

**PRE-CAFE REPORT
FOR
2019 MODEL YEAR
OF
KIA MOTORS CORPORATION**

- Passenger Cars -



NOTE : THIS REPORT CONTAINS [REDACTED] INFORMATION.

THE PRODUCTION VOLUME IS [REDACTED] INFORMATION
AND THIS INFORMATION IS DEEMED BY KMC TO BE EXEMPT
FROM DISCLOSURE UNDER 5 U.S.C. 552(B)(4) AND
49 U.S.C 32910(c).

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Note * : These sections contain [REDACTED] information

I. Introduction

As required by 49 CFR Part 537.9, estimated fuel economy values for Soul, Sportage FWD, Sportage FE FWD, Cadenza, Optima, Optima FE, Stinger AWD, Stinger RWD, Forte, Forte FE, Niro Plug-in Hybrid, Optima Plug-in Hybrid, Optima Hybrid, Niro, Niro Touring, Niro FE, Soul Electric, Rio, K900, Niro Electric are included in this report.

The certification emission-data and fuel economy data of the above-mentioned vehicles used to get the following fuel economy values were tested in accordance with applicable exhaust emission test procedures and complied with applicable 2019 exhaust emission standards as defined 40 CFR §86.

II. Projected Average and Required Fuel Economy

1. Projected Average Fuel Economy

- IP : 41.3 MPG (without A/C efficiency & off-cycle credits)
- IP : 42.4 MPG (with A/C efficiency & off-cycle credits)
- DP : N/A

2. Projected Required Fuel Economy

- IP : 42.0 MPG
- DP : N/A

At this point in time and based on available best present information, the above projections represent the Kia Motors Coporation (KMC) average and required fuel economy for the 2019 model year for the purpose of the Act.

II. Projected Average and Required Fuel Economy

BUSINESS INFORMATION

- Projected Required Fuel Economy

Projected Required	42.0
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Model Type Description	Carline	Basic Engine (disp)	Drive	T/M class	Base Tire	Doors	Projected sales	Track width FR (inch)	Track width RR (inch)	Average Track width (inch)	Wheelbase (inch)	footprint (sqr feet)	Target standard	ETW	IWC
Rio MT	Rio	1.6	FWD	M6	185/65R15	4DR	600	60.0	60.2	60.1	101.6	42.4	45.44	2 750	2 750
	Rio	1.6	FWD	M6	185/65R15	5DR	170	60.0	60.2	60.1	101.6	42.4	45.44	2 750	2 750
Rio AT	Rio	1.6	FWD	SA6	185/65R15	4DR	8,575	60.0	60.2	60.1	101.6	42.4	45.44	2,875	2,750
	Rio	1.6	FWD	SA6	185/65R15	5DR	5,072	60.0	60.2	60.1	101.6	42.4	45.44	2,875	2,750
Forté MT	Forté	2.0	FWD	M6	205/55R15	4DR	4,564	61.5	61.9	61.7	106.3	45.5	42.57	3 000	3 000
Forté FE 2.0 CVT	Forté FE	2.0	FWD	CVT	195/65R15	4DR	4 135	61.5	61.9	61.7	106.3	45.5	42.57	3 125	3 000
	Forté	2.0	FWD	CVT	205/55R16	4DR	31 262	61.2	61.6	61.4	106.3	45.3	42.74	3 125	3 000
Forté 2.0 CVT	Forté	2.0	FWD	CVT	225/45R17	4DR	25 225	61.0	61.3	61.2	106.3	45.2	42.83	3 125	3 000
	Forté	2.0	FWD	CVT	205/55R16	4DR	13 398	61.2	61.6	61.4	106.3	45.3	42.74	3 125	3 000
Soul 1.6 AT	Forté	2.0	FWD	CVT	225/45R17	4DR	6 203	61.0	61.3	61.2	106.3	45.2	42.83	3 125	3 000
	Soul	1.6	FWD	SA6	205/60R16	4DR	27 780	62.0	62.5	62.2	101.2	43.7	44.19	3 125	3 000
Soul 1.6 MT	Soul	1.6	FWD	M6	205/60R16	4DR	2 084	62.0	62.5	62.2	101.2	43.7	44.19	3 125	3 000
Niro FE	Niro FE	1.6	FWD	AM6	205/65R16	5DR	2 791	61.6	62.2	61.8	106.3	45.7	42.40	3 250	3 000
	Soul	2.0	FWD	SA6	215/55R17	4DR	19 134	61.7	62.2	62.0	101.2	43.6	44.28	3 250	3 000
Soul 2.0 AT	Soul	2.0	FWD	SA6	235/45R18	4DR	3,543	61.4	61.9	61.8	101.2	43.3	44.56	3 375	3 500
	Soul	2.0	FWD	SA6	215/55R17	4DR	10 630	61.7	62.2	62.0	101.2	43.6	44.28	3 250	3 000
Soul 1.6T DCT	Soul	2.0	FWD	SA6	235/45R18	4DR	1 418	61.4	61.9	61.6	101.2	43.3	44.56	3 375	3 500
	Soul	1.6T	FWD	AM7	235/45R18	4DR	4 862	61.4	61.9	61.8	101.2	43.3	44.56	3 375	3 500
Optima FE 2.4	Optima FE	2.4	FWD	SA6	205/65R16	4DR	20 072	63.5	63.8	63.8	110.4	48.8	39.89	3 500	3 500
	Optima FE	2.4	FWD	SA6	205/65R16	4DR	13 994	63.5	63.8	63.8	110.4	48.8	39.89	3 500	3 500
Niro	Niro	1.6	FWD	AM6	205/55R16	5DR	24 324	61.6	62.2	61.8	106.3	45.7	42.40	3 500	3 500
Niro Touring	Niro Touring	1.6	FWD	AM6	225/45R18	5DR	12 760	61.2	61.8	61.5	106.3	45.4	42.66	3 625	3 500
Soul Electric	Soul Electric	EV	FWD	OT	205/60R16	4DR	920	62.0	62.5	62.2	101.2	43.7	44.19	3 625	3 500
Optima 2.4	Optima	2.4	FWD	SA6	215/55R17	4DR	10 473	63.1	63.4	63.2	110.4	48.5	40.12	3 625	3 500
	Optima	2.4	FWD	SA6	235/45R18	4DR	17 452	62.9	63.2	63.0	110.4	48.3	40.27	3 625	3 500
Optima 1.6T	Optima	2.4	FWD	SA6	235/45R18	4DR	6 979	62.9	63.2	63.0	110.4	48.3	40.27	3 625	3 500
	Optima	1.6T	FWD	AM7	215/55R17	4DR	12 144	63.1	63.4	63.2	110.4	48.5	40.12	3 625	3 500
Sportage FE 2.4 FWD	Sportage FE FWD	2.4	FWD	SA6	225/60R17	SUV	11 863	63.5	64.0	63.8	105.1	46.6	41.64	3 625	3 500
	Sportage FE FWD	2.4	FWD	SA6	225/60R17	SUV	5 087	63.5	64.0	63.8	105.1	46.6	41.64	3 625	3 500
Sportage 2.4 FWD	Sportage FWD	2.4	FWD	SA6	225/55R18	SUV	5 141	63.5	64.0	63.8	105.1	46.6	41.64	3 750	3 500
	Sportage FWD	2.4	FWD	SA6	225/55R18	SUV	2 204	63.5	64.0	63.8	105.1	46.6	41.64	3 750	3 500
Niro Plug-in Hybrid	Niro Plug-in Hybrid	1.6	FWD	AM6	205/60R16	5DR	6 842	61.6	62.2	61.9	106.3	45.7	42.40	3 750	3 500
Optima Hybrid	Optima Hybrid	2.0	FWD	AM6	P205/65R16	4DR	40	63.5	63.8	63.8	110.4	48.8	39.89	3 750	3 500
	Optima Hybrid	2.0	FWD	AM6	P215/55R17	4DR	160	63.0	63.4	63.2	110.4	48.5	40.12	3 875	4 000
Optima 2.0T	Optima	2.0T	FWD	SA6	235/45R18	4DR	8,996	62.9	63.2	63.0	110.4	48.3	40.27	3 875	4 000
Optima Plug-in Hybrid	Optima plug-in hybrid	2.0	FWD	AM6	215/55R17	4DR	833	63.1	63.4	63.2	110.4	48.5	40.12	4 000	4 000
Sportage 2.0T FWD	Sportage FWD	2.0T	FWD	SA6	245/45R19	SUV	1 520	63.3	63.8	63.8	105.1	46.4	41.80	4 000	4 000
Cadenza 3.3	Cadenza	3.3	FWD	SA8	245/45R18	4DR	720	63.3	63.6	63.4	112.4	49.5	39.36	4 000	4 000
	Cadenza	3.3	FWD	SA8	245/40R19	4DR	2 880	63.1	63.4	63.2	112.4	49.3	39.51	4 000	4 000
Stinger 2.0T RWD	Stinger RWD	2.0T	RWD	SA8	225/45R18	4DR	5,708	62.8	64.8	63.8	114.4	50.7	38.49	4 000	4 000
Stinger 2.0T AWD	Stinger AWD	2.0T	AWD	SA8	225/45R18	4DR	2,792	62.8	64.8	63.8	114.4	50.7	38.49	4 250	4 000
Niro Electric	Niro Electric	EV	FWD	AT	215/55R17	5DR	2 206	61.5	61.9	61.7	106.3	45.5	42.57	4 250	4 000
Stinger 3.3T RWD	Stinger RWD	3.3T	RWD	SA8	225/40R19	4DR	8,563	62.8	63.7	63.2	114.4	50.2	38.85	4 250	4 000
	Stinger AWD	3.3T	AWD	SA8	225/45R18	4DR	1 772	62.8	64.8	63.8	114.4	50.7	38.49	4 500	4 500
Stinger 3.3T AWD	Stinger AWD	3.3T	AWD	SA8	225/40R19	4DR	2,416	62.8	63.7	63.2	114.4	50.2	38.85	4 500	4 500
	Stinger AWD	3.3T	AWD	SA8	245/45R19(FR) 275/40R19 (RR)	4DR	1,167	64.5	64.5	64.5	122.2	54.7	35.85	5,000	5,000

Projected Required	42.0
Total Sales Volume	360,308

$$CAFE_{required} = \frac{\sum_i PRODUCTION_i}{\sum_i TARGET_i}$$

III. Projected Average and Required Fuel Economy

BUSINESS INFORMATION

- Projected Average Fuel Economy (without A/C efficiency & off-cycle credits)

Projected Average 41.3

Model Type Description	Carline	Basic Engine (disp)	Drive	T/M class	Base Tire	Doors	Projected sales	City FE	Hwy FE	Combined FE	IWC	Model Type Comb.FE	Model Type Vol
Rio MT	Rio	1.6	FWD	M6	185/65R15	4DR	600	37.5	55.1	43.7950	2,750	43.7	770
	Rio	1.6	FWD	M6	185/65R15	5DR	170	37.6	53.7	43.4640	2,750		
Rio AT	Rio	1.6	FWD	SA6	185/65R15	4DR	8,575	37.0	55.0	43.3902	2,750	43.2	13,647
	Rio	1.6	FWD	SA6	185/65R15	5DR	5,072	36.5	54.3	42.8159	2,750		
Forte MT	Forte	2.0	FWD	M6	205/55R15	4DR	4,564	35.8	54.2	42.2552	3,000	42.3	4,564
Forte FE 2.0 CVT	Forte FE	2.0	FWD	CVT	195/65R15	4DR	4,135	40.8	61.4	48.0552	3,000	48.1	4,135
	Forte	2.0	FWD	CVT	205/55R16	4DR	31,262	40.5	59.2	47.2108	3,000		
Forte 2.0 CVT	Forte	2.0	FWD	CVT	225/45R17	4DR	25,225	39.8	57.7	46.2576	3,000	46.4	76,088
	Forte	2.0	FWD	CVT	205/55R16	4DR	13,398	38.7	60.8	46.2680	3,000		
	Forte	2.0	FWD	CVT	225/45R17	4DR	6,203	37.5	55.5	43.9082	3,000		
Soul 1.6 AT	Soul	1.6	FWD	SA6	205/60R16	4DR	27,780	33.3	42.4	36.8599	3,000	36.9	27,780
Soul 1.6 MT	Soul	1.6	FWD	M6	205/60R16	4DR	2,084	31.4	43.0	35.7385	3,000	35.7	2,084
Niro FE	Niro FE	1.6	FWD	AM6	205/55R16	5DR	2,791	68.2	66.2	67.2852	3,000	67.3	2,791
	Soul	2.0	FWD	SA6	215/55R17	4DR	19,134	32.2	43.5	36.4623	3,000		
Soul 2.0 AT	Soul	2.0	FWD	SA6	235/45R18	4DR	3,543	31.5	42.8	35.7471	3,500	36.0	34,725
	Soul	2.0	FWD	SA6	215/55R17	4DR	10,630	31.0	42.8	35.3908	3,000		
	Soul	2.0	FWD	SA6	235/45R18	4DR	1,418	30.4	42.6	34.8973	3,500		
Soul 1.6T DCT	Soul	1.6T	FWD	AM7	235/45R18	4DR	4,862	33.4	43.9	37.4285	3,500	37.4	4,862
Optima FE 2.4	Optima FE	2.4	FWD	SA6	205/65R16	4DR	20,072	32.7	49.2	38.5120	3,500	38.6	33,166
	Optima FE	2.4	FWD	SA6	205/65R16	4DR	13,094	32.7	50.0	38.7303	3,500		
Niro	Niro	1.6	FWD	AM6	205/55R16	5DR	24,324	65.7	62.5	64.2204	3,500	64.2	24,324
Niro Touring	Niro Touring	1.6	FWD	AM6	225/45R18	5DR	12,760	60.0	58.4	59.2693	3,500	59.3	12,760
Soul Electric	Soul Electric	EV	FWD	OT	205/60R16	4DR	920	429.6	325.6	375.6116	3,500	375.6	920
	Optima	2.4	FWD	SA6	215/55R17	4DR	10,473	32.0	48.1	37.6747	3,500		
Optima 2.4	Optima	2.4	FWD	SA6	235/45R18	4DR	17,452	30.8	46.6	36.3454	3,500	36.9	34,904
	Optima	2.4	FWD	SA6	235/45R18	4DR	6,979	31.9	46.8	37.2346	3,500		
Optima 1.6T	Optima	1.6T	FWD	AM7	215/55R17	4DR	12,144	35.2	53.2	41.5220	3,500	41.5	12,144
Sportage FE 2.4 FWD	Sportage FE FWD	2.4	FWD	SA6	225/60R17	SUV	11,863	29.2	43.0	34.1288	3,500	33.8	16,950
	Sportage FE FWD	2.4	FWD	SA6	225/60R17	SUV	5,087	28.7	40.8	33.1201	3,500		
Sportage 2.4 FWD	Sportage FWD	2.4	FWD	SA6	225/55R18	SUV	5,141	28.4	41.1	32.9869	3,500	33.2	7,345
	Sportage FWD	2.4	FWD	SA6	225/55R18	SUV	2,204	29.1	41.8	33.7087	3,500		
Niro Plug-in Hybrid	Niro Plug-in Hybrid	1.6	FWD	AM6	205/60R16	5DR	6,842	174.6	89.5	122.2794	3,500	122.3	6,842
Optima Hybrid	Optima Hybrid	2.0	FWD	AM6	P205/65R16	4DR	40	56.5	63.0	59.2509	3,500	59.1	200
	Optima Hybrid	2.0	FWD	AM6	P215/55R17	4DR	160	56.5	62.5	59.0510	4,000		
Optima 2.0T	Optima	2.0T	FWD	SA6	235/45R18	4DR	8,986	26.7	42.4	32.0385	4,000	32.0	8,986
Optima Plug-in Hybrid	Optima plug-in hybrid	2.0	FWD	AM6	215/55R17	4DR	583	154.6	95.5	120.9247	4,000	120.9	583
Sportage 2.0T FWD	Sportage FWD	2.0T	FWD	SA6	245/45R19	SUV	1,520	26.2	39.0	30.7401	4,000	30.7	1,520
	Sportage FWD	2.0T	FWD	SA6	245/45R18	4DR	720	25.9	39.4	30.6215	4,000		
Cadenza 3.3	Cadenza	3.3	FWD	SA8	245/40R19	4DR	2,880	25.4	38.7	30.0468	4,000	30.2	3,600
	Cadenza	3.3	FWD	SA8	245/40R19	4DR	2,880	25.4	38.7	30.0468	4,000		
Stinger 2.0T RWD	Stinger RWD	2.0T	RWD	SA8	225/45R18	4DR	5,708	27.6	41.5	32.4982	4,000	32.5	5,708
Stinger 2.0T AWD	Stinger AWD	2.0T	AWD	SA8	225/45R18	4DR	2,792	27.0	41.3	31.9834	4,000	32.0	2,792
Niro Electric	Niro Electric	EV	FWD	A1	215/55R17	5DR	2,200	427.9	352.9	390.5494	4,000	390.5	2,200
Stinger 3.3T RWD	Stinger RWD	3.3T	RWD	SA8	225/40R19	4DR	8,563	23.6	35.5	27.7923	4,000	27.8	8,563
	Stinger RWD	3.3T	RWD	SA8	255/35R19	4DR							
Stinger 3.3T AWD	Stinger AWD	3.3T	AWD	SA8	225/45R18	4DR	1,772	23.7	36.8	28.2207	4,500	27.6	4,188
	Stinger AWD	3.3T	AWD	SA8	225/40R19	4DR	2,416	23.2	34.6	27.2385	4,500		
	Stinger AWD	3.3T	AWD	SA8	255/35R19	4DR							
K900 3.3T AWD	K900	3.3T	AWD	SA8	245/45R19(FR) 275/40R19 (RR)	4DR	1,167	23.0	35.3	27.2770	5,000	27.3	1,167

Average	41.3
ROUNDED Avg. comb.	40.8690
Multiplied Factor	1.006753691
'a'	1.3968
C' FACTOR	0.0014
IW (Added Factor)	0.155602958
SF _{3IWC}	0.4086
FE _{3IWC}	41.9525
SF _{4ETW}	0.0317
FE _{4IWC}	32.9929

$$\$600.510-12 : AFE_{adj} = AFE[(((0.55 \times a \times c) + (0.45 \times c) + (0.5556 \times a) + 0.4487)/((0.55 \times a) + 0.45))] + IW$$

III. Vehicle Configuration Information

BUSINESS INFORMATION

Model type Description	Carline	Basic Engine (diesel)	Drive	IM class	Base line	Doors	Engine code	LWV	E W	Eng Disp	Net rated power (kW)	Net horsepower	Fuel system	Emission control system	M class	Number of forward speed	O D	NV	Axle ratio	Comb ned FE	Projected sales	Interior volume (m³)	Passenger Volume	Luggage Volume	Body style	Road load power at 50 mph	WC				
Rio M	Rio	1.6	FWD	M6	185A5R15	DR	G FG MC	2,793	2,750	1.6	97	130	DP1	TWC	M6	6	Yes	0.6	06	3,795	805	103.6	89.9	13.7	(Compact Cars)	9.8	2,750				
	Rio	1.6	FWD	M6	185A5R15	SCR	G FG MC	2,793	2,750	1.6	97	130	DP1	TWC	M6	6	Yes	0.6	06	3,460	805	107.9	90.5	13.7	(Compact Cars)	10.3	2,750				
	Rio	1.6	FWD	SAB	185A5R15	DR	G FG AC	2,86	2,875	1.6	97	130	130	DP1	TWC	SAB	6	Yes	33.8	3.07	3,360	8,575	103.6	89.9	13.7	(Compact Cars)	9.9	2,750			
Forte M	For te	2.0	FWD	M6	205A5R15	DR	G NH AC	3,021	3,000	2.0	110	117	117	MP1	TWC	M6	6	Yes	38	33	2,202	26	111.3	96.0	15.3	(Mid size cars)	10.1	3,000			
	For te	2.0	FWD	CVT	195A5R15	DR	G NH CV	3,077	3,125	2.0	110	117	117	MP1	TWC	CVT	1	Yes	26	89	4,052	135	111.3	96.0	15.3	(Mid size cars)	9.6	3,000			
	For te	2.0	FWD	CVT	205A5R16	DR	G NH CV	3,153	3,125	2.0	110	117	117	MP1	TWC	CVT	1	Yes	26	89	7,219	31,262	111.3	96.0	15.3	(Mid size cars)	10.0	3,000			
Forte FE 2.0 CV	For te	2.0	FWD	CVT	225/ SR17	DR	G NH CV	3,168	3,125	2.0	110	117	117	MP1	TWC	CVT	1	Yes	26.3	89	4,257	35,223	111.3	96.0	15.3	(Mid size cars)	10.5	3,000			
	For te	2.0	FWD	CVT	205A5R16	DR	G NH CV	3,153	3,125	2.0	110	117	117	MP1	TWC	CVT	1	Yes	26	89	4,269	13,296	111.3	96.0	15.3	(Mid size cars)	10.0	3,000			
	For te	2.0	FWD	CVT	225/ SR17	DR	G NH CV	3,168	3,125	2.0	110	117	117	MP1	TWC	CVT	1	Yes	26.3	89	3,902	6,263	111.3	96.0	15.3	(Mid size cars)	10.5	3,000			
Soul 1.6 A	Soul	1.6	FWD	SAB	205A5R16	DR	G FD AC	3,177	3,125	1.6	97	130	130	DP1	TWC	SAB	6	Yes	11.2	3.06	36,859	27,780	125.2	101.0	2	2 (Sedan / Station Wagons)	13.2	3,000			
	Soul	1.6	FWD	M6	205A5R16	DR	G FD MC	3,118	3,125	1.6	97	130	130	DP1	TWC	M6	6	Yes	7	58	35,735	2,08	125.2	101.0	2	2 (Sedan / Station Wagons)	13.1	3,000			
	Soul	1.6	FWD	AM6	205A5R16	SCR	G LE AC	3,16	3,250	1.6	78	10	DP1	TWC	AM6	6	Yes	33.3	3.23	67,952	2,791	123.3	100.9	22	(Sedan / Station Wagons)	10.6	3,000				
Soul 2.0 A	Soul	2.0	FWD	SAB	215A5R17	DR	G NC AC	3,300	3,250	2.0	100	161	161	DP1	TWC	SAB	6	Yes	33.6	3.27	36,421	10,13	125.2	101.0	2	2 (Sedan / Station Wagons)	13.3	3,000			
	Soul	2.0	FWD	SAB	235/ SR18	DR	G NC AC	3,16	3,375	2.0	100	161	161	DP1	TWC	SAB	6	Yes	3.5	3.38	35,771	3.5	125.2	101.0	2	2 (Sedan / Station Wagons)	13.6	3,000			
	Soul	2.0	FWD	SAB	215A5R17	DR	G NC AC	3,300	3,250	2.0	119	160	160	DP1	TWC	SAB	6	Yes	33.6	3.27	35,369	10,630	125.2	101.0	2	2 (Sedan / Station Wagons)	13.3	3,000			
Soul 1.6 DC	Soul	2.0	FWD	SAB	235/ SR18	DR	G NC AC	3,17	3,375	2.0	119	160	160	DP1	TWC	SAB	6	Yes	3.5	3.38	3	8973	1.18	125.2	101.0	2	2 (Sedan / Station Wagons)	13.6	3,000		
	Soul	1.6T	FWD	AM7	235/ SR18	DR	G J AC	3,366	3,375	1.6	160	201	201	DP1	TWC	AM7	7	Yes	30.5	3	37	288	362	125.2	101.0	2	2 (Sedan / Station Wagons)	13.6	3,000		
	Optima FE 2.4	Optima FE	2	FWD	SAB	205A5R16	DR	G K AC	3,530	3,500	2	138	185	185	DP1	TWC	SAB	6	Yes	29.5	2.89	38,512	35,072	120.7	10	15.9	(6.5 large cars)	10.8	3,000		
Optima FE 2.4	Optima FE	2	FWD	SAB	205A5R16	DR	G K AC	3,530	3,500	2	138	185	185	DP1	TWC	SAB	6	Yes	29.5	2.89	38,733	13,08	120.7	10	15.9	(6.5 large cars)	10.8	3,000			
	Niro	1.6	FWD	AM6	205A5R16	SCR	G LE AC	3,11	3,500	1.6	78	10	DP1	TWC	AM6	6	Yes	33.3	3.23	6	220	2	123.3	100.9	22	(Sedan / Station Wagons)	10.8	3,000			
	Niro Touring	1.6	FWD	AM6	225/ SR18	SCR	G LE AC	3,57	3,625	1.6	78	10	DP1	TWC	AM6	6	Yes	33.3	3.23	59,293	12,765	123.3	100.9	22	(Sedan / Station Wagons)	12.1	3,000				
Soul Electric	Soul Electric	EV	FWD	C7	205A5R16	DR	EM9	3,602	3,625	0.0	81	109	EV	N/A	C7	1	Yes	127.0	3.28	375,614	820	115.7	96.9	18.8	(Sedan / Station Wagons)	12.0	3,000				
	Optima	2	FWD	SAB	215A5R17	DR	G K AC	3,602	3,625	2	138	185	185	DP1	TWC	SAB	6	Yes	29.6	2.89	37,677	10	123.3	100.7	10	15.9	(6.5 large cars)	11	3,000		
	Optima 2.4	Optima	2	FWD	SAB	235/ SR18	DR	G K AC	3,598	3,625	2	138	185	185	DP1	TWC	SAB	6	Yes	29.5	2.89	36,315	17	123.3	100.7	10	15.9	(6.5 large cars)	11.9	3,000	
Optima 1.6	Optima	1.6T	FWD	AM7	215A5R17	DR	G J AC	3,699	3,625	1.6	133	176	176	DP1	TWC	AM7	7	Yes	30	3.17	12,228	12.4	120.7	10	15.9	(6.5 large cars)	10.9	3,000			
	Sportage FE FWD	2	FWD	SAB	225A5R17	BLV	G K AC	3,827	3,825	2	135	181	181	DP1	TWC	SAB	6	Yes	29.8	3.06	3	1,038	11,363	BLV	30(Small BLV 2WD)	13.9	3,000				
	Sportage FE FWD	2	FWD	SAB	225A5R17	BLV	G K AC	3,827	3,825	2	135	181	181	DP1	TWC	SAB	6	Yes	29.8	3.06	33,1201	1,067	BLV	30(Small BLV 2WD)	13.9	3,000					
Sportage 2.4 FWD	Sportage FWD	2	FWD	SAB	225A5R18	BLV	G K AC	3,752	3,750	2	135	181	181	DP1	TWC	SAB	6	Yes	29.8	3.06	32,889	5,11	BLV	30(Small BLV 2WD)	1	2	3,000				
	Sportage FWD	2	FWD	SAB	225A5R18	BLV	G K AC	3,752	3,750	2	135	181	181	DP1	TWC	SAB	6	Yes	29.8	3.06	33,7597	2,25	BLV	30(Small BLV 2WD)	1	2	3,000				
	Niro Plug In Hybrid	1.6	FWD	AM6	205A5R16	SCR	G LE AC	3,719	3,750	1.6	78	10	DP1	TWC	AM6	6	Yes	3.8	19	122,276	4.8	2	120.3	100.9	19	(Sedan / Station Wagons)	11.2	3,000			
Optima Hybrid	Optima Hybrid	2.0	FWD	AM6	P255 65R18	DR	G NG AC	3,797	3,750	2.0	115	15	DP1	TWC	AM6	6	Yes	3.1	3.32	59,2509	5	118.2	10	13	(Mid size cars)	10.2	3,000				
	Optima Hybrid	2.0	FWD	AM6	P255 65R17	DR	G NG AC	3,838	3,875	2.0	115	15	DP1	TWC	AM6	6	Yes	3.1	3.32	59,0510	180	118.2	10	13	(Mid size cars)	10.3	000				
	Optima 2.0	Optima	2.0T	FWD	SAB	235/ SR18	DR	G KH AC	3,885	3,875	2.0	163	215	215	DP1	TWC	SAB	6	Yes	29.5	2.89	32,0385	9,985	120.7	10	15.9	(6.5 large cars)	12	000		
Optima Plug In Hybrid	Optima Plug In Hybrid	2.0	FWD	AM6	215A5R17	DR	G NG AC	3,881	3,875	2.0	115	15	DP1	TWC	AM6	6	Yes	36.0	3.51	125,04	3	991	11	17	10	15.9	(6.5 large cars)	12.8	000		
	Sportage 2.0 FWD	Sportage FWD	2.0T	FWD	SAB	215/ SR19	BLV	G KH AC	3,967	3,900	2.0	179	242	242	DP1	TWC	SAB	6	Yes	30.2	3.32	36,7	24	1,520	BLV	30(Small BLV 2WD)	1	3	000		
	Cadenza 3.3	3.3	FWD	SAB	215/ SR18	DR	GSD MAC	3,8	3,900	3.3	216	290	290	DP1	TWC	SAB	8	Yes	28.0	3.32	30,6215	720	123.8	107.8	16.0	(6.5 large cars)	12.8	000			
Cadenza 3.3	Cadenza	3.3	FWD	SAB	215/ SR19	DR	GSD MAC	3,87	3,900	3.3	216	290	290	DP1	TWC	SAB	8	Yes	27.9	3.32	30,0	68	2,881	123.8	107.8	16.0	(6.5 large cars)	12.8	000		
	Stinger 2.0 RWD	Stinger RWD	2.0T	RWD	SAB	225/ SR18	DR	G RL AC	3,911	3,900	2.0	188	252	252	DP1	TWC	SAB	8	Yes	28.1	3.73	32	392	5,759	118.2	9	9	23.3	(Mid size cars)	13.6	000
	Stinger 2.0 AWD	Stinger AWD	2.0T	AWD	SAB	225/ SR18	DR	G RL AC	4,03	3,900	2.0	188	252	252	DP1	TWC	SAB	8	Yes	28.1	3.73	31,981	2,792	118.2	9	9	23.3	(Mid size cars)	1	000	
Niro Electric	Niro Electric	EV	FWD	A1	215A5R17	SCR	EM16	3,237	3,250	0.0	100	201	EV	N/A	A1	1	Yes	105.1	3.53	395.5	9	3,260	119.8	97	22	(Sedan / Station Wagons)	10.8	000			
	Stinger 3.3 RWD	Stinger RWD	3.3T	RWD	SAB	225/ SR19	DR	GSD AC	3,98	3,900	3.3	272	365	365	DP1	TWC	SAB	8	Yes	26.2	3.5	27,7923	5,963	118.2	9	9	23.3	(Mid size cars)	15.1	800	
	Stinger AWD	3.3T	AWD	SAB	225/ SR18	DR	GSD AC	3,977	3,900	3.3	272	365	365	DP1	TWC	SAB	8	Yes	26.3	3.5	28,2207	1,772	118.2	9	9	23.3	(Mid size cars)	15.1	800		
Stinger 3.3 AWD	Stinger AWD	3.3T	AWD	SAB	225/ SR19	DR	GSD AC	3,977	3,900	3.3	272	365	365	DP1	TWC	SAB	8	Yes	26.2	3.5	27,2385	3	16	118.2	9	9	23.3	(Mid size cars)	16.3	800	
	K800 3.3 AWD	K800	3.3T	AWD	SAB	215/ SR19PR	DR	GSD AC	5,033	5,000	3.3	272	365	365	DP1	TWC	SAB	8	Yes	2	6	3.5	27,2770	1,167	125.6	110.3	15.3	(6.5 large cars)	15.5	6,000	

IV. Projected A/C Efficiency Credits

BUSINESS INFORMATION

Model Type Description	Carline	Basic Engine (disp)	Drive	T/M class (Drive, type, gear)	Doors	Refrigerant	A/C Drive System	Projected sales	Reduc'd Reheat with variable compressor	Reduced Reheat with fixed displ or pneumatic compressor	Default to Recirc with feedback sensor	Default to Recirc without feedback sensor	Efficient Blower Motor Controls	Internal Heat Exchanger	Improved Condenser and/or Evaporator (requires EPA approval)	Oil Separator (requires EPA approval)	Total Menu based Credits	A/C Efficiency Credit	VLM
									1.5 gpm	1.0 gpm	1.5 gpm	1.0 gpm							
Rio M	Rio	1.6	FWD	M6	DR	R-123 yf	Belt Driven	600	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	5	195.26
	Rio	1.6	FWD	M6	SDR	R-123 yf	Belt Driven	170	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	126	195.26
Rio A	Rio	1.6	FWD	SA6	DR	R-123 yf	Belt Driven	8,575	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	6,363	195.26
	Rio	1.6	FWD	SA6	SDR	R-123 yf	Belt Driven	5,072	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	3,763	195.26
Forte M	For e	2.0	FWD	M6	DR	R-123 yf	Belt Driven	.56	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	3,387	195.26
Forte FE 2.0 CV	For e FE	2.0	FWD	CVT	DR	R-123 yf	Belt Driven	.135	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	3,068	195.26
Forte 2.0 CV	For e	2.0	FWD	CVT	DR	R-123 yf	Belt Driven	76,088	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	56.58	195.26
Soul 1.6 A	Soul	1.6	FWD	SA6	DR	R-123 yf	Belt Driven	27,780	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	16,273	195.26
Soul 1.6 M	Soul	1.6	FWD	M6	DR	R-123 yf	Belt Driven	2.08	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	1,221	195.26
Niro FE	Niro FE	1.6	FWD	AM6	SDR	R-123 yf	E detric	2,791	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	2,071	195.26
Soul 2.0 A	Soul	2.0	FWD	SA6	DR	R-123 yf	Belt Driven	3.725	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	20.32	195.26
Soul 1.6 DC	Soul	1.6T	FWD	AM7	DR	R-123 yf	Belt Driven	.862	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	2.88	195.26
Optima FE 2.4	Optima FE	2	FWD	SA6	DR	R-123 yf	Belt Driven	33,166	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	2.609	195.26
Niro	Niro	1.6	FWD	AM6	SDR	R-123 yf	E detric	2.32	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	18.08	195.26
Niro uring	Niro Touring	1.6	FWD	AM6	SDR	R-123 yf	E detric	12,760	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	9.68	195.26
Soul Electric	Soul Electric	EV	FWD	OT	DR	R-123 yf	E detric	920	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	683	195.26
Optima 2.4	Optima	2	FWD	SA6	DR	R-123 yf	Belt Driven	3.89	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	25,899	195.26
Optima 1.6	Optima	1.6T	FWD	AM7	DR	R-123 yf	Belt Driven	12.1	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	7.11	195.26
Sportage FE 2.4 FWD	Sportage FE FWD	2	FWD	SA6	SUV	R-123 yf	Belt Driven	16,950	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	12,577	195.26
Sportage 2.4 FWD	Sportage FWD	2	FWD	SA6	SUV	R-123 yf	Belt Driven	7.35	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	5.50	195.26
Niro Plug in Hybrid	Niro Plug-in Hybrid	1.6	FWD	AM6	SDR	R-123 yf	E detric	6.82	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	5,077	195.26
Optima Hybrid	Optima Hybrid	2.0	FWD	AM6	DR	R-123 yf	E detric	200	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	18	195.26
Optima 2.0	Optima	2.0T	FWD	SA6	DR	R-123 yf	Belt Driven	8,986	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	5.26	195.26
Optima Plug in Hybrid	Optima plug-in hybrid	2.0	FWD	AM6	DR	R-123 yf	E detric	583	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	33	195.26
Sportage 2.0 FWD	Sportage FWD	2.0T	FWD	SA6	SUV	R-123 yf	Belt Driven	1,520	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	1,128	195.26
Cadenza 3.3	Cadenza	3.3	FWD	SA8	DR	R-123 yf	Belt Driven	3,600	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	2,109	195.26
Stinger 2.0 RWD	Stinger RWD	2.0T	RWD	SA8	DR	R-123 yf	Belt Driven	5,708	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	3.3	195.26
Stinger 2.0 AWD	Stinger AWD	2.0T	AWD	SA8	DR	R-123 yf	Belt Driven	2,792	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	1,636	195.26
Niro Electric	Niro Electric	EV	FWD	A1	SDR	R-123 yf	E detric	2,200	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	1,632	195.26
Stinger 3.3 RWD	Stinger RWD	3.3T	RWD	SA8	DR	R-123 yf	Belt Driven	8,563	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	5,016	195.26
Stinger 3.3 AWD	Stinger AWD	3.3T	AWD	SA8	DR	R-123 yf	Belt Driven	.188	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	2.53	195.26
K900 3.3 AWD	K900	3.3T	AWD	SA8	DR	R-123 yf	Belt Driven	1,167	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	68	195.26

ACCredit	249,137
Car volume	360,308
FCIV _{AC} (Gal/mi)	0.000398462

VLM	195,264
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$$FCIV_{AC} \text{ (gal/mi)} = \frac{(ACCredit \times 1,000,000)}{(VLM \times Production \times 8807)}$$

V. Projected Off-cycle Credits

BUSINESS INFORMATION

Model Type Description	Carline	Basic Engine (disp)	Drive	T/M class (Drive, type, gear)	Doors	Description	Projected sales	Off-cycle benefit per vehicle	Off-cycle credits	VLM
								gpm	megagrams	
Rio MT	Rio	1.6	FWD	M6	4DR	Glazing 0.2, Lamp 0.06	378	0.3	22	195,264
		1.6	FWD	M6	4DR	Glazing 0.2, Lamp 0.06, Solar reflective surface coating 0.4	141	0.7	19	195,264
		1.6	FWD	M6	4DR	Lamp 0.06	59	0.1	1	195,264
		1.6	FWD	M6	4DR	Lamp 0.06, Solar reflective surface coating 0.4	22	0.5	2	195,264
		1.6	FWD	M6	5DR	Glazing 0.2, Lamp 0.06	107	0.3	6	195,264
		1.6	FWD	M6	5DR	Glazing 0.2, Lamp 0.06, Solar reflective surface coating 0.4	40	0.7	5	195,264
		1.6	FWD	M6	5DR	Lamp 0.06	17	0.1	0	195,264
Rio AT	Rio	1.6	FWD	M6	5DR	Lamp 0.06, Solar reflective surface coating 0.4	6	0.5	1	195,264
		1.6	FWD	SA6	4DR	Glazing 0.2, Lamp 0.06	5,502	0.3	322	195,264
		1.6	FWD	SA6	4DR	Glazing 0.2, Lamp 0.06, Solar reflective surface coating 0.4	2,240	0.7	306	195,264
		1.6	FWD	SA6	4DR	Lamp 0.06	592	0.1	12	195,264
		1.6	FWD	SA6	4DR	Lamp 0.06 Solar reflective surface coating 0.4	241	0.5	24	195,264
		1.6	FWD	SA6	5DR	Glazing 0.2, Lamp 0.06	1,786	0.3	105	195,264
		1.6	FWD	SA6	5DR	Glazing 0.2, Lamp 0.06, Solar reflective surface coating 0.4	519	0.7	71	195,264
Forte MT	Forte	1.6	FWD	SA6	5DR	Glazing 0.2, Lamp 0.26	258	0.5	25	195,264
		1.6	FWD	SA6	5DR	Lamp 0.06	1,878	0.1	37	195,264
		1.6	FWD	SA6	5DR	Lamp 0.06 Solar reflective surface coating 0.4	631	0.5	62	195,264
		2.0	FWD	M6	4DR	Glazing 0.2, Lamp 0.06	3,633	0.3	213	195,264
		2.0	FWD	M6	4DR	Glazing 0.2, Lamp 0.06, Solar reflective surface coating 0.4	931	0.7	127	195,264
		2.0	FWD	CVT	4DR	Glazing 0.2, Lamp 0.06, Active transmission warm-up 1.5	3,248	1.8	1,142	195,264
		2.0	FWD	CVT	4DR	Glazing 0.2, Lamp 0.06, Active transmission warm-up 1.5, Solar reflective surface coating 0.4	887	2.2	381	195,264
Forte 2.0 CVT	Forte	2.0	FWD	CVT	4DR	Glazing 0.2, Lamp 0.06, Active transmission warm-up 1.5	46,751	1.8	16,432	195,264
		2.0	FWD	CVT	4DR	Glazing 0.2, Lamp 0.06, Active transmission warm-up 1.5, Solar reflective surface coating 0.4	12,245	2.2	5,260	195,264
		2.0	FWD	CVT	4DR	Glazing 0.2, Lamp 0.06, Active seat ventilation 1.0, Active transmission warm-up 1.5	13,554	2.8	7,411	195,264
		2.0	FWD	CVT	4DR	Glazing 0.2, Lamp 0.06, Active seat ventilation 1.0, Active transmission warm-up 1.5, Solar reflective surface coating 0.4	3,538	3.2	2,211	195,264
Soul 1.6 AT	Soul	1.6	FWD	SA6	4DR	Glazing 1.1	22,102	1.1	4,747	195,264
Soul 1.6 MT	Soul	1.6	FWD	SA6	4DR	Glazing 1.1, Solar reflective surface coating 0.4	5,678	1.5	1,663	195,264
		1.6	FWD	M6	4DR	Glazing 1.1	1,530	1.1	329	195,264
Niro FE	Niro FE	1.6	FWD	M6	4DR	Glazing 1.1, Solar reflective surface coating 0.4	554	1.5	162	195,264
		1.6	FWD	AM6	5DR	Glazing 1.1, Active engine warm-up 1.5, Active aero improvement 0.8, Engine idle start-stop 1.5	2,113	4.9	2,022	195,264
Soul 2.0 AT	Soul	1.6	FWD	AM6	5DR	Glazing 1.1, Active engine warm-up 1.5, Active aero improvement 0.8, Engine idle start-stop 1.5, Solar reflective surface coating 0.4	678	5.3	702	195,264
		2.0	FWD	SA6	4DR	Glazing 1.1	28,380	1.1	5,666	195,264
		2.0	FWD	SA6	4DR	Glazing 1.1, Solar reflective surface coating 0.4	4,031	1.5	1,181	195,264
		2.0	FWD	SA6	4DR	Glazing 0.9, Lamp 0.1, Active seat ventilation 1.0	1,782	2.0	696	195,264
		2.0	FWD	SA6	4DR	Glazing 0.9, Lamp 0.1, Active seat ventilation 1.0, Solar reflective surface coating 0.4	342	2.4	160	195,264
		2.0	FWD	SA6	4DR	Glazing 1.1, Lamp 0.1	1,892	1.2	443	195,264
Soul 1.6T DCT	Soul	2.0	FWD	SA6	4DR	Glazing 0.9, Lamp 0.1	298	1.0	58	195,264
		1.6T	FWD	AM7	4DR	Glazing 1.1	1,550	1.1	333	195,264
		1.6T	FWD	AM7	4DR	Glazing 1.1, Solar reflective surface coating 0.4	328	1.5	96	195,264
		1.6T	FWD	AM7	4DR	Glazing 1.1, Lamp 0.1	1,142	1.2	268	195,264
		1.6T	FWD	AM7	4DR	Glazing 1.1, Lamp 0.1, Solar reflective surface coating 0.4	242	1.6	76	195,264
		1.6T	FWD	AM7	4DR	Glazing 0.9, Lamp 0.1	1,320	1.0	258	195,264
Optima FE 2.4	Optima FE	1.6T	FWD	AM7	4DR	Glazing 0.9, Lamp 0.1, Solar reflective surface coating 0.4	280	1.4	77	195,264
		2.4	FWD	SA6	4DR	Glazing 0.3, Lamp 0.43, Active transmission warm-up 1.5	27,141	2.2	11,659	195,264
Niro	Niro	2.4	FWD	SA6	4DR	Glazing 0.3, Lamp 0.43, Active transmission warm-up 1.5, Solar reflective surface coating 0.4	6,025	2.6	3,059	195,264
		1.6	FWD	AM6	5DR	Glazing 1.1, Lamp 0.06, Active engine warm-up 1.5, Active aero improvement 0.8, Engine idle start-stop 1.5	15,306	5.0	14,944	195,264
		1.6	FWD	AM6	5DR	Glazing 1.1, Lamp 0.06, Active engine warm-up 1.5, Active aero improvement 0.8, Engine idle start-stop 1.5, Solar reflective surface coating 0.4	4,818	5.4	5,080	195,264
		1.6	FWD	AM6	5DR	Glazing 1.1, Lamp 0.06, Active engine warm-up 1.5, Active aero improvement 0.8, Engine idle start-stop 1.5	3,149	5.0	3,074	195,264
		1.6	FWD	AM6	5DR	Glazing 1.1, Lamp 0.06, Active engine warm-up 1.5, Active aero improvement 0.8, Engine idle start-stop 1.5, Solar reflective surface coating 0.4	991	5.4	1,045	195,264
		1.6	FWD	AM6	5DR	Glazing 1.1, Lamp 0.06, Active engine warm-up 1.5, Active seat ventilation 1.0, Active aero improvement 0.8, Engine idle start-stop 1.5	48	6.0	56	195,264
Niro Touring	Niro Touring	1.6	FWD	AM6	5DR	Glazing 1.1, Lamp 0.06, Active engine warm-up 1.5, Active aero improvement 0.8, Engine idle start-stop 1.5	12	6.4	15	195,264
		1.6	FWD	AM6	5DR	Glazing 1.1, Lamp 0.06, Active engine warm-up 1.5, Active aero improvement 0.8, Engine idle start-stop 1.5	4,569	5.0	4,461	195,264
		1.6	FWD	AM6	5DR	Glazing 1.1, Lamp 0.06, Active engine warm-up 1.5, Active aero improvement 0.8, Engine idle start-stop 1.5, Solar reflective surface coating 0.4	423	5.4	446	195,264
		1.6	FWD	AM6	5DR	Glazing 1.1, Lamp 0.06, Active engine warm-up 1.5, Active seat ventilation 1.0, Active aero improvement 0.8, Engine idle start-stop 1.5	7,106	6.0	8,325	195,264
Soul Electric	Soul Electric	1.6	FWD	AM6	5DR	Glazing 1.1, Lamp 0.06, Active engine warm-up 1.5, Active seat ventilation 1.0, Active aero improvement 0.8, Engine idle start-stop 1.5, Solar reflective surface coating 0.4	662	6.4	827	195,264
		EV	FWD	OT	5DR	Glazing 1.1, Lamp 0.1	379	1.2	89	195,264
		EV	FWD	OT	5DR	Glazing 1.1, Lamp 0.1, Solar reflective surface coating 0.4	77	1.6	24	195,264
		EV	FWD	OT	5DR	Glazing 1.1, Lamp 0.1, Active seat ventilation 1.0	219	2.2	94	195,264
		EV	FWD	OT	5DR	Glazing 1.1, Lamp 0.1, Active seat ventilation 1.0, Solar reflective surface coating 0.4	44	2.6	22	195,264
		EV	FWD	OT	5DR	Glazing 0.9, Lamp 0.1, Active seat ventilation 1.0	169	2.0	66	195,264
Optima 2.4	Optima	EV	FWD	OT	5DR	Glazing 0.9, Lamp 0.1, Active seat ventilation 1.0, Solar reflective surface coating 0.4	32	2.4	15	195,264
		2.4	FWD	SA6	4DR	Glazing 0.3, Lamp 0.43, Active transmission warm-up 1.5	15,453	2.2	6,638	195,264
		2.4	FWD	SA6	4DR	Glazing 0.3, Lamp 0.43, Active transmission warm-up 1.5, Solar reflective surface coating 0.4	5,590	2.6	2,838	195,264
		2.4	FWD	SA6	4DR	Glazing 0.3, Lamp 0.49, Active transmission warm-up 1.5	4,112	2.3	1,847	195,264
		2.4	FWD	SA6	4DR	Glazing 0.3, Lamp 0.49, Active transmission warm-up 1.5, Solar reflective surface coating 0.4	1,488	2.7	784	195,264
		2.4	FWD	SA6	4DR	Glazing 0.4, Lamp 0.49, Active seat ventilation 1.0, Active transmission warm-up 1.5	6,066	3.4	4,027	195,264
Optima 1.6T	Optima	2.4	FWD	SA6	4DR	Glazing 0.4, Lamp 0.49, Active seat ventilation 1.0, Active transmission warm-up 1.5, Solar reflective surface coating 0.4	2,195	3.8	1,629	195,264
		1.6T	FWD	AM7	4DR	Glazing 0.3, Lamp 0.49	5,496	0.8	859	195,264
		1.6T	FWD	AM7	4DR	Glazing 0.3, Lamp 0.49, Solar reflective surface coating 0.4	3,905	1.2	915	195,264
		1.6T	FWD	AM7	4DR	Glazing 0.3, Lamp 0.43	1,602	0.7	219	195,264
Sportage FE 2.4 FWD	Sportage FE FWD	1.6T	FWD	AM7	4DR	Glazing 0.3, Lamp 0.43, Solar reflective surface coating 0.4	1,141	1.1	245	195,264
		2.4	FWD	SA6	SUV	Glazing 1.1, Lamp 0.06	3,771	1.2	884	195,264
		2.4	FWD	SA6	SUV	Glazing 1.1, Lamp 0.06, Solar reflective surface coating 0.4	690	1.6	216	195,264
		2.4	FWD	SA6	SUV	Glazing 0.9, Lamp 0.06	10,558	1.0	2,062	195,264
		2.4	FWD	SA6	SUV	Glazing 0.9, Lamp 0.06, Solar reflective surface coating 0.4	1,931	1.4	528	195,264
		2.4	FWD	SA6	SUV	Glazing 1.1, Lamp 0.06	2,719	1.2	637	195,264

Sportage 2.4 FWD	Sportage FWD	2.4	FWD	SA6	SUV	Glazing 1.1, Lamp 0.06, Solar reflective surface coating 0.4	500	1.6	156	195,264
		2.4	FWD	SA6	SUV	Glazing 1.0, Lamp 0.06	2,117	1.1	455	195,264
		2.4	FWD	SA6	SUV	Glazing 1.0, Lamp 0.06, Solar reflective surface coating 0.4	389	1.5	114	195,264
		2.4	FWD	SA6	SUV	Glazing 1.0, Lamp 0.06, Active seat ventilation 1.0	1,368	2.1	561	195,264
		2.4	FWD	SA6	SUV	Glazing 1.0, Lamp 0.06, Active seat ventilation 1.0, Solar reflective surface coating 0.4	252	2.5	123	195,264
Niro PHEV	Niro Plug-in Hybrid	1.6	FWD	AM6	5DR	Glazing 1.1, Lamp 0.06, Active engine warm-up 1.5, Active aero improvement 0.8, Engine idle start-stop 1.5	4,304	5.0	4,202	195,264
		1.6	FWD	AM6	5DR	Glazing 1.1, Lamp 0.06, Active engine warm-up 1.5, Active aero improvement 0.8, Engine idle start-stop 1.5, Solar reflective surface coating 0.4	1,355	5.4	1,429	195,264
		1.6	FWD	AM6	5DR	Glazing 1.1, Lamp 0.06, Active engine warm-up 1.5, Active aero improvement 0.8, Engine idle start-stop 1.5	885	5.0	864	195,264
		1.6	FWD	AM6	5DR	Glazing 1.1, Lamp 0.06, Active engine warm-up 1.5, Active aero improvement 0.8, Engine idle start-stop 1.5, Solar reflective surface coating 0.4	277	5.4	292	195,264
		1.6	FWD	AM6	5DR	Glazing 1.1, Lamp 0.06, Active engine warm-up 1.5, Active seat ventilation 1.0, Active aero improvement 0.8, Engine idle start-stop 1.5	14	6.0	16	195,264
Optima HEV	Optima Hybrid	1.6	FWD	AM6	5DR	Glazing 1.1, Lamp 0.06, Active engine warm-up 1.5, Active seat ventilation 1.0, Active aero improvement 0.8, Engine idle start-stop 1.5, Solar reflective surface coating 0.4	7	6.4	9	195,264
		2.0	FWD	AM6	4DR	Glazing 0.3, Lamp 0.22, Active transmission warm-up 1.5, Active aero improvements 1.2, Engine idle start-stop 1.5	115	4.7	106	195,264
		2.0	FWD	AM6	4DR	Glazing 0.3, Lamp 0.22, Active transmission warm-up 1.5, Active aero improvements 1.2, Engine idle start-stop 1.5, Solar reflective surface coating 0.4	60	5.1	60	195,264
		2.0	FWD	AM6	4DR	Glazing 0.4, Lamp 0.6, Active seat ventilation 1.0, Active transmission warm-up 1.5, Engine idle start-stop 1.5	17	5.0	17	195,264
		2.0	FWD	AM6	4DR	Glazing 0.4, Lamp 0.6, Active seat ventilation 1.0, Active transmission warm-up 1.5, Engine idle start-stop 1.5, Solar reflective surface coating 0.4	8	5.4	8	195,264
Optima 2.0T	Optima	2.0T	FWD	SA6	4DR	Glazing 0.3, Lamp 0.49	1,615	0.8	252	195,264
		2.0T	FWD	SA6	4DR	Glazing 0.3, Lamp 0.49, Solar reflective surface coating 0.4	600	1.2	141	195,264
		2.0T	FWD	SA6	4DR	Glazing 0.4, Lamp 0.49, Active seat ventilation 1.0	4,941	1.9	1,833	195,264
		2.0T	FWD	SA6	4DR	Glazing 0.4, Lamp 0.49, Active seat ventilation 1.0, Solar reflective surface coating 0.4	1,830	2.3	822	195,264
Optima PHEV	Optima Plug-in Hybrid	2.0	AM6	AM6	4DR	Glazing 0.3, Lamp 0.22, Active transmission warm-up 1.5, Active aero improvements 1.2, Engine idle start-stop 1.5	229	4.7	210	195,264
		2.0	AM6	AM6	4DR	Glazing 0.3, Lamp 0.22, Active transmission warm-up 1.5, Active aero improvements 1.2, Engine idle start-stop 1.5, Solar reflective surface coating 0.4	152	5.1	151	195,264
		2.0	AM6	AM6	4DR	Glazing 0.4, Lamp 0.6, Active seat ventilation 1.0, Active transmission warm-up 1.5, Engine idle start-stop 1.5	122	5.0	119	195,264
		2.0	AM6	AM6	4DR	Glazing 0.4, Lamp 0.6, Active seat ventilation 1.0, Active transmission warm-up 1.5, Engine idle start-stop 1.5, Solar reflective surface coating 0.4	80	5.4	84	195,264
Sportage 2.0T FWD	Sportage FWD	2.0T	FWD	SA6	SUV	Glazing 1.0, Lamp 0.12	23	1.1	5	195,264
		2.0T	FWD	SA6	SUV	Glazing 1.0, Lamp 0.12, Solar reflective surface coating 0.4	4	1.5	1	195,264
		2.0T	FWD	SA6	SUV	Glazing 1.0, Lamp 0.12, Active seat ventilation 1.0	1,283	2.1	526	195,264
		2.0T	FWD	SA6	SUV	Glazing 1.0, Lamp 0.12, Active seat ventilation 1.0, Solar reflective surface coating 0.4	210	2.5	103	195,264
		3.3	FWD	SA8	4DR	Glazing 0.2, Lamp 0.49, Active transmission warm-up 1.5	648	2.2	278	195,264
Cadenza 3.3	Cadenza	3.3	FWD	SA8	4DR	Glazing 0.2, Lamp 0.49, Active transmission warm-up 1.5, Solar reflective surface coating 0.4	282	2.6	143	195,264
		3.3	FWD	SA8	4DR	Glazing 0.4, Lamp 0.49, Active transmission warm-up 1.5	872	2.4	409	195,264
		3.3	FWD	SA8	4DR	Glazing 0.4, Lamp 0.49, Active transmission warm-up 1.5, Solar reflective surface coating 0.4	380	2.8	208	195,264
		3.3	FWD	SA8	4DR	Glazing 0.4, Lamp 0.44, Active transmission warm-up 1.5, Active seat ventilation 1.0	1,000	3.3	644	195,264
		3.3	FWD	SA8	4DR	Glazing 0.4, Lamp 0.44, Active transmission warm-up 1.5, Active seat ventilation 1.0, Solar reflective surface coating 0.4	418	3.7	302	195,264
Stinger2.0T RWD	Stinger RWD	2.0T	RWD	SA8	4DR	Engine idle start-stop 1.5, Lamp 0.8, Glazing 0.4	5,708	2.7	3,009	195,264
Stinger 2.0T AWD	Stinger AWD	2.0T	AWD	SA8	4DR	Engine idle start-stop 1.5, Lamp 0.8, Glazing 0.4	2,792	2.7	1,472	195,264
Niro Electric	Niro Electric	EV	FWD	A1	5DR	Glazing 0.3, Lamp 0.22	1,200	0.5	117	195,264
		EV	FWD	A1	5DR	Glazing 0.3, Lamp 0.22, Solar reflective surface coating 0.4	1,000	0.9	176	195,264
Stinger 3.3T RWD	Stinger RWD	3.3T	RWD	SA8	4DR	Engine idle start-stop 1.5, Lamp 0.8, Glazing 0.4, Active seat ventilation 1.0	8,563	3.7	6,187	195,264
Stinger 3.3T AWD	Stinger AWD	3.3T	AWD	SA8	4DR	Engine idle start-stop 1.5, Lamp 0.8, Glazing 0.4	1,772	2.7	934	195,264
		3.3T	AWD	SA8	4DR	Engine idle start-stop 1.5, Lamp 0.8, Glazing 0.4, Active seat ventilation 1.0	2,416	3.7	1,746	195,264
K900 3.3T AWD	K900	3.3T	AWD	SA8	4DR	Glazing 0.4, Lamp 0.56, Active transmission warm-up 1.5, Active aero improvement 0.9, Active seat ventilation 1.0	583	4.4	501	195,264
		3.3T	AWD	SA8	4DR	Glazing 0.4, Lamp 0.56, Active transmission warm-up 1.5, Active aero improvement 0.9, Active seat ventilation 1.0, Solar reflective surface coating 0.4	584	4.8	547	195,264

OCCredit	160,095
Car volume	360,308
FCIV _{OC} (Gal/mi)	0.000256051

VLM	195,264
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$$FCIV_{OC}(\text{gal/mi}) = \frac{(OCCredit \times 1,000,000)}{(VLM \times Production \times 8887)}$$

VI. Projected Average Fuel Economy Adjustment

Average MPG	42.4
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P4	MPG	41.3
P6	FCIV _{AC} (Gal/mi)	0.000398462
P7	FCIV _{OC} (Gal/mi)	0.000256051
N/A	FCIV _{PU} (Gal/mi)	0

1

Average MPG =

1

MPG

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(FCIV_{AC} + FCIV_{OC} + FCIV_{PU})