

**MID-CAFE REPORT
FOR
2017 MODEL YEAR
OF
KIA MOTORS CORPORATION**

- Import Passenger Cars -



NOTE : THIS REPORT CONTAINS [REDACTED] INFORMATION.

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

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
I	Introduction	1
II	Projected Average and Required Fuel Economy	2 ~ 4
III*	Vehicle Configuration Information	5
IV*	A/C Efficiency Credits	6
V*	Off-cycle Credits	7
VI	Projected Average Fuel Economy Adjustment	8

Note * : These sections contain [REDACTED] information

I. Introduction

As required by 49 CFR Part 537.9, estimated fuel economy values for Rio, Rio ECO, Forte5, Forte Koup, Soul, Soul Electric, Niro, Niro FE, Niro Touring, Optima, Optima FE, Optima hybrid, Optima plug-in hybrid, Sportage FWD, Sportage FE FWD, Sorento AWD, Sorento FWD, Cadenza, K900 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 2017 exhaust emission standards as defined 40 CFR §86.

II. Projected Average and Required Fuel Economy

1. Projected Average Fuel Economy

- IP : 36.8 MPG (without A/C efficiency & off-cycle credits)

- IP : 37.6 MPG (with A/C efficiency & off-cycle credits)

2. Projected Required Fuel Economy

- IP : 38.9 MPG

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 2017 model year for the purpose of the Act.

II. Projected Average and Required Fuel Economy

- Projected Required Fuel Economy

Projected Required		38.9													
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 1.6 AT ISG	Rio ECO	1.6	FWD	SA6	P185/65R15	5	28	80.0	80.0	80.0	101.2	42.2	42.46	2,875	2,750
	Rio ECO	1.6	FWD	SA6	P185/65R15	4	350	80.0	80.0	80.0	101.2	42.2	42.46	2,875	2,750
Rio 1.6 AT	Rio	1.6	FWD	SA6	P185/65R15	5	1,292	80.0	80.0	80.0	101.2	42.2	42.46	2,875	2,750
	Rio	1.6	FWD	SA6	205/45R17	5	63	80.0	80.0	80.0	101.2	41.8	42.84	2,875	2,750
Rio 1.6 MT	Rio	1.6	FWD	SA6	P185/65R15	4	13,257	80.0	80.0	80.0	101.2	42.2	42.46	2,875	2,750
	Rio	1.6	FWD	M6	P185/65R15	4	929	80.0	80.0	80.0	101.2	42.2	42.46	2,750	2,750
Forte 5 2.0 AT	Forte5	2.0	FWD	SA6	P215/45R17	5	501	61.5	62.0	61.8	106.3	45.6	39.54	3,250	3,000
	Forte5	2.0	FWD	SA6	195/65R15, 205/55R16	5	3,440	61.5	62.0	61.8	106.3	45.6	39.54	3,250	3,000
Forte Koup 2.0 AT	Forte Koup	2.0	FWD	SA6	205/55R16	2	62	61.5	62.0	61.8	106.3	45.6	39.54	3,250	3,000
Forte Koup 1.6 MT	Forte Koup	1.6	FWD	M6	P225/40R18	2	0	61.5	62.0	61.8	106.3	45.6	39.54	3,250	3,000
Soul 1.6 AT	Soul	1.6	FWD	SA6	205/60R16	5	25,122	62.0	62.5	62.2	101.2	43.7	41.12	3,125	3,000
Soul 1.6 MT	Soul	1.6	FWD	M6	205/60R16	5	3,193	62.0	62.5	62.2	101.2	43.7	41.12	3,125	3,000
Niro FE	Niro FE	1.6	FWD	AM6	205/55R16	5	1,831	61.6	62.2	61.9	106.3	45.7	39.46	3,250	3,000
Soul 2.0 GDI	Soul	2.0	FWD	SA6	215/55R17	5	10,464	61.7	62.2	62.0	101.2	43.6	41.21	3,250	3,000
	Soul	2.0	FWD	SA6	215/55R17	5	20,240	61.7	62.2	62.0	101.2	43.6	41.21	3,250	3,000
	Soul	2.0	FWD	SA6	235/45R18	5	1,437	61.4	61.9	61.6	101.2	43.3	41.47	3,375	3,500
	Soul	2.0	FWD	SA6	235/45R18	5	3,673	61.4	61.9	61.6	101.2	43.3	41.47	3,375	3,500
Soul 1.6T GDI	Soul	1.6	FWD	AM7	235/45R18	5	2,392	61.4	61.9	61.6	101.2	43.3	41.47	3,375	3,500
Soul Electric	Soul Electric	EV	N/A	OT	205/60R16	5	701	62.0	62.5	62.2	101.2	43.7	41.12	3,625	3,500
Forte 5 1.6 DCT	Forte5	1.6	FWD	AM7	P225/40R18	5	304	61.5	62.0	61.8	106.3	45.6	39.54	3,375	3,500
Forte 5 1.6 MT	Forte5	1.6	FWD	M6	P225/40R18	5	138	61.5	62.0	61.8	106.3	45.6	39.54	3,375	3,500
Forte Koup 1.6 DCT	Forte Koup	1.6	FWD	AM7	P225/40R18	2	0	61.5	62.0	61.8	106.3	45.6	39.54	3,375	3,500
Niro	Niro	1.6	FWD	AM6	205/55R16	5	15,427	61.6	62.2	61.9	106.3	45.7	39.46	3,500	3,500
Niro Touring	Niro Touring	1.6	FWD	AM6	225/45R 18	5	4,457	61.2	61.8	61.5	106.3	45.4	39.7	3,625	3,500
Optima 1.6	Optima	1.6	FWD	AM7	205/65R16	4	1,341	63.5	63.8	63.6	110.4	48.8	37.13	3,500	3,500
Optima 2.4 FE	Optima FE	2.4	FWD	SA6	P205/55R16	4	15,988	63.5	63.8	63.6	110.4	48.8	37.13	3,500	3,500
	Optima FE	2.4	FWD	SA6	P205/55R16	4	8,555	63.5	63.8	63.6	110.4	48.8	37.13	3,500	3,500
Optima 2.4	Optima	2.4	FWD	SA6	215/55R17	4	16,595	63.1	63.3	63.2	110.4	48.5	37.34	3,625	3,500
	Optima	2.4	FWD	SA6	215/55R17	4	10,154	63.1	63.3	63.2	110.4	48.5	37.34	3,625	3,500
Sportage 2.4 FWD	Sportage FV	2.4	FWD	SA6	225/55R18	SUV	11,580	63.5	64.0	63.8	105.1	46.6	38.75	3,750	3,500
	Sportage FV	2.4	FWD	SA6	225/55R18	SUV	2,383	63.5	64.0	63.8	105.1	46.6	38.75	3,750	3,500
Sportage FE 2.4 FWD	Sportage FE	2.4	FWD	SA6	225/60R17	SUV	31,219	63.5	64.0	63.8	105.1	46.6	38.75	3,625	3,500
	Sportage FE	2.4	FWD	SA6	225/60R17	SUV	1,154	63.5	64.0	63.8	105.1	46.6	38.75	3,625	3,500
Sportage 2.0T FWD	Sportage FV	2.0	FWD	SA6	245/45R19	SUV	5,110	63.3	63.8	63.6	105.1	46.4	38.9	4,000	4,000
Optima 2.0	Optima	2.0	FWD	SA6	235/45R18	4	3,953	62.9	63.1	63.0	110.4	48.3	37.48	3,875	4,000
Optima PHEV	Optima plug	2.0	FWD	AM6	215/55 R17	4	1,281	63.1	63.1	63.1	110.4	48.4	37.41	4,000	4,000
Optima HEV	Optima Hybr	2.0	FWD	AM6	P205/65R16	4	1,322	63.5	63.8	63.6	110.4	48.8	37.13	3,750	3,500
	Optima Hybr	2.0	FWD	AM6	P215/55R17	4	948	63.1	63.3	63.2	110.4	48.5	37.34	3,875	4,000
Sorento 2.0 AWD	Sorento AW	2.0	AWD	SA6	235/60R18	SUV	2,401	64.1	64.5	64.3	109.5	48.9	37.06	4,250	4,000
Sorento 2.0 FWD	Sorento FW	2.0	FWD	SA6	235/60R18	SUV	4,130	64.1	64.5	64.3	109.5	48.9	37.06	4,250	4,000
Sorento 2.4 AWD	Sorento AW	2.4	AWD	SA6	235/65R17	SUV	13,641	64.3	64.7	64.5	109.5	49.0	36.99	4,250	4,000
Sorento 2.4 FWD	Sorento FW	2.4	FWD	SA6	235/65R17	SUV	28,349	64.3	64.7	64.5	109.5	49.0	36.99	4,000	4,000
Cadenza 3.3 AT	Cadenza	3.3	FWD	SA8	245/45R18	4	3,154	63.3	63.6	63.4	112.4	49.5	36.84	4,000	4,000
	Cadenza	3.3	FWD	SA8	245/40R19	4	1,214	63.1	63.4	63.2	112.4	49.3	36.78	4,000	4,000
K900 3.8 RWD	K900	3.8	RWD	SA8	P245/50R18	4	78	63.6	63.6	63.6	120.0	53.0	34.38	4,750	4,500
K900 5.0 RWD	K900	5.0	RWD	SA8	P235/45R19(HANKOOK)	4	33	63.8	64.3	64.0	120.0	53.3	34.19	5,000	5,000
	K900	5.0	RWD	SA8	P235/45R19(CONTINENTAL)	4	75	63.6	64.3	64.0	120.0	53.3	34.19	5,000	5,000

Projected Required	38.9
Total Sales Volume	273,959

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

III. Projected Average and Required Fuel Economy

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

Projected Average	36.8
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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 1.6 AT ISG	Rio ECO	1.6	FWD	SA6	P185/65R15	5	28	35.4	52.0	41.3384	2,750	42.1	378
	Rio ECO	1.6	FWD	SA6	P185/65R15	4	350	36.0	53.3	42.1575	2,750		
Rio 1.6 AT	Rio	1.6	FWD	SA6	P185/65R15	5	1,292	35.6	54.0	42.0472	2,750	40.7	14,612
	Rio	1.6	FWD	SA6	205/45R17	5	63	35.6	54.0	42.0472	2,750		
	Rio	1.6	FWD	SA6	P185/65R15	4	13,257	34.3	52.4	40.6128	2,750		
Rio 1.6 MT	Rio	1.6	FWD	M6	P185/65R15	4	929	35.2	53.4	41.5766	2,750	41.6	929
Forte 5 2.0 AT	Forte5	2.0	FWD	SA6	P215/45R17	5	501	32.1	47.3	37.5267	3,000	38.0	3,941
	Forte5	2.0	FWD	SA6	195/65R15, 205/55R16	5	3,440	32.2	49.1	38.1015	3,000		
Forte Koup 2.0 AT	Forte Koup	2.0	FWD	SA6	205/55R16	2	62	32.1	48.0	37.7231	3,000	37.7	62
Forte Koup 1.6 MT	Forte Koup	1.6	FWD	M6	P225/40R18	2	0	29.7	42.2	34.2677	3,000	34.3	0
Soul 1.6 AT	Soul	1.6	FWD	SA6	205/60R16	5	25,122	32.2	43.0	36.3031	3,000	36.3	25,122
Soul 1.6 MT	Soul	1.6	FWD	M6	205/60R16	5	3,193	31.4	43.0	35.7385	3,000	35.7	3,193
Niro FE	Niro FE	1.6	FWD	AM6	205/55R16	5	1,831	71.0	68.9	70.0394	3,000	70.0	1,831
Soul 2.0 GDI	Soul	2.0	FWD	SA6	215/55R17	5	10,464	31.0	42.8	35.3908	3,000	36.0	35,814
	Soul	2.0	FWD	SA6	215/55R17	5	20,240	32.2	43.5	36.4623	3,000		
	Soul	2.0	FWD	SA6	235/45R18	5	1,437	30.4	42.6	34.8973	3,500		
	Soul	2.0	FWD	SA6	235/45R18	5	3,673	31.5	42.8	35.7471	3,500		
Soul 1.6T GDI	Soul	1.6	FWD	AM7	235/45R18	5	2,392	33.4	43.9	37.4285	3,500	37.4	2,392
Soul Electric	Soul Electric	EV	N/A	OT	205/60R16	5	701	416.0	320.0	366.5198	3,500	366.5	701
Forte 5 1.6 DCT	Forte5	1.6	FWD	AM7	P225/40R18	5	304	32.2	42.6	36.1741	3,500	36.2	304
Forte 5 1.6 MT	Forte5	1.6	FWD	M6	P225/40R18	5	138	29.3	41.4	33.7372	3,500	33.7	138
Forte Koup 1.6 DCT	Forte Koup	1.6	FWD	AM7	P225/40R18	2	0	31.6	45.5	36.6365	3,500	36.6	0
Niro	Niro	1.6	FWD	AM6	205/55R16	5	15,427	66.2	65.3	65.7919	3,500	65.8	15,427
Niro Touring	Niro Touring	1.6	FWD	AM6	225/45R18	5	4,457	60.0	58.4	59.2693	3,500	59.3	4,457
Optima 1.6	Optima	1.6	FWD	AM7	205/55R16	4	1,341	36.3	54.8	42.8024	3,500	42.8	1,341
Optima 2.4 FE	Optima FE	2.4	FWD	SA6	P205/55R16	4	15,988	32.9	52.5	39.5433	3,500	39.1	24,543
	Optima FE	2.4	FWD	SA6	P205/55R16	4	8,555	31.7	51.3	38.2818	3,500		
Optima 2.4	Optima	2.4	FWD	SA6	215/55R17	4	16,595	31.6	50.1	37.8973	3,500	37.4	26,749
	Optima	2.4	FWD	SA6	215/55R17	4	10,154	30.3	49.3	36.6574	3,500		
	Sportage FWD	2.4	FWD	SA6	225/55R18	SUV	11,580	28.4	41.1	32.9869	3,500		
Sportage 2.4 FWD	Sportage FWD	2.4	FWD	SA6	225/55R18	SUV	2,383	29.1	41.8	33.7087	3,500	33.1	13,963
	Sportage FE F	2.4	FWD	SA6	225/60R17	SUV	31,219	29.2	43.0	34.1288	3,500		
Sportage FE 2.4 FWD	Sportage FE F	2.4	FWD	SA6	225/60R17	SUV	1,154	28.7	40.8	33.1201	3,500	34.1	32,373
	Sportage FWD	2.0	FWD	SA6	245/45R19	SUV	5,110	26.2	39.0	30.7401	4,000		
Optima 2.0	Optima	2.0	FWD	SA6	235/45R18	4	3,953	27.4	44.5	33.1287	4,000	33.1	3,953
Optima PHEV	Optima plug-in	2.0	FWD	AM6	215/55 R17	4	1,281	156.1	95.5	121.4267	4,000	121.4	1,281
Optima HEV	Optima Hybrid	2.0	FWD	AM6	P205/65R16	4	1,322	55.4	62.8	58.5021	3,500	58.2	2,270
	Optima Hybrid	2.0	FWD	AM6	P215/55R17	4	948	54.4	62.7	57.8458	4,000		
Sorento 2.0 AWD	Sorento AWD	2.0	AWD	SA6	235/60R18	SUV	2,401	24.3	35.9	28.4345	4,000	28.4	2,401
Sorento 2.0 FWD	Sorento FWD	2.0	FWD	SA6	235/60R18	SUV	4,130	25.3	38.3	29.8610	4,000	29.9	4,130
Sorento 2.4 AWD	Sorento AWD	2.4	AWD	SA6	235/65R17	SUV	13,641	26.0	35.6	29.5908	4,000	29.6	13,641
Sorento 2.4 FWD	Sorento FWD	2.4	FWD	SA6	235/65R17	SUV	28,349	26.8	40.4	31.5846	4,000	31.6	28,349
Cadenza 3.3 AT	Cadenza	3.3	FWD	SA8	245/45R18	4	3,154	25.9	39.4	30.6215	4,000	30.5	4,368
	Cadenza	3.3	FWD	SA8	245/40R19	4	1,214	25.4	38.7	30.0468	4,000		
K900 3.8 RWD	K900	3.8	RWD	SA8	P245/50R18	4	78	21.2	35.7	25.9414	4,500	25.9	78
K900 5.0 RWD	K900	5.0	RWD	SA8	P235/45R19(HANKOOK)	4	33	18.1	32.2	22.5419	5,000	22.7	108
	K900	5.0	RWD	SA8	P235/45R19(CONTINENTAL)	4	75	18.7	30.8	22.7158	5,000		

Average	36.8
ROUNDED Avg. comb.	36.5345
Multiplied Factor	1.006834914
'a'	1.4347
C' FACTOR	0.0014
IW (Added Factor)	0.065078222
SF _{3IWC}	0.2367
FE _{3IWC}	36.7744
SF _{4ETW}	0.1428
FE _{4IWC}	31.5047

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

III. Vehicle Configuration Information

Model Type Description	Carline	Basic Engine (kg)	Drive	T/M (gms)	Doors	Base Tire	Engine code	L/W	ETW	Eng. Disp.	Net rated power (kW)	Net horsepower	Fuel system	Emission control system	T/M (gms)	Number of forward speeds	0-100	NV	Axle ratio	Combined FE	Projected sales	Interior volume (m ³)	Passenger Volume	Luggage Volume	Body style	Road load power at 50 m/s	IWC
Rio 1.6 AT BG	Rio ECO	1.6	FWD	SAB	5	P18565R15	G4FD-AC	2,901	2,875	1.6	103	138	DFI	TWC	SAB	6	Yes	33.9	3.07	41.3384	28	103.6	88.6	15.0	4(Compact Cars)	10.5	2,750
	Rio ECO	1.6	FWD	SAB	4	P18565R15	G4FD-AC	2,898	2,875	1.6	103	138	DFI	TWC	SAB	6	Yes	33.9	3.07	42.1575	350	102.1	88.4	13.7	4(Compact Cars)	10.2	2,750
Rio 1.6 AT	Rio	1.6	FWD	SAB	5	P18565R15	G4FD-AC	2,884	2,875	1.6	103	138	DFI	TWC	SAB	6	Yes	33.9	3.07	42.0472	1,292	103.6	88.6	15.0	4(Compact Cars)	10.5	2,750
	Rio	1.6	FWD	SAB	5	20045R17	G4FD-AC	2,884	2,875	1.6	103	138	DFI	TWC	SAB	6	Yes	33.9	3.07	42.0472	63	103.6	88.6	15.0	4(Compact Cars)	10.5	2,750
Rio 1.6 MT	Rio	1.6	FWD	SAB	4	P18565R15	G4FD-AC	2,892	2,875	1.6	103	138	DFI	TWC	SAB	6	Yes	33.9	3.07	40.8128	13,257	102.1	88.4	13.7	4(Compact Cars)	10.2	2,750
	Rio	1.6	FWD	M6	4	P18565R15	G4FD-MC	2,794	2,750	1.6	103	138	DFI	TWC	M6	6	Yes	40.7	4.06	41.5766	929	102.1	88.4	13.7	4(Compact Cars)	9.8	2,750
Forte 5.2.0 AT	Forte	2.0	FWD	SAB	5	P21565R17	G4NC-AC	3,248	3,250	2.0	122	164	DFI	TWC	SAB	6	Yes	33.2	3.07	37.5267	501	121.4	88.2	23.2	6(Large cars)	12.0	3,000
	Forte	2.0	FWD	SAB	5	119565R16, 2009/55R16	G4NC-AC	3,228	3,250	2.0	122	164	DFI	TWC	SAB	6	Yes	33.2	3.07	38.1015	3,440	121.4	88.2	23.2	6(Large cars)	11.2	3,000
Forte Koup 2.0 AT	Forte Koup	2.0	FWD	SAB	2	200955R16	G4NC-AC	3,188	3,250	2.0	122	164	DFI	TWC	SAB	6	Yes	34.6	3.20	37.7231	62	105.7	92.3	13.4	4(Compact Cars)	10.9	3,000
	Forte Koup	1.6	FWD	M6	2	P22546R18	G4FJ-AC	3,281	3,250	1.6	180	201	DFI	TWC	SAB	6	Yes	43.8	4.47	34.8977	0	105.7	92.3	13.4	4(Compact Cars)	12.2	3,000
Soul 1.6 AT	Soul	1.6	FWD	SAB	5	200955R16	G4FD-AC	3,177	3,125	1.6	97	130	DFI	TWC	SAB	6	Yes	41.2	3.96	36.5031	26,122	125.2	101.0	24.2	7(Small Station Wagons)	13.2	3,000
	Soul	1.6	FWD	M6	5	200955R16	G4FD-MC	3,118	3,125	1.6	97	130	DFI	TWC	M6	6	Yes	44.7	4.56	35.7385	3,193	125.2	101.0	24.2	7(Small Station Wagons)	13.1	3,000
Niro FE	Niro FE	1.6	FWD	AM6	5	200955R16	G4LE-AC	3,406	3,250	1.6	79	104	DFI	TWC	AM6	6	Yes	33.3	3.23	70.0394	1,831	128.7	100.9	27.8	7(Small Station Wagons)	10.6	3,000
	Soul	2.0	FWD	SAB	5	21555R17	G4NC-ACS	3,300	3,250	2.0	119	180	DFI	TWC	SAB	6	Yes	33.6	3.27	35.3608	10,464	125.2	101.0	24.2	7(Small Station Wagons)	13.3	3,000
Soul 2.0 GDI	Soul	2.0	FWD	SAB	5	21555R17	G4NC-AC	3,300	3,250	2.0	120	181	DFI	TWC	SAB	6	Yes	33.6	3.27	36.4523	20,240	125.2	101.0	24.2	7(Small Station Wagons)	13.3	3,000
	Soul	2.0	FWD	SAB	5	23545R18	G4NC-ACS	3,417	3,375	2.0	119	180	DFI	TWC	SAB	6	Yes	34.5	3.38	34.8973	1,437	125.2	101.0	24.2	7(Small Station Wagons)	13.6	3,500
Soul 1.6 MT	Soul	1.6	FWD	SAB	5	23545R18	G4NC-AC	3,416	3,375	2.0	120	181	DFI	TWC	SAB	6	Yes	34.5	3.38	35.7471	3,673	125.2	101.0	24.2	7(Small Station Wagons)	13.6	3,500
	Soul	1.6	FWD	AM7	5	23545R18	G4FJ-AMC	3,368	3,375	1.6	150	201	DFI	TWC	AM7	7	Yes	32.5	3.42	37.4285	2,362	125.2	101.0	24.2	7(Small Station Wagons)	13.8	3,500
Soul Electric	Soul Electric	EV	N/A	DT	5	200955R16	MGRB	3,640	3,625	N/A	81	109	EV	N/A	DT	1	Yes	114.1	3.98	366.5198	701	125.2	101.0	24.2	7(Small Station Wagons)	12.5	3,500
	Forte 5.1.6 DCT	Forte	1.6	FWD	AM7	5	P22546R18	G4FJ-AMC	3,368	3,375	1.6	150	201	DFI	TWC	AM7	7	Yes	35.9	3.61	36.7471	304	121.4	88.2	23.2	6(Large cars)	13.3
Forte Koup 1.6 DCT	Forte	1.6	FWD	M6	5	200955R16	G4FJ-AMC	3,331	3,375	1.6	150	201	DFI	TWC	M6	6	Yes	43.5	4.47	33.7372	138	121.4	88.2	23.2	6(Large cars)	12.9	3,500
	Forte Koup	1.6	FWD	AM7	2	P22546R18	G4FJ-AMC	3,338	3,375	1.6	150	201	DFI	TWC	AM7	7	Yes	35.9	3.61	36.6365	0	105.7	92.3	13.4	4(Compact Cars)	12.2	3,500
Niro Touring	Niro	1.6	FWD	AM6	5	200955R16	G4LE-AC	3,461	3,500	1.6	79	104	DFI	TWC	AM6	6	Yes	33.3	3.23	65.7919	15,427	128.7	100.9	27.8	7(Small Station Wagons)	10.6	3,500
	Niro Touring	1.6	FWD	AM6	5	22045R18	G4LE-AC	3,574	3,625	1.6	79	104	DFI	TWC	AM6	6	Yes	33.3	3.23	59.2693	4,457	128.7	100.9	27.8	7(Small Station Wagons)	12.1	3,500
Optima 1.6	Optima	1.6	FWD	AM7	4	200955R16	G4FJ-AMC	3,324	3,500	1.6	133	178	DFI	TWC	AM7	7	Yes	30.3	3.17	42.8024	1,341	120.7	104.8	15.9	6(Large cars)	10.8	3,500
	Optima FE	2.4	FWD	SAB	4	P20555R16	G4KJ-AC	3,519	3,500	2.4	138	185	DFI	TWC	SAB	6	Yes	29.5	2.89	39.5433	15,888	120.7	104.8	15.9	6(Large cars)	10.8	3,500
Optima 2.4	Optima	2.4	FWD	SAB	4	P20555R16	G4KJ-ACS	3,519	3,500	2.4	138	185	DFI	TWC	SAB	6	Yes	29.5	2.89	38.2818	8,555	120.7	104.8	15.9	6(Large cars)	10.8	3,500
	Optima	2.4	FWD	SAB	4	21555R17	G4KJ-AC	3,632	3,625	2.4	138	185	DFI	TWC	SAB	6	Yes	29.6	2.89	37.8973	16,595	120.7	104.8	15.9	6(Large cars)	11.4	3,500
Sportage 2.4 FWD	Sportage FWD	2.4	FWD	SAB	5	21555R17	G4KJ-ACS	3,632	3,625	2.4	138	185	DFI	TWC	SAB	6	Yes	29.6	2.89	36.6074	10,154	120.7	104.8	15.9	6(Large cars)	11.4	3,500
	Sportage FWD	2.4	FWD	SAB	5	22555R18	G4KJ-AC	3,752	3,750	2.4	135	181	DFI	TWC	SAB	6	Yes	29.8	3.06	32.8699	11,580	120.7	104.8	15.9	6(Large cars)	14.2	3,500
Sportage FE 2.4 FWD	Sportage FE FWD	2.4	FWD	SAB	SUV	22555R18	G4KJ-ACS	3,752	3,750	2.4	135	181	DFI	TWC	SAB	6	Yes	29.8	3.06	33.7087	2,383	120.7	104.8	15.9	6(Large cars)	14.2	3,500
	Sportage FE FWD	2.4	FWD	SAB	SUV	22555R17	G4KJ-ACS	3,627	3,625	2.4	135	181	DFI	TWC	SAB	6	Yes	29.8	3.06	34.1288	31,219	120.7	104.8	15.9	6(Large cars)	13.9	3,500
Sportage 2.0T FWD	Sportage FWD	2.0	FWD	SAB	SUV	24045R19	G4KH-AC	3,987	4,000	2.0	179	240	DFI	TWC	SAB	6	Yes	32.2	3.32	30.7401	5,110	120.7	104.8	15.9	6(Large cars)	14.3	4,000
	Sportage FWD	2.4	FWD	SAB	SUV	22555R18	G4KJ-AC	3,752	3,750	2.4	135	181	DFI	TWC	SAB	6	Yes	29.8	3.06	32.8699	11,580	120.7	104.8	15.9	6(Large cars)	14.2	3,500
Optima 2.0	Optima	2.0	FWD	SAB	4	23545R18	G4KH-AC	3,801	3,875	2.0	183	246	DFI	TWC	SAB	6	Yes	28.5	2.89	33.1287	3,653	120.7	104.8	15.9	6(Large cars)	12.4	4,000
	Optima PHEV	Optima plug-in hybrid	2.0	FWD	AM6	4	21555R17	G4NC-AC	4,084	4,000	2.0	115	154	DFI	TWC	AM6	6	Yes	38.0	3.51	121.6287	1,281	114.7	104.8	9.9	5(Midsize cars)	10.6
Optima HEV	Optima Hybrid	2.0	FWD	AM6	4	P20555R16	G4NC-AC	3,797	3,750	2.0	115	154	DFI	TWC	AM6	6	Yes	34.1	3.32	88.6021	1,322	118.2	104.8	13.4	5(Midsize cars)	12.8	3,500
	Optima Hybrid	2.0	FWD	AM6	4	P21555R17	G4NC-AC	3,838	3,875	2.0	115	154	DFI	TWC	AM6	6	Yes	34.1	3.32	87.8458	948	118.2	104.8	13.4	5(Midsize cars)	10.3	4,000
Sorento 2.0 AWD	Sorento AWD	2.0	AWD	SAB	SUV	23055R18	G4KH-AC	4,352	4,250	2.0	179	240	DFI	TWC	SAB	6	Yes	32.6	3.51	28.4345	2,401	123.8	107.8	16.0	31(Small SUV 4WD)	15.7	4,000
	Sorento FWD	2.0	FWD	SAB	SUV	23055R18	G4KH-AC	4,226	4,250	2.0	179	240	DFI	TWC	SAB	6	Yes	28.7	3.20	29.861	4,130	123.8	107.8	16.0	31(Small SUV 4WD)	14.4	4,000
Sorento 2.4 AWD	Sorento AWD	2.4	AWD	SAB	SUV	23055R17	G4KJ-AC	4,171	4,250	2.4	138	185	DFI	TWC	SAB	6	Yes	33.9	3.65	29.5908	13,641	123.8	107.8	16.0	31(Small SUV 4WD)	15.8	4,000
	Sorento FWD	2.4	FWD	SAB	SUV	23055R17	G4KJ-AC	4,035	4,000	2.4	138	185	DFI	TWC	SAB	6	Yes	32.6	3.51	31.5846	28,349	123.8	107.8	16.0	31(Small SUV 4WD)	14.2	4,000
Cadenza 3.3 AT	Cadenza	3.3	FWD	SAB	4	24045R19	G4DM-AC	4,048	4,000	3.3	216	290	DFI	TWC	SAB	8	Yes	28.0	3.32	30.6215	3,154	123.8	107.8	16.0	6(Large cars)	12.8	4,000
	Cadenza	3.3	FWD	SAB	4	24045R19	G4DM-AC	4,087	4,000	3.3	216	290	DFI	TWC	SAB	8	Yes	27.9	3.32	30.0488	1,214	123.8	107.8	16.0	6(Large cars)	12.8	4,000
K900 3.8 RWD	K900	3.8	RWD	SAB	4	P24055R18	G4EJ-AC	4,654																			

IV. A/C Efficiency Credits

Model Type Description	Carline	Basic Engine (disp)	Drive	T/M class (Drive, type, gear)	Doors	Base Tire	Refrigerant	A/C Drive System	Projected sales	Reduc'd Reheat with variable displ 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	0.8 gpm	1.0 gpm	1.0 gpm	0.5 gpm	gpm	megagrams	
Rio 1.6 AT ISG	Rio ECO	1.6	FWD	SA6	5	P185/65R15	R134a	V-Belt Driv	28	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	16	195,264
	Rio ECO	1.6	FWD	SA6	4	P185/65R15	R134a	V-Belt Driv	350	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	205	195,264
Rio 1.6 AT	Rio	1.6	FWD	SA6	5	P185/65R15	R134a	V-Belt Driv	1,292	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	757	195,264
	Rio	1.6	FWD	SA6	5	205/45R17	R134a	V-Belt Driv	63	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	37	195,264
Rio 1.6 MT	Rio	1.6	FWD	SA6	4	P185/65R15	R134a	V-Belt Driv	13,257	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	7,766	195,264
	Rio	1.6	FWD	M6	4	P185/65R15	R134a	V-Belt Driv	929	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	544	195,264
Forte 5 2.0 AT	Fortes	2.0	FWD	SA6	5	P215/45R17	R134a	V-Belt Driv	102	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	60	195,264
	Fortes	2.0	FWD	SA6	5	P215/45R17	R134a	V-Belt Driv	399	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.5	2.5	195	195,264
	Fortes	2.0	FWD	SA6	5	195/65R15, 205/55R16	R134a	V-Belt Driv	3,440	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.5	2.5	1,679	195,264
Forte Koup 2.0 AT	Forte Koup	2.0	FWD	SA6	2	205/55R16	R134a	V-Belt Driv	3	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	2	195,264
	Forte Koup	2.0	FWD	SA6	2	205/55R16	R134a	V-Belt Driv	59	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.5	2.5	29	195,264
Forte Koup 1.6 MT	Forte Koup	1.6	FWD	M6	2	P225/40R18	R134a	V-Belt Driv	0	0.0	1.0	0.0	0.0	0.8	1.0	0.0	0.5	3.3	0	195,264
Soul 1.6 AT	Soul	1.6	FWD	SA6	5	205/60R16	R1234yf	V-Belt Driv	25,122	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	14,716	195,264
Soul 1.6 MT	Soul	1.6	FWD	M6	5	205/60R16	R1234yf	V-Belt Driv	3,193	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	1,870	195,264
Niro FE	Niro FE	1.6	FWD	AM6	5	205/55R16	R134a	Electric	1,831	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	1,359	195,264
Soul 2.0 GDI	Soul	2.0	FWD	SA6	5	215/55R17	R1234yf	V-Belt Driv	10,464	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	6,130	195,264
	Soul	2.0	FWD	SA6	5	215/55R17	R1234yf	V-Belt Driv	20,240	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	11,856	195,264
	Soul	2.0	FWD	SA6	5	235/45R18	R1234yf	V-Belt Driv	1,437	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	842	195,264
	Soul	2.0	FWD	SA6	5	235/45R18	R1234yf	V-Belt Driv	3,673	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	2,152	195,264
Soul 1.6T GDI	Soul	1.6	FWD	AM7	5	235/45R18	R1234yf	V-Belt Driv	2,392	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	1,401	195,264
Soul Electric	Soul Electric	EV	N/A	OT	5	205/60R16	R134a	Electric	701	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	520	195,264
Forte 5 1.6 DCT	Fortes	1.6	FWD	AM7	5	P225/40R18	R134a	V-Belt Driv	104	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	77	195,264
	Fortes	1.6	FWD	AM7	5	P225/40R18	R134a	V-Belt Driv	200	0.0	1.0	0.0	0.0	0.8	1.0	0.0	0.5	3.3	129	195,264
Forte 5 1.6 MT	Fortes	1.6	FWD	M6	5	P225/40R18	R134a	V-Belt Driv	137	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	102	195,264
	Fortes	1.6	FWD	M6	5	P225/40R18	R134a	V-Belt Driv	1	0.0	1.0	0.0	0.0	0.8	1.0	0.0	0.5	3.3	1	195,264
Forte Koup 1.6 DCT	Forte Koup	1.6	FWD	AM7	2	P225/40R18	R134a	V-Belt Driv	0	0.0	1.0	0.0	0.0	0.8	1.0	0.0	0.5	3.3	0	195,264
Niro	Niro	1.6	FWD	AM6	5	205/55R16	R134a	Electric	15,427	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	11,447	195,264
Niro Touring	Niro Touring	1.6	FWD	AM6	5	225/45R18	R134a	Electric	4,457	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	3,307	195,264
Optima 1.6	Optima	1.6	FWD	AM7	4	205/65R16	R1234yf	V-Belt Driv	1,341	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.0	786	195,264
	Optima FE	2.4	FWD	SA6	4	P205/55R16	R1234yf	V-Belt Driv	15,988	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	11,863	195,264
Optima 2.4 FE	Optima FE	2.4	FWD	SA6	4	P205/55R16	R1234yf	V-Belt Driv	8,555	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	6,348	195,264
	Optima	2.4	FWD	SA6	4	215/55R17	R1234yf	V-Belt Driv	16,595	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	12,314	195,264
Optima 2.4	Optima	2.4	FWD	SA6	4	215/55R17	R1234yf	V-Belt Driv	10,154	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	7,534	195,264
	Sportage FWD	2.4	FWD	SA6	SUV	225/55R18	R1234yf	V-Belt Driv	11,580	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	6,783	195,264
Sportage 2.4 FWD	Sportage FWD	2.4	FWD	SA6	SUV	225/55R18	R1234yf	V-Belt Driv	2,383	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	1,396	195,264
	Sportage FE FWD	2.4	FWD	SA6	SUV	225/60R17	R1234yf	V-Belt Driv	31,219	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	18,288	195,264
Sportage 2.0T FWD	Sportage FE FWD	2.4	FWD	SA6	SUV	225/60R17	R1234yf	V-Belt Driv	1,154	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	676	195,264
	Sportage FWD	2.0	FWD	SA6	SUV	245/45R19	R1234yf	V-Belt Driv	5,110	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	2,993	195,264
Optima 2.0	Optima	2.0	FWD	SA6	4	235/45R18	R1234yf	V-Belt Driv	3,953	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	2,316	195,264
Optima PHEV	Optima plug-in hybrid	2.0	FWD	AM6	4	215/55 R17	R1234yf	Electric	1,281	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	951	195,264
Optima HEV	Optima Hybrid	2.0	FWD	AM6	4	P205/65R16	R1234yf	Electric	1,322	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	981	195,264
	Optima Hybrid	2.0	FWD	AM6	4	P215/55R17	R1234yf	Electric	948	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	703	195,264
Sorento 2.0 AWD	Sorento AWD	2.0	AWD	SA6	SUV	235/60R18	R134a	V-Belt Driv	2,401	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	1,406	195,264
Sorento 2.0 FWD	Sorento FWD	2.0	FWD	SA6	SUV	235/60R18	R134a	V-Belt Driv	4,130	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	2,419	195,264
Sorento 2.4 AWD	Sorento AWD	2.4	AWD	SA6	SUV	236/65R17	R134a	V-Belt Driv	13,641	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	7,991	195,264
Sorento 2.4 FWD	Sorento FWD	2.4	FWD	SA6	SUV	235/65R17	R134a	V-Belt Driv	28,349	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	16,807	195,264
Cadenza 3.3 AT	Cadenza	3.3	FWD	SA8	4	245/45R18	R1234yf	V-Belt Driv	3,154	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	1,848	195,264
	Cadenza	3.3	FWD	SA8	4	245/40R19	R1234yf	V-Belt Driv	1,214	1.5	0.0	0.0	0.0	0.0	1.0	0.0	0.5	3.0	711	195,264
K900 3.8 RWD	K900	3.8	RWD	SA8	4	P245/50R18	R134a	V-Belt Driv	78	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	58	195,264
K900 5.0 RWD	K900	5.0	RWD	SA8	4	P235/45R19(HA NK(OCK))	R134a	V-Belt Driv	33	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	24	195,264
	K900	5.0	RWD	SA8	4	P235/45R19(CO NTINENTAL)	R134a	V-Belt Driv	75	1.5	0.0	0.0	0.0	0.8	1.0	0.0	0.5	3.8	56	195,264

ACCredit	172,251	VLM	195,264
Car volume	273,959		
FCIV _{ac} (Gal/mi)	0.000362325		

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

V. Off-cycle Credits

Model Type Description	Carline	Basic Engine (disp)	Drive	T/M class (Drive, type)	Doors	Base Tire	Description	Projected sales	Off-cycle benefit per vehicle		VLM
									gpm	megagrams	
Rio 1.6 AT ISG	Rio ECO	1.6	FWD	SA6	5	P185/65R15	ISG 1.5, Glazing 0.1	28	1.6	9	195,264
	Rio ECO	1.6	FWD	SA6	4	P185/65R15	ISG 1.5, Glazing 0.1	350	1.6	109	195,264
	Rio	1.6	FWD	SA6	5	P185/65R15	Glazing 0.1	1,142	0.1	22	195,264
Rio 1.6 AT	Rio	1.6	FWD	SA6	5	P185/65R15	No credits are generated from these vehicles	150	0.0	0	195,264
	Rio	1.6	FWD	SA6	5	205/45R17	Lamp 0.16 (Parking/position, Side marker rear), Glazing 0.1	63	0.3	4	195,264
	Rio	1.6	FWD	SA6	4	P185/65R15	Glazing 0.1	12,485	0.1	244	195,264
	Rio	1.6	FWD	SA6	4	P185/65R15	No credits are generated from these vehicles	632	0.0	0	195,264
	Rio	1.6	FWD	SA6	4	P185/65R15	Lamp 0.16, Glazing 0.1	140	0.3	8	195,264
	Rio	1.6	FWD	M6	4	P185/65R15	Glazing 0.1	776	0.1	15	195,264
Forte 5 2.0 AT	Forte5	2.0	FWD	SA6	5	P215/45R17	Glazing 0.2	501	0.2	20	195,264
	Forte5	2.0	FWD	SA6	5	195/65R15, 205/55R16	Glazing 0.2	3,440	0.2	134	195,264
Forte Koup 2.0 AT	Forte Koup	2.0	FWD	SA6	2	205/55R16	Glazing 0.2	62	0.2	2	195,264
Forte Koup 1.6 MT	Forte Koup	1.6	FWD	M6	2	P225/40R18	Glazing 0.2	0	0.2	0	195,264
Soul 1.6 AT	Soul	1.6	FWD	SA6	5	205/60R16	No credits are generated from these vehicles	31	0.0	0	195,264
	Soul	1.6	FWD	SA6	5	205/60R16	Glazing 1.1	25,091	1.1	5,389	195,264
Soul 1.6 MT	Soul	1.6	FWD	M6	5	205/60R16	Glazing 1.1	3,193	1.1	686	195,264
Niro FE	Niro FE	1.6	FWD	AM6	5	205/55R16	Active engine warm-up, High efficiency exterior lights(position, front&rear side markers), grill shutter, active T/M warm-up, glazing	1,831	3.5	1,251	195,264
Soul 2.0 GDI	Soul	2.0	FWD	SA6	5	215/55R17	Glazing 1.1	9,647	1.1	2,072	195,264
	Soul	2.0	FWD	SA6	5	215/55R17	Glazing 0.8, Active seat ventilation 1.0	817	1.8	287	195,264
	Soul	2.0	FWD	SA6	5	215/55R17	Glazing 1.1	18,659	1.1	4,008	195,264
	Soul	2.0	FWD	SA6	5	215/55R17	Glazing 0.8, Active seat ventilation 1.0	1,581	1.8	556	195,264
	Soul	2.0	FWD	SA6	5	235/45R18	Lamp 0.1 (Parking/position), Glazing 1.1	1,380	1.2	323	195,264
	Soul	2.0	FWD	SA6	5	235/45R18	Lamp 0.1 (Parking/position), Glazing 0.8	57	0.9	10	195,264
	Soul	2.0	FWD	SA6	5	235/45R18	Lamp 0.1 (Parking/position), Glazing 1.1	3,527	1.2	828	195,264
	Soul	2.0	FWD	SA6	5	235/45R18	Lamp 0.1 (Parking/position), Glazing 0.8	146	0.9	28	195,264
Soul 1.6T GDI	Soul	1.6	FWD	AM7	5	235/45R18	Glazing 1.1	1,606	1.1	345	195,264
	Soul	1.6	FWD	AM7	5	235/45R18	Lamp 0.1 (Parking/position), Glazing 0.8	786	0.9	138	195,264
Soul Electric	Soul Electric	EV	N/A	OT	5	205/60R16	Lamp 0.1 (Parking/position), Glazing 1.1	305	1.2	71	195,264
	Soul Electric	EV	N/A	OT	5	205/60R16	Lamp 0.1 (Parking/position), Active seat ventilation 1.0, Glazing 1.1	264	2.2	113	195,264
	Soul Electric	EV	N/A	OT	5	205/60R16	Lamp 0.1 (Parking/position), Active seat ventilation 1.0, Glazing 0.8	132	1.9	49	195,264
Forte 5 1.6 DCT	Forte5	1.6	FWD	AM7	5	P225/40R18	Glazing 0.2	304	0.2	12	195,264
Forte 5 1.6 MT	Forte5	1.6	FWD	M6	5	P225/40R18	Glazing 0.2	138	0.2	5	195,264
Forte Koup 1.6 DCT	Forte Koup	1.6	FWD	AM7	2	P225/40R18	Glazing 0.2	0	0.2	0	195,264
Niro	Niro	1.6	FWD	AM6	5	205/55R16	Active engine warm-up, High efficiency exterior lights(position, front&rear side markers), grill shutter, active T/M warm-up, glazing	15,427	3.5	10,543	195,264
Niro Touring	Niro Touring	1.6	FWD	AM6	5	225/45R 18	Active engine warm-up, High efficiency exterior lights(position, front&rear side markers), grill shutter, active T/M warm-up, glazing	4,457	3.5	3,046	195,264
Optima 1.6	Optima	1.6	FWD	AM7	4	205/65R16	Lamp 0.43 (Low/high beam), Glazing 0.2	1,341	0.6	157	195,264
Optima 2.4 FE	Optima FE	2.4	FWD	SA6	4	P205/55R16	Lamp 0.43 (Low/high beam), ATF warmer 1.5, Glazing 0.2	15,988	2.1	6,556	195,264
	Optima FE	2.4	FWD	SA6	4	P205/55R16	Lamp 0.43 (Low/high beam), ATF warmer 1.5, Glazing 0.2	8,555	2.1	3,508	195,264
Optima 2.4	Optima	2.4	FWD	SA6	4	215/55R17	Lamp 0.43 (Low/high beam), ATF warmer 1.5, Glazing 0.2	7,960	2.1	3,264	195,264
	Optima	2.4	FWD	SA6	4	215/55R17	Lamp 0.43 (Low/high beam), ATF warmer 1.5, Glazing 0.3, Active seat ventilation 1.0	2,194	3.2	1,371	195,264
	Optima	2.4	FWD	SA6	4	215/55R17	Lamp 0.43 (Low/high beam), ATF warmer 1.5, Glazing 0.2	12,458	2.1	5,108	195,264
	Optima	2.4	FWD	SA6	4	215/55R17	Lamp 0.43 (Low/high beam), ATF warmer 1.5, Glazing 0.3, Active seat ventilation 1.0	4,137	3.2	2,585	195,264
Sportage 2.4 FWD	Sportage FWD	2.4	FWD	SA6	SUV	225/55R18	Lamp 0.06 (Parking/position), Glazing 0.8	9,026	0.9	1,586	195,264
	Sportage FWD	2.4	FWD	SA6	SUV	225/55R18	Lamp 0.06 (Parking/position), Glazing 0.8, Active seat ventilation 1.0	2,554	1.9	948	195,264
	Sportage FWD	2.4	FWD	SA6	SUV	225/55R18	Lamp 0.06 (Parking/position), Glazing 0.8	1,857	0.9	326	195,264
	Sportage FWD	2.4	FWD	SA6	SUV	225/55R18	Lamp 0.06 (Parking/position), Glazing 0.8, Active seat ventilation 1.0	526	1.9	195	195,264
	Sportage FE FWD	Sportage FE FWD	2.4	FWD	SA6	SUV	225/60R17	Lamp 0.1 (Parking/position), Glazing 0.8	31,219	0.9	5,486
Sportage 2.0T FWD	Sportage FWD	2.4	FWD	SA6	SUV	225/60R17	Lamp 0.1 (Parking/position), Glazing 0.8	1,154	0.9	203	195,264
	Sportage FWD	2.0	FWD	SA6	SUV	245/45R19	Lamp 0.06 (Side marker rear), Glazing 0.8	93	0.9	16	195,264
	Sportage FWD	2.0	FWD	SA6	SUV	245/45R19	Lamp 0.06 (Side marker rear), Glazing 0.8, Active seat ventilation 1.0	5,017	1.9	1,861	195,264
Optima 2.0	Optima	2.0	FWD	SA6	4	235/45R18	Lamp 0.43 (Low/high beam), Active seat ventilation 1.0, Glazing 0.3	3,945	1.7	1,310	195,264
	Optima	2.0	FWD	SA6	4	235/45R18	Lamp 0.53 (Low/high beam, Parking/position), Active seat ventilation 1.0, Glazing 0.2	5	1.7	2	195,264
	Optima	2.0	FWD	SA6	4	235/45R18	Lamp 0.53 (Low/high beam, Parking/position), Active seat ventilation 1.0, Glazing 0.3	3	1.8	1	195,264
Optima PHEV	Optima plug-in hybrid	2.0	FWD	AM6	4	215/55 R17	ISG 1.5, AAF 0.5, Lamp 0.49 (Low/high beam, Side marker rear), ATF warmer 1.5, Active seat ventilation 1.0, Glazing 0.3	1,281	5.3	1,326	195,264
Optima HEV	Optima Hybrid	2.0	FWD	AM6	4	P205/65R16	ISG 1.5, AAF 0.5, Lamp 0.49 (Low/high beam, Side marker rear), ATF warmer 1.5, Glazing 0.3	1,322	4.3	1,110	195,264
	Optima Hybrid	2.0	FWD	AM6	4	P215/55R17	ISG 1.5, AAF 0.5, Lamp 0.49 (Low/high beam, Side marker rear), ATF warmer 1.5, Active seat ventilation 1.0, Glazing 0.3	636	5.3	658	195,264
	Optima Hybrid	2.0	FWD	AM6	4	P215/55R17	ISG 1.5, AAF 0.5, Lamp 0.49 (Low/high beam, Side marker rear), ATF warmer 1.5, Active seat ventilation 1.0, Glazing 0.4	312	5.4	329	195,264
Sorento 2.0 AWD	Sorento AWD	2.0	AWD	SA6	SUV	235/60R18	Lamp 0.06 (Side marker front), Glazing 0.9	1,684	1.0	329	195,264
	Sorento AWD	2.0	AWD	SA6	SUV	235/60R18	Lamp 0.06 (Side marker front), Active seat ventilation 1.0, Glazing 0.9	717	2.0	280	195,264
Sorento 2.0 FWD	Sorento FWD	2.0	FWD	SA6	SUV	235/60R18	Lamp 0.06 (Side marker front), ATF warmer 1.5, Glazing 0.9	3,325	2.5	1,623	195,264
	Sorento FWD	2.0	FWD	SA6	SUV	235/60R18	Lamp 0.06 (Side marker front), ATF warmer 1.5, Active seat ventilation 1.0, Glazing 0.9	805	3.5	550	195,264
Sorento 2.4 AWD	Sorento AWD	2.4	AWD	SA6	SUV	235/65R17	Lamp 0.06 (Side marker front), ATF warmer 1.5, Glazing 0.9	28,349	2.5	13,839	195,264
Sorento 2.4 FWD	Sorento FWD	2.4	FWD	SA6	SUV	235/65R17	Lamp 0.06 (Side marker front), ATF warmer 1.5, Glazing 0.9	13,641	2.5	6,659	195,264
	Cadenza	3.3	FWD	SA8	4	245/45R18	Lamp 0.12 (Side marker front/rear), Glazing 0.5	2,804	0.6	305	195,264
	Cadenza	3.3	FWD	SA8	4	245/45R18	Lamp 0.12 (Side marker front/rear), Active seat ventilation 1.0, Glazing 0.5	550	1.6	172	195,264
K900 3.8 RWD	Cadenza	3.3	FWD	SA8	4	245/40R19	Lamp 0.12 (Side marker front/rear), Active seat ventilation 1.0, Glazing 0.5	1,214	1.6	379	195,264
	K900	3.8	RWD	SA8	4	P245/50R18	Lamp 0.75 (Low/high beam, Side marker front/rear, License plat, Turn signal front/rear), Active seat ventilation 1.0, Glazing 0.6	78	2.4	37	195,264
K900 5.0 RWD	K900	5.0	RWD	SA8	4	P235/45R19(HANKOOK)	Lamp 0.75 (Low/high beam, Side marker front/rear, License plat, Turn signal front/rear), Active seat ventilation 1.0, ATF warmer 1.5, AAF 0.9, Glazing 0.6	33	4.8	31	195,264
	K900	5.0	RWD	SA8	4	P235/45R19(CONTINENTAL)	Lamp 0.75 (Low/high beam, Side marker front/rear, License plat, Turn signal front/rear), Active seat ventilation 1.0, ATF warmer 1.5, AAF 0.9, Glazing 0.6	75	4.8	70	195,264

OCredit	92,503	VLM	195,264
Car volume	273,959		
FCIV _{cc} (Gal/mi)	0.000194578		

$$FCIV_{oc} (\text{gal/mi}) = \frac{(OCredit \times 1,000,000)}{(VLM \times Production \times 8887)}$$

[REDACTED]

VI. Projected Average Fuel Economy Adjustment

Average MPG	37.6
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P4	MPG	36.8
P6	FCIV _{AC} (Gal/mi)	0.000362325
P7	FCIV _{OC} (Gal/mi)	0.000194578
N/A	FCIV _{PU} (Gal/mi)	0

$$\text{Average MPG} = \frac{1}{\left[\frac{1}{\text{MPG}} - (\text{FCIV}_{AC} + \text{FCIV}_{OC} + \text{FCIV}_{PU}) \right]}$$