AB 2766 Grant Applications Ranking Discussion and Justification 2020 - 2021

COLOMA RIVER SHUTTLE – SOUTH FORK ARTS and RECREATION (SoFAR)

(SoFAR – a California Non-Profit Organization)

General Findings

This proposal requests funding for a shuttle program designed to provide transportation on 278 days of service (over 2 years) along the south fork of the American River. Additionally, shuttle service has been developed for other activities on the regional trail systems along the river corridor including mountain biking & hiking. Eligible emissions reduced are those associated with a reduction in vehicle trips from people not driving themselves.

Goals/Objectives

- Provide an effective and convenient shuttle service for transportation along the South Fork American River Corridor
- Develop & market shuttle service for the new recreational flows on South Fork Silver Creek below Ice House Reservoir and South Fork American River below Slab Creek Reservoir.
- Develop & market shuttle service for mountain biking and hiking on the regional trail systems along the river corridor.
- Reduce motor vehicle emissions related to river corridor recreation
- Provide incentive to return to the merchants in the Coloma/Lotus area and redistribute parking impacts by encouraging riders to park in the Coloma/Lotus area and catch the shuttle at the beginning of the day or end of the day.
- Increase ridership over 2018-2019 numbers through the operation of a third van and trailers provided by AQMD, and focused marketing and advertising to various user groups.
- Continue to reduce the overall project cost of each rider. Costs have decreased from $53/person to under $25/person with a 2020/2021 goal of $22/person.

Applicants Inputs / Results

• Funding Request:	$211,615
Matching Funds:	$43,600 ($31,000 Match, $12,600 In-kind)
• Useful Life:	2 years
• Lifetime Emissions Reduced:	1061.98 lbs.
• Total Project Cost Effectiveness:	$122.56/lb
• AQMD Cost Effectiveness	$101.62/lb

Model Inputs and Assumptions

- Proposed project total is $255, 215, DMV funding request is $211,615. Proposed match is 17.08% of total project cost and 20.60% of the requested funds at $43,600. The proposal states the match will be provided by the applicant and is expected to be generated from revenue and in-kind donations of free shuttles from community events.
- Applicant proposes to provide shuttle transportation for up to 15 community events over 2 years as an "in-kind" match.

AB 2766 Grant Applications Ranking Discussion and Justification
2020 - 2021

- Days of Operation per Year **(D):** The shuttle is estimated to operate 278 days (e.g. Chili Bar & Gorge – 270 days; Ice House – 4 days; Slab Creek – 4 days) in 2 years which results in an average of 139 days annually. This is an increase from 240 days in 2 years from the 2016-2017 period and 261 days in 2 years from the 2018-2019 period.
    1. **D revised from 278 to 139 because D is *annual* days**
- Total one-way trips by riders per day **(R)** = estimated ridership/total number of days. (5350 + 6100)/278 = **41** (41.19). These estimates are larger based on three shuttles being used and given the unmet demand from 2018 and 2019 years. Additionally, the service is expanded to mountain bikers and hikers.
- Auto Trip Length **(L)** in miles in one-direction: There are three routes: Chili Bar-Gorge, Ice House, and Slab Creek. The (L) in one direction for each is as follows:
    1. Chili Bar-Gorge = 11.2 + 13.5 + 20 = 44.7
    2. Ice House = 11.2 + 55 = 66.2
    3. Slab Creek = 18.7 + 30 = 48.7

    Page 7 of application shows shuttle service days for Chili Bar = 270, Ice House = 4 days and Slab Creek = 4 days for a total of 278.

County line to River Village = (20mi x 2cars)	= 40
River Village to Chili Bar put in = (11.2mi x 2cars)	= 22.4
Skunk Hollow to River Village = (13.5mi x 2cars)	= 27
	89.4

Standard Shuttle Route = (89.4mi x 230 days)	=20,562
Ice House Route = (132mi x 2 days)	= 264
Slab Creek Route = (97.4mi x 8 days)	= 779.2
	21,605.2
Total days	÷ 240

Auto Trip Length 90.02
(same as previous app)

- Adjustment for auto access to and from the shuttle is reasonable at 40% of the riders who drive to and from the shuttle. **(AA) = 0.4**
- Default of 5 miles used for auto access trip length (LL).
- Adjustment on Auto Trips **(A) = 1** was used for shuttle proposals last year.
- Annual Van **VMT** = (# of vehicles * **(D)** * route length * # of ways)

Chili Bar: (2*270*24.7*2)=	26,676
Ice House: (1*4*11.2*2)=	89.6
Slab Creek: (1*4*18.7*2)=	149.6
	26,915.2
	÷ 2

Annual Van VMT 13,457.6

- Annual Auto Trips Reduced: (D*R*A)*(1-AA) = (139*41.19*1)*(1-0.4) = **3435.25**
- Annual Auto VMT Reduced: (D*R*A)*[L-(AA*LL)]

Chili Bar:	(135*41.19*1)*[(89.4-(.4*5)] = 486,000.8
Ice House:	(2*41.19*1)*[(132-(.4*5)] = 10,709.4
Slab Creek:	(2*41.19*1)*[(97.4-(.4*5)] = 7,859.0

Annual Auto VMT Reduced 504,569.2

- Annual Emissions Reductions: [(Annual Auto Trips Reduced)*(Auto Trip End Factor)+(Annual Auto VMT Reduced)*(Auto VMT Factor)-(Van VMT)*(Van VMT Factor)]/454 grams to lbs

  ROG: [(3435*0.584)+(504,569*0.191)-(13,457.6*0.143)]/454 = 212.45
  NOx: [(3435*0.298)+(504,569*0.217)-(13,457.6*0.20)]/454 = 237.50
  PM2.5: [(3435*0.0003)+(504,569*0.094)-(13,457.6*0.112)]/454 = 101.15

  Annual Emissions Reduced 551.10lbs/year

Cost Effectiveness Calculation

- Cost Effectiveness results using the above inputs were:
  - Motor Vehicle Fees: **$191.99**/pound
  - All Funding Sources: **$231.55**/pound

Funding Request

- DMV Cost Effectiveness points for 2-year life are 30; preferred points for Shuttle are 10, so **40** total
- Total project Cost Effectiveness points for 2-year life are 30; preferred points for Shuttle are 10, so **40** total.

Observations

- In general, the application double counted as the calculations are designed on an annual basis but numbers for 2 years were used. (Ex. Days (D) of operation should be 139 per year for 278 total).
- Application assumes 2020 ridership will increase 17% above 2018 level (4,450) to 5,350. 2019 ridership was up 1,117 from 2017 (3,328). Additionally, the application projects 2020 ridership to increase 17% more to 5,350. Operation will increase 19 days over the 2018/19 application.
- The application requests additional funds above the $211,615 to replace a 2nd van. It states the van is supplied by AQMD during the peak summer season. The van is part of the EDC fleet vehicles and is at it end-of-life, being removed from the fleet. There is no cost estimate included for the purchase of the requested "new" 15-passenger van. Additional mileage of driving three (3) buses is included in the calculations.

AB 2766 Grant Applications Ranking Discussion and Justification 2020 - 2021

EDC CHAMBER OF COMMERCE STAY & PLAY

General Findings

This proposal requests funding to support a shuttle program designed to encourage group transportation to regional weddings and event venues by cost-sharing. Contributions will be based on number of room nights at one or more EDC lodging.

Chamber of Commerce operates the shuttle year-round. Data from May 2018 - June 2019 will be used.

Limitations will include:

- Lodging must be in El Dorado County
- Area of operation will expand beyond county lines to regional wedding and event venues
- Transportation funding will be managed on a sliding scale w/maximum of $1000 based on
  - 20 room nights - $500
  - 30 room nights - $750
  - 40 room nights - $1000 max

Goals

- Encourage group transportation and overnight stays from El Dorado County lodging to regional wedding and event venues
- Provide safe, convenient and reliable shuttle service to large volume events
- Encourage alternative methods of travel
- Reduce the number of motor vehicle emissions related to large events
- Provide education about EDC transportation options and the benefits of choosing group transportation
- Identify industry service providers willing to partner in a cost-effective way to improve environmental performance measurements of the program
- Increase awareness of emerging transportation options in El Dorado County

- Scope of work lists:

  0-6 months:
  - Update communication & marketing plan to include current objectives
  - Update "welcome kits" for all shuttle participants to include map of charging stations and other information about EDC transportation options and the benefits of choosing group transportation.
  - Update landing page on https://visit-eldorado.com/stay-play-shuttle website to include elements of the 2020- 2021 marketing & communications plan.
  - Evaluate VisitElDorado.com website for opportunities to increase visitor knowledge of transportation in El Dorado County to include ride share options.

  6-12 months:
  - Create updated rack cards and consumer outreach information
  - Update all program materials
  - Implement updated marketing plan across media platforms
  - Promote program across multimedia platforms & database
  - Increase Photo Library and Digital Assets

  12-18 months:
  - Develop and implement survey to participants
  - Develop and implement survey to service providers
  - Implement any recommended modification to program

On-Going:

- Gather and report necessary data

Applicants Inputs / Results

• Funding Request:	$100,000
• Matching Funds:	$23,500 ($9,400 Match, $14,100 In-kind)
• Useful Life:	2 years
• Lifetime Emissions Reduced:	1088 lbs.
• Total Project Cost Effectiveness:	$96.05/lb
• AQMD Cost Effectiveness	$118.62/lb

Model Inputs and Assumptions

The applicant provided the number of passengers and total shuttle miles driven for each event in 2018/2019. The model inputs are based on actual data to the maximum extent possible. The model inputs below are rounded up to the nearest whole number.

- Days of Operation per year **(D)** = 80 days for 2 years or 40 days for one year of Stay & Play. The model was run for the maximum days per year of **40 Days**.
- Ridership **(R)** = (28,820 riders Stay & Play) / (40 days or trips (D or G)) = **720 riders 2 ways or 360 riders one way**.
- Van Vehicle Miles Traveled **(Van VMT)** for Stay & Play is shown in Log 1 as 6,821 shuttle miles over two years, which is ~ 3411 annual miles. After adjusting the shuttle miles downward in Log 2 using Google Map trip lengths for the WGPC events, shuttle VMT = 1,510 which all occurs in 2016. Total Van VMT for 2016 is 3411 + 1510 = ~ **4921 miles**.
- Auto Trip Length **(L)** is the one-way length personal autos would have driven. The Stay & Play distance traveled by passengers from the 2014/2015 Log was 3411 miles one way/57 days = 60 miles/day. (This number does not take into account certain details such as how many shuttle trips were provided on high-mileage days etc. Therefore, 45 miles was estimated to be a better representative average and was used to determine the average L.) The WGPC distance average is estimated to be 1510 total shuttle miles/52 trips/2 ways = ~ 15 miles one way. There are two Stay & Play years and one WGPC year so the estimated average is {2(45) +1(15)}/3 = **35 miles one way.**
- Adjustment **(A)** is **1.0** (100%) since all hotel guests are assumed to take the shuttle to/from the events.
- Adjustment to Auto Access **(AA)** to and from shuttle is **0** as all people drive to the hotel, regardless of presence of a shuttle (i.e., this mileage would not change and is not being reduced).
- Trip Length **(LL)** for access to the shuttle should be **0** as all shuttles leave from the hotels and no one must drive to the shuttle as they are already staying at the hotel.
- Emissions factors are unchanged from previous cycle.

Cost Effectiveness Calculation

- Cost Effectiveness results using the above inputs were:

- Motor Vehicle Fees: **$91.91** /pound
- All Funding Sources: **$113.51** /pound

Funding Request

- AQMD Cost Effectiveness points for 2-year life is 30, preferred points for Shuttle are 10.
- Total project Cost Effectiveness points for 2-year life is 30, preferred points for Shuttle are 10.
- AQMD points are **40**, Total Project points are **40**.

AB 2766 Grant Applications Ranking Discussion and Justification 2020 - 2021

CAMERON PARK COMMUNITY SERVICES DISTRICT SUMMER SPECTACULAR SHUTTLE

General Findings

Shuttle service for the annual Summer Spectacular at Cameron Park Lake. Annual attendance is estimated at 6,500. Buses will travel once an hour from 2PM to 11PM on or near July 4th. Two buses each capable of holding 84 people will travel the 13.8 mile round trip for a total of 248.4 miles. It is estimated 75 people will ride the bus every hour for a total of 1,350 people (75 people x 9 hours x 2 buses). Using 3 people per vehicle, this will reduce 450 cars (1,350/3) and save 6,210 vehicle miles travelled (450 cars x 13.8 mi).

Applicant Submitted Inputs / Results

- The Project Life: 2 yrs
- Lifetime emissions reduction: 6 lbs
- Total Project Cost Effectiveness: $2,942
- AQMD Project Cost Effectiveness: $2,452

Model Inputs and Assumptions

- Proposed project total is $2,942 DMV funding request is $2,452. Proposed match is $490.
- The shuttle is estimated to operate 1 day in 2018, and 1 day in 2019.
- Default of 5 miles used for auto access trip length **(LL).**

Determination of Emissions Reduced

The Project application used methodology found in the California Air Resources Board's (CARB) *Methods to Find the Cost-Effectiveness of Funding Air Quality Projects (May 2005)* using the May 2013 Emissions Factors. However, there were a few critical errors in the calculation.

- The application assumed daily ridership trips **(R)** of **1,350**. Staff used this figure when running the model.

- The application assumed an Annual **Van VMT** of **248.** Staff used this figure when running the model.

- The adjustment factor **(A)** of **0.91** instead of the default 0.83 to be consistent with the previous revised application. This factor is the portion of riders who did not previously use transit, vanpool, or carpools. The default is for long-distance shuttles, which this is not.

- The application assumed adjustment factor **(AA)** of **0.25**. Staff used this figure when running the model.

- The application assumes a Replaced Auto Trip Length **(L)** of 4 miles. Four miles for the longest leg of the route. Staff used this figure when running the model.

- The Auto Trip End Factors and VMT factors staff used were the updated May 2013 Table 3 Years 1-5.

Cost Effectiveness Calculation

- Cost Effectiveness results using the above inputs were:
    - Motor Vehicle Fees: **$248.86** /pound
    - All Funding Sources: **$298.59** /pound

Funding Request

- DMV Cost Effectiveness points for 2-year life is 30, preferred points for Shuttle are 10 for a total of **40** points.
- Total project Cost Effectiveness points for 2-year life is 30, preferred points for Shuttle are 10 for a total of **40** points.

AB 2766 Grant Applications Ranking Discussion and Justification
2020 – 2021

EDC TRANSIT AUTHORITY FAIR SHUTTLE

General Findings

This proposal requests funding for a shuttle program to provide transportation from designated parking lots at the Library/Government Center (Ray Lawyer Dr) and the Ray Lawyer Dr Park & Ride on Forni Rd on the 4 county fair days. From 2 to 5 transit vehicles will operate simultaneously to be scheduled and adjusted according to demand.

Goals/Objectives

- Provide a safe, effective and convenient shuttle service for transportation to and from the El Dorado County Fair
- Reduce motor vehicle emissions related to congested conditions involving idling and parking close to the fair grounds
- Mitigate traffic congestion on Forni Road, Placerville Drive and HWY 50
- Reduce foot traffic on Placerville Drive thereby improving public safety

- The Scope of Work lists:
  - Shuttle service is free to public
  - Shuttle will begin providing service 30 minutes before the fair opens, and will continue until 30 minutes after the fair closes
  - Hours of service are expected to range from 150 to 2225 hours depending on demand
  - An ADA compliant wheelchair accessible van
  - Support and operating staff
  - Outreach and marketing
  - Signage
  - Insurance
  - AQMD funding acknowledgement
  - Coordination with county agencies and law enforcement

Applicant Submitted Inputs / Results

- The Project Life: 2 years
- Lifetime emissions reduction: 96 lbs
- Total Project Cost Effectiveness: $839.91/lb
- AQMD Project Cost Effectiveness: $671.93/lb

Model Inputs and Assumptions

- Proposed project total is $80,000, DMV funding request is $64,000. Proposed match is $16,000 The proposal states the match will be provided by the El Dorado County Fair Association with a combination of In-Kind (volunteer staff, marketing and advertisements) and matching funds.
- The shuttle is estimated to operate 4 days in 2020, and 4 days in 2021 which results in an average of 4 days annually **(D).**
- Auto Trip Length **(L)** assumed to be 4 miles – same as last year.
- Default of 5 miles used for auto access trip length **(LL)**.

AB 2766 Grant Applications Ranking Discussion and Justification
2020 – 2021

Determination of Emissions Reduced

The Project application used methodology found in the California Air Resources Board's (CARB) *Methods to Find the Cost-Effectiveness of Funding Air Quality Projects (May 2005)* using the May 2013 Emissions Factors. However, there were a few critical errors in the calculation.

- The application assumed daily ridership trips **(R)** of 2,367, however, the total ridership for June 2017 was reported as 9,466. Divided evenly over 4 days, this would be 2,367 riders per day. Staff used this figure when running the model.

- The application assumed an Annual Van **VMT** of 2,677, which was from the 2013 application. However, the 2016 VMT was 3,297 and 2017 was 3,212, so average is 3,255, therefore staff used this mileage in the model.

- The application assumed an adjustment factor **(A)** of 0.95 instead of the default 0.83 as was done in the previous AB2766 grant application. This factor is the portion of riders who did not previously use transit, vanpool, or carpools. The default is for long-distance shuttles, which this is not.

- The percentage of riders who drive to the shuttle **(AA)** was revised from the default of 0.75 to 0.25 because the default is based on long-distance vanpools, and it is assumed that 1 in 4 people would drive to the shuttle stop in this instance. Thus, staff changed this figure to 0.25, which is consistent with what staff used in AB 2766 18/19, 17/16, 14/15 and 12/13 for this project.

- The Replaced Auto Trip Length **(L)** was changed from the default of 16 miles to 4 miles consistent with the shorter route of the Fair Shuttle and revisions made to the previous application.

- The Auto Trip End Factors staff used were the updated May 2013 Table 3 Years 1-5.

- Updated the PM2.5 emissions to be PM10 since this is what the model currently uses. From Table 4.12-5 used PM10 = PM2.5 x 1.08.

- The buses used in 2019 were the same bus fleet used in 2017 diesel 26 passenger cutaways or 35 passenger transit buses. Used Table 1 for 2013 diesel buses.

Cost Effectiveness Calculation

- Cost Effectiveness results using the above inputs were:
    - Motor Vehicle Fees: **$901**/pound
    - All Funding Sources: **$1,126** /pound

Funding Request

- DMV Cost Effectiveness points for 2-year life is 10, preferred points for Shuttle are 10 for a total of **20** points.

- Total project Cost Effectiveness points for 2-year life is 10, preferred points for Shuttle are 10 for a total of **20** points.

Comparison to AB 2766 FY 16/17 proposal
The cost effectiveness of EDTA's proposal in the last AB 2766 cycle was $693/lb AQMD funds and $867/lb total project funds. The main differences between the previous year's application and this year's application which resulted in a higher $/lb are as follows:

- The applicant requested ($64,000-69,347) = $4,937 less than in the last cycle.
- The average ridership numbers were down from 18/19 (from 3255 to 2,367).
- The average shuttle mileage decreased from 3,255 to 2182.