

**MID-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 : 40.5 MPG (without A/C efficiency & off-cycle credits)

- IP : 41.5 MPG (with A/C efficiency & off-cycle credits)

- DP : N/A

### 2. Projected Required Fuel Economy

- IP : 42.2 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

- Projected Required Fuel Economy

Model Type Description	Carline	Basic Engine (disp)	Drive	T/M class	Base Tire	Doors	Business Information		Business Information						
							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	1.6L GDI	FWD	M6	185/65R15	4DR	0	60.0	60.2	60.1	101.6	42.4	45.44	2,750	2,750
	Rio	1.6L GDI	FWD	M6	185/65R15	5DR	0	60.0	60.2	60.1	101.6	42.4	45.44	2,750	2,750
Rio AT	Rio	1.6L GDI	FWD	SA6	185/65R15	4DR	18,256	60.0	60.2	60.1	101.6	42.4	45.44	2,875	2,750
	Rio	1.6L GDI	FWD	SA6	185/65R15	5DR	1,902	60.0	60.2	60.1	101.6	42.4	45.44	2,875	2,750
Forta MT	Forta	2.0L MPI	FWD	M6	205/55R15	4DR	2,150	61.5	61.9	61.7	106.3	45.5	42.57	3,000	3,000
Forta FE 2.0 CVT	Forta FE	2.0L MPI	FWD	CVT	195/65R15	4DR	6,339	61.5	61.9	61.7	106.3	45.5	42.57	3,125	3,000
	Forta	2.0L MPI	FWD	CVT	205/55R16	4DR	37,445	61.2	61.8	61.4	106.3	45.3	42.74	3,125	3,000
Forta 2.0 CVT	Forta	2.0L MPI	FWD	CVT	225/45R17	4DR	15,435	61.0	61.3	61.2	106.3	45.2	42.83	3,125	3,000
	Forta	2.0L MPI	FWD	CVT	205/55R16	4DR	21,892	61.2	61.6	61.4	106.3	45.3	42.74	3,125	3,000
Soul 1.6 AT	Forta	2.0L MPI	FWD	CVT	225/45R17	4DR	6,059	61.0	61.3	61.2	106.3	45.2	42.83	3,125	3,000
	Soul	1.6L GDI	FWD	SA6	205/60R16	4DR	40,166	62.0	62.5	62.2	101.2	43.7	44.19	3,125	3,000
Soul 1.6 MT	Soul	1.6L GDI	FWD	M6	205/60R16	4DR	1,987	62.0	62.5	62.2	101.2	43.7	44.19	3,125	3,000
	Soul	1.6L GDI	FWD	AM6	205/60R16	5DR	921	61.6	62.2	61.9	106.3	45.7	42.40	3,250	3,000
Niro FE	Niro FE	1.6L GDI	FWD	AM6	215/55R17	4DR	16,699	61.7	62.2	62.0	101.2	43.6	44.28	3,250	3,000
	Soul	2.0L GDI	FWD	SA6	235/45R18	4DR	3,976	61.4	61.9	61.6	101.2	43.3	44.56	3,375	3,500
Soul 2.0 AT	Soul	2.0L GDI	FWD	SA6	215/55R17	4DR	6,876	61.7	62.2	62.0	101.2	43.6	44.28	3,250	3,000
	Soul	2.0L GDI	FWD	SA6	235/45R18	4DR	1,623	61.4	61.9	61.6	101.2	43.3	44.56	3,375	3,500
Soul 1.5T DCT	Soul	1.6L T-GDI	FWD	AM7	235/45R18	4DR	2,974	61.4	61.9	61.6	101.2	43.3	44.56	3,375	3,500
Optima FE 2.4	Optima FE	2.4L GDI	FWD	SA6	205/65R16	4DR	35,875	63.5	63.8	63.6	110.4	48.8	39.89	3,500	3,500
	Optima FE	2.4L GDI	FWD	SA6	205/65R16	4DR	18,314	63.5	63.8	63.6	110.4	48.8	39.89	3,500	3,500
Niro	Niro	1.6L GDI	FWD	AM6	205/60R16	5DR	12,821	61.6	62.2	61.9	106.3	45.7	42.40	3,500	3,500
	Niro Touring	1.6L GDI	FWD	AM6	225/45R18	5DR	2,463	61.2	61.8	61.5	106.3	45.4	42.66	3,625	3,500
Soul Electric	Soul Electric	EV	FWD	GT	205/60R16	4DR	150	62.0	62.4	62.2	101.2	43.7	44.19	3,625	3,500
Optima 2.4	Optima	2.4L GDI	FWD	SA6	215/55R17	4DR	4,081	63.1	63.4	63.2	110.4	48.5	40.12	3,625	3,500
	Optima	2.4L GDI	FWD	SA6	235/45R18	4DR	12,153	62.9	63.2	63.0	110.4	48.3	40.27	3,625	3,500
Optima 1.6T	Optima	2.4L GDI	FWD	SA6	235/45R18	4DR	9,069	62.9	63.2	63.0	110.4	48.3	40.27	3,625	3,500
	Optima	1.6L T-GDI	FWD	AM7	215/55R17	4DR	8,044	63.1	63.4	63.2	110.4	48.5	40.12	3,625	3,500
Sportage FE 2.4 FWD	Sportage FE FWD	2.4L GDI	FWD	SA6	225/60R17	SUV	23,996	63.5	64.0	63.8	105.1	46.6	41.64	3,625	3,500
	Sportage FE FWD	2.4L GDI	FWD	SA6	225/60R17	SUV	38	63.5	64.0	63.8	105.1	46.6	41.64	3,625	3,500
Sportage 2.4 FWD	Sportage FWD	2.4L GDI	FWD	SA6	225/55R18	SUV	6,170	63.5	64.0	63.8	105.1	46.6	41.64	3,750	3,500
	Sportage FWD	2.4L GDI	FWD	SA6	225/55R18	SUV	1,994	63.5	64.0	63.8	105.1	46.6	41.64	3,750	3,500
Niro Plug-in Hybrid	Niro Plug-in Hybrid	1.6L GDI	FWD	AM6	205/60R16	5DR	3,163	61.6	62.2	61.9	106.3	45.7	42.40	3,750	3,500
Optima Hybrid	Optima Hybrid	2.0L GDI	FWD	AM6	205/65R16	4DR	184	63.5	63.8	63.6	110.4	48.6	39.89	3,750	3,500
	Optima Hybrid	2.0L GDI	FWD	AM6	215/55R17	4DR	116	63.0	63.4	63.2	110.4	48.5	40.12	3,875	4,000
Optima 2.0T	Optima	2.0L T-GDI	FWD	SA6	235/45R18	4DR	4,116	62.9	63.2	63.0	110.4	48.3	40.27	3,875	4,000
	Optima plug-in hybrid	2.0L GDI	FWD	AM6	215/55R17	4DR	93	63.1	63.4	63.2	110.4	48.5	40.12	4,000	4,000
Sportage 2.0T FWD	Sportage FWD	2.0L T-GDI	FWD	SA6	245/45R19	SUV	1,471	63.3	63.8	63.6	105.1	46.4	41.80	4,000	4,000
	Cadenza	3.3L GDI	FWD	SA8	245/45R18	4DR	221	63.3	63.6	63.4	112.4	49.5	39.36	4,000	4,000
Stinger 3.3	Cadenza	3.3L GDI	FWD	SA8	245/40R19	4DR	462	63.1	63.4	63.2	112.4	49.3	39.51	4,000	4,000
	Stinger RWD	2.0L T-GDI	RWD	SA8	225/45R18	4DR	2,171	62.8	64.8	63.8	114.4	50.7	38.49	4,000	4,000
Stinger 3.3T RWD	Stinger RWD	2.0L T-GDI	AWD	SA8	225/45R18	4DR	1,254	62.8	64.8	63.8	114.4	50.7	38.49	4,250	4,000
	Niro Electric	EV	FWD	A1	215/55R17	5DR	692	62.0	62.4	62.2	106.3	45.9	42.22	4,250	4,000
Stinger 3.3T AWD	Stinger RWD	3.3L T-GDI	RWD	SA8	225/40R19	4DR	2,887	62.8	63.7	63.2	114.4	50.2	38.85	4,250	4,000
	Stinger AWD	3.3L T-GDI	AWD	SA8	225/45R18	4DR	1,374	62.8	64.8	63.8	114.4	50.7	38.49	4,500	4,500
K300 3.3T AWD	Stinger AWD	3.3L T-GDI	AWD	SA8	225/40R19	4DR	1,906	62.8	63.7	63.2	114.4	50.2	38.85	4,500	4,500
	K300 3.3T AWD	K300	3.3L T-GDI	AWD	SA8	245/45R19(FR) 275/40R19 (RR)	4DR	461	64.5	64.5	64.5	122.2	54.7	35.85	5,000

Projected Required Fuel Economy	42.2
Total Projected Sales Volume	339,941

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

III. Projected Average and Required Fuel Economy

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

Model Type Description	Carline	Basic Engine (disp)	Drive	T/M class	Base Tire	Doors	Business Information			Business Information			
							Projected sales	City FE	Hwy FE	Combined FE	IWC	Model Type Comb.FE	Model Type Vol
Rio MT	Rio	1.6L GDI	FWD	M6	185/65R15	4DR	0	37.5	55.1	43.7950	2,750	43.7	0
	Rio	1.6L GDI	FWD	M6	185/65R15	5DR	0	37.6	53.7	43.4640	2,750	43.7	0
Rio AT	Rio	1.6L GDI	FWD	SA6	185/65R15	4DR	18,256	37.0	55.0	43.3902	2,750	43.3	20,158
	Rio	1.6L GDI	FWD	SA6	185/65R15	5DR	1,902	36.5	54.3	42.8159	2,750	43.3	2,150
Forte MT	Forte	2.0L MPI	FWD	M6	205/55R15	4DR	2,150	35.8	54.2	42.2552	3,000	42.3	2,150
	Forte FE	2.0L MPI	FWD	CVT	195/65R15	4DR	6,339	40.8	61.4	48.0552	3,000	48.1	6,339
Forte FE 2.0 CVT	Forte	2.0L MPI	FWD	CVT	205/55R16	4DR	37,445	40.5	59.2	47.2108	3,000	46.5	80,831
	Forte	2.0L MPI	FWD	CVT	225/45R17	4DR	15,438	39.8	57.7	46.2876	3,000	46.5	80,831
Forte 2.0 CVT	Forte	2.0L MPI	FWD	CVT	205/55R16	4DR	21,892	38.7	60.8	46.2680	3,000	46.5	80,831
	Forte	2.0L MPI	FWD	CVT	225/45R17	4DR	6,059	37.5	55.5	43.9082	3,000	46.5	80,831
Soul 1.6 AT	Soul	1.6L GDI	FWD	SA6	205/60R16	4DR	40,166	33.3	42.4	36.8599	3,000	36.9	40,166
Soul 1.6 MT	Soul	1.6L GDI	FWD	M6	205/60R16	4DR	1,987	31.4	43.0	35.7385	3,000	35.7	1,987
Niro FE	Niro FE	1.6L GDI	FWD	AM6	205/60R16	5DR	821	68.2	66.2	67.2852	3,000	67.3	821
	Soul	2.0L GDI	FWD	SA6	215/55R17	4DR	16,899	32.2	43.5	36.4623	3,000	36.9	40,166
Soul 2.0 AT	Soul	2.0L GDI	FWD	SA6	235/45R18	4DR	3,976	31.5	42.8	35.7471	3,500	36.0	29,176
	Soul	2.0L GDI	FWD	SA6	215/55R17	4DR	6,878	31.0	42.8	35.3905	3,000	36.0	29,176
Soul 1.6T DCT	Soul	2.0L GDI	FWD	SA6	235/45R18	4DR	1,623	30.4	42.6	34.6973	3,500	36.0	29,176
	Soul	1.6L T-GDI	FWD	AM7	235/45R18	4DR	2,974	33.4	43.9	37.4285	3,500	37.4	2,974
Optima FE 2.4	Optima FE	2.4L GDI	FWD	SA6	205/65R16	4DR	35,875	32.7	49.2	38.5120	3,500	38.6	54,189
	Optima FE	2.4L GDI	FWD	SA6	205/65R16	4DR	18,314	32.7	50.0	38.7303	3,500	38.6	54,189
Niro	Niro	1.6L GDI	FWD	AM6	205/60R16	5DR	12,821	65.7	62.5	64.2204	3,500	64.2	12,821
Niro Touring	Niro Touring	1.6L GDI	FWD	AM6	225/45R18	5DR	2,463	60.0	58.4	59.2693	3,500	59.3	2,463
Soul Electric	Soul Electric	EV	FWD	OT	205/60R16	4DR	150	429.6	325.6	375.6116	3,500	375.6	150
Optima 2.4	Optima	2.4L GDI	FWD	SA6	215/55R17	4DR	4,081	32.0	48.1	37.6747	3,500	36.9	25,303
	Optima	2.4L GDI	FWD	SA6	235/45R18	4DR	12,153	30.8	46.6	36.3454	3,500	36.9	25,303
Optima 1.6T	Optima	2.4L GDI	FWD	SA6	235/45R18	4DR	9,059	31.9	46.8	37.2345	3,500	36.9	25,303
	Optima	1.6L T-GDI	FWD	AM7	215/55R17	4DR	8,044	35.2	53.2	41.5220	3,500	41.5	8,044
Sportage FE 2.4 FWD	Sportage FE FWD	2.4L GDI	FWD	SA6	225/60R17	SUV	23,996	29.2	43.0	34.1286	3,500	34.1	24,034
	Sportage FE FWD	2.4L GDI	FWD	SA6	225/60R17	SUV	38	28.7	40.8	33.1201	3,500	34.1	24,034
Sportage 2.4 FWD	Sportage FWD	2.4L GDI	FWD	SA6	225/55R18	SUV	6,170	28.4	41.1	32.9869	3,500	33.1	7,764
	Sportage FWD	2.4L GDI	FWD	SA6	225/55R18	SUV	1,594	29.1	41.8	33.7087	3,500	33.1	7,764
Niro Plug-In Hybrid	Niro Plug-In Hybrid	1.6L GDI	FWD	AM6	205/60R16	5DR	3,163	174.6	89.5	122.2794	3,500	122.3	3,163
Optima Hybrid	Optima Hybrid	2.0L GDI	FWD	AM6	205/60R16	4DR	184	56.5	63.0	59.2509	3,500	59.2	300
	Optima Hybrid	2.0L GDI	FWD	AM6	215/55R17	4DR	116	56.5	62.5	59.0510	4,000	59.2	300
Optima 2.0T	Optima	2.0L T-GDI	FWD	SA6	235/45R18	4DR	4,116	26.7	42.4	32.0385	4,000	32.0	4,116
	Optima plug-in hybrid	2.0L GDI	FWD	AM6	215/55R17	4DR	93	156.1	95.5	121.4267	4,000	121.4	93
Sportage 2.0T FWD	Sportage FWD	2.0L T-GDI	FWD	SA6	245/45R19	SUV	1,471	25.2	39.0	30.7401	4,000	30.7	1,471
	Sportage FWD	2.0L T-GDI	FWD	SA6	245/45R19	SUV	1,471	25.2	39.0	30.7401	4,000	30.7	1,471
Cadenza 3.3	Cadenza	3.3L GDI	FWD	SA8	245/45R18	4DR	221	25.9	39.4	30.6215	4,000	30.2	683
	Cadenza	3.3L GDI	FWD	SA8	245/40R19	4DR	462	25.4	38.7	30.0468	4,000	30.2	683
Stinger 2.0T RWD	Stinger RWD	2.0L T-GDI	RWD	SA8	225/45R18	4DR	2,171	27.6	41.5	32.4982	4,000	32.5	2,171
	Stinger AWD	2.0L T-GDI	AWD	SA8	225/45R18	4DR	1,254	27.0	41.3	31.9834	4,000	32.0	1,254
Niro Electric	Niro Electric	EV	FWD	A1	215/55R17	5DR	692	427.9	352.9	390.5494	4,000	390.5	692
	Stinger RWD	3.3L T-GDI	RWD	SA8	255/40R19	4DR	2,887	21.7	32.3	25.4599	4,000	25.5	2,887
Stinger 3.3T AWD	Stinger AWD	3.3L T-GDI	AWD	SA8	225/45R18	4DR	1,374	21.8	33.7	25.9185	4,500	25.3	3,280
	Stinger AWD	3.3L T-GDI	AWD	SA8	255/35R19	4DR	1,906	21.1	31.5	24.7819	4,500	25.3	3,280
K900 3.3T AWD	K900	3.3L T-GDI	AWD	SA8	245/45R19(FR) 275/40R19 (RR)	4DR	461	23.0	35.3	27.2770	5,000	27.3	461

Projected Average Fuel Economy (without A/C efficiency & off-cycle credits)	40.5
ROUNDED Avg. comb.	40.0139
Multiplied Factor	1.00881187
'a'	1.4235
C FACTOR	0.0014
IW (Added Factor)	0.178653035
SF <sub>AWC</sub>	0.4585
FE <sub>AWC</sub>	41.8072
SF <sub>AE w</sub>	0.013
FE <sub>AWC</sub>	31.8848
Total Projected Sales Volume	339,941

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

III. Vehicle Configuration Information

Model type Description	Chassis	Basic Eng no (G00)	Drive	M of 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 gears	O/D	NV	Axle ratio	Business Information		Passenger Volume	Luggage Volume	Body style	Road load power at 80 km/h	TWC	
																				Combined FE	Projected sales						
Rio M	Rio	1.6L-GDI	FWD	MB	10509115	DR	G-PGAC	2,700	2,700	1.6	87	130	DR	TWC	MB	6	Yes	0.6	06	3,700	0	107.0	85.0	17	(Compact Car)	9.0	3,700
	Rio	1.6L-GDI	FWD	MB	10509115	SDR	G-PGAC	2,700	2,700	1.6	87	130	DR	TWC	MB	6	Yes	0.6	06	3,700	0	107.0	85.0	17	(Compact Car)	10.3	3,700
Rio A	Rio	1.6L-GDI	FWD	SAB	10509115	DR	G-PGAC	2,300	2,300	1.6	87	130	DR	TWC	SAB	6	Yes	0.9	07	2,900	15,200	103.0	86.0	17	(Compact Car)	9.0	3,700
	Rio	1.6L-GDI	FWD	SAB	10509115	SDR	G-PGAC	2,300	2,300	1.6	87	130	DR	TWC	SAB	6	Yes	0.9	07	2,900	15,200	103.0	86.0	17	(Compact Car)	10.3	3,700
Fortis M	Fortis	2.0L-MPI	FWD	MB	10509115	DR	G-NH-CV	3,021	3,000	2.0	110	171	MPI	TWC	MB	6	Yes	0.6	06	3,200	2,100	111.0	86.0	19.5	(M-Midsize car)	10.0	3,000
	Fortis FE 2.0 CVT	2.0L-MPI	FWD	CVT	10509115	DR	G-NH-CV	3,027	3,125	2.0	110	171	MPI	TWC	CVT	1	Yes	0.6	06	3,000	4,300	111.0	86.0	19.5	(M-Midsize car)	9.0	3,000
Fortis 3.0 CVT	Fortis	2.0L-MPI	FWD	CVT	10509115	DR	G-NH-CV	3,153	3,125	2.0	110	171	MPI	TWC	CVT	1	Yes	0.6	06	2,700	7,200	111.0	86.0	19.5	(M-Midsize car)	10.0	3,000
	Fortis	2.0L-MPI	FWD	CVT	10509115	DR	G-NH-CV	3,153	3,125	2.0	110	171	MPI	TWC	CVT	1	Yes	0.6	06	2,700	7,200	111.0	86.0	19.5	(M-Midsize car)	10.0	3,000
	Fortis	2.0L-MPI	FWD	CVT	10509115	DR	G-NH-CV	3,153	3,125	2.0	110	171	MPI	TWC	CVT	1	Yes	0.6	06	2,700	7,200	111.0	86.0	19.5	(M-Midsize car)	10.0	3,000
	Fortis	2.0L-MPI	FWD	CVT	10509115	DR	G-NH-CV	3,153	3,125	2.0	110	171	MPI	TWC	CVT	1	Yes	0.6	06	2,700	7,200	111.0	86.0	19.5	(M-Midsize car)	10.0	3,000
Soul 1.6 A	Soul	1.6L-GDI	FWD	SAB	10509116	DR	G-PD-AC	3,177	3,125	1.6	87	130	DR	TWC	SAB	6	Yes	1.2	3.86	30,000	0,000	125.2	101.0	2	(75mm) (Sedan Wagon)	13.2	3,000
	Soul 1.6 M	1.6L-GDI	FWD	MB	10509116	DR	G-PD-AC	3,177	3,125	1.6	87	130	DR	TWC	MB	6	Yes	1.2	3.86	30,000	0,000	125.2	101.0	2	(75mm) (Sedan Wagon)	13.1	3,000
Soul FE	Soul FE	1.6L-GDI	FWD	AMB	10509116	SDR	G-LE-AC	3,100	3,125	1.6	79	10	DR	TWC	AMB	6	Yes	0.3	3.23	47,200	201	123.0	100.0	20	(75mm) (Sedan Wagon)	10.0	3,000
	Soul	2.0L-GDI	FWD	SAB	10509117	DR	G-NC-AC	3,300	3,300	2.0	120	161	DR	TWC	SAB	6	Yes	0.6	3.37	30,000	18,000	125.2	101.0	2	(75mm) (Sedan Wagon)	13.0	3,000
Soul 2.0 A	Soul	2.0L-GDI	FWD	SAB	10509116	DR	G-NC-AC	3,100	3,375	2.0	120	161	DR	TWC	SAB	6	Yes	0.5	3.36	30,771	3,670	125.2	101.0	2	(75mm) (Sedan Wagon)	13.6	3,000
	Soul	2.0L-GDI	FWD	SAB	10509117	DR	G-NC-AC	3,300	3,300	2.0	119	160	DR	TWC	SAB	6	Yes	0.5	3.37	30,000	4,670	125.2	101.0	2	(75mm) (Sedan Wagon)	13.3	3,000
Soul 1.6 DC	Soul	1.6L-T-GDI	FWD	AMB	10509116	DR	G-FJ-AM	3,300	3,375	1.6	80	201	DR	TWC	AMB	7	Yes	0.5	3.2	37,200	3,207	125.2	101.0	2	(75mm) (Sedan Wagon)	13.0	3,000
	Optima FE 2.4	2.4L-GDI	FWD	SAB	10509116	DR	G-KJ-AC	3,500	3,500	2	130	180	DR	TWC	SAB	6	Yes	0.5	2.90	30,000	30,000	120.7	10.0	19.0	(Large car)	10.0	3,000
Optima FE 2.4	Optima FE	2.4L-GDI	FWD	SAB	10509116	DR	G-KJ-AC	3,500	3,500	2	130	180	DR	TWC	SAB	6	Yes	0.5	2.90	30,000	30,000	120.7	10.0	19.0	(Large car)	10.0	3,000
	Optima FE	2.4L-GDI	FWD	SAB	10509116	DR	G-KJ-AC	3,500	3,500	2	130	180	DR	TWC	SAB	6	Yes	0.5	2.90	30,000	30,000	120.7	10.0	19.0	(Large car)	10.0	3,000
Niro	Niro	1.6L-GDI	FWD	AMB	10509116	SDR	G-LE-AC	3,100	3,000	1.6	79	10	DR	TWC	AMB	6	Yes	0.3	3.23	6,220	12,021	123.3	100.0	20	(75mm) (Sedan Wagon)	10.0	3,000
	Niro Touring	1.6L-GDI	FWD	AMB	10509116	SDR	G-LE-AC	3,100	3,000	1.6	79	10	DR	TWC	AMB	6	Yes	0.3	3.23	6,220	12,021	123.3	100.0	20	(75mm) (Sedan Wagon)	12.1	3,000
Soul Electric	Soul Electric	EV	FWD	OT	10509116	DR	EM09	3,000	3,000	0.0	0	0	EV	NA	OT	1	No	0.0	0.0	0.0	0.0	115.0	85.0	16.0	(75mm) (Sedan Wagon)	12.0	3,000
	Optima	2.4L-GDI	FWD	SAB	10509117	DR	G-KJ-AC	3,500	3,500	2	130	180	DR	TWC	SAB	6	Yes	0.5	2.90	37,071	201	120.7	10.0	19.0	(Large car)	11.0	3,000
Optima 2.4	Optima	2.4L-GDI	FWD	SAB	10509116	DR	G-KJ-AC	3,500	3,500	2	130	180	DR	TWC	SAB	6	Yes	0.5	2.90	30,000	30,000	120.7	10.0	19.0	(Large car)	11.0	3,000
	Optima	2.4L-GDI	FWD	SAB	10509116	DR	G-KJ-AC	3,500	3,500	2	130	180	DR	TWC	SAB	6	Yes	0.5	2.90	30,000	30,000	120.7	10.0	19.0	(Large car)	11.0	3,000
Optima 1.6	Optima	1.6L-T-GDI	FWD	AMB	10509116	DR	G-FJ-AM	3,000	3,000	1.6	80	170	DR	TWC	AMB	7	Yes	0.5	3.17	1,000	6.0	120.7	10.0	19.0	(Large car)	10.0	3,000
	Sportage FE FWD	2.4L-GDI	FWD	SAB	10509117	SUV	G-KJ-AC	3,000	3,000	2	130	181	DR	TWC	SAB	6	Yes	0.5	3.06	3,100	23,000	120.7	10.0	19.0	(Large car)	13.0	3,000
Sportage 2.4 FWD	Sportage FE FWD	2.4L-GDI	FWD	SAB	10509117	SUV	G-KJ-AC	3,000	3,000	2	130	181	DR	TWC	SAB	6	Yes	0.5	3.06	31,000	30	120.7	10.0	19.0	(Large car)	13.0	3,000
	Sportage FWD	2.4L-GDI	FWD	SAB	10509116	SUV	G-KJ-AC	3,700	3,700	2	130	181	DR	TWC	SAB	6	Yes	0.5	3.06	33,000	4,170	120.7	10.0	19.0	(Large car)	13.0	3,000
Niro Plug-in Hybrid	Niro Plug-in Hybrid	1.6L-GDI	FWD	AMB	10509116	SDR	G-LE-AC	3,700	3,700	1.6	79	10	DR	TWC	AMB	6	Yes	0.5	3.10	122,270	3,100	120.0	100.0	16	(75mm) (Sedan Wagon)	11.2	3,000
	Optima Hybrid	2.4L-GDI	FWD	AMB	10509116	DR	G-KJ-AC	3,700	3,700	2.0	115	15	DR	TWC	AMB	6	Yes	0.1	3.30	50,250	18	118.2	10.0	15	(M-Midsize car)	10.2	3,000
Optima Hybrid	Optima Hybrid	2.4L-GDI	FWD	AMB	10509117	DR	G-KJ-AC	3,000	3,000	2	130	180	DR	TWC	SAB	6	Yes	0.5	3.10	30,000	110	118.2	10.0	15	(M-Midsize car)	10.2	3,000
	Optima	2.0L-T-GDI	FWD	SAB	10509116	DR	G-KJ-AC	3,000	3,000	2	130	180	DR	TWC	SAB	6	Yes	0.5	2.90	30,000	110	120.7	10.0	19.0	(Large car)	12.0	3,000
Optima Plug-in Hybrid	Optima plug-in hybrid	2.0L-GDI	FWD	AMB	10509117	DR	G-KJ-AC	3,000	3,000	2.0	115	15	DR	TWC	AMB	6	Yes	0.0	3.51	121,207	20	117.7	10.0	15	(M-Midsize car)	10.0	3,000
	Sportage 2.0 FWD	2.0L-T-GDI	FWD	SAB	10509116	SUV	G-KJ-AC	3,000	3,000	2.0	115	2	DR	TWC	SAB	6	Yes	0.2	3.30	30,701	1,711	120.7	10.0	19.0	(Large car)	13.0	3,000
Cadenza 3.3	Cadenza	3.3L-GDI	FWD	SAB	10509116	DR	G000-AC	3,000	3,000	3.3	210	200	DR	TWC	SAB	8	Yes	0.0	3.30	30,000	201	123.0	107.0	16.0	(Large car)	12.0	3,000
	Cadenza	3.3L-GDI	FWD	SAB	10509116	DR	G000-AC	3,000	3,000	3.3	210	200	DR	TWC	SAB	8	Yes	0.0	3.30	30,000	201	123.0	107.0	16.0	(Large car)	12.0	3,000
Stinger 2.0 FWD	Stinger 2.0 FWD	2.0L-T-GDI	FWD	SAB	10509116	DR	G-KJ-AC	3,000	3,000	2.0	130	200	DR	TWC	SAB	8	Yes	0.6	3.75	30,000	2,171	118.2	9.0	23.0	(M-Midsize car)	13.0	3,000
	Stinger 2.0 AWD	2.0L-T-GDI	AWD	SAB	10509116	DR	G-KJ-AC	3,000	3,000	2.0	130	200	DR	TWC	SAB	8	Yes	0.6	3.75	31,000	1,200	118.2	9.0	23.0	(M-Midsize car)	13.0	3,000
Stinger 3.3 AWD	Stinger 3.3 AWD	3.3L-T-GDI	AWD	SAB	10509116	DR	G000-AC	3,000	3,000	3.3	210	200	DR	TWC	SAB	8	Yes	0.6	3.75	30,000	2,171	118.2	9.0	23.0	(M-Midsize car)	15.1	3,000
	Stinger 3.3 AWD	3.3L-T-GDI	AWD	SAB	10509116	DR	G000-AC	3,000	3,000	3.3	210	200	DR	TWC	SAB	8	Yes	0.6	3.75	30,000	2,171	118.2	9.0	23.0	(M-Midsize car)	15.1	3,000
K800 3.3 AWD	K800	3.3L-T-GDI	AWD	SAB	10509116	DR	G000-AC	3,000	3,000	3.3	210	200	DR	TWC	SAB	8	Yes	0.6	3.75	27,770	41	125.6	110.0	19.0	(Large car)	15.0	3,000
	K800	3.3L-T-GDI	AWD	SAB	10509116	DR	G000-AC	3,000	3,000	3.3	210	200	DR	TWC	SAB	8	Yes	0.6	3.75	27,770	41	125.6	110.0	19.0	(Large car)	15.0	3,000

## IV. Projected Average Fuel Economy Adjustment

<b>1. FCIV<sub>AC</sub></b>		<b>Business Information</b>
AC Efficiency Credit		224,706
CAFE IP Volume		339,941
FCIV <sub>AC</sub> (Gal/mi) <sup>2)</sup>		0.00038092

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

<b>2. FCIV<sub>OC</sub></b>		<b>Business Information</b>
OC Credit <sup>1)</sup>		127,883
CAFE IP Volume		339,941
FCIV <sub>OC</sub> (Gal/mi) <sup>2)</sup>		0.000216786

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

### 3. Average MPG

Average MPG	41.5
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P4	MPG	40.5	
P6	FCIV <sub>AC</sub> (Gal/mi)	0.000380920	<b>Business Information</b>
P6	FCIV <sub>OC</sub> (Gal/mi)	0.000216786	

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

		<b>Business Information</b>
VLM		195,264

1) Credits are estimated based on 2018MY data. Exact credits will be calculated when submitting 2019MY Final Report.

2) Not rounded, only shown in 9 decimal places.