

# Appendix D

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Traffic and Noise Modeling Data

New Cultivation Operations			
	Full-Time Employees	Harvest Employees	Peak-Period Employees
Outdoor	491	1510	2001
Mixed Light	345	1770	2115
Indoor	11	0	11
<b>TOTALS</b>	<b>847</b>	<b>3,280</b>	<b>4,127</b>

Daily Trips Per Employee

2	4002
2	4230
2	22
<b>8,254</b>	

New Non-Cultivation Operations			
	Full-Time Employees	Description	Facility Location (trips assumed 1 Daily Trips Per Employee)
Manufacturing	10	Accounts for Employee trips and 2 daily Delivery Trips per facility	Weaverville
	10	Accounts for Employee trips and 2 daily Delivery Trips per facility	Hayfork
Microbusiness	3	Accounts for Employee trips and 1 daily Delivery Trips	Hayfork
	3	Accounts for Employee trips and 1 daily Delivery Trips	Douglas City
	3	Accounts for Employee trips and 1 daily Delivery Trips	Junction City
Non-Storefront Retail	5	Accounts for Employee trips and 1 daily delivery trip per employee	Hayfork
	4	Accounts for Employee trips and 1 daily delivery trip per employee	Douglas City
Testing	6	Accounts for Employee trips and 1 daily Delivery Trip	Weaverville
	6	Accounts for Employee trips and 1 daily Delivery Trip	Hayfork
	6	Accounts for Employee trips and 1 daily Delivery Trip	Hayfork
Nursery	6	Accounts for Employee trips and 1 daily Delivery Trip	Douglas City
	6	Accounts for Employee trips and 1 daily Delivery Trip	Junction City
	6	Accounts for Employee trips and 1 daily Delivery Trip	Burnt Ranch
Distribution	38	Accounts for Employee trips and 1 daily delivery trip per employee	Varies

Daily Other Trips	
3	4
3	4
3	2
3	2
3	2
5	5
5	5
3	2
3	2
3	2
3	2
3	2
3	2
3	2
5	190

<b>TOTALS</b>	<b>112</b>	<b>456</b>
<b>Cultivation and Non-cultivation</b>	<b>959</b>	<b>8,710</b>

New Cultivation Operations			
Area	Peak Employees	Trips Attacted	Origin of Trip
Burnt Ranch/Salyer	583	1,165	Junction City
			Weaverville
Douglas City	171	342	Douglas City (100%)
Hayfork	909	1,819	Hayfork (100%)
Junction City	313	626	Weaverville (100%)
Mad River	402	805	Hayfork
Post Mountain	1,590	3,180	Douglas City
			Weaverville
			Douglas City
			Lewiston
Wildwood	159	317	Lewiston
<b>CALC</b>	<b>4,127</b>	<b>8,254</b>	

Route Assignment		Trips	MT
SR 299 Burnt Ranch Road west to Weaverville	42	656	42
Local Roads		509	
SR 3 Hayfork		342	
SR 299 Weaverville west City limits to Del Loma east		1,819	
SR 3 Hayfork to Junction of SR 36		626	
SR 36 junction of SR 3 to Lower Mad River Road west		466	
SR 299 and SR 3 from Weaverville		339	
SR 3 from Douglas City,		2,339	
SR 299 and SR 3 from Lewiston		7	
		834	
		317	
		<b>8,254</b>	

Area	Acres of Existing Cultivation Sites	% of Total	Peak Employees	Peak Daily Trips To/From
Burnt Ranch	47	6%	257	515
Douglas City	31	4%	171	342
Hayfork	167	22%	909	1,819
Junction City	57	8%	313	626
Mad River	74	10%	402	805
Post Mountain	292	39%	1,590	3,180
Salyer	60	8%	325	650
Wildwood	29	4%	159	317
<b>CALC CHECK</b>		<b>100%</b>	<b>4,127</b>	<b>8,254</b>

Area	Area Population	% of Total	# of Origin Trips
Weaverville	3600	42%	3,474
Hayfork	2368	28%	2,285
Lewiston	1193	14%	1,151
Douglas City	713	8%	688
Junction City	680	8%	656
<b>CALC CHECK</b>		<b>100%</b>	<b>8,254</b>

Table 3.14-1 Existing Roadway Segment LOS on State Facilities within Trinity County

Route and Location	Roadway Classification	LOS Threshold <sup>1</sup>	Maximum Daily (Two-Way) Service Volumes to Achieve LOS Threshold <sup>1</sup>	Existing (2017)		Existing+Project	
				Daily (Two-Way) Volume <sup>2</sup>	LOS Threshold Achieved?	Daily (Two-Way) Volume <sup>2</sup>	LOS Threshold Achieved? (0=No, 1=Yes)
SR 3	Junction of Route 36, north	Class II Two Lane Highway	6,800	620	Yes	5,112	1
	Morgan Hill Road, south	Class II Two Lane Highway	6,800	1,450	Yes	5,942	1
	Morgan Hill Road, north	Class II Two Lane Highway	6,800	2,400	Yes	6,892	0
	Hayfork	Class II Two Lane Highway	6,800	2,400	Yes	8,872	0
	Weaverville, North Junction	Class II Two Lane Highway	6,800	3,850	Yes	6,430	1
	Rush Creek Road, south	Class II Two Lane Highway	6,800	1,150	Yes	1,340	1
	Rush Creek Road, north	Class II Two Lane Highway	6,800	860	Yes	1,050	1
	Trinity Center Maintenance Station	Class II Two Lane Highway	6,800	470	Yes	660	1
SR 36	Siskiyou County Line	Class II Two Lane Highway	6,800	140	Yes	330	1
	Lower Mad River Road, west	Class II Two Lane Highway	6,800	1,250	Yes	2,245	1
	Lower Mad River Road, east	Class II Two Lane Highway	6,800	620	Yes	1,615	1
	Forest Glen Maintenance Station	Class II Two Lane Highway	6,800	550	Yes	1,545	1
SR 299	Jct. of Route 3, east	Class II Two Lane Highway	6,800	470	Yes	2,623	1
	East Limits Salyer, west	Class I Two Lane Highway	7,900	2,950	Yes	3,140	1
	East Limits Salyer, east	Class I Two Lane Highway	7,900	2,500	Yes	3,855	1
	Burnt Ranch Road, west	Class I Two Lane Highway	7,900	2,350	Yes	3,725	1
	Del Loma, east	Class I Two Lane Highway	7,900	1,850	Yes	3,882	1
	Weaverville, West City Limits, west	Major Arterial <sup>3</sup>	14,100	3,400	Yes	4,881	1
	Weaverville, Washington Street, east	Major Arterial <sup>3</sup>	14,100	10,700	Yes	11,046	1
	Martin/Nugget Roads, west	Major Arterial <sup>3</sup>	14,100	8,800	Yes	8,990	1
	Martin/Nugget Roads, east	Class I Two Lane Highway	7,900	6,600	Yes	6,790	1
	East Junction SR 3, west	Class I Two Lane Highway	7,900	4,750	Yes	6,091	1
	East Junction SR 3, east	Class I Two Lane Highway	7,900	4,150	Yes	5,491	1
	Lewiston Road, east	Class I Two Lane Highway	7,900	3,950	Yes	5,291	1
Trinity Dam Road, east	Class I Two Lane Highway	7,900	3,900	Yes	4,090	1	

Notes: LOS = Level of Service; SR = State Route.

<sup>1</sup> Adopted from the Fehr & Peers 2010 (HCM 2000, Chapter 20, Two-Lane Highways);

<sup>2</sup> Caltrans 2017

<sup>3</sup> Main Street roadway segments through Weaverville analyzed as major arterials and Trinity County LOS thresholds are applied

See Table 3.12-3 and 3.12-4 on the definition of LOS.

Sum of GIS_AC01		
PLACE	Total	
Burnt Ranch	47.20	6%
Douglas City	31.37	4%
Hayfork	166.81	22%
Junction City	57.42	8%
Mad River	73.80	10%
Post Mountain	291.62	39%
Salyer	59.66	8%
Wildwood	29.11	4%
Grand Total	756.99	

Population

Weaverville	3600	39%
Hayfork	2368	26%
Lewiston	1193	13%
Douglas City	713	8%
Burnt Ranch	281	3%
Junction City	680	7%
Mad River	420	5%
TOTAL	9255	100%

Traffic Noise Spreadsheet Calculator



Project:		Input										Output						
Noise Level Descriptor: Ldn																		
Site Conditions: Soft																		
Traffic Input: ADT																		
Traffic K-Factor:																		
Number	Name	Segment Description and Location		ADT	Speed (mph)	Distance to Directional Centerline, (feet) <sub>a</sub>		Traffic Distribution Characteristics					Ldn, (dBA) <sub>5,6,7</sub>	Distance to Contour, (feet) <sub>a</sub>				
		From	To			Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve		% Night	70 dBA	65 dBA	60 dBA	55 dBA
<b>Existing Conditions</b>																		
1	State Route 3	Junction of Route 36, north		620	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	50.4	5	11	23	49
2	State Route 3	Morgan Hill Road, south		1,450	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	54.1	9	19	40	87
3	State Route 3	Morgan Hill Road, north		2,400	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	56.3	12	26	57	122
4	State Route 3	Hayfork		2,400	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	56.3	12	26	57	122
5	State Route 3	Weaverville, North Junction		3,850	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.3	17	36	77	167
6	State Route 3	Rush Creek Road, south		1,150	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	53.1	7	16	35	75
7	State Route 3	Rush Creek Road, north		860	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	51.8	6	13	29	61
8	State Route 3	Trinity Center Maintenance Station		470	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	49.2	4	9	19	41
9	State Route 3	Siskiyou County Line		140	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	43.9	2	4	9	18
10	State Route 36	Lower Mad River Road, west		1,250	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	53.5	8	17	37	79
11	State Route 36	Lower Mad River Road, east		620	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	50.4	5	11	23	49
12	State Route 36	Forest Glen Maintenance Station		550	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	49.9	5	10	21	46
13	State Route 36	Jct. of Route 3, east		470	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	49.2	4	9	19	41
14	State Route 299	East Limits Salyer, west		2,950	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.2	14	30	65	140
15	State Route 299	East Limits Salyer, east		2,500	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	56.5	13	27	58	125
16	State Route 299	Burnt Ranch Road, west		2,350	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	56.2	12	26	56	120
17	State Route 299	Del Loma, east		1,850	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	55.2	10	22	48	102
18	State Route 299	Weaverville, West City Limits, west		3,400	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	53.4	8	17	36	78
19	State Route 299	Weaverville, Washington Street, east		10,700	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.4	17	36	78	168
20	State Route 299	Martin/Nugget Roads, west		8,800	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	61.9	29	62	134	290
21	State Route 299	Martin/Nugget Roads, east		6,600	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.7	24	52	111	239
22	State Route 299	East Junction SR 3, west		4,750	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.3	19	41	89	192
23	State Route 299	East Junction SR 3, east		4,150	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.7	18	38	81	175
24	State Route 299	Lewiston Road, east		3,950	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.4	17	37	79	170
25	State Route 299	Trinity Dam Road, east		3,900	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.4	17	36	78	168

\*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator



Project:		Input										Output						
Noise Level Descriptor: Ldn Site Conditions: Soft Traffic Input: ADT Traffic K-Factor:		Segment Description and Location		Speed (mph)	Distance to Centerline, (feet) <sub>a</sub>		Traffic Distribution Characteristics					Ldn, (dBA) <sub>5,6,7</sub>	Distance to Contour, (feet) <sub>s</sub>					
Number	Name	From	To		Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve		% Night	70 dBA	65 dBA	60 dBA	55 dBA	
<b>Existing Conditions</b>																		
1	State Route 3	Junction of Route 36, north		5,112	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.6	20	43	94	202
2	State Route 3	Morgan Hill Road, south		5,942	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.2	22	48	103	223
3	State Route 3	Morgan Hill Road, north		6,892	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.9	25	53	114	246
4	State Route 3	Hayfork		8,872	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.0	29	63	135	291
5	State Route 3	Weaverville, North Junction		6,430	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.6	23	51	109	235
6	State Route 3	Rush Creek Road, south		1,340	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	53.8	8	18	38	83
7	State Route 3	Rush Creek Road, north		1,050	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	52.7	7	15	33	70
8	State Route 3	Trinity Center Maintenance Station		660	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	50.7	5	11	24	52
9	State Route 3	Siskiyou County Line		330	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	47.7	3	7	15	32
10	State Route 36	Lower Mad River Road, west		2,245	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	56.0	12	25	54	117
11	State Route 36	Lower Mad River Road, east		1,615	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	54.6	9	20	43	94
12	State Route 36	Forest Glen Maintenance Station		1,545	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	54.4	9	20	42	91
13	State Route 36	Jct. of Route 3, east		2,623	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	56.7	13	28	60	129
14	State Route 299	East Limits Salyer, west		3,140	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	57.5	15	31	68	146
15	State Route 299	East Limits Salyer, east		3,855	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.3	17	36	78	167
16	State Route 299	Burnt Ranch Road, west		3,725	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.2	16	35	76	163
17	State Route 299	Del Loma, east		3,882	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.4	17	36	78	168
18	State Route 299	Weaverville, West City Limits, west		4,881	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	55.0	10	22	46	100
19	State Route 299	Weaverville, Washington Street, east		11,046	35	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.5	17	37	80	172
20	State Route 299	Martin/Nugget Roads, west		8,990	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	62.0	29	63	136	294
21	State Route 299	Martin/Nugget Roads, east		6,790	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.8	24	52	113	244
22	State Route 299	East Junction SR 3, west		6,091	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	60.3	23	49	105	227
23	State Route 299	East Junction SR 3, east		5,491	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.9	21	46	98	212
24	State Route 299	Lewiston Road, east		5,291	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	59.7	21	44	96	206
25	State Route 299	Trinity Dam Road, east		4,090	50	100	100	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	58.6	17	37	81	174

\*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Citation # Citations

- |    |                                                                                                                                      |                                                                                      |
|----|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 1  | Caltrans Technical Noise Supplement. 2009 (November). Table (5-11), Pg 5-60.                                                         | Caltrans Technical Noise Supplement. 2013 (September). Table (4-2), Pg 4-17.         |
| 2  | Caltrans Technical Noise Supplement. 2009 (November). Equation (5-26), Pg 5-60.                                                      | Caltrans Technical Noise Supplement. 2013 (September). Equation (4-5), Pg 4-17.      |
| 3  | Caltrans Technical Noise Supplement. 2009 (November). Equation (2-16), Pg 2-32.                                                      | FHWA 2004 TNM Version 2.5                                                            |
| 4  | Caltrans Technical Noise Supplement. 2009 (November). Equation (5-11), Pg 5-47, 48.                                                  | FHWA 2004 TNM Version 2.5                                                            |
| 5  | Caltrans Technical Noise Supplement. 2009 (November). Equation (2-26), Pg 2-55, 56.                                                  | Caltrans Technical Noise Supplement. 2013 (September). Equation (2-23), Pg 2-51, 52. |
| 6  | Caltrans Technical Noise Supplement. 2009 (November). Equation (2-27), Pg 2-57.                                                      | Caltrans Technical Noise Supplement. 2013 (September). Equation (2-24), Pg 2-53.     |
| 7  | Caltrans Technical Noise Supplement. 2009 (November). Pg 2-53.                                                                       | Caltrans Technical Noise Supplement. 2013 (September). Pg 2-57.                      |
| 8  | Caltrans Technical Noise Supplement. 2009 (November). Equation (5-7), Pg 5-45.                                                       | FHWA 2004 TNM Version 2.5                                                            |
| 9  | Caltrans Technical Noise Supplement. 2009 (November). Equation (5-8), Pg 5-45.                                                       | FHWA 2004 TNM Version 2.5                                                            |
| 10 | Caltrans Technical Noise Supplement. 2009 (November). Equation (5-9), Pg 5-45.                                                       | FHWA 2004 TNM Version 2.5                                                            |
| 11 | Caltrans Technical Noise Supplement. 2009 (November). Equation (5-13), Pg 5-49.                                                      | FHWA 2004 TNM Version 2.5                                                            |
| 12 | Caltrans Technical Noise Supplement. 2009 (November). Equation (5-14), Pg 5-49.                                                      | FHWA 2004 TNM Version 2.5                                                            |
| 13 | Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (16), Pg 67 |                                                                                      |
| 14 | Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (20), Pg 69 |                                                                                      |
| 15 | Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (18), Pg 69 |                                                                                      |

References

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Federal Highway Administration. 2004. Traffic Noise Model Version 2.5. Available: [https://www.fhwa.dot.gov/environment/noise/traffic\\_noise\\_model/tnm\\_v25/](https://www.fhwa.dot.gov/environment/noise/traffic_noise_model/tnm_v25/). Accessed August 17, 2017.