

# AMKO Recycling Facility Project

Last Updated: 6/3/2023

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		Load Factor	Construction Phase	Fuel Used (gallons)
		Hours per Day	Horsepower			
Graders	1	8	148	0.41	Site Preparation Phase	77
Tractors/Loaders/Backhoes	1	8	84	0.37	Site Preparation Phase	44
Plate Compactors	1	8	8	0.43	Site Preparation Phase	5
Rubber Tired Dozers	1	8	367	0.4	Site Preparation Phase	186
Excavators	1	8	36	0.38	Site Preparation Phase	19
Paving Equipment	1	8	89	0.36	Site Preparation Phase	45
Scrapers	1	8	423	0.48	Site Preparation Phase	258
Graders	1	8	148	0.41	Grading Phase	154
Rubber Tired Dozers	1	6	367	0.4	Grading Phase	279
Tractors/Loaders/Backhoes	1	7	84	0.37	Grading Phase	77
Excavators	1	8	36	0.38	Grading Phase	39
Paving Equipment	1	8	89	0.36	Grading Phase	90
Rollers	1	8	36	0.38	Grading Phase	39
Skid Steer Loaders	1	8	71	0.37	Grading Phase	74
Scrapers	1	8	423	0.48	Grading Phase	515
Cranes	1	4	82	0.29	Building Construction Phase	1,548
Forklifts	1	6	82	0.2	Building Construction Phase	1,602
Cement and Mortar Mixers	1	8	10	0.56	Building Construction Phase	729
Concrete/Industrial Saws	1	8	33	0.73	Building Construction Phase	3,137
Plate Compactors	1	8	8	0.43	Building Construction Phase	448
Air Compressors	1	8	37	0.48	Building Construction Phase	2,313
Dumpers/Tenders	1	8	16	0.38	Building Construction Phase	792
Graders	1	8	148	0.41	Building Construction Phase	7,108
Paving Equipment	1	8	89	0.36	Building Construction Phase	4,172
Signal Boards	1	8	6	0.82	Building Construction Phase	641
Sweepers/Scrubbers	1	8	36	0.46	Building Construction Phase	2,156
Trenchers	1	8	40	0.5	Building Construction Phase	2,604
Welders	1	8	46	0.45	Building Construction Phase	2,696
Tractors/Loaders/Backhoes	2	8	84	0.37	Building Construction Phase	8,095
Air Compressors	1	6	37	0.48	Architectural Coating Phase	88
Pressure Washers	1	8	11	0.3	Site Preparation Phase	22
Paving Equipment	1	8	89	0.36	Site Preparation Phase	211
Pumps	1	8	11	0.74	Site Preparation Phase	54
Signal Boards	1	8	6	0.82	Paving Phase	32
Graders	1	8	148	0.41	Paving Phase	359
<b>Total Fuel Used</b>						<b>40,707</b>
						<b>(Gallons)</b>

Construction Phase	Days of Operation
Site Preparation Phase	3
Grading Phase	6
Building Construction Phase	277
Paving Phase	14
Architectural Coating Phase	14
<b>Total Days</b>	<b>314</b>

**WORKER TRIPS**

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Site Preparation Phase	24.1	20	13.4	33.36
Grading Phase	24.1	20	13.4	66.72
Building Construction Phase	24.1	10	13.4	1466.24
Paving Phase	24.1	13	13.4	97.30
Architectural Coating Phase	24.1	2	13.4	14.79
<b>Total Fuel Used</b>				<b>1,678.41</b>

**HAULING AND VENDOR TRIPS**

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
<b>HAULING TRIPS</b>				
Site Preparation Phase	7.5	20	20.0	52.00
Grading Phase	7.5	0	20.0	0.00
Building Construction Phase	7.5	0	20.0	0.00
Paving Phase	7.5	0	20.0	0.00
Architectural Coating Phase	7.5	0	20.0	0.00
<b>Total Fuel Used</b>				<b>52.00</b>
<b>VENDOR TRIPS</b>				
Site Preparation Phase	7.5	0	10.2	0.00
Grading Phase	7.5	0	10.2	0.00
Building Construction Phase	7.5	4	8.3	1141.40
Paving Phase	7.5	0	10.2	0.00
Architectural Coating Phase	7.5	0	10.2	0.00
<b>Total Fuel Used</b>				<b>1,141.40</b>

<b>Total Gasoline Consumption (gallons)</b>	<b>1,678</b>
<b>Total Diesel Consumption (gallons)</b>	<b>41,900</b>

**Sources:**

[1] United States Environmental Protection Agency. 2021. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES3.0.2*. September. Available at: <https://www.epa.gov/system/files/documents/2021-08/420r21021.pdf>.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2021. *National Transportation Statistics*. Available at: <https://www.bts.gov/topics/national-transportation-statistics>.

# AMKO Recycling Facility Project

Last Updated: 6/2/2023

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

Annual VMT		OR	Daily Vehicle Trips	
Annual VMT:	478,927		Daily Vehicle Trips:	
		Average Trip Distance:		

Fleet Class	Fleet Mix	Fuel Economy (MPG) [1]	
Light Duty Auto (LDA)	0.641791	Passenger Vehicles	24.1
Light Duty Truck 1 (LDT1)	0.000000	Light-Med Duty Trucks	17.6
Light Duty Truck 2 (LDT2)	0.000000	Heavy Trucks/Other	7.5
Medium Duty Vehicle (MDV)	0.000000	Motorcycles	44
Light Heavy Duty 1 (LHD1)	0.000000		
Light Heavy Duty 2 (LHD2)	0.000000		
Medium Heavy Duty (MHD)	0.104478		
Heavy Heavy Duty (HHD)	0.253731		
Other Bus (OBUS)	0.000000		
Urban Bus (UBUS)	0.000000		
Motorcycle (MCY)	0.000000		
School Bus (SBUS)	0.000000		
Motorhome (MH)	0.000000		

## Fleet Mix

Vehicle Type	Percent	Fuel Type	Annual VMT:		Fuel Consumption (Gallons)
			VMT	Vehicle Trips: VMT	
Passenger Vehicles	64.18%	Gasoline	307,371	0.00	12,754
Light-Medium Duty Trucks	0.00%	Gasoline	0	0.00	0
Heavy Trucks/Other	35.82%	Diesel	171,556	0.00	22,874
Motorcycle	0.00%	Gasoline	0	0.00	0

<b>Total Gasoline Consumption (gallons)</b>	<b>12,754</b>
<b>Total Diesel Consumption (gallons)</b>	<b>22,874</b>

### Sources:

[1] United States Department of Transportation, Bureau of Transportation Statistics. 2021. National Transportation Statistics. Available at: <https://www.bts.gov/topics/national-transportation-statistics>.