

1953 Concourse Drive Project

Last Updated: November 2, 2020

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		Load Factor	Construction Phase	Fuel Used (gallons)
		Day	Horsepower			
Excavators	3	8	158	0.38	Demolition Phase	1,523.35
Concrete/Industrial Saws	1	8	81	0.73	Demolition Phase	555.96
Rubber Tired Dozers	2	8	247	0.40	Demolition Phase	1,671.19
Tractors/Loaders/Backhoes	4	8	97	0.37	Site Preparation Phase	674.90
Rubber Tired Dozers	3	8	247	0.40	Site Preparation Phase	1,253.39
Graders	1	8	187	0.41	Grading Phase	648.43
Excavators	1	8	158	0.38	Grading Phase	507.78
Rubber Tired Dozers	1	8	247	0.40	Grading Phase	835.59
Tractors/Loaders/Backhoes	3	8	97	0.37	Grading Phase	1,012.34
Cranes	1	7	231	0.29	Building Construction Phase	5,701.05
Forklifts	3	8	89	0.20	Building Construction Phase	5,773.94
Generator Sets	1	8	84	0.74	Building Construction Phase	6,721.12
Tractors/Loaders/Backhoes	3	7	97	0.37	Building Construction Phase	10,186.70
Welders	1	8	46	0.45	Building Construction Phase	2,238.21
Air Compressors	1	6	78	0.48	Architectural Coating Phase	1,518.09
Pavers	2	8	130	0.42	Paving Phase	923.55
Paving Equipment	2	8	132	0.36	Paving Phase	803.80
Rollers	2	8	80	0.38	Paving Phase	571.66
Total Fuel Used						43,121.06
						(Gallons)

Construction Phase	Days of Operation
Demolition Phase	20
Site Preparation Phase	10
Grading Phase	20
Building Construction Phase	230
Paving Phase	20
Architectural Coating Phase	115
Total Days	415

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition Phase	24.4	15	10.8	132.79
Site Preparation Phase	24.4	18	10.8	79.67
Grading Phase	24.4	15	10.8	132.79
Building Construction Phase	24.4	63	10.8	6,413.61
Paving Phase	24.4	15	10.8	132.79
Architectural Coating Phase	24.4	13	10.8	661.72
Total				7,553.36

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Demolition Phase	7.5	501	20.0	1,336.00
Site Preparation Phase	7.5	0	20.0	-
Grading Phase	7.5	0	20.0	-
Building Construction Phase	7.5	0	20.0	-
Paving Phase	7.5	0	20.0	-
Architectural Coating Phase	7.5	0	20.0	-
Total				1,336.00
VENDOR TRIPS				
Demolition Phase	7.5	0	7.3	-
Site Preparation Phase	7.5	0	7.3	-
Grading Phase	7.5	0	7.3	-
Building Construction Phase	7.5	25	7.3	5,596.67
Paving Phase	7.5	0	7.3	-
Architectural Coating Phase	7.5	0	7.3	-
Total				5,596.67

Total Gasoline Consumption (gallons)	7,553.36
Total Diesel Consumption (gallons)	50,053.73

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. 2019. *National Transportation Statistics 2019* . Available at: <https://www.bts.gov/topics/national-transportation-statistics>.

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

Annual VMT	OR	Daily Vehicle Trips
Annual VMT: 646,037		Daily Vehicle Trips: Average Trip Distance:

Fleet Class	Fleet Mix	Fuel Economy (MPG) [1]	
Light Duty Auto (LDA)	0.585795	Passenger Vehicles	24.4
Light Duty Truck 1 (LDT1)	0.036515	Light-Med Duty Trucks	17.9
Light Duty Truck 2 (LDT2)	0.193581	Heavy Trucks/Other	7.5
Medium Duty Vehicle (MDV)	0.106455	Motorcycles	44.0
Light Heavy Duty 1 (LHD1)	0.012789		
Light Heavy Duty 2 (LHD2)	0.005274		
Medium Heavy Duty (MHD)	0.019465		
Heavy Heavy Duty (HHD)	0.028415		
Other Bus (OBUS)	0.002699		
Urban Bus (UBUS)	0.001789		
Motorcycle (MCY)	0.005626		
School Bus (SBUS)	0.000921		
Motorhome (MH)	0.000676		

Fleet Mix					
Vehicle Type	Percent	Fuel Type	Annual VMT: VMT	Vehicle Trips: VMT	Fuel Consumption (Gallons)
Passenger Vehicles	58.58%	Gasoline	378,445	0.00	15,510.05
Light-Medium Duty Trucks	33.66%	Gasoline	217,424	0.00	12,146.61
Heavy Trucks/Other	7.20%	Diesel	46,533	0.00	6,204.37
Motorcycle	0.56%	Gasoline	3,635	0.00	82.60

Total Gasoline Consumption (gallons)	27,739.27
Total Diesel Consumption (gallons)	6,204.37

Sources:

[1] United States Department of Transportation, Bureau of Transportation Statistics. 2019. National Transportation Statistics 2019. Available at: <https://www.bts.gov/topics/national-transportation-statistics>.