

**Construction Fuel**

On-Site Diesel <sup>1</sup>	MTCO <sub>2</sub> e	Gallons of Fuel <sup>2</sup>	2017 County Fuel	Percent
Demolition	34	3,373		
Site Preparation/Grading	99	9,777		
Building Construction	618	60,849		
Paving	35	3,452		
Architectural Coating	5	479		
<b>Total</b>	<b>791</b>	<b>77,931</b>	<b>44,817,175</b>	<b>0.1739%</b>
Off-Site Diesel <sup>1</sup>				
Demolition	23	2,294		
Site Preparation/Grading	0	0		
Building Construction	213	20,952		
Paving	0	0		
Architectural Coating	0	0		
<b>Total</b>	<b>236</b>	<b>23,247</b>	<b>44,817,175</b>	<b>0.0519%</b>
Off-Site Gasoline <sup>2</sup>				
Demolition	1	123		
Site Preparation/Grading	3	321		
Building Construction	128	14,483		
Paving	2	257		
Architectural Coating	2	195		
<b>Total</b>	<b>135</b>	<b>15,378</b>	<b>111,222,696</b>	<b>0.0138%</b>
		Annual Average		
Total Diesel Fuel		101,177	44,817,175	0.0753%
Total Gasoline Fuel		15,378	111,222,696	0.0046%
<b>Total Construction Fuel</b>	<b>1,162</b>	<b>116,555</b>	<b>38,852</b>	

Construction Phase <sup>3</sup>	Demolition			Site Preparation			Grading			Building Construction			Paving			Architectural Coating		
	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)
2020	34	23	1	17	0	1	82		2	235	97	60						
2021										114	47	28	20	0	1	3	0	1
2022										268	68	40	15	0	1	1	0	0
2023																1		0
2024																		
2025																		
2026																		
2027																		
2028																		
2029																		
2030																		
<b>Total</b>	<b>34</b>	<b>23</b>	<b>1</b>	<b>17</b>	<b>0</b>	<b>1</b>	<b>82</b>	<b>0</b>	<b>2</b>	<b>618</b>	<b>213</b>	<b>128</b>	<b>35</b>	<b>0</b>	<b>2</b>	<b>5</b>	<b>0</b>	<b>2</b>

Notes:

<sup>1</sup> Fuel used for off-road, hauling, and vendor trips assumed to be diesel.

<sup>2</sup> Fuel used for worker trips assumed to be gasoline.

<sup>3</sup> MTCO<sub>2</sub>e rates from CalEEMod (3.0 Construction Details).

<sup>4</sup> For CO<sub>2</sub>e emissions, see Chapter 13 (page 94); Conversion Ratios: Climate Registry, General Reporting Protocol, 2016.

**Operational Fuel**

Vehicle Type	Percent <sup>1</sup>	Annual VMT <sup>2</sup>	MPG <sup>3</sup>	Annual Fuel	Fuel Type	Shasta County Gallons <sup>4</sup>	Percent of County
Passenger Cars	0.85	7,356,258	21.6	340,567	Gas	111,222,696	0.3062%
Light/Medium Trucks	0.05	454,849	17.2	26,445	Diesel	44,817,175	0.0590%
Heavy Trucks/Other	0.10	825,714	6.1	135,363	Diesel	44,817,185	0.3020%
<b>Total</b>	<b>1.00</b>	<b>8,636,812</b>		<b>502,375</b>		<b>156,039,871</b>	<b>0.3610%</b>

Land Use <sup>5</sup>	LDA	LDT1	LDT2	MCY	MDV	LHD1	LHD2	MHD	OBUS	UBUS	SBUS	MH	HHD
Medical Office Building	0.5313	0.0319	0.1809	0.0054	0.1023	0.0287	0.0061	0.0128	0.0013	0.0012	0.0013	0.0012	0.0956
Parking Lot	0.5313	0.0319	0.1809	0.0054	0.1023	0.0287	0.0061	0.0128	0.0013	0.0012	0.0013	0.0012	0.0956

Notes:

- <sup>1</sup> Percent of vehicle trip distribution based on fleet mix from CalEEMod (4.4 Fleet Mix).
- <sup>2</sup> Total annual operational VMT based on mitigated annual VMT from CalEEMod (4.2 Trip Summary Information).
- <sup>3</sup> Average fuel economy derived from Department of Transportation.
- <sup>4</sup> Total annual county fuel per EMFAC 2017 model of projected operational fuel usage.

	Mitigated Project	Shasta County	Percentage
	Annual Energy	Annual Energy <sup>3</sup>	Increase
Electricity (kWh/yr)	1,262,460	816,000,000	0.1547%
Natural Gas (kBTU/yr)	1,696,500	1,573,381,000	0.1078%

Land Use	Electricity <sup>1</sup> (kWh/yr)		Natural Gas <sup>2</sup> (kBTU/yr)	
	Unmitigated	Mitigated	Unmitigated	Mitigated
Medical Office Building	1,185,600	1,185,600	1,696,500	1,696,500
Parking Lot	76,860	76,860	0	0
<b>Total Energy</b>	<b>1,262,460</b>	<b>1,262,460</b>	<b>1,696,500</b>	<b>1,696,500</b>

Notes:

<sup>1</sup> Electricity use per CalEEMod (5.3 Energy by Land Use).

<sup>2</sup> Natural Gas use per CalEEMod (5.2 Natural Gas by Land Use).

<sup>3</sup> County total energy values from California Energy Commission energy reports available through [ecdms.energy.ca.gov](http://ecdms.energy.ca.gov).

**No Project Alternative**

On-Site Diesel <sup>1</sup>	MTCO <sub>2</sub> e	Gallons of Fuel <sup>4</sup>	2017 County Fuel	Percent	
Demolition	34	3,373			
Site Preparation/Grading	43	4,248			
Building Construction	268	26,401			
Paving	20	1,989			
Architectural Coating	3	252			
<b>Total</b>	<b>368</b>	<b>36,263</b>	<b>44,817,175</b>	<b>0.0809%</b>	
<b>Off-Site Diesel<sup>1</sup></b>					
Demolition	24	2,401			
Site Preparation/Grading	0	0			
Building Construction	193	19,014			
Paving	0	0			
Architectural Coating	0	0			
<b>Total</b>	<b>217</b>	<b>21,415</b>	<b>44,817,175</b>	<b>0.0478%</b>	
<b>Off-Site Gasoline<sup>2</sup></b>					
Demolition	1	123			
Site Preparation/Grading	2	197			
Building Construction	120	13,671			
Paving	1	119			
Architectural Coating	1	167			
<b>Total</b>	<b>126</b>	<b>14,278</b>	<b>111,222,696</b>	<b>0.0128%</b>	
		<b>Annual Average</b>			
Total Diesel Fuel		57,679	28,839	44,817,175	0.0643%
Total Gasoline Fuel		14,278	7,139	111,222,696	0.0064%
Total Construction Fuel	711	71,956	35,978		

Construction Phase <sup>3</sup>	Demolition			Site Preparation			Grading			Building Construction			Paving			Architectural Coating		
	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)
2020	34	24	1	17	0	1	26		1	247	178	111						
2021										21	15	9	20	0	1	3	0	1
2022																		
2023																		
2024																		
2025																		
2026																		
2027																		
2028																		
2029																		
2030																		
<b>Total</b>	<b>34</b>	<b>24</b>	<b>1</b>	<b>17</b>	<b>0</b>	<b>1</b>	<b>26</b>	<b>0</b>	<b>1</b>	<b>268</b>	<b>193</b>	<b>120</b>	<b>20</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>1</b>

Notes:

<sup>1</sup> Fuel used for off-road, hauling, and vendor trips assumed to be diesel.

<sup>2</sup> Fuel used for worker trips assumed to be gasoline.

<sup>3</sup> MTCO<sub>2</sub>e rates from CalEEMod (3.0 Construction Details).

<sup>4</sup> For CO<sub>2</sub>e emissions, see Chapter 13 (page 94); Conversion Ratios: Climate Registry, General Reporting Protocol, 2016.

**Reduced Intensity**

On-Site Diesel <sup>1</sup>	MTCO <sub>2</sub> e	Gallons of Fuel <sup>d</sup>	2017 County Fuel	Percent	
Demolition	34	3,373			
Site Preparation/Grading	43	4,248			
Building Construction	268	26,401			
Paving	20	1,989			
Architectural Coating	3	252			
<b>Total</b>	<b>368</b>	<b>36,263</b>	<b>44,817,175</b>	<b>0.0809%</b>	
<b>Off-Site Diesel<sup>1</sup></b>					
Demolition	24	2,401			
Site Preparation/Grading	0	0			
Building Construction	142	14,031			
Paving	0	0			
Architectural Coating	0	0			
<b>Total</b>	<b>167</b>	<b>16,433</b>	<b>44,817,175</b>	<b>0.0367%</b>	
<b>Off-Site Gasoline<sup>2</sup></b>					
Demolition	1	123			
Site Preparation/Grading	2	197			
Building Construction	86	9,806			
Paving	1	119			
Architectural Coating	1	167			
<b>Total</b>	<b>92</b>	<b>10,412</b>	<b>111,222,696</b>	<b>0.0094%</b>	
<b>Annual Average</b>					
Total Diesel Fuel		52,696	26,348	44,817,175	0.0588%
Total Gasoline Fuel		10,412	5,206	111,222,696	0.0047%
Total Construction Fuel	627	63,108	31,554		

Construction Phase <sup>a</sup>	Demolition			Site Preparation			Grading			Building Construction			Paving			Architectural Coating		
	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)
2020	34	24	1	17	0	1	26		1	247	131	80						
2021										21	11	7	20	0	1	3	0	1
2022																		
2023																		
2024																		
2025																		
2026																		
2027																		
2028																		
2029																		
2030																		
<b>Total</b>	<b>34</b>	<b>24</b>	<b>1</b>	<b>17</b>	<b>0</b>	<b>1</b>	<b>26</b>	<b>0</b>	<b>1</b>	<b>268</b>	<b>142</b>	<b>86</b>	<b>20</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>1</b>

**Mercy Alternative**

	MTCO <sub>2</sub> e	Gallons of Fuel <sup>4</sup>	2017 County Fuel	Percent	
On-Site Diesel <sup>1</sup>	34	3,373			
Demolition	43	4,248			
Site Preparation/Grading	270	26,600			
Paving	18	1,790			
Architectural Coating	3	252			
<b>Total</b>	<b>368</b>	<b>36,264</b>	<b>44,817,175</b>	<b>0.0809%</b>	
Off-Site Diesel <sup>1</sup>					
Demolition	24	2,401			
Site Preparation/Grading	0	0			
Building Construction	181	17,785			
Paving	0	0			
Architectural Coating	0	0			
<b>Total</b>	<b>205</b>	<b>20,187</b>	<b>44,817,175</b>	<b>0.0450%</b>	
Off-Site Gasoline <sup>2</sup>					
Demolition	1	123			
Site Preparation/Grading	2	197			
Building Construction	112	12,681			
Paving	1	119			
Architectural Coating	2	214			
<b>Total</b>	<b>117</b>	<b>13,335</b>	<b>111,222,696</b>	<b>0.0120%</b>	
		Annual Average			
Total Diesel Fuel		56,451	28,225	44,817,175	0.0630%
Total Gasoline Fuel		13,335	6,667	111,222,696	0.0060%
Total Construction Fuel	690	69,785	34,893		

Construction Phase <sup>3</sup>	Demolition			Site Preparation			Grading			Building Construction			Paving			Architectural Coating		
	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)	On-Site Diesel (Off-Road)	Off-Site Diesel (Hauling/Vendor)	Off-Site Gas (Worker)
2020	34	24	1	17	0	1	26		1	268	181	112	18	0	1	3	0	2
2021										2	0	0						
2022																		
2023																		
2024																		
2025																		
2026																		
2027																		
2028																		
2029																		
2030																		
<b>Total</b>	<b>34</b>	<b>24</b>	<b>1</b>	<b>17</b>	<b>0</b>	<b>1</b>	<b>26</b>	<b>0</b>	<b>1</b>	<b>270</b>	<b>181</b>	<b>112</b>	<b>18</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>2</b>

**No Project Alternative**

Vehicle Type	Percent <sup>1</sup>	Annual VMT <sup>2</sup>	MPG <sup>3</sup>	Annual Fuel	Fuel Type	Shasta County Gallons <sup>4</sup>	Percent of County	
Passenger Cars	0.85	5,928,998	21.6	274,491	Gas	111,222,696	0.2468%	0.2916%
Light/Medium Trucks	0.06	423,856	17.2	24,643	Diesel	44,817,175	0.0550%	
Heavy Trucks/Other	0.09	646,977	6.1	106,062	Diesel	44,817,185	0.2367%	
Total	1.00	6,999,874		405,195		156,039,871		

Land Use <sup>5</sup>	LDA	LDT1	LDT2	MCY	MDV	LHD1	LHD2	MHD	OBUS	UBUS	SBUS	MH	HHD
High Turnover Sit Down Restaurant	0.5143	0.0333	0.1829	0.0059	0.1106	0.0350	0.0070	0.0131	0.0014	0.0013	0.0013	0.0015	0.0924
Office Park	0.5143	0.0333	0.1829	0.0059	0.1106	0.0350	0.0070	0.0131	0.0014	0.0013	0.0013	0.0015	0.0924
Parking Lot	0.5143	0.0333	0.1829	0.0059	0.1106	0.0350	0.0070	0.0131	0.0014	0.0013	0.0013	0.0015	0.0924
Strip Mall	0.5143	0.0333	0.1829	0.0059	0.1106	0.0350	0.0070	0.0131	0.0014	0.0013	0.0013	0.0015	0.0924

Notes:

- <sup>1</sup> Percent of vehicle trip distribution based on fleet mix from CalEEMod (4.4 Fleet Mix).
- <sup>2</sup> Total annual operational VMT based on mitigated annual VMT from CalEEMod (4.2 Trip Summary Information).
- <sup>3</sup> Average fuel economy derived from Department of Transportation.
- <sup>4</sup> Total annual county fuel per EMFAC 2017 model of projected operational fuel usage.

**Reduced Intensity Alternative**

Vehicle Type	Percent <sup>1</sup>	Annual VMT <sup>2</sup>	MPG <sup>3</sup>	Annual Fuel	Fuel Type	Shasta County Gallons <sup>4</sup>	Percent of County	
Passenger Cars	0.85	3,763,831	21.6	174,251	Gas	111,222,696	0.1567%	0.1851%
Light/Medium Trucks	0.06	269,071	17.2	15,644	Diesel	44,817,175	0.0349%	
Heavy Trucks/Other	0.09	410,712	6.1	67,330	Diesel	44,817,185	0.1502%	
Total	1.00	4,443,641		257,225		156,039,871		

Land Use <sup>5</sup>	LDA	LDT1	LDT2	MCY	MDV	LHD1	LHD2	MHD	OBUS	UBUS	SBUS	MH	HHD
High Turnover Sit Down Restaurant	0.5143	0.0333	0.1829	0.0059	0.1106	0.0350	0.0070	0.0131	0.0014	0.0013	0.0013	0.0015	0.0924
Office Park	0.5143	0.0333	0.1829	0.0059	0.1106	0.0350	0.0070	0.0131	0.0014	0.0013	0.0013	0.0015	0.0924
Parking Lot	0.5143	0.0333	0.1829	0.0059	0.1106	0.0350	0.0070	0.0131	0.0014	0.0013	0.0013	0.0015	0.0924
Strip Mall	0.5143	0.0333	0.1829	0.0059	0.1106	0.0350	0.0070	0.0131	0.0014	0.0013	0.0013	0.0015	0.0924

**Mercy Alternative**

Vehicle Type	Percent <sup>1</sup>	Annual VMT <sup>2</sup>	MPG <sup>3</sup>	Annual Fuel	Fuel Type	Shasta County Gallons <sup>4</sup>	Percent of County	
Passenger Cars	0.85	8,677,354	21.6	401,729	Gas	111,222,696	0.3612%	0.4268%
Light/Medium Trucks	0.06	620,333	17.2	36,066	Diesel	44,817,175	0.0805%	
Heavy Trucks/Other	0.09	946,880	6.1	155,226	Diesel	44,817,185	0.3464%	
Total	1.00	10,244,628		593,021		156,039,871		

Land Use <sup>5</sup>	LDA	LDT1	LDT2	MCY	MDV	LHD1	LHD2	MHD	OBUS	UBUS	SBUS	MH	HHD
High Turnover Sit Down Restaurant	0.5143	0.0333	0.1829	0.0059	0.1106	0.0350	0.0070	0.0131	0.0014	0.0013	0.0013	0.0015	0.0924
Office Park	0.5143	0.0333	0.1829	0.0059	0.1106	0.0350	0.0070	0.0131	0.0014	0.0013	0.0013	0.0015	0.0924
Parking Lot	0.5143	0.0333	0.1829	0.0059	0.1106	0.0350	0.0070	0.0131	0.0014	0.0013	0.0013	0.0015	0.0924
Strip Mall	0.5143	0.0333	0.1829	0.0059	0.1106	0.0350	0.0070	0.0131	0.0014	0.0013	0.0013	0.0015	0.0924

**No Project Alternative**

	Mitigated Project Annual Energy	Shasta County Annual Energy <sup>3</sup>	Percentage Increase
Electricity (kWh/yr)	1,741,166	816,000,000	0.2134%
Natural Gas (kBTU/yr)	4,752,350	1,573,381,000	0.3020%

Land Use	Electricity <sup>1</sup> (kWh/yr)		Natural Gas <sup>2</sup> (kBTU/yr)	
	Unmitigated	Mitigated	Unmitigated	Mitigated
High Turnover Sit Down Restaurant	312,876	312,876	2,275,400	2,275,400
Office Park	1,111,200	1,111,200	2,170,930	2,170,930
Parking Lot	84,000	84,000		
Strip Mall	233,090	233,090	306,020	306,020
<b>Total Energy</b>	<b>1,741,166</b>	<b>1,741,166</b>	<b>4,752,350</b>	<b>4,752,350</b>

Notes:

<sup>1</sup> Electricity use per CalEEMod (5.3 Energy by Land Use).

<sup>2</sup> Natural Gas use per CalEEMod (5.2 Natural Gas by Land Use).

<sup>3</sup> County total energy values from California Energy Commission energy reports available through [ecdms.energy.ca.gov](http://ecdms.energy.ca.gov).

**Reduced Intensity Alternative**

	Mitigated Project Annual Energy	Shasta County Annual Energy <sup>3</sup>	Percentage Increase
Electricity (kWh/yr)	1,013,739	816,000,000	0.1242%
Natural Gas (kBTU/yr)	1,220,300	1,573,381,000	0.0776%

Land Use	Electricity <sup>1</sup> (kWh/yr)		Natural Gas <sup>2</sup> (kBTU/yr)	
	Unmitigated	Mitigated	Unmitigated	Mitigated
Medical Office Building	999,552	956,479	1,430,280	1,220,300
Parking Lot	57,260	57,260		
<b>Total Energy</b>	<b>1,056,812</b>	<b>1,013,739</b>	<b>1,430,280</b>	<b>1,220,300</b>

**Mercy Alternative**

	Mitigated Project Annual Energy	Shasta County Annual Energy <sup>3</sup>	Percentage Increase
Electricity (kWh/yr)	1,262,460	816,000,000	0.1547%
Natural Gas (kBTU/yr)	1,696,500	1,573,381,000	0.1078%

Land Use	Electricity <sup>1</sup> (kWh/yr)		Natural Gas <sup>2</sup> (kBTU/yr)	
	Unmitigated	Mitigated	Unmitigated	Mitigated
Medical Office Building	1,185,600	1,185,600	1,696,500	1,696,500
Parking Lot	76,860	76,860		
<b>Total Energy</b>	<b>1,262,460</b>	<b>1,262,460</b>	<b>1,696,500</b>	<b>1,696,500</b>