

AB 2766 Grant Applications Ranking Discussion and Justification FY 21/22

CITY OF PLACERVILLE POLICE DEPARTMENT – VEHICLE REPLACEMENT (Tesla 3 to Replace Gas-Powered Jeep Liberty)

Funding Request

The City Of Placerville Police Dept. – Vehicle Replacement (Project) would replace a Jeep Liberty gas-powered vehicle. The Jeep Liberty has a remaining useful life of 5-7 years. Eligible emissions reductions for the first 6 years are the difference in emissions between the Jeep Liberty and Tesla 3.

Goal

- Supplement the Placerville Police Department’s low emission vehicles while helping to eliminate mobile source emissions in the region. Further promote green technology and improve credentials of local authorities.

Model Inputs and Assumptions

- Jeep Liberty 5 year life, 12 year project life sounds reasonable
- 10,000 miles per year
- Accepted the Jeep Liberty/Light-Duty emissions used

Applicant’s Inputs / Results - On-Road Project Subcategory 1d – Electric Vehicle Purchases

- Funding Request: \$36,800
- Matching Funds: \$9,200
- Useful Life: 10 years
- Lifetime Emissions Reduced: 62.4 lbs.
- Total Project Cost Effectiveness: \$737.17/lb
- AQMD Cost Effectiveness \$589.74/lb

AQMD’s Inputs / Results - On-Road Project Subcategory 1d – Electric Vehicle Purchases

- Funding Request: \$36,800
- Matching Funds: \$9,200
- Useful Life: 12 years
- Lifetime Emissions Reduced: 60 lbs.
- Total Project Cost Effectiveness: \$702.28 /lb
- AQMD Cost Effectiveness \$877.85 /lb

Cost Effectiveness Calculation

- Cost Effectiveness was determined for the DMV funding and Total Project amount – for the 12-yr project life. The Cost Effectiveness averaged over the 12 year life of the project was;
 - Years 1-12: 5 lbs emissions reduced/year = 60 lbs

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- Cost Recovery Factor $(1+i)^n(i)/\{(1+i)^n-1\}$ where (i) discount rate = 3% and (n) project life = 12 years. CRF = 0.1005
- Cost Effectiveness: Cost per lb = (CRF)(Cost)/Annual ave lbs reduced, so
 - 0.1005(\$36,800)/5 lb/yr = \$739.68 /lb AQMD Funds
 - 0.1005(\$46,000)/5 lb/yr = \$924.60 /lb Total project cost
- Vehicle EF's came from Table 3.
- Points awarded for DMV = 20 and Total Project Cost Effectiveness = 20.