

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

- Light Trucks -



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).

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*	Projected Average Fuel Economy Adjustment	6

Note * : These sections contain [REDACTED] information

I. Introduction

As required by 49 CFR Part 537.9, estimated fuel economy values for Sportage AWD, Sportage FE AWD, Sorento AWD, Sorento FWD, Sedona 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

- LT : 29.9 MPG (without A/C efficiency & off-cycle credits)

- LT : 30.8 MPG (with A/C efficiency & off-cycle credits)

2. Projected Required Fuel Economy

- LT : 32.9 MPG

At this point in time and based on available best present information, the above projections represent the KIA MOTORS CORPORATION (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	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
Sportage FE 2.4 AWD	Sportage FE AWD	2.4L GDI	AWD	SA6	225/60R17	8,388	63.5	64.0	63.8	105.1	46.6	34.30	3,875	4,000
	Sportage FE AWD	2.4L GDI	AWD	SA6	225/60R17	13,923	63.5	64.0	63.8	105.1	46.6	34.30	3,875	4,000
Sportage 2.4 AWD	Sportage AWD	2.4L GDI	AWD	SA6	225/55R18	3,737	63.5	64.0	63.8	105.1	46.6	34.30	3,875	4,000
	Sportage AWD	2.4L GDI	AWD	SA6	225/55R18	6,020	63.5	64.0	63.8	105.1	46.6	34.30	3,875	4,000
Sportage 2.0T AWD	Sportage AWD	2.0L T-GDI	AWD	SA6	245/45R19	2,202	63.3	63.8	63.6	105.1	46.4	34.42	4,000	4,000
Sorento 2.4 FWD	Sorento FWD	2.4L GDI	FWD	SA6	235/65R17	45,774	64.3	64.7	64.5	109.4	49.0	32.87	4,250	4,000
Sorento 2.4 AWD	Sorento AWD	2.4L GDI	AWD	SA6	235/65R17	19,234	64.3	64.7	64.5	109.4	49.0	32.87	4,250	4,000
Sorento 3.3 FWD	Sorento FWD	3.3L GDI	FWD	SA8	235/65R17	19,524	64.3	64.7	64.5	109.4	49.0	32.87	4,250	4,000
	Sorento FWD	3.3L GDI	FWD	SA8	235/60R18	7,935	64.1	64.5	64.3	109.4	48.9	32.93	4,500	4,500
	Sorento FWD	3.3L GDI	FWD	SA8	235/55R19	7,370	64.1	64.5	64.3	109.4	48.9	32.93	4,500	4,500
Sorento 3.3 AWD	Sorento AWD	3.3L GDI	AWD	SA8	235/65R17	15,958	64.3	64.7	64.5	109.4	49.0	32.87	4,500	4,500
	Sorento AWD	3.3L GDI	AWD	SA8	235/60R18	7,857	64.1	64.5	64.3	109.4	48.9	32.93	4,500	4,500
	Sorento AWD	3.3L GDI	AWD	SA8	235/55R19	4,724	64.1	64.5	64.3	109.4	48.9	32.93	4,750	4,500
Sedona 3.3	Sedona	3.3L GDI	FWD	SA8	235/65R17	4,778	68.7	69.0	68.8	120.5	57.6	28.61	4,750	4,500
	Sedona	3.3L GDI	FWD	SA8	235/60R18	5,418	68.5	68.8	68.6	120.5	57.4	28.70	5,000	5,000
	Sedona	3.3L GDI	FWD	SA8	235/55R19	0	68.3	68.6	68.4	120.5	57.2	28.79	5,000	5,000

Projected Required Fuel Economy	32.9
Total Projected Sales Volume	172,842
	Business Information

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

II. Projected Average and Required Fuel Economy

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

Model Type Description	Carline	Basic Engine (dsp)	Drive	T/M class	Base Tire	Business Information		Business Information		IWC	Model Type Comb.FE	Model Type Vol
						Projected sales	City_FE	Hwy_FE	Combined FE			
Sportage FE 2.4 AWD	Sportage FE AWD	2.4L GDI	AWD	SA6	225/60R17	8,388	26.2	35.1	29.5745	4,000	29.4	22,311
	Sportage FE AWD	2.4L GDI	AWD	SA6	225/60R17	13,923	25.8	35.0	29.2612	4,000		
Sportage 2.4 AWD	Sportage AWD	2.4L GDI	AWD	SA6	225/55R18	3,737	26.5	34.9	29.7188	4,000	29.9	9,757
	Sportage AWD	2.4L GDI	AWD	SA6	225/55R18	6,020	26.5	35.6	29.9445	4,000		
Sportage 2.6T AWD	Sportage AWD	2.0L T-GDI	AWD	SA6	245/45R19	2,202	24.9	35.1	28.6460	4,000	28.6	2,202
Sorento 2.4 FWD	Sorento FWD	2.4L GDI	FWD	SA6	235/65R17	45,774	28.0	40.7	32.5740	4,000	32.6	45,774
	Sorento AWD	2.4L GDI	AWD	SA6	235/65R17	19,234	26.6	37.1	30.4822	4,000	30.5	19,234
Sorento 3.3 FWD	Sorento FWD	3.3L GDI	FWD	SA8	235/65R17	19,524	24.6	39.5	29.6296	4,000		
	Sorento FWD	3.3L GDI	FWD	SA8	235/60R18	7,935	23.8	37.8	28.3600	4,300	29.1	34,829
Sorento 3.3 AWD	Sorento FWD	3.3L GDI	FWD	SA8	235/55R19	7,370	23.7	37.2	28.3528	4,300		
	Sorento AWD	3.3L GDI	AWD	SA8	235/65R17	15,358	24.2	36.5	28.5258	4,300		
Sorento 3.3 AWD	Sorento AWD	3.3L GDI	AWD	SA8	235/60R18	7,887	24.2	36.5	28.5258	4,300	28.2	28,539
	Sorento AWD	3.3L GDI	AWD	SA8	235/55R19	4,724	22.8	34.4	26.7253	4,300		
Sedona 3.3	Sedona	3.3L GDI	FWD	SA6	235/65R17	4,778	23.2	34.9	27.3217	4,500		
	Sedona	3.3L GDI	FWD	SA8	235/60R18	5,418	23.2	35.3	27.4313	5,000	27.4	10,196
	Sedona	3.3L GDI	FWD	SA8	235/55R19	0	23.1	33.7	26.9067	5,000		

Projected Average Fuel Economy (without A/C efficiency & off-cycle credits)	29.9
Total Projected Sales Volume	172,842
	Business
	Individual

III. Vehicle Configuration Information

Model year Description	Class	Base Engine (HP)	Drive	M class	Base tire	Engine code	L/W	E/W	Eng Disp	Net rated power (kW)	Net horsepower	Fuel system	Emission control system	M class	Number of forward speed	G/D	NV	Axle ratio	Information		Road load power at 55 mph	Safety at exit one of lanes in 525 ft/1.7	Safety 525 ft/1.7	Approach angle/30'	Breakover angle/40'	Departure angle/30'	Rearward clearance ≥ 25cm	FRONT clearance ≥ 15cm	M/C
																			Combined FE	Projected value									
A 2.4 AW	Spa type E AWD	2.4 G53	AWD	SAB	255 65R 17	GAK-AC	3.76	2.675	2.4	36	8	D 1	WC	GAK	6	no	3	3.25	29.6745	0.368	8	No	no (AWD)	no (2R)	no (4R)	no (2.2)	no (24. 24.4)	4.905	
	Spa type E AWD	2.4 G53	AWD	SAB	255 65R 17	GAK-ACB	3.76	2.675	2.4	36	8	D 1	WC	GAK	6	no	3	3.25	29.28 3	0.323	8	No	no (AWD)	no (2R)	no (4R)	no (2.2)	no (24. 24.4)	4.905	
A 2.4 AW	Spa type AWD	2.4 G53	AWD	SAB	255 65R 16	GAK-AC	3.7 7	2.675	2.4	36	8	D 1	WC	GAK	6	no	3	3.25	29.7 46	0.737	8.8	No	no (AWD)	no (2R)	no (4R)	no (2.2)	no (24. 24.4)	4.905	
	Spa type AWD	2.4 G53	AWD	SAB	255 65R 16	GAK-ACB	3.7 7	2.675	2.4	36	8	D 1	WC	GAK	6	no	3	3.25	29.6445	0.525	8.8	No	no (AWD)	no (2R)	no (4R)	no (2.2)	no (24. 24.4)	4.905	
A 2.7 AW	Spa type AWD	2.8 G53	AWD	SAB	265 65R 16	GAK-AC	4.085	4.055	2.8	77	107	D 1	WC	GAK	6	no	3.2	3.25	28.6485	2.223	8.2	No	no (AWD)	no (2R)	no (4R)	no (2.2)	no (24. 24.4)	4.905	
	Spa type AWD	2.8 G53	AWD	SAB	265 65R 16	GAK-ACB	4.0 8	4.055	2.4	39	45	D 1	WC	GAK	6	no	3.3	3.25	28.2545	0.775	4.8	no 2.2	no (AWD)	no (2R)	no (4R)	no (2.2)	no (24. 24.4)	4.905	
A 2.4 AW	Spa type AWD	2.4 G53	AWD	SAB	255 65R 16	GAK-AC	4.255	4.255	2.4	36	88	D 1	WC	GAK	6	no	3.3	3.25	30.483	0.234	8.8	no 2.2	no (AWD)	no (2R)	no (4R)	no (2.2)	no (24. 24.4)	4.905	
	Spa type AWD	2.4 G53	AWD	SAB	255 65R 17	GAK-AC	4.288	4.288	2.3	2.4	387	D 1	WC	GAK	6	no	3.3	3.25	29.6268	0.824	4.4	no 2.2	no (AWD)	no (2R)	no (4R)	no (2.2)	no (24. 24.4)	4.905	
A W	Spa type AWD	2.4 G53	AWD	SAB	255 65R 16	GAK-AC	4.345	4.345	2.3	2.4	387	D 1	WC	GAK	6	no	3.3	3.25	29.9823	7.825	4.9	no 2.2	no (AWD)	no (2R)	no (4R)	no (2.2)	no (24. 24.4)	4.905	
	Spa type AWD	2.4 G53	AWD	SAB	255 65R 16	GAK-ACB	4.4 7	4.345	2.3	2.4	387	D 1	WC	GAK	6	no	3.3	3.25	28.2288	7.275	5.2	no 2.2	no (AWD)	no (2R)	no (4R)	no (2.2)	no (24. 24.4)	4.905	
A AW	Spa type AWD	2.4 G53	AWD	SAB	255 65R 17	GAK-AC	4.426	4.426	2.3	2.4	387	D 1	WC	GAK	6	no	3.3	3.25	29.5268	8.465	5.3	no 2.2	no (AWD)	no (2R)	no (4R)	no (2.2)	no (24. 24.4)	4.905	
	Spa type AWD	2.4 G53	AWD	SAB	255 65R 16	GAK-AC	4.426	4.426	2.3	2.4	387	D 1	WC	GAK	6	no	3.3	3.25	28.5268	7.887	5.3	no 2.2	no (AWD)	no (2R)	no (4R)	no (2.2)	no (24. 24.4)	4.905	
A A	Spa type AWD	2.4 G53	AWD	SAB	255 65R 16	GAK-AC	4.623	4.785	2.3	2.4	387	D 1	WC	GAK	6	no	3.3	3.25	28.7323	4.724	5.9	no 2.2	no (AWD)	no (2R)	no (4R)	no (2.2)	no (24. 24.4)	4.905	
	Spa type AWD	2.4 G53	AWD	SAB	255 65R 16	GAK-ACB	4.623	4.785	2.3	2.4	387	D 1	WC	GAK	6	no	3.3	3.25	27.22 7	4.775	6.2	no 2.2	no (AWD)	no (2R)	no (4R)	no (2.2)	no (24. 24.4)	4.905	
A A	Spa type AWD	2.4 G53	AWD	SAB	255 65R 16	GAK-AC	4.825	5.025	2.3	2.4	387	D 1	WC	GAK	6	no	3.3	3.25	27.43 3	5.4 4	5.9	no 2.2	no (AWD)	no (2R)	no (4R)	no (2.2)	no (24. 24.4)	4.905	
	Spa type AWD	2.4 G53	AWD	SAB	255 65R 16	GAK-ACB	4.848	5.025	2.3	2.4	387	D 1	WC	GAK	6	no	3.3	3.25	26.8867	0	5.8	no 2.2	no (AWD)	no (2R)	no (4R)	no (2.2)	no (24. 24.4)	4.905	

IV. Projected Average Fuel Economy Adjustment

1. FCIV _{AC}		Business Information
AC Efficiency Credit	176,383	
CAFE Truck Volume	172,842	
FCIV _{AC} (Gal/mi) ²⁾	0.000508397	

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

2. FCIV _{OC}		Business Information
OC Credit ¹⁾	174,655	
CAFE Truck Volume	172,842	
FCIV _{OC} (Gal/mi) ²⁾	0.000503417	

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

3. FCIV _{PU}		Business Information
PU Credit	0	
CAFE Truck Volume	172,842	
FCIV _{PU} (Gal/mi) ²⁾	0.000000000	

$$FCIV_{PU} \text{ (gal/mi)} = \frac{(PUCredit \times 1,000,000)}{(225,865 \times Production \times 8887)}$$

4. Average MPG	
Average MPG	30.8

P4	MPG	29.9	
P6	FCIV _{AC} (Gal/mi)	0.000508397	Business Information
P6	FCIV _{OC} (Gal/mi)	0.000503417	
P6	FCIV _{PU} (Gal/mi)	0.000000000	

$$\text{Average MPG} = \frac{1}{\frac{1}{MPG} - (FCIV_{AC} + FCIV_{OC} + FCIV_{PU})}$$

VLM		Business Information
VLM	225,865	

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.