

TECHNICAL MEMORANDUM

DATE: May 19, 2026
TO: Meaghan Truman, EPD Solutions
FROM: Haseeb Qureshi, Urban Crossroads, Inc.
JOB NO: 12991-06 Technical Memo

SUBJECT: BLOOMINGTON BUSINESS PARK SPECIFIC PLAN REVISED COBRA MODELING

In response to comments provided by SCAQMD on the *Bloomington Business Park Specific Plan Comparative Health Impact, Zero-Emission Truck Feasibility, GHG Mitigation, and Energy Cumulative Impact Analysis Memo*, the following supplemental information has been provided, specifically regarding the modeling that was performed using the United States Environmental Protection Agency (EPA) Co-Benefits Risk Assessment Health Impact Screening and Mapping Tool (COBRA). SCAQMD commented that the analysis relied on the 2028 population, incidence, and valuation data built into the model rather than utilizing 2040 data to match the proposed Project's opening year. The COBRA analysis has been updated utilizing the 2040 population, incidence, and valuation data available on EPA's website. Table 1 below presents the updated results utilizing 2040 data.

TABLE 1: PROPOSED PROJECT HEALTH AND MORTALITY INDICATORS

Health Indicator	Proposed Project – Specific Plan Buildout	Baseline	% Increase
Total Mortality (low – high estimate) ¹	0.375 – 0.578	126,041	0.00030% – 0.00046%
Total Asthma Symptoms	284.277	N/A	N/A
Total Incidence, Asthma ²	1.676	1,417,065	0.00012%
Total Incidence, Hay Fever/Rhinitis	11.221	N/A	N/A
Total ER Visits, Respiratory ³	0.530	56,627	0.00094%
Total Hospital Admits, All Respiratory ⁴	0.045	120,584	0.00004%

¹Source: California Department of Public Health 2020-2022 All Causes Mortality, with deaths due to drug overdoses, firearms, homicide, suicide, traffic crashes, and accidents removed (<https://www.cdph.ca.gov/Programs/CHSI/Pages/County-Health-Status-Profiles.aspx>)

²Source: California Department of Public Health 2021-2022 Asthma Prevalence (<https://data.chhs.ca.gov/dataset/asthma-prevalence>)

³Source: California Department of Public Health Asthma Emergency Department Visit Rates (<https://data.chhs.ca.gov/dataset/asthma-emergency-department-visit-rates>)

⁴Source: California Department of Health Care Access and Information 2023 Hospital Inpatient Characteristics (<https://data.chhs.ca.gov/dataset/hospital-inpatient-characteristics-by-patient-county-of-residence>)

As shown in Table 1, utilizing 2040 data would not significantly change the results of the analysis. Based on the COBRA model the proposed Project is estimated to result in an incremental increase in mortality of 0.578 (high estimate) as a result of increased concentrations of ozone and PM_{2.5} in the

region due to Project emissions. Compared to baseline mortality estimates for the region, this represents an increase of approximately 0.00046%.

It should be noted that this incremental increase in mortality remains consistent with other large projects. The incremental incidence increase in mortality from all causes for the Friant Ranch project was estimated at 0.000014% for ozone and 0.00039% for PM_{2.5}, for a total incremental increase of 0.00041%, which is similar to what would be expected from the proposed Project. For the CSUDH project, the project's emissions were estimated to result in an increase in mortality from all causes of 0.0032% attributable to ozone and PM_{2.5} combined, which is significantly higher than would be expected for the proposed Project. As such, emissions associated with the proposed Project would not result in significant health impacts due to increases in ozone and PM_{2.5} concentrations in the region. COBRA model outputs are presented in Attachment 1.

ATTACHMENT 1:
COBRA MODEL OUTPUTS

FIPS	State	County	Base PM 2.5	Control PM 2.5	Delta PM 2.5	Base O3	Control O3	Delta O3	\$ Total Health Benefits(low estimate)
6037	California	Los Angeles	2.93	2.93	0.00	10.61	10.61	0.00	-3,720,214.21
6059	California	Orange	2.80	2.80	0.00	8.36	8.36	0.00	-1,478,872.59
6065	California	Riverside	1.63	1.63	0.00	10.59	10.59	0.00	-1,281,681.77
6071	California	San Bernardino	1.43	1.43	0.00	12.67	12.67	0.00	-1,067,871.77

\$ Total Health Benefits(high estimate)	Total Mortality(low estimate)	\$ Total Mortality(low estimate)	Total Mortality(high estimate)	\$ Total Mortality(high estimate)
-5,897,379.18	-0.19	-3,465,849.67	-0.30	-5,643,014.64
-2,349,090.93	-0.08	-1,396,551.54	-0.12	-2,266,769.87
-1,721,927.69	-0.06	-1,154,210.22	-0.09	-1,594,456.14
-1,343,461.42	-0.05	-943,187.39	-0.07	-1,218,777.04

PM Mortality, All Cause (low)	\$ PM Mortality, All Cause (low)	PM Mortality, All Cause (high)	\$ PM Mortality, All Cause (high)	PM Infant Mortality
-0.12	-2,148,426.21	-0.23	-4,325,591.18	0.00
-0.05	-943,475.73	-0.10	-1,813,694.06	0.00
-0.02	-442,986.67	-0.05	-883,232.59	0.00
-0.01	-258,797.65	-0.03	-534,387.30	0.00
-0.2043		-0.4070		

\$ PM Infant Mortality	Total O3 Mortality	\$ Total O3 Mortality	O3 Mortality (Short-term exposure)	\$ O3 Mortality (Short term exposure)
-2,954.18	-0.07	-1,314,469.29	0.00	-56,259.55
-752.86	-0.02	-452,322.94	0.00	-19,360.91
-669.41	-0.04	-710,554.14	0.00	-30,457.17
-654.24	-0.04	-683,735.50	0.00	-29,306.70
	-0.1703			

O3 Mortality (Long-term exposure)	\$ O3 Mortality (Long-term exposure)	Total Asthma Symptoms	\$ Total Asthma Symptoms
-0.07	-1,258,209.74	-129.34	-36,536.58
-0.02	-432,962.03	-43.00	-11,365.96
-0.04	-680,096.97	-57.52	-22,273.74
-0.04	-654,428.80	-54.41	-22,577.55

PM Asthma Symptoms, Albuterol use	\$ PM Asthma Symptoms, Albuterol use	O3 Asthma Symptoms, Chest Tightness	\$ O3 Asthma Symptoms, Chest Tightness	
	-54.99	-47.79	-20.49	-10,053.03
	-19.88	-17.27	-6.37	-3,126.68
	-12.16	-10.57	-12.50	-6,133.74
	-8.41	-7.31	-12.67	-6,218.34

O3 Asthma Symptoms, Cough	\$ O3 Asthma Symptoms, Cough	O3 Asthma Symptoms, Shortness of Breath	\$ O3 Asthma Symptoms, Shortness of Breath	
	-24.16	-11,858.33	-10.34	-5,073.32
	-7.52	-3,688.16	-3.22	-1,577.90
	-14.74	-7,235.21	-6.31	-3,095.42
	-14.95	-7,334.99	-6.39	-3,138.12

O3 Asthma Symptoms, Wheeze	\$ O3 Asthma Symptoms, Wheeze	Total Incidence, Asthma	\$ Total Incidence, Asthma	PM Incidence, Asthma	
	-19.37	-9,504.10	-0.74	-66,673.02	-0.28
	-6.02	-2,955.95	-0.25	-22,284.64	-0.10
	-11.82	-5,798.81	-0.35	-31,508.36	-0.06
	-11.98	-5,878.79	-0.33	-29,917.37	-0.04

\$ PM Incidence, Asthma		O3 Incidence, Asthma		\$ O3 Incidence, Asthma		Total Incidence, Hay Fever/Rhinitis		\$ Total Incidence, Hay Fever/Rhinitis	
		-24,810.04		-0.47		-41,862.99		-5.03	
		-9,138.43		-0.15		-13,146.21		-1.66	
		-5,679.67		-0.29		-25,828.69		-2.32	
		-3,903.12		-0.29		-26,014.25		-2.22	
								-7,581.77	
								-2,497.80	
								-3,503.18	
								-3,346.59	

PM Incidence, Hay Fever/Rhinitis	\$ PM Incidence, Hay Fever/Rhinitis	O3 Incidence, Hay Fever/Rhinitis	\$ O3 Incidence, Hay Fever/Rhinitis	Total ER Visits, Respiratory	
	-1.86	-2,802.19	-3.17	-4,779.57	-0.24
	-0.67	-1,017.91	-0.98	-1,479.89	-0.06
	-0.41	-625.74	-1.91	-2,877.44	-0.11
	-0.29	-432.25	-1.93	-2,914.34	-0.12

\$ Total ER Visits, Respiratory	PM ER Visits, Respiratory	\$ PM ER Visits, Respiratory	O3 ER Visits, Respiratory	\$ O3 ER Visits, Respiratory	
	-519.59	-0.07	-158.63	-0.16	-360.96
	-137.74	-0.02	-46.86	-0.04	-90.88
	-236.55	-0.02	-33.15	-0.09	-203.40
	-272.40	-0.01	-27.25	-0.11	-245.14

Total Hospital Admits, All Respiratory	\$ Total Hospital Admits All Respiratory	PM Hospital Admits, All Respiratory	\$ PM Hospital Admits All Respiratory	
	-0.02	-840.57	-0.01	-558.03
	-0.01	-264.63	0.00	-181.17
	-0.01	-185.54	0.00	-80.99
	-0.01	-174.58	0.00	-66.68

O3 Hospital Admits, All Respiratory	\$ O3 Hospital Admits All Respiratory	PM Nonfatal Heart Attacks	\$ PM Nonfatal Heart Attacks	PM Minor Restricted Activity Days	
	-0.01	-282.54	-0.10	-11,706.20	-91.23
	0.00	-83.46	-0.03	-3,970.74	-32.18
	0.00	-104.54	-0.02	-2,269.39	-17.39
	0.00	-107.90	-0.01	-1,660.23	-11.48

\$ PM Minor Restricted Activity Days	PM Work Loss Days	\$ PM Work Loss Days	PM Incidence Lung Cancer	\$ PM Incidence Lung Cancer	
-14,588.92	-15.27	-6,303.47	-0.01	-622.98	
-5,145.62	-5.43	-2,244.21	0.00	-245.76	
-2,781.61	-2.96	-1,223.83	0.00	-117.59	
-1,836.27	-1.95	-803.97	0.00	-65.19	

PM HA Cardio Cerebro and Peripheral Vascular Disease	\$ PM HA Cardio Cerebro and Peripheral Vascular Disease	PM HA Alzheimers Disease	
	-0.02	-868.72	-0.06
	-0.01	-292.90	-0.03
	0.00	-141.79	-0.01
	0.00	-98.59	0.00

\$ PM HA Alzheimers Disease	PM HA Parkinsons Disease	\$ PM HA Parkinsons Disease	PM Incidence Stroke	\$ PM Incidence Stroke
-1,946.94	-0.01	-226.37	-0.01	-698.04
-1,014.35	0.00	-89.74	0.00	-274.96
-220.01	0.00	-43.56	0.00	-134.75
-131.86	0.00	-23.37	0.00	-72.49

PM Incidence Out of Hospital Cardiac Arrest	\$ PM Incidence Out of Hospital Cardiac Arrest	PM ER visits All Cardiac Outcomes	\$ PM ER visits All Cardiac Outcomes
	0.00	-157.55	-0.04
	0.00	-58.51	-0.01
	0.00	-29.54	-0.01
	0.00	-17.44	-0.01

O3 ER Visits, Asthma	\$ O3 ER Visits, Asthma	O3 School Loss Days, All Cause	\$ O3 School Loss Days, All Cause	
	0.00	-1.04	-47.35	-104,981.46
	0.00	-0.20	-14.61	-32,393.76
	0.00	-0.48	-28.32	-62,780.63
	0.00	-0.66	-28.72	-63,670.67