

Energy Use Summary

Construction Phase (gallons/construction period)		Gasoline	Diesel		
Construction Vehicles		11,391	32,956		
Worker Trips		22,241	89		
Vendor Trips		5,785	82		
Haul Trucks		2	1,760		
Total		39,420	34,886		

Operations Phase (gallons/year)		Gasoline	Diesel	Natural Gas (kBTU/yr)	Electricity (kWh/yr)
Hospital		193,420	20,174	3,814,360	1,008,070
	0	0	0	612,816	573,521
	0	0	0	0	231,636
	0	0	0	0	0
	0	0	0	0	0
All Land Uses		193,420	20,174	4,427,176	1,813,227

Operations Onroad Energy Use

Year 2022							
Vehicle Types	MPG by Fuel Type			Population by Fuel Type			
	GAS	DSL	ELEC	GAS	DSL	ELEC	Total
LDA	30.8	48.7		6,542,832	58,938	127,533	6,601,770
LDT1	26.5	22.6		736,906	387	5,339	737,293
LDT2	24.7	35.7		2,246,303	14,235	22,590	2,260,537
LHDT1	10.5	21.6		175,903	119,381		295,284
LHDT2	9.2	19.5		30,010	47,336		77,346
MCY	36.4			295,960			295,960
MDV	20.0	27.4		1,579,640	33,349	11,658	1,612,989
MH	5.2	10.6		35,098	12,759		47,857
MHDT	5.1	10.7		25,445	123,310		148,755
HHDT	4.2	6.7		78	108,362		108,440
OBUS	5.0	8.5		5,959	4,274		10,234
SBUS	9.1	7.6		2,631	6,631		9,262
UBUS	4.9	6.0		952	14	17	966

Trips/Day Land Use	Trips/day Weekday	Trips/day Saturday	Trips/day Sunday	Total Weekly	VMT/day Weekday	VMT/day Saturday	VMT/day Sunday	Trip Length
Hospital	2,579.00	943.00	478.00	14,316	19,310	7,060	3,579	7.49

Total 2,579 943 478

Fleet Mix Land Use	LDA	LDT1	LDT2	MDV	LHDT1	LHDT2	MHDT	HHDT	OBUS	UBUS	MCY	SBUS	MH	Total
Hospital	0.770213	0.060017	0.040011	0.060017	0.020006	0.020006	0.010003	0.010003	0.001637	0.001633	0.004831	0.000583	0.001041	100.00%
														0.00%
														0.00%
														0.00%
														0.00%

Vehicle Trips	LDA	LDT1	LDT2	MDV	LHDT1	LHDT2	MHDT	HHDT	Obus	Ubus	MCY	Sbus	MH	Total	Daily VMT
Weekday Trips	1986	155	103	155	52	52	26	26	4	4	12	2	3	2,579	19,309.66
Hospital	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Total	1986	155	103	155	52	52	26	26	4	4	12	2	3	2,579	

Saturday Trips	LDA	LDT1	LDT2	MDV	LHDT1	LHDT2	MHDT	HHDT	Obus	Ubus	MCY	Sbus	MH	Total	Daily VMT
Hospital	726	57	38	57	19	19	9	9	2	2	5	1	1	943	7,060.49
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Total	726	57	38	57	19	19	9	9	2	2	5	1	1	943	

Sunday Trips	LDA	LDT1	LDT2	MDV	LHDT1	LHDT2	MHDT	HHDT	Obus	Ubus	MCY	Sbus	MH	Total	Daily VMT
Hospital	368	29	19	29	10	10	5	5	1	1	2	0	0	478	3,578.91
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Total	368	29	19	29	10	10	5	5	1	1	2	0	0	478	

Gallons of Fuel

Gasoline	LDA	LDT1	LDT2	MDV	LHDT1	LHDT2	MHDT	HHDT	Obus	Ubus	MCY	Sbus	MH	Total
Hospital	137,942	12,632	8,986	16,376	6,308	4,719	1,878	10	1,053	1,849	740	101	826	193,420
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	137,942	12,632	8,986	16,376	6,308	4,719	1,878	10	1,053	1,849	740	101	826	193,420
														193,420
														Total Gallons

Diesel	LDA	LDT1	LDT2	MDV	OBUS	LHDT2	MHDT	HHDT	Obus	Ubus	MCY	Sbus	MH	Total
Hospital	787	8	39	253	2,091	3,503	4,309	8,259	450	22	0	306	146	20,174
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	787	8	39	253	2,091	3,503	4,309	8,259	450	22	0	306	146	20,174
														20,174
														Total Gallons

213,594 Total Gallons

26 Average MPC

Utilities

	Natural Gas Use	Electricity Use
Land Use	kBTU/yr	kWh/yr
Hospital	3,814,360	1,008,070
Medical Office Building	612,816	573,521
Unenclosed Parking with Elevator	-	231,636
Total	4,427,176	1,813,227

Offroad Construction Equipment Energy Use

PhaseName	OffRoadEquipmentType	OffRoadEquipmentUnitA	UsageHours	HorsePower	Load Factor	Horsepower Category	Num Days	Year	Fuel Consumption Rate		Total Fuel Consumption (gal/construction period)
		mount							(gal/hour)	Fuel Type	
Demolition	Concrete/Industrial Saws	0	8	81	0.73	100	36	2021	4.7	Gasoline	0
Demolition	Excavators	0	8	158	0.38	175	36	2021	2.9	Diesel	0
Demolition	Rubber Tired Dozers	0	8	247	0.4	300	36	2021	4.5	Diesel	0
Demolition	Tractors/Loaders/Backhoes	1	8	97	0.37	100	36	2021	1.6	Diesel	169
Site Preparation MOB-PS	Rubber Tired Dozers	0	8	247	0.4	300	7	2021	4.5	Diesel	0
Site Preparation MOB-PS	Tractors/Loaders/Backhoes	1	8	97	0.37	100	7	2021	1.6	Diesel	33
Grading-Excavation MOB-PS	Excavators	1	8	158	0.38	175	26	2021	2.9	Diesel	228
Grading-Excavation MOB-PS	Graders	1	8	187	0.41	175	26	2021	3.1	Diesel	268
Grading-Excavation MOB-PS	Rubber Tired Dozers	0	8	247	0.4	300	26	2021	4.5	Diesel	0
Grading-Excavation MOB-PS	Tractors/Loaders/Backhoes	0	8	97	0.37	100	26	2021	1.6	Diesel	0
Demolition ED-ICU	Concrete/Industrial Saws	0	8	81	0.73	100	21	2021	4.7	Gasoline	0
Demolition ED-ICU	Excavators	1	8	158	0.38	175	21	2021	2.9	Diesel	184
Demolition ED-ICU	Rubber Tired Dozers	1	8	247	0.4	300	21	2021	4.5	Diesel	300
Demolition ED-ICU	Rubber Tired Loaders	1	8	203	0.36	300	21	2021	3.9	Diesel	233
Demolition ED-ICU	Skid Steer Loaders	1	8	65	0.37	50	21	2021	0.9	Diesel	58
Demolition ED-ICU	Tractors/Loaders/Backhoes	1	8	97	0.37	100	21	2021	1.6	Diesel	99
Building Construction MOB-PS	Cranes	2	7	231	0.29	300	340	2021	3.3	Diesel	4,540
Building Construction MOB-PS	Forklifts	1	8	89	0.2	100	340	2021	2.0	Diesel	1,089
Building Construction MOB-PS	Generator Sets	0	8	84	0.74	100	340	2021	5.2	Gasoline	0
Building Construction MOB-PS	Pumps	1	8	84	0.74	100	340	2021	1.3	Diesel	2,699
Building Construction MOB-PS	Tractors/Loaders/Backhoes	1	7	97	0.37	100	340	2021	1.6	Diesel	1,399
Building Construction MOB-PS	Welders	0	8	46	0.45	50	340	2021	2.4	Gasoline	0
Site Preparation ED-ICU	Excavators	1	8	158	0.38	175	26	2021	2.9	Diesel	228
Site Preparation ED-ICU	Graders	2	8	187	0.41	175	26	2021	3.1	Diesel	537
Site Preparation ED-ICU	Plate Compactors	1	8	8	0.43	25	26	2021	0.3	Gasoline	28
Site Preparation ED-ICU	Rubber Tired Dozers	1	8	247	0.4	300	26	2021	4.5	Diesel	372
Site Preparation ED-ICU	Rubber Tired Loaders	1	8	203	0.36	300	26	2021	3.9	Diesel	289
Site Preparation ED-ICU	Skid Steer Loaders	1	8	65	0.37	50	26	2021	0.9	Diesel	71
Site Preparation ED-ICU	Tractors/Loaders/Backhoes	1	8	97	0.37	100	26	2021	1.6	Diesel	122
Grading/Excavation ED-ICU	Excavators	1	8	158	0.38	175	38	2021	2.9	Diesel	333
Grading/Excavation ED-ICU	Graders	2	8	187	0.41	175	38	2021	3.1	Diesel	785
Grading/Excavation ED-ICU	Plate Compactors	1	8	8	0.43	25	38	2021	0.3	Gasoline	41
Grading/Excavation ED-ICU	Rubber Tired Dozers	1	8	247	0.4	300	38	2021	4.5	Diesel	543
Grading/Excavation ED-ICU	Rubber Tired Loaders	1	8	203	0.36	300	38	2021	3.9	Diesel	422
Grading/Excavation ED-ICU	Scrapers	2	8	367	0.48	300	38	2021	5.6	Diesel	1,621
Grading/Excavation ED-ICU	Skid Steer Loaders	1	8	65	0.37	50	38	2021	0.9	Diesel	104
Grading/Excavation ED-ICU	Tractors/Loaders/Backhoes	2	8	97	0.37	100	38	2021	1.6	Diesel	357
Building Construction ED-ICU	Aerial Lifts	2	8	63	0.31	75	432	2021	1.2	Diesel	2,468
Building Construction ED-ICU	Bore/Drill Rigs	1	8	221	0.5	100	432	2021	2.2	Diesel	3,733
Building Construction ED-ICU	Cranes	1	7	231	0.29	300	432	2021	3.3	Diesel	2,884
Building Construction ED-ICU	Forklifts	1	8	89	0.2	100	432	2021	2.0	Diesel	1,384
Building Construction ED-ICU	Generator Sets	0	8	84	0.74	100	432	2021	5.2	Gasoline	0
Building Construction ED-ICU	Tractors/Loaders/Backhoes	1	7	97	0.37	100	432	2021	1.6	Diesel	1,778
Building Construction ED-ICU	Welders	3	8	46	0.45	50	432	2021	2.4	Gasoline	11,239
Architectural Coating ED-ICU	Air Compressors	1	6	78	0.48	100	50	2021	1.3	Diesel	191
Paving MOB-PS	Pavers	2	8	130	0.42	100	26	2021	1.7	Diesel	303
Paving MOB-PS	Paving Equipment	2	8	132	0.36	100	26	2021	1.6	Diesel	246
Paving MOB-PS	Rollers	2	8	80	0.38	100	26	2021	1.7	Diesel	268
Architectural Coating MOB-PS	Air Compressors	1	6	78	0.48	100	26	2021	1.3	Diesel	99
Paving ED-ICU	Graders	1	8	187	0.41	175	78	2021	3.1	Diesel	805
Paving ED-ICU	Pavers	2	8	130	0.42	100	78	2021	1.7	Diesel	909
Paving ED-ICU	Paving Equipment	0	8	132	0.36	100	78	2021	1.6	Diesel	0
Paving ED-ICU	Plate Compactors	1	8	8	0.43	25	78	2021	0.3	Gasoline	84
Paving ED-ICU	Rollers	2	8	80	0.38	100	78	2021	1.7	Diesel	803
									Total	Gasoline	11,391
									Total	Diesel	32,956

Onroad Construction Energy Use

Year 2021

Vehicle Types	MPG by Fuel Type			Population by Fuel Type			
	GAS	DSL	ELEC	GAS	DSL	ELEC	Total
LDA	30.0	47.5		6,444,755	55,086	107,407	6,499,841
LDT1	25.8	22.3		715,053	416	3,766	715,469
LDT2	23.8	34.7		2,207,489	12,809	17,083	2,220,298
LHDT1	10.4	21.2		176,982	113,082		290,064
LHDT2	9.1	19.2		29,883	44,616		74,500
MCY	36.4			286,161			286,161
MDV	19.4	26.6		1,569,538	30,444	7,447	1,599,981
MH	5.1	10.5		35,587	12,386		47,973
MHDT	5.0	10.4		25,313	122,609		147,922
HHDT	4.0	6.6		82	106,417		106,499
OBUS	5.0	8.2		5,971	4,250		10,222
SBUS	9.1	7.5		2,479	6,589		9,067
UBUS	4.8	6.0		944	14	17	958

Input	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Gasoline Consumption			Diesel Consumption		
							Worker	Vendor	Haul	Worker	Vendor	Haul
Demolition	3	0	159	14.7	6.9	8						
Site Preparation MOB-PS	3	0	0	14.7	6.9	8						
Grading-Excavation MOB-PS	5	0	125	14.7	6.9	8						
Demolition ED-ICU	13	0	423	14.7	6.9	8						
Building Construction MOB-F	70	36	0	14.7	6.9	8						
Site Preparation ED-ICU	20	0	0	14.7	6.9	8						
Grading/Excavation ED-ICU	28	0	738	14.7	6.9	8						
Building Construction ED-ICU	19	10	0	14.7	6.9	8						
Architectural Coating ED-ICU	4	0	0	14.7	6.9	8						
Paving MOB-PS	15	0	0	14.7	6.9	8						
Architectural Coating MOB-F	14	0	0	14.7	6.9	8						
Paving ED-ICU	15	0	0	14.7	6.9	8						
Adjusted												
Demolition	108	0	159	14.7	6.9	8	66	0	0	0	0	194
Site Preparation MOB-PS	21	0	0	14.7	6.9	8	13	0	0	0	0	0
Grading-Excavation MOB-PS	130	0	125	14.7	6.9	8	80	0	0	0	0	152
Demolition ED-ICU	273	0	423	14.7	6.9	8	168	0	1	1	0	515
Building Construction MOB-F	23800	12240	0	14.7	6.9	8	14,603	4,276	0	58	60	0
Site Preparation ED-ICU	520	0	0	14.7	6.9	8	319	0	0	1	0	0
Grading/Excavation ED-ICU	1064	0	738	14.7	6.9	8	653	0	1	3	0	899
Building Construction ED-ICU	8208	4320	0	14.7	6.9	8	5,036	1,509	0	20	21	0
Architectural Coating ED-ICU	200	0	0	14.7	6.9	8	123	0	0	0	0	0
Paving MOB-PS	390	0	0	14.7	6.9	8	239	0	0	1	0	0
Architectural Coating MOB-F	364	0	0	14.7	6.9	8	223	0	0	1	0	0
Paving ED-ICU	1170	0	0	14.7	6.9	8	718	0	0	3	0	0
Total							22,241	5,785	2	89	82	1,760