Appendix H:

Traffic Supporting Information

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H.1 - Focused Traffic Assessment

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TECHNICAL MEMORANDUM

DATE: February 18, 2025
TO: Johanna Crooker, MLC Holdings, Inc.
FROM: Charlene So, Urban Crossroads, Inc.
JOB NO: 15843-04 FTA Memo

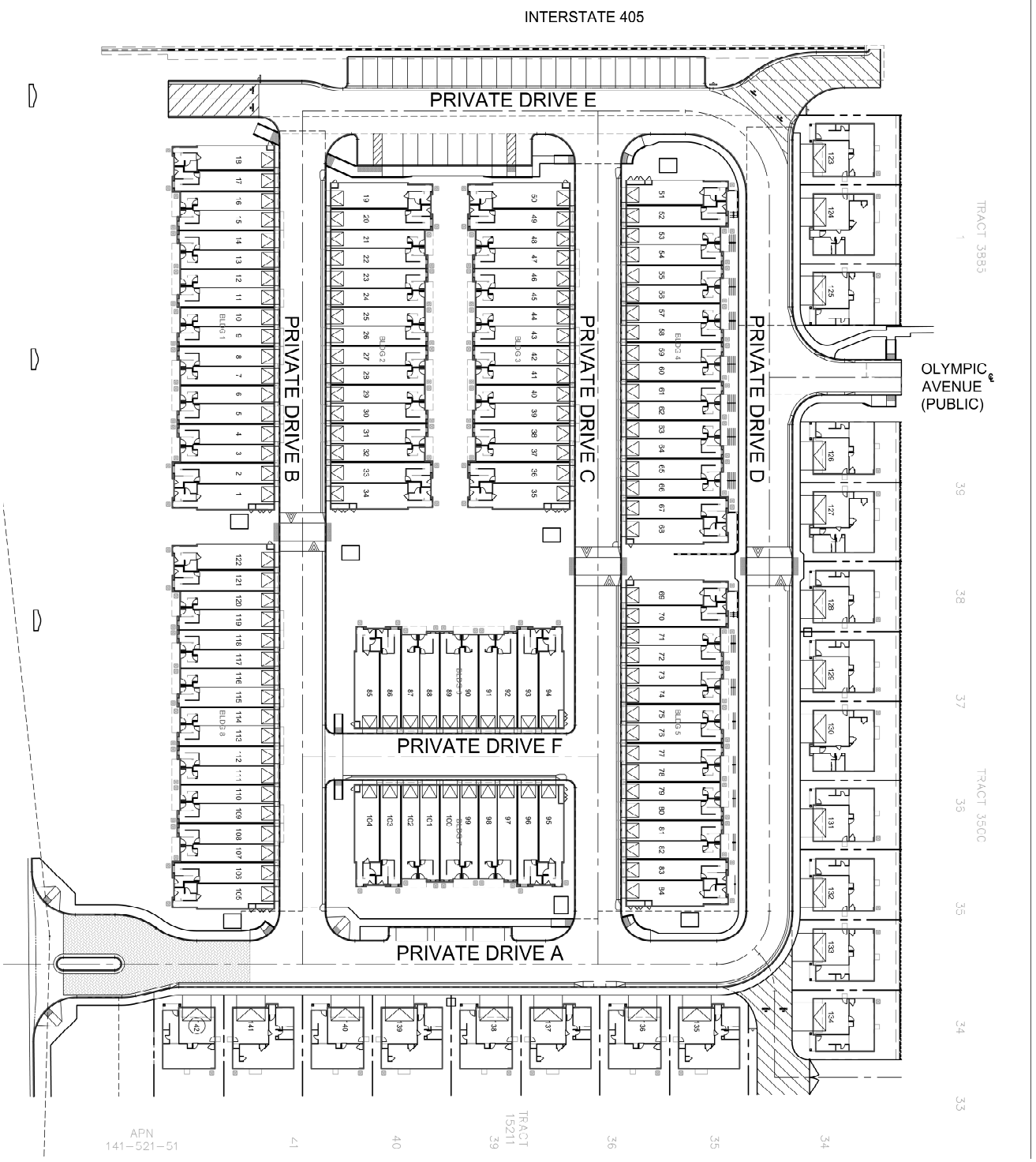
SUBJECT: TENTATIVE TRACT MAP NO. 19334 FOCUSED TRAFFIC ASSESSMENT

Urban Crossroads, Inc. has prepared the following Focused Traffic Assessment for Tentative Tract Map No. 19334 (Project), which is located at 3150 Bear Street in the City of Costa Mesa. This letter describes the proposed Project trip generation and determines whether any additional traffic operations analysis is required based on the City's Transportation Impact Analysis (TIA) Guidelines (October 2020, City Guidelines). In addition, this assessment evaluates the segment of Bear Street along the Project's frontage.

EXISTING USE & PROPOSED PROJECT

The site is 6.12-acre and is currently developed with the former 65,652 square foot Trinity Broadcasting Network (TBN) building along with a 1,000 square foot maintenance building which is now occupied by The Palazzo by Koshbin which is a European-style event venue. The Project proposes to develop a new residential infill community consisting of a total of 142 for-sale townhomes within eight separate buildings (of which seven units or five percent of the total units will be designated very-low affordable units). The townhomes would range in size from approximately 1,060 to 2,218 square feet with 2-story detached homes and 4-story attached homes. A preliminary site plan for the proposed Project is shown on Exhibit 1. As indicated on Exhibit 1, access to the site is accommodated via a single driveway on Bear Street (where the existing site access is located) and an emergency vehicle access (EVA) to the northeast of the site via Olympic Avenue.

EXHIBIT 1: PRELIMINARY SITE PLAN



TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development.

EXISTING USE: FORMER TBN BUILDING

In an effort to understand the traffic associated with the prior use, trip-generation statistics published in the latest Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) has been used for the Corporate Headquarters land use category (ITE Land Use Code 714. The site is currently occupied by the former 65,652 square foot TBN building along with a 1,000 square foot maintenance building. Table 1 presents the trip generation rates and summarizes the trip generation for the former use. The former office use was anticipated to generate a total of 530 two-way trips per day with 97 AM peak hour trips and 87 PM peak hour trips as shown in Table 1.

TABLE 1: EXISTING TRIP GENERATION

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Corporate Headquarters	TSF	714	1.35	0.10	1.45	0.12	1.18	1.30	7.95

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition (2021).

[2] TSF = thousand square feet

Land Use	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Former Use: TBN Building	66.652	TSF	90	7	97	8	79	87	530

[1] TSF = thousand square feet

PROPOSED PROJECT

The Project proposes to develop a new residential infill community consisting of a total of 142 for-sale townhomes within eight separate buildings (of which seven units or five percent of the total units will be designated very-low affordable units). In order to develop the traffic characteristics for the Project, trip-generation statistics published in the latest ITE Trip Generation Manual (11th Edition, 2021) has been used based on the Single Family Detached (ITE Land Use Code 210), Multifamily (Low-Rise) Residential (ITE Land Use Code 220), and Affordable Housing (ITE Land Use Code 223) land use categories. Table 2 presents the trip generation rates and summarizes the proposed Project trip generation. The proposed Project is anticipated to generate a total of 1,000 two-way trips per day with 63 AM peak hour trips and 81 PM peak hour trips as shown in Table 2.

TABLE 2: PROJECT TRIP GENERATION

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Single Family Detached	DU	210	0.18	0.52	0.70	0.59	0.35	0.94	9.43
Multifamily (Low-Rise) Residential	DU	220	0.10	0.30	0.40	0.32	0.19	0.51	6.74
Affordable Housing	DU	223	0.10	0.26	0.36	0.27	0.19	0.46	4.81

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

[2] DU = Dwelling Units

Land Use	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Detached Two-Story Townhomes	20	DU	4	10	14	12	7	19	190
Attached Townhomes	115	DU	11	35	46	37	22	59	776
Affordable Housing	7	DU	1	2	3	2	1	3	34
Total Trips	**142**	**DU**	**16**	**47**	**63**	**51**	**30**	**81**	**1,000**

[1] DU = Dwelling Units

TRIP GENERATION COMPARISON

Table 3 shows the trip generation comparison between the proposed Project uses and the prior office land use. The resulting net change in vehicle trips is identified in Table 3. As shown, the proposed Project is anticipated to generate a net increase of 470 two-way trips per day but a net reduction of 34 AM peak hour trips and 6 fewer PM peak hour trips as compared to the prior office use.

TABLE 3: TRIP GENERATION COMPARISON

	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
Former Use: TBN Building	90	7	97	8	79	87	530
Proposed Use: Townhomes	16	47	63	51	30	81	1,000
Net Change in Trips	**-74**	**40**	**-34**	**43**	**-49**	**-6**	**470**

Note: Negative value represents a reduction in comparison to the former use.

TRIP DISTRIBUTION

The Project trip distribution represents the directional orientation of traffic to and from the Project site. Trip distribution is the process of identifying the probable destinations, directions or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered, to identify the route where the Project traffic would distribute. Based on the existing travel patterns along Bear Street, it is anticipated 53% of the Project's traffic will head northbound on Bear Street while the remaining 47% would head southbound on Bear Street.

TRAFFIC FORECASTS

In an effort to generate forecasts to be utilized in other technical studies to support the Project, an existing 24-hour roadway count was collected along Bear Street just north of Shiffer Park along the Project's future western frontage (see Appendix 1). The existing traffic count was collected when local schools were in session and operating on normal bell schedules. Project traffic was then added to the applicable segments on either side of the Project driveway along Bear Street based on the Project's trip distribution patterns and the trip generation presented in Table 2. Table 4 summarizes the Existing and Existing plus Project average daily traffic forecasts. Bear Street is designated as a Major Arterial (100-foot right-of-way, six-lanes with raised median) on the City's General Plan Circulation Element. Based on the City's Master Plan of Streets and Highways, a Major Arterial has a daily volume capacity of 56,000-68,000 vehicles per day which is well below the existing and anticipated E+P traffic forecasts shown in Table 4.

TABLE 4: ROADWAY SEGMENT FORECAST

Roadway Segment	Existing ADT	Project ADT	E+P ADT
Bear Street, north of Project Driveway	25,475	530	26,005
Bear Street, south of Project Driveway	25,475	470	25,945

ADT = Average Daily Traffic (Two-Way Traffic)

If you have any questions, please contact me directly at cso@urbanxroads.com.

APPENDIX 1:

EXISTING (2025) TRAFFIC COUNTS

A31224

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Wednesday, January 15, 2025 **CITY:** Costa Mesa

JOB #: SC5131 **LOCATION:** CLASS1 Bear St north of Shiffer Park

AM TIME	NORTHBOUND 1	2	3	4	5	6	TOTAL	PM Time	NORTHBOUND 1	2	3	4	5	6	TOTAL
0:00	26	0	0	0	0	0	26	12:00	259	8	0	0	0	0	267
0:15	15	0	0	0	0	0	15	12:15	244	8	0	0	0	0	252
0:30	13	0	0	0	0	0	13	12:30	221	12	0	0	0	0	233
0:45	9	0	0	0	0	0	9	12:45	229	3	0	1	0	0	233
1:00	14	0	0	0	0	0	14	13:00	220	11	1	0	0	1	233
1:15	12	0	0	0	0	0	12	13:15	233	9	0	1	0	1	244
1:30	11	0	0	0	0	0	11	13:30	189	3	0	0	0	0	192
1:45	9	0	0	0	0	0	9	13:45	210	5	1	0	0	0	216
2:00	8	1	0	0	0	0	9	14:00	231	4	0	0	0	0	235
2:15	3	0	0	0	0	0	3	14:15	222	5	0	0	0	0	227
2:30	8	0	0	0	0	0	8	14:30	262	11	0	1	0	0	274
2:45	6	0	0	0	0	0	6	14:45	289	10	2	1	0	0	302
3:00	4	0	0	0	0	0	4	15:00	293	13	0	0	0	0	306
3:15	4	0	0	0	0	0	4	15:15	286	9	0	1	0	0	296
3:30	6	0	0	0	0	0	6	15:30	280	12	0	0	0	0	292
3:45	7	0	0	1	0	0	8	15:45	290	8	0	0	0	1	299
4:00	11	0	0	0	0	0	11	16:00	333	16	0	0	0	1	350
4:15	7	0	0	0	0	0	7	16:15	321	8	1	0	0	0	330
4:30	13	0	1	0	0	0	14	16:30	350	11	0	0	0	0	361
4:45	14	2	0	0	0	0	16	16:45	356	9	0	0	0	0	365
5:00	10	0	0	0	0	0	10	17:00	365	7	0	1	0	0	373
5:15	16	2	0	0	0	0	18	17:15	362	3	0	1	0	0	366
5:30	13	0	0	0	0	0	13	17:30	332	9	0	0	0	0	341
5:45	32	0	0	0	0	0	32	17:45	336	5	0	1	0	0	342
6:00	25	0	0	0	0	0	25	18:00	296	5	0	0	0	1	302
6:15	23	3	0	0	0	1	27	18:15	310	7	0	0	0	0	317
6:30	26	3	0	0	0	0	29	18:30	200	3	0	0	0	0	203
6:45	44	0	0	0	0	0	44	18:45	207	2	0	0	0	0	209
7:00	55	3	0	0	0	0	58	19:00	165	0	0	0	0	0	165
7:15	73	0	0	0	0	0	73	19:15	155	1	0	0	0	0	156
7:30	76	2	0	0	0	0	78	19:30	136	2	0	0	0	0	138
7:45	142	4	0	0	0	0	146	19:45	124	0	0	0	0	0	124
8:00	143	2	0	0	0	0	145	20:00	124	2	0	0	0	0	126
8:15	177	2	0	0	0	2	181	20:15	90	1	0	0	0	0	91
8:30	135	4	0	0	0	0	139	20:30	96	2	0	0	0	0	98
8:45	121	7	0	0	0	0	128	20:45	72	0	0	0	0	0	72
9:00	133	7	1	0	0	0	141	21:00	107	2	0	1	0	1	111
9:15	133	2	2	0	0	0	137	21:15	98	1	0	0	0	0	99
9:30	173	9	0	0	0	0	182	21:30	75	3	0	0	0	0	78
9:45	188	6	0	1	0	0	195	21:45	69	1	0	0	0	0	70
10:00	143	9	0	1	0	0	153	22:00	75	0	0	0	0	0	75
10:15	179	7	0	0	0	0	186	22:15	85	0	0	1	0	0	86
10:30	191	4	0	2	0	1	198	22:30	63	0	0	0	0	0	63
10:45	188	9	1	1	0	0	199	22:45	51	0	0	0	0	0	51
11:00	203	8	0	0	0	0	211	23:00	33	2	0	0	0	0	35
11:15	200	7	1	0	0	0	208	23:15	39	2	0	0	0	0	41
11:30	240	4	0	0	0	0	244	23:30	33	0	0	0	0	0	33
11:45	270	3	0	0	0	0	273	23:45	30	0	0	0	0	0	30
TOTAL	3,552	110	6	6	0	4	3,678	TOTAL	9,446	235	5	10	0	6	9,702

AM PEAK HOUR	11:00 AM
AM PEAK VOLUME	936

AM PEAK HOUR	4:30 PM
AM PEAK VOLUME	1,465

CLASS 1	PASSENGER VEHICLES	TOTAL: AM+PM	12,998	345	11	16	0	10	13,380
CLASS 2	2-AXLE TRUCKS	% OF TOTAL	97.1%	2.6%	0.1%	0.1%	0.0%	0.1%	100.0%
CLASS 3	3-AXLE TRUCKS								
CLASS 4	4 OR MORE AXLE TRUCKS								
CLASS 5	RV	TOTAL: ALL	24,800	601	26	33	0	15	25,475
CLASS 6	Buses	% OF TOTAL	97.4%	2.4%	0.1%	0.1%	0.0%	0.1%	100.0%

A31224

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Wednesday, January 15, 2025
JOB #: SC5131
CITY: Costa Mesa
LOCATION: CLASS1 Bear St north of Shiffer Park

AM TIME	SOUTHBOUND 1	2	3	4	5	6	TOTAL	PM Time	SOUTHBOUND 1	2	3	4	5	6	TOTAL
0:00	13	1	0	0	0	0	14	12:00	174	6	0	0	0	0	180
0:15	9	0	0	0	0	0	9	12:15	212	2	1	0	0	1	216
0:30	9	1	0	0	0	0	10	12:30	205	5	1	0	0	0	211
0:45	7	0	0	0	0	0	7	12:45	229	5	0	0	0	0	234
1:00	4	0	0	0	0	0	4	13:00	202	3	0	0	0	0	205
1:15	3	0	0	0	0	0	3	13:15	192	6	0	0	0	0	198
1:30	3	0	0	0	0	0	3	13:30	187	4	1	1	0	0	193
1:45	5	2	0	0	0	0	7	13:45	227	8	0	0	0	0	235
2:00	4	0	0	0	0	0	4	14:00	183	2	0	0	0	0	185
2:15	3	0	0	0	0	0	3	14:15	239	3	0	0	0	1	243
2:30	6	0	0	0	0	0	6	14:30	213	5	0	0	0	0	218
2:45	2	0	0	0	0	0	2	14:45	230	3	0	0	0	0	233
3:00	4	1	0	0	0	0	5	15:00	231	5	0	0	0	0	236
3:15	4	0	0	0	0	0	4	15:15	228	5	0	0	0	0	233
3:30	9	0	0	0	0	0	9	15:30	213	6	0	0	0	0	219
3:45	12	0	0	0	0	0	12	15:45	236	6	1	2	0	1	246
4:00	11	0	0	0	0	0	11	16:00	205	1	0	0	0	0	206
4:15	9	0	0	0	0	0	9	16:15	219	2	0	0	0	0	221
4:30	24	1	0	0	0	0	25	16:30	224	1	0	1	0	0	226
4:45	27	0	1	0	0	0	28	16:45	197	2	0	0	0	0	199
5:00	16	0	0	0	0	0	16	17:00	270	6	0	0	0	0	276
5:15	31	0	0	1	0	1	33	17:15	249	1	0	0	0	0	250
5:30	26	1	0	0	0	0	27	17:30	226	1	0	0	0	0	227
5:45	65	2	0	0	0	0	67	17:45	225	1	0	0	0	0	226
6:00	63	2	0	0	0	0	65	18:00	203	2	0	0	0	0	205
6:15	94	6	0	0	0	0	100	18:15	185	4	0	0	0	0	189
6:30	95	3	0	0	0	0	98	18:30	192	1	0	0	0	0	193
6:45	124	2	0	3	0	0	129	18:45	200	3	0	1	0	0	204
7:00	113	5	1	0	0	1	120	19:00	190	2	0	0	0	0	192
7:15	159	8	0	1	0	0	168	19:15	171	1	0	0	0	0	172
7:30	274	4	0	1	0	0	279	19:30	177	3	0	0	0	0	180
7:45	263	4	1	0	0	0	268	19:45	165	0	0	0	0	0	165
8:00	257	13	0	0	0	0	270	20:00	195	2	0	1	0	0	198
8:15	205	10	0	0	0	0	215	20:15	154	0	0	0	0	0	154
8:30	229	9	0	0	0	0	238	20:30	124	1	0	0	0	0	125
8:45	204	6	0	0	0	0	210	20:45	111	0	1	0	0	0	112
9:00	136	4	0	0	0	0	140	21:00	113	2	1	0	0	0	116
9:15	110	6	2	0	0	0	118	21:15	72	1	0	0	0	0	73
9:30	117	7	2	0	0	0	126	21:30	74	0	0	0	0	0	74
9:45	123	6	0	1	0	0	130	21:45	55	0	0	0	0	0	55
10:00	101	1	1	1	0	0	104	22:00	56	0	0	0	0	0	56
10:15	97	9	0	0	0	0	106	22:15	36	0	0	0	0	0	36
10:30	136	4	0	0	0	0	140	22:30	24	0	0	0	0	0	24
10:45	133	8	0	0	0	0	141	22:45	28	0	0	0	0	0	28
11:00	146	3	0	2	0	0	151	23:00	18	0	0	0	0	0	18
11:15	162	1	0	1	0	0	164	23:15	15	0	0	0	0	0	15
11:30	173	7	0	0	0	0	180	23:30	11	1	0	0	0	0	12
11:45	190	6	1	0	0	0	197	23:45	7	1	0	0	0	0	8
TOTAL	4,010	143	9	11	0	2	4,175	TOTAL	7,792	113	6	6	0	3	7,920

AM PEAK HOUR	7:30 AM
AM PEAK VOLUME	1,032

AM PEAK HOUR	5:00 PM
AM PEAK VOLUME	979

TOTAL: AM+PM		11,802	256	15	17	0	5	12,095
% OF TOTAL		97.6%	2.1%	0.1%	0.1%	0.0%	0.0%	100.0%

CLASS 1	PASSENGER VEHICLES
CLASS 2	2-AXLE TRUCKS
CLASS 3	3-AXLE TRUCKS
CLASS 4	4 OR MORE AXLE TRUCKS
CLASS 5	RV
CLASS 6	BUS

A31224

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Wednesday, January 15, 2025 **CITY:** Costa Mesa

JOB #: SC5131 **LOCATION:** CLASS1 Bear St north of Shiffer Park

AM TIME	COMBINED 1	2	3	4	5	6	TOTAL
0:00	39	1	0	0	0	0	40
0:15	24	0	0	0	0	0	24
0:30	22	1	0	0	0	0	23
0:45	16	0	0	0	0	0	16
1:00	18	0	0	0	0	0	18
1:15	15	0	0	0	0	0	15
1:30	14	0	0	0	0	0	14
1:45	14	2	0	0	0	0	16
2:00	12	1	0	0	0	0	13
2:15	6	0	0	0	0	0	6
2:30	14	0	0	0	0	0	14
2:45	8	0	0	0	0	0	8
3:00	8	1	0	0	0	0	9
3:15	8	0	0	0	0	0	8
3:30	15	0	0	0	0	0	15
3:45	19	0	0	1	0	0	20
4:00	22	0	0	0	0	0	22
4:15	16	0	0	0	0	0	16
4:30	37	1	1	0	0	0	39
4:45	41	2	1	0	0	0	44
5:00	26	0	0	0	0	0	26
5:15	47	2	0	1	0	1	51
5:30	39	1	0	0	0	0	40
5:45	97	2	0	0	0	0	99
6:00	88	2	0	0	0	0	90
6:15	117	9	0	0	0	1	127
6:30	121	6	0	0	0	0	127
6:45	168	2	0	3	0	0	173
7:00	168	8	1	0	0	1	178
7:15	232	8	0	1	0	0	241
7:30	350	6	0	1	0	0	357
7:45	405	8	1	0	0	0	414
8:00	400	15	0	0	0	0	415
8:15	382	12	0	0	0	2	396
8:30	364	13	0	0	0	0	377
8:45	325	13	0	0	0	0	338
9:00	269	11	1	0	0	0	281
9:15	243	8	4	0	0	0	255
9:30	290	16	2	0	0	0	308
9:45	311	12	0	2	0	0	325
10:00	244	10	1	2	0	0	257
10:15	276	16	0	0	0	0	292
10:30	327	8	0	2	0	1	338
10:45	321	17	1	1	0	0	340
11:00	349	11	0	2	0	0	362
11:15	362	8	1	1	0	0	372
11:30	413	11	0	0	0	0	424
11:45	460	9	1	0	0	0	470
TOTAL	7,562	253	15	17	0	6	7,853

AM PEAK HOUR	11:00 AM
AM PEAK VOLUME	1,628

PM Time	COMBINED 1	2	3	4	5	6	TOTAL
12:00	433	14	0	0	0	0	447
12:15	456	10	1	0	0	1	468
12:30	426	17	1	0	0	0	444
12:45	458	8	0	1	0	0	467
13:00	422	14	1	0	0	1	438
13:15	425	15	0	1	0	1	442
13:30	376	7	1	1	0	0	385
13:45	437	13	1	0	0	0	451
14:00	414	6	0	0	0	0	420
14:15	461	8	0	0	0	1	470
14:30	475	16	0	1	0	0	492
14:45	519	13	2	1	0	0	535
15:00	524	18	0	0	0	0	542
15:15	514	14	0	1	0	0	529
15:30	493	18	0	0	0	0	511
15:45	526	14	1	2	0	2	545
16:00	538	17	0	0	0	1	556
16:15	540	10	1	0	0	0	551
16:30	574	12	0	1	0	0	587
16:45	553	11	0	0	0	0	564
17:00	635	13	0	1	0	0	649
17:15	611	4	0	1	0	0	616
17:30	558	10	0	0	0	0	568
17:45	561	6	0	1	0	0	568
18:00	499	7	0	0	0	1	507
18:15	495	11	0	0	0	0	506
18:30	392	4	0	0	0	0	396
18:45	407	5	0	1	0	0	413
19:00	355	2	0	0	0	0	357
19:15	326	2	0	0	0	0	328
19:30	313	5	0	0	0	0	318
19:45	289	0	0	0	0	0	289
20:00	319	4	0	1	0	0	324
20:15	244	1	0	0	0	0	245
20:30	220	3	0	0	0	0	223
20:45	183	0	1	0	0	0	184
21:00	220	4	1	1	0	1	227
21:15	170	2	0	0	0	0	172
21:30	149	3	0	0	0	0	152
21:45	124	1	0	0	0	0	125
22:00	131	0	0	0	0	0	131
22:15	121	0	0	1	0	0	122
22:30	87	0	0	0	0	0	87
22:45	79	0	0	0	0	0	79
23:00	51	2	0	0	0	0	53
23:15	54	2	0	0	0	0	56
23:30	44	1	0	0	0	0	45
23:45	37	1	0	0	0	0	38
TOTAL	17,238	348	11	16	0	9	17,622

AM PEAK HOUR	4:30 PM
AM PEAK VOLUME	2,416

TOTAL: AM+PM	24,800	601	26	33	0	15	25,475
% OF TOTAL	97.4%	2.4%	0.1%	0.1%	0.0%	0.1%	100.0%

CLASS 1	PASSENGER VEHICLES
CLASS 2	2-AXLE TRUCKS
CLASS 3	3-AXLE TRUCKS
CLASS 4	4 OR MORE AXLE TRUCKS
CLASS 5	RV
CLASS 6	Buses

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H.2 - Vehicle Miles Traveled Analysis

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MEMORANDUM

URBAN | CROSSROADS

DATE: March 21, 2025
TO: Johanna Crooker, MLC Holdings, Inc.
FROM: Alex So, Urban Crossroads, Inc.
JOB NO: 15843-03 VMT

3150 BEAR STREET VEHICLE MILES TRAVELED (VMT) ANALYSIS

Urban Crossroads, Inc. has completed the following Vehicle Miles Traveled (VMT) Analysis for the proposed 3150 Bear Street Project (**Project**), located in the City of Costa Mesa.

PROJECT OVERVIEW

The 6.2-acre site is currently developed with the former 65,652-square-foot Trinity Broadcasting Network (TBN) building, along with a 1,000-square-foot maintenance building. The Project proposes 142 multi-family residential dwelling units, of which 10% (14 units) will be designated as affordable units. However, this analysis has been conducted conservatively, assuming 146 multi-family dwelling units. The ultimate findings will not substantially change with the reduction of the proposed 4 units. A Project site plan is provided in Attachment A.

BACKGROUND

The California Environmental Quality Act (CEQA) requires all lead agencies to adopt VMT as the measure for identifying transportation impacts for land use projects. To comply with CEQA, the City of Costa Mesa adopted analytical procedures, screening tools, and impact thresholds for VMT, which are documented in their adopted City of Costa Mesa Transportation Impact Analysis (TIA) Guidelines (October 2020) (**City Guidelines**) (1). The adopted City Guidelines have been used to prepare this analysis.

VMT SCREENING

City Guidelines identifies that a project may be determined to have a non-significant transportation impact if it meets one or more VMT screening criteria. Each of the screening criteria listed in the City Guidelines are described in Table 1 along with a determination of the Project's eligibility to meet each criterion.

TABLE 1: SCREENING FOR LAND USE PROJECTS EXEMPT FROM VMT ANALYSIS

Screening	Description	Result
1. Transit Priority (TPA) Screening	Projects located within a TPA (i.e., within a half mile of an existing major transit stop or an existing stop along a high-quality transit corridor) are presumed to have a less than significant impact on VMT.	Does not meet.
2. Low VMT Area Screening	Projects located within a low VMT generating zone that can reasonably be expected to generate VMT per service population that is similar to the existing land uses in the low VMT area are presumed to have a less than significant impact on VMT. A low VMT area is defined as an individual traffic analysis zone (TAZ) where total daily Origin/Destination VMT per service population is lower than 15% of the City average total daily Origin/Destination VMT per service population.	Does not meet.
3. Project Type Screening	Local-Serving Retail under 50,000 square feet, Local Essential Services, and projects generating less than 110 daily vehicle trips are presumed to have a less than significant impact on VMT.	Does not meet.

As shown in Table 1, the Project was not found to meet eligible screening criteria and, consistent with the City Guidelines, a project-level VMT analysis has been prepared.

TRAFFIC MODELING METHODOLOGY

City Guidelines identifies the Orange County Transportation Analysis Model (OCTAM) as the appropriate tool for conducting VMT forecasting and analysis for land use projects in the City of Costa Mesa, as it considers interaction between different land uses based on socio-economic data, such as population, households, and employment. The current version of OCTAM was last released in March 2019 and represents the most current sub-regional transportation model for Orange County.

VMT ANALYSIS METHODOLOGY

Consistent with City Guidelines, VMT has been estimated using the Origin/Destination (OD) method and Boundary method. For both methods, VMT is presented as total VMT and VMT per Service Population. Total VMT is an estimate of total vehicle travel and considers all vehicle trips and trip purposes; whereas VMT per service population is an efficiency metric that represents VMT generated on a typical weekday per person who lives and/or works in the City of Costa Mesa or in the case of the Project, per person who resides within the Project. Total VMT provides an estimate of the total vehicle travel, while VMT per service population measures the efficiency of travel. Consistent with City Guidelines, the efficiency metric VMT per service population has been adopted by the City of Costa Mesa for transportation impact analysis.

ORIGIN/DESTINATION (OD) VMT

The OD method for calculating VMT sums all weekday VMT generated by trips with at least one trip end in the study area (i.e., Project boundary) and tracks those trips to their estimated origins/destinations. Origins are all vehicle trips that start in a specific traffic analysis zone (TAZ)

and destinations are all trips that end in a specific TAZ.

BOUNDARY VMT

City Guidelines also acknowledge that the VMT analysis should also contain an evaluation of a project's effect on VMT, which can be performed using the boundary method of calculating VMT. The boundary method is the sum of all weekday VMT on the roadway network within a designated boundary (i.e., City boundary). The boundary method estimates VMT by multiplying vehicle trips on each roadway segment within the boundary by that segment's length. This approach consists of all trips, including those trips that do not begin or end in the designated boundary. Consistent with City Guidelines, the County of Orange was used as the boundary for this assessment.

VMT METRIC AND SIGNIFICANCE THRESHOLD

City Guidelines identifies VMT per service population as the VMT efficiency metric to be compared to the Citywide VMT average. More specifically, City Guidelines identifies the following impact thresholds for project-level VMT analysis:

1. The baseline project-generated VMT per service population exceeds 15 percent below the City of Costa Mesa baseline VMT per service population (85 percent of the Costa Mesa baseline VMT per service population), or

2. The cumulative project-generated VMT per service population exceeds 15 percent below the City of Costa Mesa baseline VMT per service population (85 percent of the Costa Mesa baseline VMT per service population).

The project's effect on VMT would be considered significant if it resulted in either of the following conditions to be satisfied:

1. The baseline link-level Citywide VMT per service population increases under the plus project condition compared to the no project condition, or

2. The cumulative link-level Citywide VMT per service population increases under the plus project condition compared to the no project condition.

CITY OF COSTA MESA BASELINE VMT PER SERVICE POPULATION

The City of Costa Mesa baseline VMT per service population value has been calculated using OCTAM. Table 2 presents the resulting City of Costa Mesa VMT per service population threshold of 22.0.

TABLE 2: CITY OF COSTA MESA VMT PER SERVICE POPULATION

	Baseline
Service Population	257,088
VMT	6,661,448
VMT per SP[1]	25.9
Threshold 85% of City VMT per SP	22.0

[1]SP refers to Service Population

VMT ESTIMATES

In order to evaluate project-generated VMT, standard land use information such as dwelling units must first be converted into an OCTAM compatible dataset. The OCTAM model utilizes socio-economic data (SED) (e.g., population) for the purposes of vehicle trip estimation. Table 3 presents the SED inputs added to the Project's transportation analysis zone (TAZ) to represent the Project in OCTAM.

TABLE 3: POPULATION ESTIMATES

Land Use	Dwelling Units	Conversion Factor[1]	Population
Residential	146	2.18 person per household	318

[1] Person per household was maintained using data contained in OCTAM.

PROJECT-GENERATED VMT

Table 4 presents project-generated OD VMT and the resulting OD VMT per service population for baseline and cumulative conditions. As shown in Table 3, the Project would generate OD VMT per service population above the City's threshold under baseline conditions.

TABLE 4: PROJECT-GENERATED VMT

	Baseline	Cumulative
Service Population	318	318
OD VMT	7,712	6,729
OD VMT per Service Population	24.3	21.2
City Threshold	22.0	22.0
Does Project Exceed Threshold?	Yes	No

The Project would be required to provide measures to mitigate this impact to a level below City's threshold, a minimum VMT reduction of 10.5% is required.

VMT MITIGATION MEASURES

The California Air Pollution Control Officers Association (**CAPCOA**) Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (December 2021) (**Handbook**) (2) has been utilized to determine trip reduction measures that may be applicable to the Project. The Handbook describes methods to quantify reductions in greenhouse gas emissions and in the case of Transportation measures, the associated reductions to VMT. This evaluation will focus on a review of the Handbook's Transportation measures that are determined to be applicable to the Project.

SELECTING MEASURES

To determine which Transportation measures should be considered from the Handbook, land use type, scale and locational context are each identified as key factors for determining an individual measure's applicability to a project. The Handbook contains a factsheet for each measure that describes the measure, locational context, scale of application, implementation

requirements, and other considerations that should be reviewed to determine a measure's applicability.

PROJECT TYPE

Project type is an important consideration when determining which measures are applicable for consideration. For example, measures associated with neighborhood design are not applicable to an office project, whereas trip reduction programs intended to reduce employee commute VMT would not be applicable to a residential project.

SCALE

The Handbook identifies that measures can be applied at different scales or geographic levels, however, "some measures may only be applicable at the project-level, whereas others may be more appropriate within a broader planning context such as for a general plan or climate action plan." The geographic levels considered in the Handbook include Project/Site and Plan/Community. Project/Site applies to measures that can reduce VMT at the scale of an individual development project or employer. Plan/Community refers to measures that reduce VMT at the scale of a specific plan, general plan or climate action plan. Transportation measures can be quantified at either the Project/Site scale or the Plan/Community scale, but never both.[1]

LOCATIONAL CONTEXT

The Handbook describes locational context as "used to identify trip reduction measures within the transportation sector that are appropriate in certain types of neighborhoods differentiated by transportation characteristics and level of development (e.g., rural, suburban, and urban)." More specifically, rural, suburban, and urban are defined as follows:

Rural: An area characterized by little development. Compared to urban and suburban areas, rural areas have a lower density of residences, higher numbers of single-family residences, and higher numbers of vehicle-dependent land use patterns. Where applicable, the Handbook provides three land use distinctions within the rural locational context category—R_a, R_b, and R_c. R_a refers to rural areas within a master-planned community. These rural areas often include a broad offering of amenities and services, which may be accessed by walking or other alternative forms of transportation. R_b refers to rural areas adjacent to a commuter rail station with convenient rail service to a major employment center. As the name implies, these rural areas have greater access to commuter rail as an alternative mode of transportation. R_c refers to rural areas with transit service and that are near jobs/services.

Suburban: An area characterized by dispersed, low-density, single-use, automobile dependent land use patterns, usually outside of the central city. Also known as a suburb.

Urban: An area located within the central city with higher density land uses than in the suburbs. Often characterized by multi-family housing, tall office buildings, and dense retail.

[1] Handbook, Page 37

The Project's locational context is determined to be suburban.

PROJECT DESIGN FEATURES - VMT REDUCTIONS

T-1 Increase Residential Density

This measure accounts for the VMT reduction achieved by a project that is designed with a higher density of dwelling units compared to the average residential density in the U.S. Increased densities affect the distance people travel and provide greater options for the mode of travel they choose. Increasing residential density results in shorter and fewer trips by single-occupancy vehicles and thus a reduction in VMT. Table 5 provides the calculation variables and formula used to calculate VMT reduction.

TABLE 5: T-1 CALCULATION VARIABLES AND FORMULA

ID	Variable	Value	Unit	Source
Output				
A	Percent reduction in GHG emissions from Project VMT in study area	0-30.0	%	calculated
User Inputs				
B	Residential density of project development		du/acre	user input
Constants, Assumptions, and Available Defaults				
C	Residential density of typical development	9.1	du/acre	Ewing et al. 2007
D	Elasticity of VMT with respect to residential density	-0.22	unitless	Ewing et al. 2007

$$A = \frac{B - C}{B} \times D$$

Project TAZ 1246 in the horizon year model is approximately 212 acres and contains assumed households totaling 1,757 dwelling units, which does not include the Project. As calculated, Project TAZ 1246 results in a density of 8.3 du/acre. In order to provide a conservative estimate of VMT reduction, the higher national typical residential unit density documented in the Handbook of 9.1 du/acre will be used.

The Project, as contemplated, is proposing to develop 142 dwelling units on 6.2 acres, resulting in 23.5 du/acre. Although the Project is analyzed at 146 units, the Project will only assume density reductions based on the lower 142 dwelling unit density.

$$-33.4\% = \frac{22.9 - 9.1}{9.1} \times -0.22$$

As calculated above, the Project as designed is expected to reduce its VMT per service population by 33.4%. However, the Handbook has placed a reduction cap of 30% to limit the influence of any single built environmental factor (such as density). Projects that implement multiple land use strategies (e.g., density, design, diversity) will show more of a reduction than relying on improvements from a single built environment factor.

The Project is ideally situated to promote alternative transportation and reduce reliance on automobiles travel. It is located just beyond ½ mile from an Orange County Transit Authority (OCTA) bus stop at Baker and Bear, served by bus line 55, providing convenient public transit access. Additionally, the Project is less than ¼ mile from shopping and dining at South Coast Plaza and under 1 mile from major cultural destinations such as the Segerstrom Center for the Arts and the Orange County Museum of Art. Given this location, residents of the higher-density Project would have easy access to essential services, entertainment, and public transit, making walking, biking, and transit viable and attractive alternatives to driving. The Project as designed and its location is expected to reduce its VMT impact by 30%, which exceeds the required 10.5% VMT reduction to be below the City's impact threshold.

PROJECT'S CUMULATIVE EFFECT ON VMT

The Project's effect on VMT has been calculated using the boundary method. Land use information representing the proposed land use changes contemplated by the Project were coded into the Project TAZ to represent the "With Project" condition. Table 6 summarizes the boundary VMT under the No Project and With Project scenarios for both baseline and cumulative conditions.

TABLE 6: BOUNDARY VMT

	Baseline		Cumulative	
Scenario	No Project	With Project	No Project	With Project
Service Population	219,336	219,411	236,264	236,339
Boundary VMT	3,326,733	3,326,428	3,412,324	3,412,096
VMT per Service Population	15.2	15.2	14.4	14.4
Change in VMT per Service Population	0.0		0.0	

The boundary VMT is found to increase under the With Project scenario for both the baseline and cumulative conditions, as expected when increases in development are added to the model. However, to measure the efficiency of a land use project or land use plan, the boundary VMT is divided by the service population to frame an efficiency metric. The resulting VMT per service population was found to remain the same in the With Project scenario under both conditions.

SUMMARY

Based on the results of this analysis, the following findings are made:

- The Project was not screened out from a VMT analysis based on the City's screening criteria.
- The Project was found to generate VMT per service population exceeding the City's threshold.
- VMT mitigation measures in the form of inherent project design features were applied to reduce the Project's VMT per service population.

- With the inclusion of VMT mitigation measures and the Project's proximity to other complementary land uses, the Project's VMT per service population was reduced below the City's impact threshold.
- The Project's impact on VMT is **less than significant.**

If you have any questions, please contact me directly at aso@urbanxroads.com.

REFERENCES

1. **City of Costa Mesa.** *Transportation Impact Analysis (TIA) Guidelines.* October 2020.
2. **CAPCOA.** *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity.* December 2021.

ATTACHMENT A
PRELIMINARY SITE PLAN

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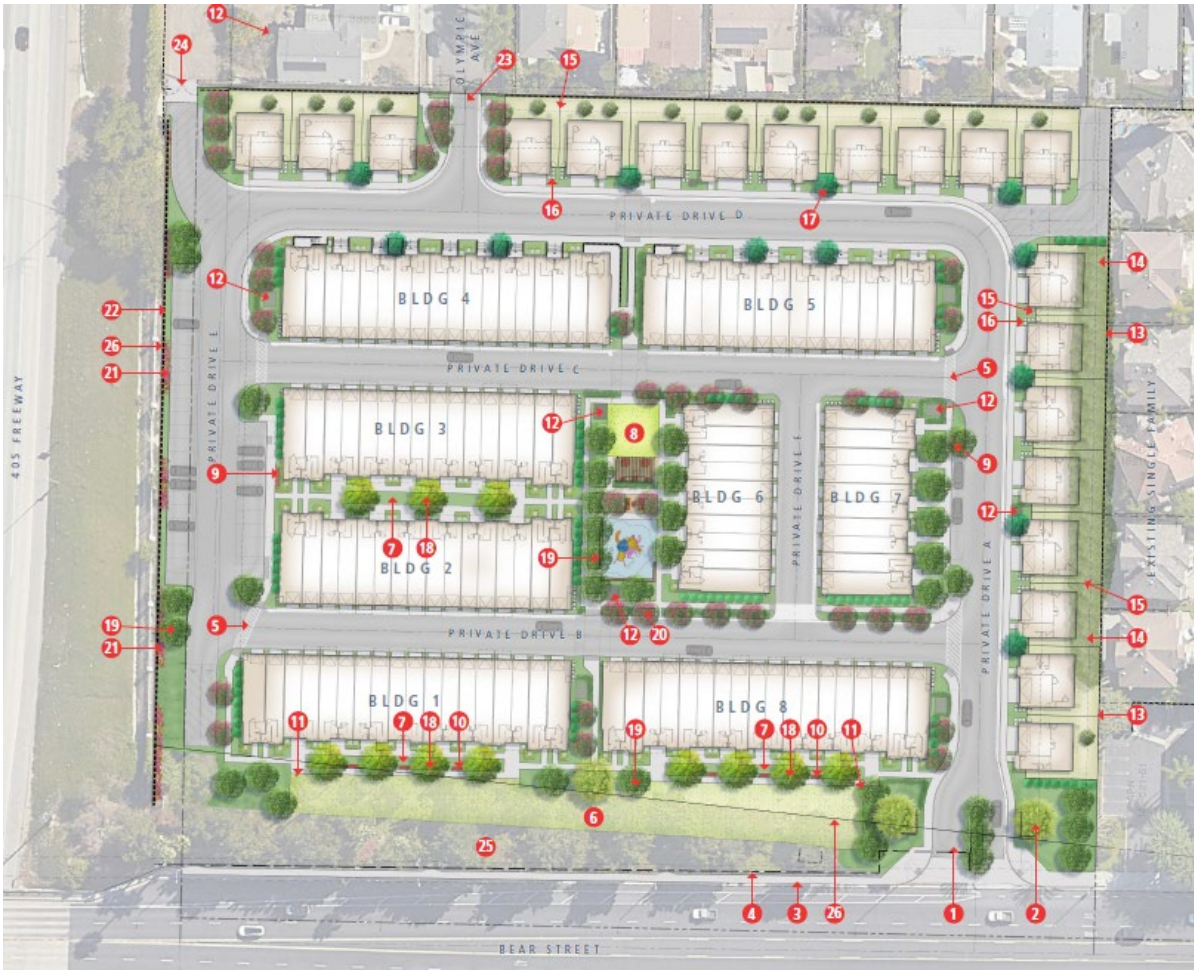
OLYMPIC AVE
PRIVATE DRIVE D
BLDG 4
BLDG 5
PRIVATE DRIVE C
BLDG 3
BLDG 2
BLDG 6
BLDG 7
PRIVATE DRIVE E
PRIVATE DRIVE F
PRIVATE DRIVE A
PRIVATE DRIVE B
BLDG 1
BLDG 8
405 FREEWAY
EXISTING SINGLE FAMILY
BEAR STREET