

# Marina DVSP

Last Updated: April 23, 2019

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors [1]:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529
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*Values above are expressed in gallons per horsepower-hour/BSFC.*

CONSTRUCTION EQUIPMENT						
Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Concrete/Industrial Saw	1	8	81	0.73	Demo	8,339.35
Excavators	3	8	158	0.38	Demo	22,850.31
Dozers	2	8	247	0.40	Demo	25,067.85
Dozers	3	8	247	0.40	Site Prep	22,561.06
Tractors/Loaders/Backhoes	4	8	97	0.37	Site Prep	12,148.12
Excavators	2	8	158	0.38	Grading	23,611.99
Graders	1	8	187	0.41	Grading	15,076.04
Dozers	1	8	247	0.40	Grading	19,427.58
Scrapers	2	8	367	0.48	Grading	69,278.61
Tractors/Loaders/Backhoes	2	8	97	0.37	Grading	15,691.32
Cranes	1	7	231	0.29	Building Construction	115,260.33
Forklifts	3	8	89	0.20	Building Construction	116,733.95
Generator Sets	1	8	84	0.74	Building Construction	135,883.57
Tractors/Loaders/Backhoes	3	7	97	0.37	Building Construction	205,948.53
Welders	1	8	46	0.45	Construction	45,250.80
Air Compressors	1	6	78	0.48	Arch Coating	4,356.26
Pavers	2	8	130	0.42	Paving	15,238.61
Paving Equipment	2	8	132	0.36	Paving	13,262.62
Rollers	2	8	80	0.38	Paving	9,432.36
<b>Total Fuel Used</b>						<b>895,419.27</b> (Gallons)

Construction Phase	Days of Operation
Demolition	300
Site Preparation	180
Grading	465
Building Construction	4650
Paving	330
Architectural Coating	330

**WORKER TRIPS**

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition	24.0	15	10.8	2,025.00
Site Preparation	24.0	18	10.8	1,458.00
Grading	24.0	20	10.8	4,185.00
Building Construction	24.0	2,534	10.8	5,302,395.00
Paving	24.0	15	10.8	2,227.50
Architectural Coating	24.0	507	10.8	75,289.50
<b>Total</b>				<b>5,387,580.00</b>

**VENDOR TRIPS**

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition	7.4	-	7.3	-
Site Preparation	7.4	-	7.3	-
Grading	7.4	-	7.3	-
Building Construction	7.4	537	7.3	2,463,306.08
Paving	7.4	-	7.3	-
Architectural Coating	7.4	-	7.3	-
<b>Total</b>				<b>2,463,306.08</b>

**HAULING TRIPS**

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Hauling Trips	7.4	7,523	20.0	20,332.43
<b>Total</b>				<b>20,332.43</b>

<b>Total Gasoline Consumption (gallons)</b>	<b>5,387,580.00</b>
<b>Total Diesel Consumption (gallons)</b>	<b>3,379,057.78</b>

**Sources:**

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b*. July 2018. Available at: <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf>.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2018. *National Transportation Statistics 2018*. Available at: <https://www.bts.gov/sites/bts.dot.gov/files/docs/browse-statistical-products-and-data/national-transportation-statistics/223001/ntsentire2018q4.pdf>.

# Marina DVSP

Last Updated: June 12, 2019

**Populate one of the following tables (Leave the other blank):**

<b>Annual VMT</b>	<b>OR</b>	<b>Daily Vehicle Trips</b>
Annual VMT: 70,791,279		Daily Vehicle Trips: Average Trip Distance:

Fleet Class	Fleet Mix	Fuel Economy (MPG)	
Light Duty Auto (LDA)	0.574472	Passenger Vehicles	24.0
Light Duty Truck 1 (LDT1)	0.023499	Light-Med Duty Trucks	17.4
Light Duty Truck 2 (LDT2)	0.208360	Heavy Trucks/Other	7.4
Medium Duty Vehicle (MDV)	0.100658	Motorcycles	43.9
Light Heavy Duty 1 (LHD1)	0.009582		
Light Heavy Duty 2 (LHD2)	0.003700		
Medium Heavy Duty (MHD)	0.205560		
Heavy Heavy Duty (HHD)	0.046714		
Other Bus (OBUS)	0.003193		
Urban Bus (UBUS)	0.001632		
School Bus (SBUS)	0.001047		
Motorhome (MH)	0.000482		
Motorcycle (MCY)	0.006105		

### Fleet Mix

Vehicle Type	Percent	Fuel Type	Annual VMT: VMT	Vehicle Trips: VMT	Fuel Consumption (Gallons)
Passenger Vehicles	57.45%	<i>Gasoline</i>	40,667,608	0.00	1,694,483.65
Light-Medium Duty Trucks	33.25%	<i>Gasoline</i>	23,539,304	0.00	1,352,833.55
Heavy Trucks/Other	27.19%	<i>Diesel</i>	19,248,857	0.00	2,601,196.85
Motorcycle	0.61%	<i>Gasoline</i>	432,181	0.00	9,844.66

<b>Total Gasoline Consumption (gallons)</b>	<b>3,057,161.86</b>
<b>Total Diesel Consumption (gallons)</b>	<b>2,601,196.85</b>