Clara<br>Santa Clara     | \$4<br>\$15                | \$4<br>\$15                | \$8                     | \$8<br>\$37             | 0.5      | 0.5      | 4%<br>1%    | 68<br>69 | 68<br>69 |
| Alt39           | 22667                   | BART to Livermore (Phases 1 & 2: Rail Extension)  | Transit Expansion                        | Alameda                        | \$57                       | \$58                       | \$153                   | \$153                   | 0.4      | 0.4      | 2%          | 70       | 70       |
| Alt30           |                         | Downtown East Valley (Phase 2: LRT)   | Transit Expansion                        | Santa Clara                    | \$5<br>\$10                | \$5<br>\$20                | \$16<br>\$67            | \$16                    | 0.3      | 0.3      | 3%          | 71       | 71       |
| Alt79<br>Alt52  | 98139<br>230554         | ACE Expansion Sunnyvale-Cupertino BRT   | Transit Efficiency Transit Efficiency    | Alameda<br>Santa Clara         | \$19<br>\$5                | \$20<br>\$5                | \$67<br>\$26            | \$67<br>\$26            | 0.3      | 0.3      | 4%<br>0%    | 72<br>73 | 72<br>73 |
|                 |                         | Capitol Expressway Light Rail Extension (Phases 2 & 3: to   |  |                                |                            |                            |                         |                         |          |          |             |          |          |
| Alt19           |                         | Nieman)   | Transit Expansion                        | Santa Clara                    | \$3                        | \$3                        | \$19                    | \$19                    | 0.2      | 0.2      | 6%          | 74       | 74       |
| Alt61<br>Alt48  | 22009<br>98119          | Capitol Corridor Service Frequency Improvements (Oakland to<br>Vasona Light Rail Extension (Phase 2)  | Transit Efficiency Transit Expansion     | Multi-County<br>Santa Clara    | \$1<br>\$0.1               | \$1<br>\$0.3               | \$18<br>\$6             | \$18<br>\$6             | 0.1      | 0.1      | -3%<br>101% | 75<br>76 | 75<br>76 |
| AIL#O           | 30113                   | Union City Commuter Rail Station + Dumbarton Rail Segment G   | anare Expansion                          | Santa Clara                    | φυ.1                       | -ν.3                       | 90                      | Ų                       | 0.0      | 0.0      | 101/0       | 70       | ,,,      |
| Alt45           | 230101                  | Improvements  | Transit Efficiency                       | Alameda                        | -\$0.1                     | -\$0.03                    | \$2                     | \$2                     | (0.0)    | (0.0)    | 67%         | 77       | 77       |
|                 |                         |   |  |                                |                            |                            |                         |                         |          |          |             |          |          |



# <u>APPENDIX A</u> Table A-5. Benefit-Cost Sensitivity Testing – Increased Noise Valuation

|                 |  | -   |                                       |                               |                   |                        |                       |                       |            |            |           |           |           |
|-----------------|--|---|---------------------------------------|-------------------------------|-------------------|------------------------|-----------------------|-----------------------|------------|------------|-----------|-----------|-----------|
|                 |  |   |                                       |                               | Original Total    | Adjusted Total         | Original Total        | Adjusted Total        |            |            |           |           |           |
|                 |  |   |                                       |                               | Annualized        | Annualized             | Annualized            | Annualized            |            |            |           |           |           |
|                 |  |   |                                       |                               | Benefits (in      | Benefits (in           | Costs (in             | Costs (in             |            |            | Percent   |           |           |
|                 | DEDICAL CONTRACTOR OF THE PROPERTY OF THE PROP | All and the   |                                       |                               | millions of 2013  |                        | millions of           | millions of           | Original   | Adjusted   | Change    | Original  | Adjusted  |
| Alt<br>Alt90    | RTPID#<br>240182   | Alternative BART Metro Program  | Mode<br>Transit Efficiency            | County<br>Multi-County        | dollars)<br>\$161 | 2013 dollars)<br>\$162 | 2013 dollars)<br>-\$4 | 2013 dollars)<br>-\$4 | B/C<br>>60 | B/C<br>>60 | B/C       | Rank<br>1 | Rank<br>1 |
| Alt93           | 240694   | Treasure Island Congestion Pricing  | Pricing                               | Regional                      | \$69              | \$69                   | \$1                   | \$1                   | 59         | 59         | 0%        | 2         | 2         |
| Alt85           | 240522   | Congestion Pricing Pilot  | Pricing                               | San Francisco                 | \$227             | \$228                  | \$5                   | \$5                   | 45         | 45         | 0%        | 3         | 3         |
| Alt71           | 22780  | AC Transit Grand-MacArthur BRT  | Transit Efficiency                    | Alameda                       | \$32              | \$32                   | \$2                   | \$2                   | 18         | 18         | 0%        | 4         | 4         |
| Alt104          | 22274  | ITS Improvements in San Mateo County  | Road Efficiency                       | San Mateo                     | \$56              | \$56                   | \$4                   | \$4                   | 16         | 16         | 0%        | 5         | 5         |
| Alt105<br>Alt5  | 240494<br>230419   | ITS Improvements in Santa Clara County  | Road Efficiency                       | Santa Clara                   | \$752             | \$752                  | \$48<br>\$202         | \$48<br>\$202         | 16<br>16   | 16         | 0%        | 5         | 7         |
| Alt53           |  | Freeway Performance Initiative Irvington BART Station   | Transit Efficiency                    | Regional<br>Alameda           | \$3,175<br>\$19   | \$3,175<br>\$19        | \$202                 | \$202                 | 12         | 16<br>12   | 0%<br>0%  | 5<br>8    | 8         |
| Alt57           |  | SFMTA Transit Effectiveness Project   | Transit Efficiency                    | San Francisco                 | \$90              | \$90                   | \$8                   | \$8                   | 11         | 11         | 0%        | 9         | 9         |
| Alt95           | 240582   | Truck & Motorcycle Retirement [BAAQMD program]  | Transit Efficiency                    | Regional                      | \$55              | \$55                   | \$6                   | \$6                   | 9          | 9          | 0%        | 10        | 10        |
| Alt44           | 22400  | SR-239 Expressway Construction (Brentwood to Tracy)   | Highway Expansion                     | Santa Clara                   | \$144             | \$144                  | \$21                  | \$21                  | 7          | 7          | 0%        | 11        | 11        |
|                 |  |   |                                       |                               |                   |                        |                       |                       |            |            |           |           |           |
| Alt25           | 240431   | SR-85 Auxiliary Lanes (El Camino Real to Winchester Boulevard)  |                                       | Santa Clara                   | \$81              | \$81                   | \$12                  | \$12                  | 7          | 7          | 0%        | 12        | 12        |
| Alt27<br>Alt91  | 94506<br>98207T  | Fremont/Union City East-West Connector Alameda-Oakland BRT + Transit Access Improvements                              | Arterial Expansion Transit Efficiency | Alameda<br>Alameda            | \$65<br>\$14      | \$65<br>\$14           | \$10<br>\$2           | \$10<br>\$2           | 7<br>6     | 7          | 0%<br>0%  | 13<br>14  | 13<br>14  |
| Alt14           |  | US-101 Express Lanes - Whipple to County Line   | Road Efficiency                       | Multi-County                  | \$123             | \$123                  | \$19                  | \$19                  | 6          | 6          | 0%        | 15        | 15        |
| Alt21           | 230161   | Van Ness Avenue BRT   | Transit Efficiency                    | San Francisco                 | \$44              | \$44                   | \$7                   | \$7                   | 6          | 6          | 0%        | 16        | 16        |
| Alt36           | HOTd   | Silicon Valley Express Lanes Network  | Express Lanes Netw                    | Multi-County                  | \$408             | \$403                  | \$70                  | \$70                  | 6          | 6          | -1%       | 17        | 17        |
| Alt80           | 240155   | Better Market Street  | Transit Efficiency                    | San Francisco                 | \$56              | \$57                   | \$10                  | \$10                  | 6          | 6          | 0%        | 18        | 18        |
| Alt8            | 22455  | AC Transit East Bay BRT   | Transit Efficiency                    | Alameda                       | \$62              | \$62                   | \$12                  | \$12                  | 5          | 5          | 0%        | 19        | 19        |
| Alt49<br>Alt32  | HOTe<br>230468   | Express Lanes Network E<br>I-80 Auxiliary Lanes (Airbase Parkway to I-680)  | Express Lanes Netw                    |                               | \$602             | \$599                  | \$118                 | \$118                 | 5<br>5     | 5          | 0%<br>0%  | 20        | 21        |
| Alt96           | n/a  | Local Streets and Roads Capital Maintenance Needs   | Road Efficiency<br>Maintenance        | Solano<br>Regional            | \$18<br>\$1,369   | \$18<br>\$1,369        | \$4<br>\$280          | \$4<br>\$280          | 5          | 5          | 0%        | 21<br>22  | 20        |
| ,1120           | 11/4   |   | e                                     | Biolial                       | 71,303            | ¥1,303                 | 7200                  | 7200                  |            |            | 0/0       |           |           |
| Alt13           | 240375   | BART to San Jose/Santa Clara (Phase 2: Berryessa to Santa Clara)  | Transit Expansion                     | Santa Clara                   | \$324             | \$325                  | \$70                  | \$70                  | 5          | 5          | 0%        | 23        | 23        |
|                 |  | Caltrain Service Frequency Improvements (6-Train Service  |                                       |                               |                   |                        |                       |                       |            |            |           |           |           |
| Alt47           | 240134   | during Peak Hours) + Electrification (San Francisco To Tamien)  | Transit Efficiency                    | Multi-County                  | \$153             | \$153                  | \$34                  | \$34                  | 5          | 5          | 0%        | 24        | 24        |
| Alt56           | 240557   | Oakdale Caltrain Station  | Transit Efficiency                    | San Francisco                 | \$3               | \$3                    | \$1                   | \$1                   | 4          | 4          | 1%        | 25        | 25        |
| Alt23           | 240062   | SR-84/I-680 Interchange Improvements + SR-84 Widening (Pigeon Pass to I-680)  | Highway Expansion                     | Alameda                       | \$87              | \$87                   | \$21                  | \$21                  | 4          | 4          | 0%        | 26        | 26        |
| Alt38           |  | New SR-152 Alignment  | Highway Expansion                     |                               | \$148             | \$148                  | \$41                  | \$41                  | 4          | 4          | 0%        | 27        | 27        |
| Alt15           | 230290   | Transbay Transit Center - Phase 2B (Caltrain Downtown   | Transit Expansion                     | Multi-County                  | \$108             | \$108                  | \$31                  | \$31                  | 4          | 4          | 0%        | 28        | 28        |
| Alt97           | 240410   | Transportation for Livable Communities  | TLC                                   | Regional                      | \$875             | \$875                  | \$255                 | \$255                 | 3          | 3          | 0%        | 29        | 29        |
| Alt6<br>Alt51   |  | I-680/SR-4 Interchange Improvements + SR-4 Widening   | Highway Expansion Transit Efficiency  | Contra Costa<br>Solano        | \$65<br>\$2       | \$65<br>\$2            | \$21<br>\$1           | \$21<br>\$1           | 3          | 3          | 0%<br>-1% | 30<br>31  | 30<br>31  |
| Alt58           | 240617   | Fairfield/Vacaville Capitol Corridor Station (Phases 1, 2, and 3)<br>SR-29 HOV Lanes & BRT (Napa Junction to Vallejo) | Road Efficiency                       | Napa                          | \$11              | \$11                   | \$4                   | \$4                   | 3          | 3          | 0%        | 32        | 32        |
|                 | 22227, 240328,   | Geneva Avenue Corridor Improvements (Roadway Extension,   |                                       |                               | 7                 | *                      |                       |                       |            |            |           |           |           |
| Alt66           | 240334   | BRT, and Southern Intermodal Terminal)  | Transit Efficiency                    | Multi-County                  | \$36              | \$36                   | \$15                  | \$15                  | 2          | 2          | 0%        | 33        | 33        |
| Alt87           | 240147   | Southeast Waterfront Transportation Improvements  | Transit Efficiency                    | San Francisco                 | \$88              | \$88                   | \$36                  | \$36                  | 2          | 2          | 0%        | 34        | 34        |
| Alt17           | 240026   | SamTrans El Camino BRT  | Transit Efficiency                    | San Mateo                     | \$59              | \$59                   | \$25                  | \$25                  | 2          | 2          | 0%        | 35        | 35        |
| Alt24<br>Alt77  | 240119<br>00BART   | VTA El Camino BRT BART Service Frequency Improvements   | Transit Efficiency Transit Efficiency | Santa Clara<br>Multi-County   | \$28<br>\$126     | \$28<br>\$126          | \$12<br>\$56          | \$12<br>\$56          | 2          | 2          | 0%<br>0%  | 36<br>37  | 36<br>37  |
| Alt84           | 230604   | Bay Bridge Contraflow Lane  | Road Efficiency                       | Multi-County                  | \$67              | \$67                   | \$31                  | \$31                  | 2          | 2          | 0%        | 38        | 38        |
| Alt88           | 580_BUS  | I-580 Express Bus (Dublin to Livermore)   | Transit Efficiency                    | Alameda                       | \$32              | \$32                   | \$16                  | \$16                  | 2          | 2          | 1%        | 39        | 39        |
| Alt33           | 240018   | Dumbarton Transit Corridor (Phase 1: Express Bus)   | Transit Efficiency                    | Alameda                       | \$23              | \$23                   | \$12                  | \$12                  | 2          | 2          | 0%        | 40        | 40        |
|                 | 22511, 22512,  |   |                                       |                               |                   |                        |                       |                       |            |            |           |           |           |
|                 |  | WETA Service Expansion (Treasure Island, Berkeley/Albany,   |                                       |                               |                   | \$42                   |                       |                       | 2          | 2          |           |           |           |
| Alt9<br>Alt73   | 22120, 230581<br>22605   | Richmond, Hercules, and Redwood City) SR-4 Bypass Completion (SR-160 to Walnut Avenue)                                | Transit Expansion Highway Expansion   | Multi-County<br>Contra Costa  | \$41<br>\$15      | \$42<br>\$16           | \$22<br>\$9           | \$22<br>\$9           | 2          | 2          | 1%<br>0%  | 41<br>42  | 41<br>42  |
| Alt86           | 00MUNI   | Muni Service Frequency Improvements   | Transit Efficiency                    | San Francisco                 | \$25              | \$25                   | \$14                  | \$14                  | 2          | 2          | 0%        | 43        | 43        |
| Alt2            | 230164   | Geary Boulevard BRT   | Transit Efficiency                    | San Francisco                 | \$15              | \$15                   | \$9                   | \$9                   | 2          | 2          | 0%        | 44        | 44        |
| Alt75           | 240526   | SFCTA Transit Performance Initiative  | Transit Efficiency                    | San Francisco                 | \$28              | \$28                   | \$16                  | \$16                  | 2          | 2          | 0%        | 45        | 45        |
| Alt98           | 22247  | Regional Bikeway Network  | Bike/Ped                              | Regional                      | \$124             | \$124                  | \$73                  | \$73                  | 2          | 2          | 0%        | 46        | 46        |
|                 |  | AC Transit Service Frequency Improvements (Restoration of   |                                       |                               |                   | 4                      |                       |                       | _          |            |           |           |           |
| Alt106<br>Alt99 | 240699   | 2009 Funding Levels) New Freedom Program  | Transit Efficiency                    | Alameda                       | \$108<br>\$3      | \$109<br>\$3           | \$65<br>\$2           | \$65<br>\$2           | 2          | 2          | 0%<br>0%  | 47<br>48  | 47<br>48  |
| Alt99           | n/a  | San Mateo Countywide Shuttle Service Frequency  | Maintenance                           | Regional                      | \$3               | \$3                    | \$2<br>               | \$2                   |            |            | 0%        | 48        | 48        |
| Alt43           | 22268  | Improvements  | Transit Efficiency                    | San Mateo                     | \$10              | \$10                   | \$6                   | \$6                   | 2          | 2          | 1%        | 49        | 49        |
| Alt100          | 230550   | Climate Initiatives (5-year program)  | Climate                               | Regional                      | \$158             | \$158                  | \$112                 | \$112                 | 1          | 1          | 0%        | 50        | 50        |
| Alt101          | n/a  | Transit Capital Maintenance Needs   | Maintenance                           | Regional                      | \$1,787           | \$1,787                | \$1,286               | \$1,286               | 1          | 1          | 0%        | 51        | 51        |
| Alt55           | 240545   | Parkmerced Light Rail Corridor  | Transit Efficiency                    | San Francisco<br>Multi-County | \$6               | \$6                    | \$5                   | \$5                   | 1          | 1          | 0%        | 52        | 52        |
| Alt63           | 230055   | Golden Gate Ferry Service Frequency Improvements BART to Livermore (Phase 1: 1-Station DMU Extension with Bus         | Transit Efficiency                    | iviuid-county                 | \$6               | \$6                    | \$4                   | \$4                   | 1          | -          | 1%        | 53        | 53        |
| Alt107          | LBART  | Enhancements)   | Transit Expansion                     | Alameda                       | \$37              | \$37                   | \$29                  | \$29                  | 1          | 1          | 1%        | 54        | 54        |
|                 |  | Caltrain Vision (10-Train Service during Peak Hours) +  |                                       |                               |                   |                        |                       |                       |            |            |           |           |           |
| Alt34           |  | Electrification (San Francisco to Tamien)   | Transit Efficiency                    | Multi-County                  | \$272             | \$273                  | \$220                 | \$220                 | 1          | 1          | 0%        | 55        | 55        |
| Alt83           | 00ACT1   | AC Transit Frequent Transit Network   | Transit Efficiency                    | Multi-County                  | \$606             | \$607                  | \$510                 | \$510                 | 1          | 1          | 0%        | 56        | 56        |
| Alt67<br>Alt1   | 22343<br>98147, 240691   | I-680 Express Bus Service Frequency Improvements (Phase 2)  | Transit Efficiency<br>Road Efficiency | Contra Costa                  | \$12<br>\$20      | \$12<br>\$20           | \$11<br>610           | \$11<br>\$18          | 1          | 1          | 0%        | 57<br>58  | 57<br>58  |
| AILI            | 30147, 240091  | Marin-Sonoma Narrows (Phase 2: HOV Lanes) BART to Livermore (Phase 1: 1-Station Rail Extension with Bus               | Noau Emclency                         | Multi-County                  | <b>720</b>        | 9 <b>2</b> 0           | \$18                  | 916                   | 1          | _          | -1%       | -30       | 30        |
| Alt54           | 240196   | Enhancements)   | Transit Expansion                     | Alameda                       | \$50              | \$50                   | \$52                  | \$52                  | 1          | 1          | 1%        | 60        | 59        |
| Alt102          | 240577   | Heavy-Duty Truck Replacement [BAAQMD program]   | Climate                               | Regional                      | \$42              | \$42                   | \$44                  | \$44                  | 1          | 1          | 0%        | 59        | 60        |
| Alt62           |  | Historic Streetcar Expansion Program  | Transit Efficiency                    | San Francisco                 | \$9               | \$9                    | \$9                   | \$9                   | 0.9        | 0.9        | 0%        | 61        | 61        |
| Alt74<br>Alt41  |  | Dumbarton Transit Corridor (Phase 2: Commuter Rail) Sonoma Countywide Bus Service Frequency Improvements              | Transit Expansion Transit Efficiency  | Alameda<br>Sonoma             | \$31<br>\$32      | \$31<br>\$32           | \$36<br>\$41          | \$36<br>\$41          | 0.8        | 0.9        | 1%<br>0%  | 62<br>63  | 62        |
| Alt103          |  | EV Solar Installation [BAAQMD program]  | Climate                               | Regional                      | \$32<br>\$1       | \$32<br>\$1            | \$41                  | \$41                  | 0.8        | 0.8        | 0%        | 64        | 64        |
|                 |  | SMART (Phase 2: Extensions to Cloverdale & Larkspur + IOS Cost  |                                       |                               |                   |                        | ,- <u>-</u>           | -                     |            |            |           |           |           |
| Alt16           | 240677   | Deferrals)  | Transit Expansion                     | Multi-County                  | \$10              | \$10                   | \$13                  | \$13                  | 0.7        | 0.7        | 1%        | 65        | 65        |
| Alt22           |  | Marin Countywide Bus Service Frequency Improvements   | Transit Efficiency                    | Marin                         | \$9               | \$9                    | \$12                  | \$12                  | 0.7        | 0.7        | 1%        | 66        | 66        |
| Alt40           | 230219, 230314   | Golden Gate Bus Service Frequency Improvements  | Transit Efficiency                    | Multi-County                  | \$16              | \$16                   | \$29                  | \$29                  | 0.5        | 0.5        | 0%        | 67        | 67        |
| Alt10           | 22956  | Capitol Expressway Light Rail Extension (Phase 2: to Eastridge<br>Transit Center)                                     | Transit Expansion                     | Santa Clara                   | \$4               | \$4                    | \$8                   | \$8                   | 0.5        | 0.5        | 1%        | 68        | 68        |
| Alt50           |  | Monterey Highway BRT  | Transit Expansion Transit Efficiency  | Santa Clara<br>Santa Clara    | \$4<br>\$15       | \$4<br>\$15            | \$37                  | \$8                   | 0.5        | 0.5        | 0%        | 69        | 69        |
| Alt39           | 22667  | BART to Livermore (Phases 1 & 2: Rail Extension)  | Transit Expansion                     | Alameda                       | \$57              | \$57                   | \$153                 | \$153                 | 0.4        | 0.4        | 0%        | 70        | 70        |
| Alt30           | 22019  | Downtown East Valley (Phase 2: LRT)   | Transit Expansion                     | Santa Clara                   | \$5               | \$5                    | \$16                  | \$16                  | 0.3        | 0.3        | 1%        | 71        | 71        |
| Alt79<br>Alt52  | 98139<br>230554  | ACE Expansion Sunnyvale-Cupertino BRT   | Transit Efficiency Transit Efficiency | Alameda<br>Santa Clara        | \$19<br>\$5       | \$19<br>\$5            | \$67<br>\$26          | \$67<br>\$26          | 0.3        | 0.3        | 1%<br>0%  | 72<br>73  | 72<br>73  |
| AILJE           | 250334   | Capitol Expressway Light Rail Extension (Phases 2 & 3: to   | anarc Entitleticy                     | Janua Clara                   |                   | دب                     | - <del></del>         | <b>720</b>            | 0.2        | U.Z        | U/0       | ,,        | ,,,       |
| Alt19           | 22978  | Nieman)   | Transit Expansion                     | Santa Clara                   | \$3               | \$3                    | \$19                  | \$19                  | 0.2        | 0.2        | 2%        | 74        | 74        |
| Alt61           | 22009  | Capitol Corridor Service Frequency Improvements (Oakland to   | Transit Efficiency                    | Multi-County                  | \$1               | \$1                    | \$18                  | \$18                  | 0.1        | 0.1        | -1%       | 75        | 75        |
| Alt48           | 98119  | Vasona Light Rail Extension (Phase 2) Union City Commuter Rail Station + Dumbarton Rail Segment G                     | Transit Expansion                     | Santa Clara                   | \$0.1             | \$0.2                  | \$6                   | \$6                   | 0.0        | 0.0        | 19%       | 76        | 76        |
| Alt45           | 230101   | Improvements  | Transit Efficiency                    | Alameda                       | -\$0.1            | -\$0.1                 | \$2                   | \$2                   | (0.0)      | (0.0)      | 10%       | 77        | 77        |
|                 | -20101   | p emente  | Lindelity                             | . wanteud                     | -40.1             | -40.1                  | 74                    | 76                    | (0.0)      | (0.0)      | 10/0      |           |           |



## APPENDIX A

## Table A-6a. Benefit-Cost Sensitivity Testing - Decreased Travel Time Valuation by 30 Percent

| All   |        |                | ·-   |                    |               |                  |             |             |             |          |     |         |          |          |
|---|--------|----------------|--|--------------------|---------------|------------------|-------------|-------------|-------------|----------|-----|---------|----------|----------|
|   |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| Part  |        |                |  |                    |               |                  |             |             |             |          |     | Percent |          |          |
| March   Marc  |        |                |  |                    |               | millions of 2013 | millions of | millions of | millions of | Original |     | Change  | Original | Adjusted |
| 1969  |        |                |  |                    |               |                  |             |             |             |          |     | B/C     | Rank     | Rank     |
| 1987   1987   |        |                |  |                    |               |                  |             |             |             |          |     | -17%    | 2        | 2        |
| 1972   Part   |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| 2003   1995   |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| 1962   1967   |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| 2002  |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| April   March   2009   |        |                |  | Transit Efficiency |               |                  |             |             |             |          |     |         | 8        | 8        |
| Author    Auth  |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| March   Marc  |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| March   Marc  | AIL44  | 22400          | SK-239 Expressway Construction (Brentwood to Tracy)            | nigitway Expansion | Janta Ciara   | 3144             | 3100        | 321         | 321         |          | 3   | -30/6   | 11       | 13       |
| Second   S  | Alt25  | 240431         | SR-85 Auxiliary Lanes (El Camino Real to Winchester Boulevard) | Road Efficiency    | Santa Clara   | \$81             | \$75        | \$12        | \$12        | 7        | 6   | -7%     | 12       | 11       |
| Math   Alley   Alley   See   Math   Math   Alley   See   Math  |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| April   2005    Van Hesse Annew Beff   New Set Principle   April   20   20   4   1   20   20   20   20   20   20   20   |        |                |  |                    |               |                  |             |             |             |          | _   |         |          |          |
| ABMS   ADPE   Collect Notice Propries processes between   Special search form   Section   Sect  |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| Add   |        |                |  |                    |               |                  |             |             |             | _        | _   |         |          |          |
| Author  |        | 240155         | Better Market Street   | Transit Efficiency | San Francisco |                  |             |             |             | _        |     |         |          |          |
| Author   1.50   |        |                |  |                    | <b>.</b>      |                  |             |             |             |          |     |         |          |          |
| ASSEST   April   Conference and Researce (applied Mantenance Need)   Mantenance  |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| Author   A  |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| April   | 50     | ,u             | Tomore recess  |                    | -8            | 7-,505           | Ţ-,505      | ,           | ,           |          |     | -/-     |          |          |
| ABOT 20003.   dusing yeak about 3 interflications (and interflications)   marked from the properties of the Section 1 of the properties of the Section 1 of the  | Alt13  | 240375         |  | Transit Expansion  | Santa Clara   | \$324            | \$261       | \$70        | \$70        | 5        | 4   | -19%    | 23       | 20       |
| April   24002   2400  |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| Alicentary   Program Pass to 1809   1909  | Alt56  |                |  | Transit Efficiency | San Francisco | \$3              | \$2         | \$1         | \$1         | 4        | 4   | -14%    | 25       | 19       |
| AGEN 2 202094   New to REL All allgement   Sephrony Expanded   Sep  | VI+33  |                |  | Highway Evnancion  | Alameda       | \$27             | \$50        | \$21        | \$21        | 4        | 3   | -32%    | 26       | 27       |
| Auto   2009, 120   1  | Alt38  | 230294         | New SR-152 Alignment   |                    |               |                  |             |             | \$41        |          | 3   |         |          |          |
| ABSS   1980, 2586   1980, 19  |        |                |  | Transit Expansion  | Multi-County  |                  |             |             |             |          |     | -26%    |          |          |
| ABSS   2345    Seminary Assemble Copied Centrol Station (Phoses ), 2, and 3)   Transit Efficiency   Seminary Company   Semina  |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| ALESS  2006317   2007  |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| Author  |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| ABST   2-8016-7   Southest Waterforest Tangoprotements   Transit Efficiency   Son Francisco   Sol   546   536   536   2   2   2-806   34   37   |        |                | Geneva Avenue Corridor Improvements (Roadway Extension,        |                    |               |                  |             |             |             |          |     |         |          |          |
| Altor   2-98005   Senfrage   Camino BBT   |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| ALTO   COLUMN   VILLE Clarino BRT   Transit Efficiency   Audit County   Set   |        |                |  |                    |               |                  |             |             | -           |          |     |         |          |          |
| AIRT   Model   Marticology   Model   South  |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| AIRS   1980   U.S   ASS Papers But (Dublin to Livermore)   Transit Efficiency   Alameda   522   526   516   526   2 2 2 . 1.9%   39   44  |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| Alt   240018   Dumbation Transit Confider (Phase 1: Express Bus)   Transit Efficiency   Altmeds   \$32   \$17   \$12   \$12   \$12   \$1.0   \$2.0   \$1.0  |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| 22122, 23051, 2812,   |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| All   22122, 230613,   WETA Service Expansion (Tressure Island, Berfeley/Albany, 1879)   22265   344   418   22126   3205   344   418   3205   345  | Alt33  |                | Dumbarton Transit Corridor (Phase 1: Express Bus)              | Transit Efficiency | Alameda       | \$23             | \$17        | \$12        | \$12        |          | 1   | -24%    | 40       | 44       |
| Alt73   22005   S.4. Appass Completion (SR-150 to Walnut Avenue)   Egiphoys Epaparsion Contra Cotta   515   513   59   59   2   1   -1996   42   45   |        |                | WETA Service Expansion (Treasure Island, Berkeley/Albany,      |                    |               |                  |             |             |             |          |     |         |          | 1        |
| Alt   2000   Mail   Service Frequency Improvements   Transit Efficiency   Alt   2000   2  |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| Alt   |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| AID   240526   STCA Transit Performance Initiative   Transit Efficiency   San Francisco   S28   S22   S16   S16   S16   2   1   .22%   45   48   49   49   41   41   42   42   42   42   42   42  |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| Alt   |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| Alt   |        |                |  |                    |               |                  |             |             |             | 2        | 2   |         |          |          |
| Align   Alig  |        |                |  |                    |               |                  |             |             |             |          |     |         |          | 1        |
| San Makeo Countywide Shuttle Service Frequency   Transit Efficiency   San Makeo   S10   59   S6   S6   2   1   -9%   49   43  |        |                |  |                    |               |                  |             |             |             |          | 1   |         |          |          |
| Alt   10   2258   Improvements   Transit Efficiency   San Mateo   \$10   \$9   \$6   \$6   \$2   \$1   .9%   \$49   \$4]   Alt   10   Alt   | Alt99  |                |  | iviaintenance      | Kegionai      | \$3              | \$3         | ŞZ          | \$2         |          | 2   | 0%      | 48       | 40       |
| Alt101  | Alt43  |                |  | Transit Efficiency | San Mateo     | \$10             | \$9         | \$6         | \$6         | 2        | 1   | -9%     | 49       | 43       |
| Ali55   240545   Parkmered Light Ball Corridor   Transit Efficiency   Ali56   22055   Golden Gate Ferry Service Frequency Improvements   Transit Efficiency   Multi-County   56   56   54   54   1   1   20%   53   50  | Alt100 | 230550         | Climate Initiatives (5-year program)                           | Climate            | Regional      |                  | \$153       | \$112       | \$112       |          |     | -3%     |          | 47       |
| Alti50   230055   Golden Gate Ferry Service Frequency Improvements   Transit Efficiency   Multi-County   56   56   54   54   1   1   2%   53   50   |        |                |  |                    |               |                  |             |             |             |          | 1   |         |          |          |
| BART to Livermore (Phase 1: 1-Station DMU Extension with Bus Enhancements)  |        |                |  |                    |               |                  |             |             |             | 1        | 1   |         |          |          |
| Caltrain Vision (10-Train Service during Peak Hours) +   Transit Efficiency   Multi-County   \$272   \$221   \$220   \$220   1   1   -19%   55   55   |        |                |  |                    |               |                  |             | Ţ           |             |          |     |         |          |          |
| Al134   240521, 21627   Electrification (San Francisco to Tamien)   Transit Efficiency Multi-County   5272   5220   5220   1   1   -1.9%   555   55   | Alt107 |                |  | Transit Expansion  | Alameda       | \$37             | \$30        | \$29        | \$29        | 1        | 1   | -20%    | 54       | 54       |
| Alt83   | Al+2 * |                |  | Transit Fffi:      | Multi Commi   | 6372             | ćan-        | 6330        | ćane        |          |     | 1001    |          |          |
| Alt10   98147, 240691   Marin-Sonoma Narrows (Phase 2: HOY Lanes)   Road Efficiency   Road Efficienc  |        |                |  |                    |               |                  |             |             |             |          | _   |         |          |          |
| Alt1   Sal47, 240691   Marin-Sonoma Narrows (Phase 2: HOV Lanes)   Road Efficiency   Multi-County   \$20   \$12   \$18   \$18   \$1   \$0.7   \$-42%   \$8   \$64   |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| Alt54   240196   Enhancements    Fransit Expansion   Alameda   S50   S40   S52   S52   1   0.8   -20%   60   60   | Alt1   | 98147, 240691  | Marin-Sonoma Narrows (Phase 2: HOV Lanes)                      |                    |               |                  |             |             |             | 1        |     |         |          |          |
| Alt102 240577 Heavy-Duty Truck Replacement [BAAQMD program] Climate Regional \$42 \$42 \$44 \$44 \$1 \$1 \$0% \$9 \$6 \$6 \$150 \$22415 Historic Streetzar Expansion Program Transit Efficiency San Francisco \$9 \$7 \$9 \$9 \$9 \$0.8 \$1.66% 61 59 \$6 \$1.74 \$40216 Dumbarton Transit Corridor (Phase 2: Commuter Rail) Transit Expansion Alameda \$31 \$25 \$36 \$36 \$0.8 \$0.7 \$1.88% 62 63 \$1.8141 240650 Sonoma Countywide Bus Service Frequency Improvements Transit Efficiency Sonoma \$32 \$26 \$41 \$41 \$0.8 \$0.5 \$1.88% 63 65 \$1.8143 \$1.03 \$1.05 \$1.                              |        |                |  | L                  | l             | 400              |             |             | 4           |          |     |         |          |          |
| Alt62 22415 Historic Streetcar Expansion Program Transit Efficiency San Francisco \$9 \$7 \$9 \$9 \$9 0.9 0.8 -16% 61 59 Alt74 240216 Dumbarton Transit Corridor (Phase 2: Commuter Rail) Transit Efficiency San Francisco \$9 \$7 \$9 \$9 \$9 0.9 0.8 -16% 61 59 Alt74 240216 Dumbarton Transit Corridor (Phase 2: Commuter Rail) Transit Efficiency San Francisco \$9 \$7 \$9 \$9 \$9 0.9 0.8 -16% 61 59 Alt74 240216 Dumbarton Transit Corridor (Phase 2: Commuter Rail) Transit Efficiency San Francisco \$9 \$7 \$9 \$9 \$9 0.9 0.8 -16% 61 59 Alt74 240250 Dumbarton Transit Efficiency San Francisco \$9 \$7 \$9 \$9 \$9 \$9 0.9 0.8 -16% 61 59 Alt74 240250 Dumbarton Transit Efficiency San Francisco \$9 \$7 \$9 \$9 \$9 \$9 0.9 0.8 -16% 61 59 Alt74 240250 Dumbarton Transit Efficiency San Francisco \$9 \$7 \$9 \$9 \$9 \$9 0.9 0.8 0.8 0.7 0.8 0.8 0.8 0.6 62 Alt74 240250 Dumbarton Transit Efficiency San Francisco San Francisco \$9 \$9 \$12 \$12 \$12 \$12 \$12 \$12 \$12 \$12 \$12 \$12  |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| Alt74   240216   Dumbarton Transit Corridor (Phase 2: Commuter Rail)   Transit Expansion   Alameda   \$31   \$25   \$36   \$36   \$36   \$0.8   \$0.7   \$1.8%   \$62   \$63   \$61   \$1.00   \$  | Alt62  |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| Alt103 240589 EV Solar Installation [BAAQMD program] Climate Regional \$1 \$1 \$2 \$2 \$0.8 0.8 0.6 64 61 240677, 240675, SMART (Phase 2: Extensions to Cloverdale & Larkspur + IOS Cost Alt22 230252 Marin Countywide Bus Service Frequency Improvements Transit Expansion Multi-County \$10 \$8 \$13 \$13 0.7 0.5 -19% 65 66 62 Alt24 230219, 230314 Golden Gate Bus Service Frequency Improvements Transit Efficiency Multi-County \$10 \$8 \$13 \$13 0.7 0.5 -19% 65 66 62 Alt40 230219, 230314 Golden Gate Bus Service Frequency Improvements Transit Efficiency Multi-County \$10 \$8 \$13 \$13 0.7 0.5 -19% 65 66 62 Alt40 230219, 230314 Golden Gate Bus Service Frequency Improvements Transit Efficiency Multi-County \$10 \$8 \$13 \$13 0.7 0.5 -19% 65 66 62 Alt40 \$10 \$10 \$10 \$10 \$10 \$10 \$10 \$10 \$10 \$1   | Alt74  | 240216         | Dumbarton Transit Corridor (Phase 2: Commuter Rail)            | Transit Expansion  | Alameda       | \$31             | \$25        | \$36        | \$36        | 0.8      | 0.7 | -18%    | 62       | 63       |
| 240676, 240675,   SMART (Phase 2: Extensions to Cloverdale & Larkspur + IOS Cost   Transit Expansion   Multi-County   \$10   \$8   \$13   \$13   \$0.7   \$0.6   \$-19%   \$65   \$66   \$61   \$120   \$230252   Marin Countywide Bus Service Frequency Improvements   Transit Efficiency   Marin   \$9   \$9   \$12   \$12   \$2.0   \$7   \$-3%   \$66   \$62   \$140   \$230219, 230314   Golden Gate Bus Service Frequency Improvements   Transit Efficiency   Multi-County   \$1.6   \$1.2   \$2.9   \$2.9   \$2.9   \$0.5   \$0.4   \$-2.3%   \$67   \$68   \$68   \$67   \$68   \$68   \$67   \$68   \$68   \$67   \$68   \$68   \$67   \$68   \$68   \$67   \$68   \$68   \$67   \$68   \$68   \$67   \$68   \$68   \$67   \$68   \$68   \$67   \$68   \$68   \$67   \$68   \$68   \$67   \$68   \$68   \$67   \$68   \$68   \$67   \$68   \$68   \$67   \$68   \$68   \$67   \$68   \$68   \$67   \$68   \$68   \$67   \$68   \$69   | Alt41  |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| Alt16   | AIL103 |                |  | Contrace           | regional      | 16               | 31          | - 3¢        | şζ          | 0.5      | 0.8 | U76     | 04       | 01       |
| Alt22 230252 Marin Countywide Bus Service Frequency Improvements Transit Efficiency Marin \$9 \$9 \$12 \$12 \$12 \$0.7 0.7 -3% 66 62 Alt40 230219, 230314 Golden Gate Bus Service Frequency Improvements Transit Efficiency Multi-County \$16 \$12 \$29 \$29 0.5 0.4 -23% 67 68 Captiol Expressway Light Rail Extension (Phase 2: to Eastridge Transit Expansion Santa Clara \$4 \$4 \$8 \$8 \$8 0.5 0.5 9% 68 67 Alt50 230547 Monterey Highway BRT Transit Efficiency Santa Clara \$15 \$11 \$37 \$37 \$37 0.4 0.3 -24% 69 69 69 Alt39 22667 BART to Livermore (Phases 1.8 2: Rail Extension) Transit Expansion Alameda \$57 \$45 \$153 \$153 0.4 0.3 -24% 69 69 69 Alt39 22019 Downtown East Valley (Phase 2: LRT) Transit Expansion Santa Clara \$5 \$5 \$16 \$16 0.3 0.3 -2% 71 70 Alt30 22019 Downtown East Valley (Phase 2: LRT) Transit Efficiency Santa Clara \$5 \$5 \$16 \$16 0.3 0.3 -2% 71 70 Alt30 22019 Alt30 22019 Sunnyvale-Cupertino BRT Transit Efficiency Santa Clara \$5 \$5 \$4 \$26 \$26 0.2 0.2 -15% 73 75 Alt51 22009 Capitol Expressway Light Rail Extension (Phases 2 & 3: to Namean) Transit Efficiency Santa Clara \$5 \$5 \$4 \$19 \$19 0.2 0.2 41% 74 73 Alt61 22009 Capitol Corridor Service Frequency Improvements (Oakland to Transit Efficiency Multi-County \$1 \$1 \$1 \$18 \$18 0.1 0.0 -36% 75 76 Alt48 9819 Vasona Light Rail Extension (Phase 2) Transit Expansion Santa Clara \$0.1 \$1 \$6 \$6 \$6 0.0 0.2 681% 76 74   | Alt16  |                |  | Transit Expansion  | Multi-County  | \$10             | \$8         | \$13        | \$13        | 0.7      | 0.6 | -19%    | 65       | 66       |
| Capitol Expressway Light Rail Extension (Phase 2: to Eastridge   Transit Expansion   Santa Clara   \$4   \$4   \$8   \$8   \$0.5   \$0.5   \$9%   68   67   | Alt22  | 230252         | Marin Countywide Bus Service Frequency Improvements            | Transit Efficiency | Marin         | \$9              | \$9         | \$12        | \$12        | 0.7      | 0.7 | -3%     | 66       | 62       |
| Alt10   22956   Transit Expansion   Transit Expansion   Santa Clara   \$4   \$4   \$8   \$8   \$8   \$0.5   \$0.5   \$9.6   \$6   \$6   \$6   \$6   \$6   \$1   \$1   \$  | Alt40  | 230219, 230314 |  | Transit Efficiency | Multi-County  | \$16             | \$12        | \$29        | \$29        | 0.5      | 0.4 | -23%    | 67       | 68       |
| Alt50   230547   Monterey Highway BRT   Transit Efficiency   Santa Clara   \$15   \$11   \$37   \$37   \$37   \$0.4   \$0.3   \$24%   \$69 | Alt10  | 22055          |  | Transit Evenneige  | Santa Clara   | ¢4               | ¢4          | ¢o.         | ¢o.         | 0.5      | 0.5 | 00/     | 60       | 67       |
| Alt39   | Alt50  |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| Alt79 98139 ACE Expansion Transit Efficiency Alameda \$19 \$16 \$67 \$67 0.3 0.2 -14% 72 72 Alt79 230554 Sunnyvale-Cupertino BRT Transit Efficiency Santa Clara \$5 \$4 \$26 \$26 0.2 0.2 -15% 73 75 Capitol Expressway Light Rail Extension (Phases 2 & 3: to Nieman) Transit Expansion Santa Clara \$3 \$4 \$19 \$19 0.2 0.2 41% 74 73 Alt61 22009 Capitol Corridor Service Frequency Improvements (Oakland to Transit Efficiency Multi-County \$1 \$1 \$18 \$18 0.1 0.0 -36% 75 76 Alt48 98119 Vasona Light Rail Extension (Phase 2) Transit Expansion Santa Clara \$0.1 \$1 \$6 \$6 \$6 0.0 0.2 681% 76 74  | Alt39  | 22667          | BART to Livermore (Phases 1 & 2: Rail Extension)               | Transit Expansion  | Alameda       | \$57             | \$45        | \$153       | \$153       | 0.4      | 0.3 | -21%    | 70       | 71       |
| Alt52 230554 Sunnyvale-Cupertino BRT Transit Efficiency Santa Clara \$5 \$4 \$26 \$26 0.2 0.2 -15% 73 75  Capitol Expressway Light Rail Extension (Phases 2 & 3: to  Alt19 22978 Nieman) Transit Expansion Santa Clara \$3 \$4 \$19 \$19 0.2 0.2 41% 74 73  Alt61 22009 Capitol Corridor Service Frequency Improvements (Oakland to Transit Efficiency Multi-County \$1 \$1 \$18 \$18 0.1 0.0 -36% 75 76  Alt48 98119 Vasona Light Rail Extension (Phase 2) Transit Expansion Santa Clara \$0.1 \$1 \$6 \$6 0.0 0.2 681% 76 74  Union City Commuter Rail Station + Dumbarton Rail Segment G   | Alt30  |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| Capitol Expressway Light Rail Extension (Phases 2 & 3: to   Transit Expansion   Santa Clara   \$3   \$4   \$19   \$19   \$0.2   0.2   41%   74   73   |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| Alt19   22978   Nieman   Transit Expansion   Santa Clara   \$3   \$4   \$19   \$19   \$0.2   0.2   41%   74   73     Alt61   22009   Capitol Corridor Service Frequency Improvements (Oakland to   Transit Efficiency   Multi-County   \$1   \$1   \$18   \$18   \$18   \$0.1   \$0.0   -36%   75   76     Alt48   98119   Vasiona Light Rail Extension (Phase 2)   Transit Expansion   Santa Clara   \$0.1   \$1   \$6   \$6   \$6   \$0.0   \$0.2   \$61%   76   74     Union City Commuter Rail Station + Dumbarton Rail Segment G   |        |                |  |                    |               |                  |             |             |             |          |     |         |          |          |
| Alt48 98119 Vasona Light Rail Extension (Phase 2) Transit Expansion Santa Clara \$0.1 \$1 \$6 \$6 0.0 0.2 681% 76 74 Union City Commuter Rail Station + Dumbarton Rail Segment G  |        | 22978          | Nieman)  |                    |               |                  |             |             |             |          |     |         |          |          |
| Union City Commuter Rail Station + Dumbarton Rail Segment G   |        |                |  |                    |               |                  |             |             |             |          | 0.0 |         |          |          |
|   | AIL40  |                |  | THATIST EXPANSION  | Janua Clara   | 3U.1             | 31          | 90          | ЭD          | 0.0      | U.Z | 00176   | 70       | /4       |
|   | Alt45  |                | ,  | Transit Efficiency | Alameda       | -\$0.1           | \$0.1       | \$2         | \$2         | (0.0)    | 0.0 | 190%    | 77       | 77       |



## APPENDIX A

## Table A-6b. Benefit-Cost Sensitivity Testing - Decreased Travel Time Valuation by 50 Percent

|                |                 |   |  |                               | Original Total   | Adjusted Total        | Original Total        | Adjusted Total |           |            |              |           |          |
|----------------|-----------------|---|--|-------------------------------|------------------|-----------------------|-----------------------|----------------|-----------|------------|--------------|-----------|----------|
|                |                 |   |  |                               | Annualized       | Annualized            | Annualized            | Annualized     |           |            |              |           |          |
|                |                 |   |  |                               | Benefits (in     | Benefits (in          | Costs (in             | Costs (in      |           |            | Percent      |           |          |
|                | DT010#          | All and the   |  |                               | millions of 2013 |                       | millions of           | millions of    | Original  | Adjusted   | Change       | Original  | Adjusted |
| Alt<br>Alt90   |                 | Alternative BART Metro Program  | Mode<br>Transit Efficiency             | County<br>Multi-County        | dollars)         | 2013 dollars)<br>\$95 | 2013 dollars)<br>-\$4 | 2013 dollars)  | B/C       | B/C<br>>60 | B/C<br>-     | Rank<br>1 | Rank     |
| Alt93          |                 | Treasure Island Congestion Pricing  | Pricing                                | Regional                      | \$161<br>\$69    | \$49                  | -54<br>\$1            | -\$4<br>\$1    | >60<br>59 | 42         | -29%         | 2         | 2        |
| Alt85          |                 | Congestion Pricing Pilot  | Pricing                                | San Francisco                 | \$227            | \$191                 | \$5                   | \$5            | 45        | 38         | -16%         | 3         | 3        |
| Alt71          |                 | AC Transit Grand-MacArthur BRT  | Transit Efficiency                     | Alameda                       | \$32             | \$18                  | \$2                   | \$2            | 18        | 10         | -44%         | 4         | 4        |
| Alt104         |                 | ITS Improvements in San Mateo County  | Road Efficiency                        | San Mateo                     | \$56             | \$31                  | \$4                   | \$4            | 16        | 9          | -45%         | 5         | 6        |
| Alt105         | 240494          | ITS Improvements in Santa Clara County  | Road Efficiency                        | Santa Clara                   | \$752            | \$413                 | \$48                  | \$48           | 16        | 9          | -45%         | 5         | 6        |
| Alt5<br>Alt53  |                 | Freeway Performance Initiative Irvington BART Station   | FPI<br>Transit Efficiency              | Regional<br>Alameda           | \$3,175<br>\$19  | \$1,745<br>\$13       | \$202<br>\$2          | \$202<br>\$2   | 16<br>12  | 9<br>8     | -45%<br>-31% | 5<br>8    | 9        |
| Alt57          |                 | SFMTA Transit Effectiveness Project   | Transit Efficiency                     | San Francisco                 | \$90             | \$47                  | \$8                   | \$8            | 11        | 6          | -47%         | 9         | 11       |
| Alt95          | 240582          | Truck & Motorcycle Retirement [BAAQMD program]  | Transit Efficiency                     | Regional                      | \$55             | \$55                  | \$6                   | \$6            | 9         | 9          | 0%           | 10        | 5        |
| Alt44          |                 | SR-239 Expressway Construction (Brentwood to Tracy)   | Highway Expansion                      |                               | \$144            | \$71                  | \$21                  | \$21           | 7         | 3          | -50%         | 11        | 15       |
|                |                 |   |  |                               |                  |                       |                       |                |           |            |              |           |          |
| Alt25          |                 | SR-85 Auxiliary Lanes (El Camino Real to Winchester Boulevard)  |  | Santa Clara                   | \$81             | \$71                  | \$12                  | \$12           | 7         | 6          | -12%         | 12        | 10       |
| Alt27<br>Alt91 |                 | Fremont/Union City East-West Connector  | Arterial Expansion                     | Alameda                       | \$65             | \$33                  | \$10                  | \$10           | 7<br>6    | 3          | -49%         | 13        | 18       |
| Alt14          |                 | Alameda-Oakland BRT + Transit Access Improvements US-101 Express Lanes - Whipple to County Line                       | Transit Efficiency<br>Road Efficiency  | Alameda<br>Multi-County       | \$14<br>\$123    | \$7<br>\$68           | \$2<br>\$19           | \$2<br>\$19    | 6         | 4          | -50%<br>-45% | 14<br>15  | 19<br>14 |
| Alt21          |                 | Van Ness Avenue BRT   | Transit Efficiency                     | San Francisco                 | \$44             | \$27                  | \$7                   | \$7            | 6         | 4          | -39%         | 16        | 13       |
| Alt36          |                 | Silicon Valley Express Lanes Network  | Express Lanes Netw                     |                               | \$408            | \$68                  | \$70                  | \$70           | 6         | 1          | -83%         | 17        | 51       |
| Alt80          | 240155          | Better Market Street  | Transit Efficiency                     | San Francisco                 | \$56             | \$29                  | \$10                  | \$10           | 6         | 3          | -49%         | 18        | 22       |
| Alt8           |                 | AC Transit East Bay BRT   | Transit Efficiency                     | Alameda                       | \$62             | \$29                  | \$12                  | \$12           | 5         | 3          | -53%         | 19        | 23       |
| Alt49          | HOTe            | Express Lanes Network E   | Express Lanes Netw                     |                               | \$602            | \$235                 | \$118                 | \$118          | 5         | 2          | -61%         | 20        | 27       |
| Alt32<br>Alt96 | 230468          | I-80 Auxiliary Lanes (Airbase Parkway to I-680)  Local Streets and Roads Capital Maintenance Needs                    | Road Efficiency  Maintenance           | Solano                        | \$18<br>\$1,369  | \$9<br>\$1,369        | \$4<br>\$280          | \$4<br>\$280   | 5         | 3<br>5     | -51%<br>0%   | 21<br>22  | 24<br>12 |
| AIL96          | n/a             | Local Streets and Roads Capital Maintenance Needs   | Waintenance                            | Regional                      | \$1,569          | \$1,369               | \$280                 | \$280          | 3         | 3          | 0%           | 22        | 12       |
| Alt13          | 240375          | BART to San Jose/Santa Clara (Phase 2: Berryessa to Santa Clara)  | Transit Expansion                      | Santa Clara                   | \$324            | \$220                 | \$70                  | \$70           | 5         | 3          | -32%         | 23        | 20       |
|                |                 | Caltrain Service Frequency Improvements (6-Train Service  |  |                               |                  |                       |                       |                |           |            |              |           |          |
| Alt47          | 240134          | during Peak Hours) + Electrification (San Francisco To Tamien)  | Transit Efficiency                     | Multi-County                  | \$153            | \$105                 | \$34                  | \$34           | 5         | 3          | -31%         | 24        | 21       |
| Alt56          |                 | Oakdale Caltrain Station  | Transit Efficiency                     | San Francisco                 | \$3              | \$2                   | \$1                   | \$1            | 4         | 3          | -23%         | 25        | 17       |
| VIT-2-         |                 | SR-84/I-680 Interchange Improvements + SR-84 Widening   | Highwey For                            | Alamado                       | 607              | 640                   | 634                   | 624            |           |            | FAC'         | 30        | 30       |
| Alt23<br>Alt38 |                 | (Pigeon Pass to I-680)<br>New SR-152 Alignment  | Highway Expansion<br>Highway Expansion |                               | \$87<br>\$148    | \$40<br>\$80          | \$21<br>\$41          | \$21<br>\$41   | 4         | 2          | -54%<br>-46% | 26<br>27  | 29<br>28 |
| Alt15          |                 | Transbay Transit Center - Phase 2B (Caltrain Downtown   | Transit Expansion                      | Multi-County                  | \$108            | \$61                  | \$31                  | \$31           | 4         | 2          | -43%         | 28        | 26       |
| Alt97          |                 | Transportation for Livable Communities  | TLC                                    | Regional                      | \$875            | \$875                 | \$255                 | \$255          | 3         | 3          | 0%           | 29        | 16       |
| Alt6           |                 | I-680/SR-4 Interchange Improvements + SR-4 Widening   | Highway Expansion                      |                               | \$65             | \$29                  | \$21                  | \$21           | 3         | 1          | -55%         | 30        | 40       |
| Alt51<br>Alt58 | 21341<br>240617 | Fairfield/Vacaville Capitol Corridor Station (Phases 1, 2, and 3)<br>SR-29 HOV Lanes & BRT (Napa Junction to Vallejo) | Transit Efficiency Road Efficiency     | Solano<br>Napa                | \$2<br>\$11      | \$1<br>\$7            | \$1<br>\$4            | \$1<br>\$4     | 3         | 2          | -51%<br>-36% | 31<br>32  | 35<br>32 |
| AILJO          |                 | Geneva Avenue Corridor Improvements (Roadway Extension,   | Road Efficiency                        | Тчара                         | ŢII              | 7,                    | <b>-</b>              |                |           |            | -30/0        | 32        | 32       |
| Alt66          | 240334          | BRT, and Southern Intermodal Terminal)  | Transit Efficiency                     | Multi-County                  | \$36             | \$21                  | \$15                  | \$15           | 2         | 1          | -43%         | 33        | 38       |
| Alt87          | 240147          | Southeast Waterfront Transportation Improvements  | Transit Efficiency                     | San Francisco                 | \$88             | \$50                  | \$36                  | \$36           | 2         | 1          | -44%         | 34        | 42       |
| Alt17          |                 | SamTrans El Camino BRT  | Transit Efficiency                     | San Mateo                     | \$59             | \$37                  | \$25                  | \$25           | 2         | 1          | -38%         | 35        | 34       |
| Alt24          |                 | VTA El Camino BRT   | Transit Efficiency                     | Santa Clara                   | \$28             | \$19                  | \$12                  | \$12           | 2         | 2          | -31%         | 36        | 33       |
| Alt77<br>Alt84 |                 | BART Service Frequency Improvements  Bay Bridge Contraflow Lane   | Transit Efficiency<br>Road Efficiency  | Multi-County<br>Multi-County  | \$126<br>\$67    | \$80<br>\$67          | \$56<br>\$31          | \$56<br>\$31   | 2         | 2          | -37%<br>0%   | 37<br>38  | 36<br>25 |
| Alt88          | 580_BUS         | I-580 Express Bus (Dublin to Livermore)   | Transit Efficiency                     | Alameda                       | \$32             | \$22                  | \$16                  | \$16           | 2         | 1          | -31%         | 39        | 45       |
| Alt33          |                 | Dumbarton Transit Corridor (Phase 1: Express Bus)   | Transit Efficiency                     | Alameda                       | \$23             | \$14                  | \$12                  | \$12           | 2         | 1          | -40%         | 40        | 47       |
|                | 22511, 22512,   | · · · · · ·   |  |                               |                  |                       |                       |                |           |            |              |           |          |
|                |                 | WETA Service Expansion (Treasure Island, Berkeley/Albany,   |  |                               |                  |                       |                       |                |           |            | 1            |           |          |
| Alt9           |                 | Richmond, Hercules, and Redwood City)   | Transit Expansion                      | Multi-County                  | \$41             | \$32                  | \$22                  | \$22           | 2         | 1          | -24%         | 41        | 37       |
| Alt73<br>Alt86 |                 | SR-4 Bypass Completion (SR-160 to Walnut Avenue)  | Highway Expansion                      | Contra Costa<br>San Francisco | \$15<br>\$25     | \$11<br>\$12          | \$9                   | \$9            | 2         | 1<br>0.9   | -31%<br>-50% | 42<br>43  | 46<br>54 |
| Alt2           |                 | Muni Service Frequency Improvements Geary Boulevard BRT   | Transit Efficiency Transit Efficiency  | San Francisco                 | \$25<br>\$15     | \$12                  | \$14<br>\$9           | \$14<br>\$9    | 2         | 1          | -38%         | 44        | 49       |
| Alt75          |                 | SFCTA Transit Performance Initiative  | Transit Efficiency                     | San Francisco                 | \$28             | \$18                  | \$16                  | \$16           | 2         | 1          | -37%         | 45        | 48       |
| Alt98          |                 | Regional Bikeway Network  | Bike/Ped                               | Regional                      | \$124            | \$124                 | \$73                  | \$73           | 2         | 2          | 0%           | 46        | 30       |
|                |                 | AC Transit Service Frequency Improvements (Restoration of   |  |                               |                  |                       |                       |                |           |            |              |           |          |
| Alt106         |                 | 2009 Funding Levels)  | Transit Efficiency                     | Alameda                       | \$108            | \$64                  | \$65                  | \$65           | 2         | 1          | -41%         | 47        | 50       |
| Alt99          |                 | New Freedom Program   | Maintenance                            | Regional                      | \$3              | \$3                   | \$2                   | \$2            | 2         | 2          | 0%           | 48        | 31       |
| Alt43          |                 | San Mateo Countywide Shuttle Service Frequency<br>Improvements  | Transit Efficiency                     | San Mateo                     | \$10             | \$9                   | \$6                   | \$6            | 2         | 1          | -15%         | 49        | 39       |
| Alt100         |                 | Climate Initiatives (5-year program)  | Climate                                | Regional                      | \$158            | \$150                 | \$112                 | \$112          | 1         | 1          | -5%          | 50        | 44       |
| Alt101         |                 | Transit Capital Maintenance Needs   | Maintenance                            | Regional                      | \$1,787          | \$1,787               | \$1,286               | \$1,286        | 1         | 1          | 0%           | 51        | 41       |
| Alt55          |                 | Parkmerced Light Rail Corridor  | Transit Efficiency                     | San Francisco                 | \$6              | \$4                   | \$5                   | \$5            | 1         | 0.9        | -34%         | 52        | 53       |
| Alt63          |                 | Golden Gate Ferry Service Frequency Improvements  | Transit Efficiency                     | Multi-County                  | \$6              | \$6                   | \$4                   | \$4            | 1         | 1          | 3%           | 53        | 43       |
| Alt107         |                 | BART to Livermore (Phase 1: 1-Station DMU Extension with Bus<br>Enhancements)   | Transit Expansion                      | Alameda                       | \$37             | \$25                  | \$29                  | \$29           | 1         | 0.9        | -33%         | 54        | 55       |
| ,/             | EL-MIN          | Caltrain Vision (10-Train Service during Peak Hours) +  |  | cua                           | Ψ3,              | 723                   | رغب                   | 423            | -         |            | 53/0         |           | - 33     |
| Alt34          | 240521, 21627   | Electrification (San Francisco to Tamien)   | Transit Efficiency                     | Multi-County                  | \$272            | \$188                 | \$220                 | \$220          | 1         | 0.9        | -31%         | 55        | 56       |
| Alt83          | 00ACT1          | AC Transit Frequent Transit Network   | Transit Efficiency                     | Multi-County                  | \$606            | \$382                 | \$510                 | \$510          | 1         | 0.7        | -37%         | 56        | 58       |
| Alt67          |                 | I-680 Express Bus Service Frequency Improvements (Phase 2)  | Transit Efficiency                     | Contra Costa                  | \$12             | \$8                   | \$11                  | \$11           | 1         | 0.7        | -36%         | 57        | 59       |
| Alt1           |                 | Marin-Sonoma Narrows (Phase 2: HOV Lanes)   | Road Efficiency                        | Multi-County                  | \$20             | \$6                   | \$18                  | \$18           | 1         | 0.3        | -70%         | 58        | 67       |
| Alt54          |                 | BART to Livermore (Phase 1: 1-Station Rail Extension with Bus<br>Enhancements)  | Transit Expansion                      | Alameda                       | \$50             | \$33                  | \$52                  | \$52           | 1         | 0.6        | -33%         | 60        | 62       |
| Alt102         |                 | Heavy-Duty Truck Replacement [BAAQMD program]   | Climate                                | Regional                      | \$50<br>\$42     | \$33<br>\$42          | \$52<br>\$44          | \$52<br>\$44   | 1         | 1          | -33%         | 59        | 52       |
| Alt62          | 22415           | Historic Streetcar Expansion Program  | Transit Efficiency                     | San Francisco                 | \$9              | \$6                   | \$9                   | \$9            | 0.9       | 0.7        | -26%         | 61        | 61       |
| Alt74          |                 | Dumbarton Transit Corridor (Phase 2: Commuter Rail)   | Transit Expansion                      | Alameda                       | \$31             | \$21                  | \$36                  | \$36           | 0.8       | 0.6        | -30%         | 62        | 63       |
| Alt41          |                 | Sonoma Countywide Bus Service Frequency Improvements EV Solar Installation [BAAQMD program]                           | Transit Efficiency                     | Sonoma                        | \$32             | \$23                  | \$41                  | \$41           | 0.8       | 0.6        | -29%         | 63        | 64       |
| Alt103         |                 | EV Solar Installation [BAAQMD program] SMART (Phase 2: Extensions to Cloverdale & Larkspur + IOS Cost                 | Climate                                | Regional                      | \$1              | \$1                   | \$2                   | \$2            | 0.8       | 0.8        | 0%           | 64        | 57       |
| Alt16          |                 | Deferrals)  | Transit Expansion                      | Multi-County                  | \$10             | \$7                   | \$13                  | \$13           | 0.7       | 0.5        | -32%         | 65        | 66       |
| Alt22          | 230252          | Marin Countywide Bus Service Frequency Improvements   | Transit Efficiency                     | Marin                         | \$9              | \$8                   | \$12                  | \$12           | 0.7       | 0.7        | -6%          | 66        | 60       |
| Alt40          | 230219, 230314  | Golden Gate Bus Service Frequency Improvements  | Transit Efficiency                     | Multi-County                  | \$16             | \$10                  | \$29                  | \$29           | 0.5       | 0.3        | -38%         | 67        | 68       |
|                |                 | Capitol Expressway Light Rail Extension (Phase 2: to Eastridge  | L                                      |                               | Ι 🗆              |                       | . 7                   | . 7            |           |            | 7            |           |          |
| Alt10          |                 | Transit Center)   | Transit Expansion                      | Santa Clara                   | \$4              | \$4                   | \$8                   | \$8            | 0.5       | 0.5        | 15%          | 68        | 65       |
| Alt50<br>Alt39 |                 | Monterey Highway BRT BART to Livermore (Phases 1 & 2: Rail Extension)   | Transit Efficiency Transit Expansion   | Santa Clara<br>Alameda        | \$15<br>\$57     | \$9<br>\$37           | \$37<br>\$153         | \$37<br>\$153  | 0.4       | 0.2        | -40%<br>-35% | 69<br>70  | 72<br>73 |
| Alt30          |                 | Downtown East Valley (Phase 2: LRT)   | Transit Expansion                      | Santa Clara                   | \$5<br>\$5       | \$5<br>\$5            | \$16                  | \$16           | 0.3       | 0.3        | -4%          | 71        | 69       |
| Alt79          | 98139           | ACE Expansion   | Transit Efficiency                     | Alameda                       | \$19             | \$15                  | \$67                  | \$67           | 0.3       | 0.2        | -24%         | 72        | 74       |
| Alt52          |                 | Sunnyvale-Cupertino BRT Capital Expression (Phases 2 & 2) to  | Transit Efficiency                     | Santa Clara                   | \$5              | \$4                   | \$26                  | \$26           | 0.2       | 0.1        | -26%         | 73        | 75       |
| Alt19          |                 | Capitol Expressway Light Rail Extension (Phases 2 & 3: to Nieman)   | Transit Expansion                      | Santa Clara                   | \$3              | \$5                   | \$19                  | \$19           | 0.2       | 0.3        | 68%          | 74        | 71       |
| Alt61          |                 | Capitol Corridor Service Frequency Improvements (Oakland to   | Transit Expansion Transit Efficiency   | Multi-County                  | \$1              | \$0.4                 | \$19                  | \$18           | 0.2       | 0.0        | -59%         | 75        | 77       |
| Alt48          | 98119           | Vasona Light Rail Extension (Phase 2)   | Transit Expansion                      | Santa Clara                   | \$0.1            | \$2                   | \$6                   | \$6            | 0.0       | 0.3        | 1134%        | 76        | 70       |
| 1 7            |                 | Union City Commuter Rail Station + Dumbarton Rail Segment G   | L                                      | l                             | Ι –              |                       | . 7                   | . 7            |           |            | 7            |           |          |
| Alt45          | 230101          | Improvements  | Transit Efficiency                     | Alameda                       | -\$0.1           | \$0.2                 | \$2                   | \$2            | (0.0)     | 0.1        | 316%         | 77        | 76       |



## Considerations Applicable to All Projects

Three issues affect the benefit-cost performance for all projects analyzed.

### Land Use Pattern

ABAG's Current Regional Plans land use was selected for the project performance assessment, as the other land use scenarios were not developed until after the analysis began. While some projects may perform better (or worse) given a particular land use pattern, selecting a single land use pattern for analysis creates a level playing field between projects. The Current Regional Plans land use represents a "middle ground" between a highly focused growth scenario and a more dispersed Outer Bay Area growth scenario. The scenario assessment will give a sense of how projects perform under different land use assumptions.

### **Interaction among Projects**

In general, projects were evaluated individually. Projects serving related travel markets could, if evaluated as a package, increase or decrease the benefits of an individual project. For example, expanded local bus service may increase the projected ridership and benefits of metro/commuter rail projects, while expanding a freeway and building a new transit line in the same corridor may cause the improvements' combined benefits to be lower than estimated. The scenario assessment will help us understand the interaction among projects.

## "Mode Choice" Modeling Approach

When forecasting project benefits, MTC staff ran the regional travel model's tour mode choice, stop frequency, stop location, trip departure time choice, trip mode choice, and trip assignment components – but not tour generation or tour destination choice. This is an improvement from T-2035 and allowed us to gain a better understanding of the mode changes caused by all projects. This approach has two distinct impacts:

- 1. The approach does not capture changes in tour destinations (e.g., people may decide to take a new job in a new location when the commute to that new location is improved). An individual project is not likely to generate changes of regional significance in most cases, given the mature state of the region's transportation system. This approach (to exclude changes in tour destinations) is consistent with project level assessments done elsewhere, most notably the FTA New Starts program. To include this step in the project assessment would have tripled analysis time, without necessarily providing meaningful information. The choice of where one works is extremely complex and one that travel models do not understand particularly well. MTC will, however, include this step in the scenario assessment, in which the collective changes in land use and transportation infrastructure are significant enough that the model can provide insight.
- 2. The approach does not consider the land use impacts of a particular project. For example, an urban transit expansion project might, when combined with supportive land use policies, encourage increased high-density development in the urban core allowing people to live closer to job centers. Running the full travel model would not have solved this problem, however. This issue can only be dealt with by constructing unique land use scenarios to tie land use to transportation and/or using an integrated land use/travel model both approaches are best suited for the scenario level of analysis.

## **Project-Specific Considerations**

The attached table illustrates some of the project-specific confidence considerations; key criteria utilized for this assessment are detailed in the box below. Several common themes emerged from this project-specific review:

- 1. A subset of projects, including bus rapid transit (BRT) systems, transit frequency improvements, and infill stations, can be implemented quickly. Because 2035 was identified as the analysis year (based on the Plan Bay Area planning horizon), the B/C ratio does not fully capture the advantages of attaining for near-term benefits.
- 2. The travel model is unable to fully capture particular types of travel behavior (which only impacts a small subset of projects). Tourist and recreational trips, as well as trips headed to airports or seaports, may be underrepresented in the travel model.
- 3. Model forecasts exhibit some level of deviation from historical observed ridership and may lead to under- or over-estimation of existing ridership (and corresponding benefits). For example, forecasts of year 2005 SFMTA ridership are lower than actual 2005 systemwide ridership counts. Note that these deviations are typical of a regional travel model when utilized to examine performance of individual agency or route; furthermore, these deviations are unlikely to affect whether a project falls into the high or low outlier categories.

## Key Criteria for Project-Specific Confidence Assessment

## Travel Model Output

- o Does the travel model have limitations in understanding a particular type of travel behavior (e.g. weaving)?
- o Does the travel model lack an understanding of specific travel conditions (e.g. ridership or traffic volumes)?

## Framework Completeness

- o Does the travel model output capture all of the primary benefits of the project?
- Are we capturing all of the real-world limitations of relevant transportation systems (e.g. transit vehicle crowding)?

### Timeframe Inclusiveness

- o Is the project an "early winner" (i.e. can be implemented quickly and provides key benefits in the short term)?
- o Is the project a "late bloomer" (i.e. benefits will not be realized until the final years of the planning horizon)?

|       |            |  |                           |                          |               |           | ·                                | E ASSESSMENT C                |                         |  |
|-------|------------|--|---------------------------|--------------------------|---------------|-----------|----------------------------------|-------------------------------|-------------------------|--|
|       |            |  |                           |                          | Plan Bay Area | T-2035    | if marked with a<br>Travel Model | star, see comments  Framework | to the right  Timeframe |  |
| Row # | Project ID |  | County                    | Project Type             | B/C Ratio     | B/C Ratio | Output                           | Completeness                  | Inclusiveness           | Starred Comments   |
| 1     | 240182     | BART Metro Program (including Bay Fair Connection & Civic Center Turnback) | Multi-<br>County          | Transit<br>Efficiency    | >60           | n/a       | $\checkmark$                     | $\checkmark$                  | $\checkmark$            |  |
| 2     | 240694     | Treasure Island Congestion Pricing   | San<br>Francisco          | Pricing                  | 59            | n/a       | ✓                                | ✓                             | ✓                       |  |
| 3     | 240522     | Congestion Pricing Pilot   | San<br>Francisco          | Pricing                  | 45            | n/a       | ✓                                | ✓                             | ✓                       |  |
| 4     | 22780      | AC Transit Grand-MacArthur BRT   | Alameda/<br>3434          | Transit<br>Efficiency    | 18            | n/a       | ✓                                | ✓                             | *                       | BRT project can be implemented quickly for near-term benefits.   |
| 5     | 230419     | Freeway Performance Initiative   | Regional                  | FPI                      | 16            | 28        | ✓                                | ✓                             | ✓                       |  |
| 6     | 22274      | ITS Improvements in San Mateo County                                       | San Mateo                 | Road<br>Efficiency       | 16            | n/a       | n/a                              | ✓                             | ✓                       |  |
| 7     | 240494     | ITS Improvements in Santa Clara County                                     | Santa Clara               | Road<br>Efficiency       | 16            | n/a       | n/a                              | ✓                             | ✓                       |  |
| 8     | 22062      | Irvington BART Station   | Alameda                   | Transit<br>Efficiency    | 12            | n/a       | ✓                                | ✓                             | *                       | Infill stations can be implemented quickly to achieve benefits in the near-term.   |
| 9     | 240171     | SFMTA Transit Effectiveness Project  | San<br>Francisco          | Transit<br>Efficiency    | 11            | n/a       | *                                | *                             | *                       | Model may underestimate travel time benefits for existing MTA riders, as the model's year 2005 Muni systemwide estimates are about 20% less than observed ridership levels. B/C framework doesn't consider transit crowding, which may result in underestimate of emissions and VMT reductions and overestimate of travel time reductions; bus frequency improvements can be implemented quickly for near-term benefits. |
| 10    | 240582     | Truck & Motorcycle Retirement [BAAQMD program]                             | Regional                  | Climate                  | 9             | n/a       | n/a                              | ✓                             | ✓                       |  |
| 11    | 22400      | SR-239 Expressway Construction (Brentwood to Tracy)                        | Contra<br>Costa           | Highway<br>Expansion     | 7             | 1         | *                                | ✓                             | ✓                       | Because the land uses outside of the 9-county Bay Area are not explicitly represented, the model does not fully understand the likely impact of projects located near the boundaries of the planning region.   |
| 12    | 1 //////   | SR-85 Auxiliary Lanes (El Camino Real to<br>Winchester Boulevard)          | Santa Clara               | Road<br>Efficiency       | 7             | n/a       | *                                | ✓                             | ✓                       | The model does not explicitly represent weaving (thus ignoring the benefits of longer weaving sections or other improvements).   |
| 13    | 94506      | Fremont/Union City East-West Connector                                     | Alameda                   | Arterial<br>Expansion    | 7             | 1         | *                                | ✓                             | ✓                       | Due to their relative proximity, the travel model has difficulty assigning travelers who could use either I-680 or I-880 to the correct facility. This route choice decision is important to the performance of the East-West Connector.   |
| 14    | I 98207T   | Alameda-Oakland BRT + Transit Access Improvements                          | Alameda                   | Transit<br>Efficiency    | 6             | n/a       | ✓                                | ✓                             | *                       | BRT project can be implemented quickly to achieve benefits in the near-term.   |
| 15    | -          | US-101 HOV Lanes (Whipple Avenue to Cesar<br>Chavez Street)                | Multi-<br>County          | Road<br>Efficiency       | 6             | n/a       | ✓                                | ✓                             | ✓                       |  |
| 16    | 230161     | Van Ness Avenue BRT  | San<br>Francisco/<br>3434 | Transit<br>Efficiency    | 6             | n/a       | *                                | *                             | *                       | Model may underestimate travel time benefits for existing MTA riders, as the model's year 2005 Muni systemwide estimates are about 20% less than observed ridership levels. Project can be implemented quickly for near-term benefits.   |
| 17    | HOTd       | Silicon Valley Express Lanes Network                                       | Santa Clara               | Express Lanes<br>Network | 6             | n/a       | *                                | ✓                             | *                       | The travel model has difficulty representing the benefits of an operational strategy that relies on real-time price changes throughout the morning and evening commute periods. Some portions of the project may be implemented early and accrue benefits over a long period in the Plan, the Network likely will not be complete until near the end of the Plan period.   |
| 18    | 240155     | Better Market Street   | San<br>Francisco          | Transit<br>Efficiency    | 6             | n/a       | *                                | *                             | ✓                       | Model may underestimate travel time benefits for existing MTA riders, as the model's year 2005 Muni systemwide estimates are about 20% less than observed ridership levels. B/C framework doesn't consider transit crowding, which may result in underestimate of emissions and VMT reductions and overestimate of travel time reductions.   |
| 19    | 22455      | AC Transit East Bay BRT  | Alameda/<br>3434          | Transit<br>Efficiency    | 5             | n/a       | $\checkmark$                     | $\checkmark$                  | *                       | BRT project can be implemented quickly for near-term benefits.   |
| 20    | I HOTE     | CTC Application + Alameda County Authorized<br>Lanes Express Lanes Network | Multi-<br>County          | Express Lanes<br>Network | 5             | n/a       | *                                | ✓                             | *                       | The travel model has difficulty representing the benefits of an operational strategy that relies on real-time price changes throughout the morning and evening commute periods. Some portions of the project may be implemented early and accrue benefits over a long period in the Plan, the Network likely will not be complete until near the end of the Plan period.   |

|      |                  |   |                           |                       |               |                 |              | CE ASSESSMENT (                |               |  |
|------|------------------|---|---------------------------|-----------------------|---------------|-----------------|--------------|--------------------------------|---------------|--|
| Row# | Project ID       | Project Name  | County                    | Project Type          | Plan Bay Area | T-2035          | Travel Model | a star, see comments Framework | Timeframe     | Starred Comments   |
| 21   | 230468           | I-80 Auxiliary Lanes (Airbase Parkway to I-<br>680)   | Solano                    | Road<br>Efficiency    | B/C Ratio     | B/C Ratio<br>2† | Output<br>*  | Completeness *                 | Inclusiveness | The model does not explicitly represent weaving (thus ignoring the benefits of longer weaving sections or other improvements). Analysis is performed for a typical weekday, but many of the project's benefits will be accrued on weekends due to recreational traffic.  |
| 22   | n/a              | Local Streets and Roads Capital Maintenance<br>Needs  | Regional                  | Maintenance           | 5             | 5               | n/a          | *                              |               | The benefit-cost framework doesn't consider the impacts that state of repair has on air quality, goods movement, transit operations and emergency services. Furthermore, the assessment does not capture travel time savings from avoided delays (e.g. potholes leading to slower vehicle travel speeds).  |
| 23   | 240375           | BART to San Jose/Santa Clara (Phase 2:<br>Berryessa to Santa Clara)   | Santa Clara/<br>3434      | Transit<br>Expansion  | 5             | n/a             | *            | ✓                              | *             | The travel model does not forecast air passenger trips or special events, which are markets served by this project. The project is likely to be complete toward the end of the Plan so much of the benefits would likely be accrued after the Plan period.   |
| 24   | 240134,<br>21627 | Caltrain Service Frequency Improvements (6-<br>Train Service during Peak Hours) +<br>Electrification (SF to Tamien) | Multi-<br>County          | Transit<br>Efficiency | 5             | n/a             | ✓            | ✓                              | ✓             |  |
| 25   | 240557           | Oakdale Caltrain Station  | San<br>Francisco          | Transit<br>Efficiency | 4             | n/a             | $\checkmark$ | $\checkmark$                   | *             | Infill stations can be implemented quickly to achieve benefits in the near-term.   |
| 26   |                  | SR-84/I-680 Interchange Improvements + SR-<br>84 Widening (Jack London to I-680)                                    | Alameda                   | Highway<br>Expansion  | 4             | n/a             | *            | ✓                              | ✓             | The model does not explicitly represent weaving (thus ignoring the benefits of longer weaving sections or other improvements), acceleration or deceleration behavior (thus ignoring the benefits of longer ramps), or queue spillback.   |
| 27   | 230294           | New SR-152 Alignment  | Santa Clara               | Highway<br>Expansion  | 4             | n/a             | *            | *                              | ✓             | Because the land uses outside of the 9-county Bay Area are not explicitly represented, the model does not fully understand the likely impact of projects located near the boundaries of the planning region. Analysis also underestimates the freight benefits of this project, both in terms of the number of truck trips and the impacts of steep grades on trucks. Furthermore, the route serves a large number of interregional trips, which are not captured very well in the travel model. |
| 28   | 730790           | Transbay Transit Center - Phase 2B (Caltrain<br>Downtown Extension)   | San<br>Francisco/<br>3434 | Transit<br>Expansion  | 4             | n/a             | ✓            | ✓                              | *             | The project is likely to be complete toward the end of the Plan, so much of the benefits would likely be accrued after the Plan period. (Note: since November draft release, project benefits were revised to reflect associated benefits of high-speed rail.)   |
| 29   | 240410           | Transportation for Livable Communities  | Regional                  | TLC                   | 3             | 2               | $\checkmark$ | $\checkmark$                   | $\checkmark$  |  |
| 30   | 21205,<br>22350  | I-680/SR-4 Interchange Improvements + SR-4<br>Widening (Morello Avenue to SR-242)                                   | Contra<br>Costa           | Highway<br>Expansion  | 3             | 1               | *            | ✓                              | ✓             | The model does not explicitly represent weaving (thus ignoring the benefits of longer weaving sections or other improvements), acceleration or deceleration behavior (thus ignoring the benefits of longer ramps), or queue spillback.   |
| 31   | 21341            | Fairfield/Vacaville Capitol Corridor Station (Phases 1, 2, and 3)   | Solano                    | Transit<br>Efficiency | 3             | n/a             | *            | ✓                              | *             | Greater TOD around the station (as included in the Fairfield General Plan but not in the Current Regional Plans land use) could significantly increase ridership and the corresponding B/C ratio. Infill stations can be implemented quickly for near-term benefits  |
| 32   | 240617           | SR-29 HOV Lanes and BRT (Napa Junction to Vallejo)  | Napa                      | Road<br>Efficiency    | 3             | n/a             | $\checkmark$ | $\checkmark$                   | $\checkmark$  |  |
| 33   | 240328,          | Geneva Avenue Corridor Improvements<br>(Roadway Extension, BRT, and Southern<br>Intermodal Terminal)                | Multi-<br>County          | Transit<br>Efficiency | 2             | n/a             | *            | ✓                              | *             | Model may underestimate travel time benefits for existing MTA riders, as the model's year 2005 Muni systemwide estimates are about 20% less than observed ridership levels. BRT project can be implemented quickly to achieve benefits in the near-term.   |
| 34   | 24014/           | Southeast Waterfront Transportation<br>Improvements   | San<br>Francisco          | Transit<br>Efficiency | 2             | n/a             | *            | ✓                              | *             | Model may underestimate travel time benefits for existing MTA riders, as the model's year 2005 Muni systemwide estimates are about 20% less than observed ridership levels. Project can be implemented quickly for near-term benefits.   |
| 35   | 240026           | SamTrans El Camino BRT  | San Mateo                 | Transit<br>Efficiency | 2             | n/a             | $\checkmark$ | $\checkmark$                   | *             | BRT can be implemented quickly for near-term benefits.   |
| 36   | 240119           | VTA El Camino BRT   | Santa Clara               | Transit<br>Efficiency | 2             | n/a             | ✓            | ✓                              | *             | BRT can be implemented quickly for near-term benefits.   |
| 37   | 00BART           | BART Service Frequency Improvements   | Multi-<br>County          | Transit<br>Efficiency | 2             | n/a             | ✓            | *                              | ✓             | B/C framework doesn't consider transit crowding, which may result in underestimate of emissions and VMT reductions and overestimate of travel time reductions.   |
| 38   | 230604           | Bay Bridge Contraflow Lane  | Multi-<br>County          | Pricing               | 2             | n/a             | ✓            | *                              | ✓             | Modeling for this project doesn't fully capture the transit benefits of such a project. Because the project was represented as an HOV lane, rather than a bus-only lane, many of the benefits are accruing due to increased carpooling. A bus-only lane would provide faster speeds for buses and increase transit ridership more substantially.   |
| 39   | 580_BUS          | I-580 Express Bus (Dublin to Livermore)   | Alameda                   | Transit<br>Efficiency | 2             | n/a             | $\checkmark$ | $\checkmark$                   | *             | Express bus service can be implemented quickly for near-term benefits.   |

|       |   |   |                           |                         |               |           |                                  | CE ASSESSMENT C              |                         |  |
|-------|---|---|---------------------------|-------------------------|---------------|-----------|----------------------------------|------------------------------|-------------------------|--|
|       |   |   |                           |                         | Plan Bay Area | T-2035    | if marked with a<br>Travel Model | star, see comments Framework | to the right  Timeframe |  |
| Row # | Project ID  | Project Name  | County                    | Project Type            | B/C Ratio     | B/C Ratio | Output                           | Completeness                 | Inclusiveness           | Starred Comments   |
| 40    | 240018  | Dumbarton Corridor Express Bus  | Multi-<br>County          | Transit<br>Efficiency   | 2             | n/a       | $\checkmark$                     | ✓                            | $\checkmark$            |  |
| 41    | 22511,<br>22512,<br>22122,<br>230613,<br>22120,<br>230581 | WETA Service Expansion (Treasure Island,<br>Berkeley/Albany, Richmond, Hercules, and<br>Redwood City) | Multi-<br>County/<br>3434 | Transit<br>Expansion    | 2             | n/a       | ✓                                | <b>✓</b>                     | ✓                       |  |
| 42    | 22605   | SR-4 Bypass Completion (SR-160 to Walnut Avenue)  | Contra<br>Costa           | Highway<br>Expansion    | 2             | 1†        | ✓                                | ✓                            | ✓                       |  |
| 43    | 00MUNI  | Muni Service Frequency Improvements   | San<br>Francisco          | Transit<br>Efficiency   | 2             | n/a       | *                                | *                            | *                       | Model may underestimate travel time benefits for existing MTA riders, as the model's year 2005 Muni systemwide estimates are about 20% less than observed ridership levels. B/C framework doesn't consider transit crowding, which may result in underestimate of emissions and VMT reductions and overestimate of travel time reductions; bus frequency improvements can be implemented quickly for near-term benefits. |
| 44    | 230164  | Geary Boulevard BRT   | San<br>Francisco          | Transit<br>Efficiency   | 2             | 7         | *                                | *                            | *                       | Model may underestimate travel time benefits for existing MTA riders, as the model's year 2005 Muni systemwide estimates are about 20% less than observed ridership levels. B/C framework doesn't consider transit crowding, which may result in underestimate of emissions and VMT reductions and overestimate of travel time reductions; BRT improvements can be implemented quickly for near-term benefits.           |
| 45    | 240526  | SFCTA Transit Performance Initiative  | San<br>Francisco          | Transit<br>Efficiency   | 2             | n/a       | *                                | *                            | ✓                       | Model may underestimate travel time benefits for existing MTA riders, as the model's year 2005 Muni systemwide estimates are about 20% less than observed ridership levels. B/C framework doesn't consider transit crowding, which may result in underestimate of emissions and VMT reductions and overestimate of travel time reductions.   |
| 46    | 22247   | Regional Bikeway Network  | Regional                  | Bike/Ped                | 2             | 0.5       | n/a                              | $\checkmark$                 | $\checkmark$            |  |
| 47    | 240699  | AC Transit Service Frequency Improvements (Restoration of 2009 Funding Levels)                        | Multi-<br>County          | Transit<br>Efficiency   | 2             | n/a       | ✓                                | <b>✓</b>                     | *                       | Bus frequency improvements can be implemented quickly for near-term benefits.  |
| 48    | n/a   | New Freedom Program   | Regional                  | Lifeline/New<br>Freedom | 2             | n/a       | n/a                              | ✓                            | ✓                       |  |
| 49    | 22268   | San Mateo Countywide Shuttle Service<br>Frequency Improvements  | San Mateo                 | Transit<br>Efficiency   | 2             | n/a       | ✓                                | <b>√</b>                     | *                       | Shuttle service can be implemented quickly for near-term benefits.   |
| 50    | 230550  | Climate Initiatives (5-year program)  | Regional                  | Climate                 | 1             | 0         | n/a                              | ✓                            | ✓                       |  |
| 51    | n/a   | Transit Capital Maintenance Needs   | Regional                  | Maintenance             | 1             | 1         | n/a                              | *                            | ✓                       | The benefit-cost framework doesn't consider many impacts state of repair has on maintaining an operable transit system, such as maintaining or increasing transit ridership, reducing congestion and emissions and increasing mobility.  |
| 52    | 240545  | Parkmerced Light Rail Corridor  | San<br>Francisco          | Transit<br>Efficiency   | 1             | n/a       | *                                | $\checkmark$                 | $\checkmark$            |  |
| 53    | 230055  | Golden Gate Ferry Service Frequency Improvements  | Multi-<br>County          | Transit<br>Efficiency   | 1             | n/a       | $\checkmark$                     | $\checkmark$                 | *                       | Ferry frequency improvements can be implemented quickly for near-term benefits.  |
| 54    | LBART   | BART to Livermore (Phase 1: 1-Station DMU Extension with Bus Enhancements)                            | Alameda                   | Transit<br>Expansion    | 1             | n/a       | n/a                              | ✓                            | ✓                       | Project's quantative results reflect a sketch-level planning adjustment to the BART to Livermore (Phase 1) project, reflecting the slower travel speeds of DMU technology. This was due to the model's inability to reflect the unique proposed bus/rail transfer station without auto, ped, or bike access.   |
| 55    | 240521,<br>240134,<br>21627                               | Caltrain Vision (10-Train Service during Peak<br>Hours) + Electrification (SF to Tamien)              | Multi-<br>County/<br>3434 | Transit<br>Efficiency   | 1             | n/a       | ✓                                | ✓                            | ✓                       |  |
| 56    | 00ACT1  | AC Transit Frequent Transit Network   | Multi-<br>County          | Transit<br>Efficiency   | 1             | n/a       | *                                | $\checkmark$                 | $\checkmark$            | Project includes a wide range of services; some service improvements may have higher benefit-cost ratios and some may have lower benefit-cost ratios.  |
| 57    | 22343   | I-680 Express Bus Service Frequency<br>Improvements (Phase 2)   | Contra<br>Costa           | Transit<br>Efficiency   | 1             | 1         | $\checkmark$                     | $\checkmark$                 | *                       | Bus frequency improvements can be implemented quickly for near-term benefits.  |

|       |                              |  |                           |                         |               |           | CONFIDENCE ASSESSMENT CRITERIA   |                              |                         |  |
|-------|------------------------------|--|---------------------------|-------------------------|---------------|-----------|----------------------------------|------------------------------|-------------------------|--|
| Pow # | Project ID                   | Draiget Nama   | County                    | Broject Type            | Plan Bay Area | T-2035    | if marked with a<br>Travel Model | star, see comments Framework | to the right  Timeframe | Starred Comments   |
| KOW # | Project ID 98147,            | Project Name   | County<br>Multi-          | Project Type<br>Road    | B/C Ratio     | B/C Ratio | Output                           | Completeness                 | Inclusiveness           |  |
| 58    | 240691                       | Marin-Sonoma Narrows (Phase 2: HOV Lanes)                                      | County                    | Efficiency              | 1             | 8†        | ✓                                | *                            | <b>√</b>                | Analysis is performed for a typical weekday, but many of the project's benefits will be accrued on weekends due to recreational traffic.   |
| 59    | 240577                       | Heavy-Duty Truck Replacement [BAAQMD program]                                  | Regional                  | Climate                 | 1             | n/a       | n/a                              | $\checkmark$                 | $\checkmark$            |  |
| 60    | 240196                       | BART to Livermore (Phase 1: 1-Station Rail Extension with Bus Enhancements)    | Alameda                   | Transit<br>Expansion    | 1             | 4†        | n/a                              | ✓                            | ✓                       | Project's quantative results were based on the full BART to Livemore extension model results. This was due to the model's inability to reflect the unique proposed bus/rail transfer station without auto, ped, or bike access.  |
| 61    | 22415                        | Historic Streetcar Expansion Program   | San<br>Francisco          | Transit<br>Efficiency   | 0.9           | 2         | *                                | <b>✓</b>                     | *                       | Model doesn't capture tourist ridership and may underestimate travel time benefits for existing MTA riders, as the model's year 2005 Muni systemwide estimates are about 20% less than observed ridership levels. Project can be implemented quickly for near-term benefits. |
| 62    | 240216                       | Dumbarton Rail   | Multi-<br>County/<br>3434 | Transit<br>Expansion    | 0.8           | n/a       | ✓                                | ✓                            | ✓                       |  |
| 63    | 240589                       | EV Solar Installation [BAAQMD program]   | Regional                  | Climate                 | 0.8           | n/a       | n/a                              | *                            | *                       | Most project benefits accrue in the near term before widespread electric vehicle adoption.   |
| 64    | 240650                       | Sonoma Countywide Bus Service Frequency<br>Improvements                        | Sonoma                    | Transit<br>Efficiency   | 0.8           | n/a       | $\checkmark$                     | $\checkmark$                 | *                       | Bus frequency improvements can be implemented quickly for near-term benefits.  |
| 65    | 240676,<br>240675,<br>240677 | SMART (Phase 2: Extensions to Cloverdale & Larkspur + IOS Cost Deferrals)      | Multi-<br>County/<br>3434 | Transit<br>Expansion    | 0.7           | n/a       | *                                | ✓                            | ✓                       | The travel model does not forecast tourist trips, which are served by this project.  |
| 66    | 230252                       | Marin Countywide Bus Service Frequency<br>Improvements                         | Marin                     | Transit<br>Efficiency   | 0.7           | 1         | $\checkmark$                     | $\checkmark$                 | *                       | Bus frequency improvements can be implemented quickly for near-term benefits.  |
| 67    | -                            | Golden Gate Bus Service Frequency Improvements                                 | Multi-<br>County          | Transit<br>Efficiency   | 0.5           | n/a       | $\checkmark$                     | $\checkmark$                 | *                       | Bus frequency improvements can be implemented quickly for near-term benefits.  |
| 68    | 22956                        | Capitol Expressway Light Rail Extension (Phase 2: to Eastridge Transit Center) | Santa Clara               | Transit<br>Expansion    | 0.5           | n/a       | $\checkmark$                     | $\checkmark$                 | $\checkmark$            |  |
| 69    |                              | Monterey Highway BRT   | Santa Clara               | Transit<br>Efficiency   | 0.4           | n/a       | $\checkmark$                     | $\checkmark$                 | *                       | BRT can be implemented quickly for near-term benefits.   |
| 70    | 22667                        | BART to Livermore (Phases 1 & 2: Rail Extension)                               | Alameda                   | Transit<br>Expansion    | 0.4           | n/a       | $\checkmark$                     | $\checkmark$                 | $\checkmark$            |  |
| 71    | 22019                        | Downtown East Valley (Phase 2: LRT)  | Santa Clara/<br>3434      | Transit<br>Expansion    | 0.3           | n/a       | ✓                                | ✓                            | $\checkmark$            |  |
| 72    | 98139                        | ACE Service Expansion  | Multi-<br>County/<br>3434 | Transit<br>Efficiency   | 0.3           | n/a       | ✓                                | ✓                            | *                       | The project is likely to be complete toward the end of the Plan so much of the benefits would likely be accrued after the Plan period.   |
| 73    | 230554                       | Sunnyvale-Cupertino BRT  | Santa Clara               | Transit<br>Efficiency   | 0.2           | n/a       | $\checkmark$                     | $\checkmark$                 | *                       | BRT can be implemented quickly for near-term benefits.   |
| 74    | 22978                        | Capitol Expressway Light Rail Extension (Phases 2 & 3: to Nieman)              | Santa Clara               | Transit<br>Expansion    | 0.2           | n/a       | $\checkmark$                     | $\checkmark$                 | $\checkmark$            |  |
| 75    | 240690                       | Lifeline Transportation Program  | Regional                  | Lifeline/New<br>Freedom | 0.1           | 0         | n/a                              | *                            | ✓                       | The benefit-cost framework doesn't reflect the primary justifications for this program, which revolve around providing basic mobility rather than travel time or emissions reductions.   |
| 76    | 22009                        | Capitol Corridor Service Frequency<br>Improvements (Oakland to San Jose)       | Multi-<br>County/<br>3434 | Transit<br>Efficiency   | 0.1           | n/a       | ✓                                | <b>✓</b>                     | ✓                       |  |
| 77    | 98119                        | Vasona Light Rail Extension (Phase 2)  | Santa Clara               | Transit<br>Expansion    | 0.0           | n/a       | *                                | $\checkmark$                 | $\checkmark$            | Model may not fully capture benefits from this relatively short extension.   |
| 78    | 230101                       | Union City Commuter Rail Station +<br>Dumbarton Rail Segment G Improvements    | Alameda/<br>3434          | Transit<br>Efficiency   | 0.0           | n/a       | $\checkmark$                     | ✓                            | *                       | Infill stations can be implemented quickly to achieve benefits in the near-term.   |