

Via Electronic Mail

Ronald Hughes
Executive Director
California Vanpool Authority
1340 North Drive
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RE: GHG CALCULATIONS FOR CALIFORNIA VANPOOL AUTHORITY

Dear Mr. Hughes:

At the request of the California Vanpool Authority, Ramboll Environ has calculated the greenhouse gas (GHG) emissions reductions associated with the California Vanpool Authority's vanpool activity for the previous fiscal year (July 2016 – June 2017). The vanpool service covers a variety of 752 gasoline-fueled vans in Fresno, Imperial, Kern, Kings, Madera, Merced, Monterey, Riverside, San Joaquin, San Luis Obispo, Santa Barbara, Stanislaus, Tulare, Ventura and Yuma counties.

Ramboll Environ calculated the GHG emissions reductions for the vanpool activity following the methodology specified in the Greenhouse Gas Quantification Methodology for the Affordable Housing and Sustainable Communities Program prepared by the California Air Resources Board and dated October 2, 2017. The assumptions and results are detailed in Table 1. Ramboll Environ's analysis indicates that the proposed vanpool project would result in a total of 52,532 metric tons (MT) of carbon dioxide equivalents (CO₂e) in GHG reductions over the past fiscal year.

Please feel free to contact us if you have any questions. Thank you for the opportunity to assist you with this matter.

Yours sincerely,



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Table 1. GHG Emissions Reduction Calculations for Vanpool Service, California Vanpool Authority

Table 1
 Summary of Mileage and GHG Emission Reductions - July 2016 through June 2017 - Based on Averaged Emission Factors
 California Vanpool Authority

County	Passengers ^a			Van Miles Driven ^b			Passenger Lane Miles (PLM) Reduced by Van Service ^a			Auto GHG Emissions Reductions due to New Van Service ^c (MT CO ₂ e)	Van GHG Emissions due to New Van Service ^d (MT CO ₂ e) ^e	Net GHG Emissions Reductions due to New Van Service ^e (MT CO ₂ e) ^f
	Weekdays	Saturday	Sunday	Totals	Weekdays	Saturday	Sunday	Totals				
	Weekdays	Saturday	Sunday	Totals	Weekdays	Saturday	Sunday	Totals				
Fresno	517,197	66,176	44,546	627,919	2,130,120	240,461	164,931	2,535,512	23,024,866	1,987,741	27,866,437	2,092
Imperial	145,206	19,841	10,338	175,385	596,489	82,122	36,289	714,900	7,520,681	435,688	9,010,726	4,168
Kern	134,877	16,395	13,572	164,844	586,614	73,265	60,139	720,018	5,994,742	534,008	6,822,704	594
Kings	307,467	24,173	19,554	351,194	1,348,979	92,322	75,634	1,516,935	11,644,398	909,950	13,255,349	1,252
Madera	38,451	5,366	1,262	45,079	226,466	33,509	4,380	264,375	2,879,064	428,692	3,359,635	218
Merced	8,259	508	120	8,887	37,269	1,610	655	39,554	275,957	19,338	301,892	33
Monterey	355,011	58,012	19,024	432,047	1,213,639	192,161	48,960	1,454,760	14,002,633	595,162	16,838,862	1,200
Riverside	5,929	688	210	6,723	21,920	2,524	662	25,106	184,533	20,313	212,411	109
San Joaquin	2,316	408	408	3,132	14,308	2,982	2,018	19,308	177,309	36,790	239,361	21
San Luis Obispo	27,203	4,244	3,114	34,561	164,871	24,420	21,679	210,970	1,871,414	284,383	2,406,954	16
Santa Barbara	74,040	11,623	6,691	92,354	182,958	25,062	13,805	221,826	2,078,637	303,607	2,545,693	174
Stanislaus	3,257	578	424	4,259	11,922	1,322	1,102	14,346	135,522	16,427	165,766	183
Tulare	407,650	46,652	36,167	490,469	1,805,381	198,720	157,895	2,161,996	16,714,877	1,512,084	20,191,011	12
Ventura	92,407	12,461	4,003	108,871	377,193	55,337	12,376	444,907	4,653,512	699,983	5,482,675	367
Yuma ^g	101,081	14,744	4,033	119,858	323,609	43,936	11,998	379,543	3,803,381	520,027	4,461,348	313
Total	2,220,247	281,869	163,466	2,665,582	9,041,778	1,069,754	612,823	10,724,055	94,564,526	6,512,931	113,160,825	8,849

Notes:

- A Used average emissions factors for Imperial County for 2016-2017.
- B Number of passengers, van miles driven and passenger lane miles provided by Ronald Hughes of California Vanpool Authority
- C Used auto vehicle emissions factors for different counties for 2016 and 2017 from reference #1
- D Used average gasoline emissions factors for vans for model years 2003 to 2017 from reference #2
- E Methodology for calculating net GHG emissions reduction was based on the AHSC calculation methodology described in reference #3

References:

- 1 CARB. 2015. Auto Vehicle Emission Factor (AVEF) Lookup Tables. December 18. Available at: https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/af_avef_final.pdf. Accessed October 2017.
- 2 CARB 2015. LDH Emission Factor Lookup Tables. December 18. Available at: https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/af_ldh_busschedule_final.pdf. Accessed October 2017.
- 3 CARB 2017. Revised Quantification Methodology for the Strategic Growth Council Affordable Housing and Sustainable Communities Program. October 2017. Available at: https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/sgc_ahsc_finalrevisedqm_16-17.pdf. Accessed October 2017.

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