

**MID-CAFE REPORT  
FOR  
2018 MODEL YEAR  
OF  
HYUNDAI MOTOR COMPANY**

**- Light Trucks -**



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).

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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 Santa Fe FWD, Santa Fe Ultimate FWD, Santa Fe AWD, Santa Fe Ultimate AWD 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 2018 exhaust emission standards as defined 40 CFR §86.

## II. Projected Average and Required Fuel Economy

### 1. Projected Average Fuel Economy

- LT : **26.3** MPG (without A/C efficiency & off-cycle credits)

- LT : **27.2** MPG (with A/C efficiency & off-cycle credits)

### 2. Projected Required Fuel Economy

- LT : **32.1** MPG

At this point in time and based on available best present information, the above projections represent the Hyundai Motor Company (HMC) average and required fuel economy for the 2018 model year for the purpose of the Act.

II. Projected Average and Required Fuel Economy



- Projected Required Fuel Economy

<b>Projected Required</b>	<b>32.1</b>
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Model Type Description	Carline	Basic Engine (disp)	Drive	T/M class	Base Tire	Projected sales	Track width FR (inch)	Track width RR (inch)	Average Track width (inch)	Wheelbase (inch)	footprint (sqr feet)	Target standard	ETW	IWC
Santa Fe FWD 3.3 AT	Santa Fe FWD	3.3	FWD	SA6	235/60R18	5,045	64.1	64.5	64.3	110.2	49.2	32.09	4,250	4,000
Santa Fe Ultimate FWD 3.3 AT	Santa Fe Ultimate FWD	3.3	FWD	SA6	235/55R19 P235/55R19	2,741	64.1	64.5	64.3	110.2	49.2	32.09	4,250	4,000
Santa Fe AWD 3.3 AT	Santa Fe AWD	3.3	AWD	SA6	235/60R18	3,230	64.1	64.5	64.3	110.2	49.2	32.09	4,500	4,500
Santa Fe Ultimate AWD 3.3 AT	Santa Fe Ultimate AWD	3.3	AWD	SA6	235/55R19 P235/55R19	3,281	64.1	64.5	64.3	110.2	49.2	32.09	4,500	4,500

<b>Projected Required</b>	<b>32.1</b>
<b>Total Sales Volume</b>	<b>14,297</b>

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

II. Projected Average and Required Fuel Economy



- Projected average Fuel Economy

<b>Projected Average</b>	<b>26.3</b>
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Model Type Description	Carline	Basic Engine (disp)	Drive	T/M class	Base Tire	Projected sales	City_FE	Hwy_FE	Combined FE	IWC	Model Type Comb.FE	Model Type Vol
Santa Fe FWD 3.3 AT	Santa Fe FWD	3.3	FWD	SA6	235/60R18	5,045	22.8	35.8	27.2534	4,000	27.3	5,045
Santa Fe Ultimate FWD 3.3 AT	Santa Fe Ultimate FWD	3.3	FWD	SA6	235/55R19 P235/55R19	2,741	21.7	34.0	25.9196	4,000	25.9	2,741
Santa Fe AWD 3.3 AT	Santa Fe AWD	3.3	AWD	SA6	235/60R18	3,230	22.7	35.1	26.9909	4,500	27.0	3,230
Santa Fe Ultimate AWD 3.3 AT	Santa Fe Ultimate AWD	3.3	AWD	SA6	235/55R19 P235/55R19	3,281	21.1	32.0	24.9197	4,500	24.9	3,281

<b>Average</b>	<b>26.3</b>
<b>Total Sales Volume</b>	<b>14,297</b>

III. Vehicle Configuration Information

Model Type Description	Chassis	Basic Engine (HP)	TM Drive (HP)	Base Tire	Engine code	L/W	ETW	Eng. Displ	Std power	horsepower	steering system	control	Class of form	OD	NV	Axis ratio	Combined FE	Projects & sales	Passenger-carrying volume	Cargo-carrying volume	Body style	Road load power at 50 mph	Satisfy at least one of items in 523.5(a)?	Satisfy 523.5(d)(1)?	Approach angle	Breakover angle	Departure angle	Running clearance	FRRR clearance	W/C	
Santa Fe FWD 3.3 AT	Santa Fe FWD	3.3 FWD	SA6 23560818	215/65R16	GRDHAC	4.332	4.250	3.3	216	200	DP1	TWC	SA6	6	Yes	28.2	3.04	27.2334	5.045	111.45(CP)	43.95(CP)	Small SUV 2WD	14.6	Yes, a tire row is provided as standard equipment, and when the vehicle is on a level, levelled cargo surface that allows for unobstructed cargo-carrying purposes.	No	No	No	No	No	4.000	
Santa Fe Ultimate FWD 3.3 AT	Santa Fe Ultimate FWD	3.3 FWD	SA6 21559119	215/65R16	GRDHAC	4.332	4.250	3.3	216	200	DP1	TWC	SA6	6	Yes	28.0	3.04	25.9198	2.741	111.45(CP)	43.95(CP)	Small SUV 2WD	15.5	Yes, a tire row is provided as standard equipment, and when the vehicle is on a level, levelled cargo surface that allows for unobstructed cargo-carrying purposes.	No	No	No	No	No	4.000	
Santa Fe FWD 3.3 AT	Santa Fe FWD	3.3 FWD	SA6 21556018	215/65R16	GRDHAC	4.484	4.500	3.3	216	200	DP1	TWC	SA6	6	Yes	28.2	3.04	26.8500	3.200	146.67(CP)	13.42(CP)	Small SUV 4WD	16.2	Yes, a tire row is provided as standard equipment, and when the vehicle is on a level, levelled cargo surface that allows for unobstructed cargo-carrying purposes.	AWD	Yes (17.1)	Yes (16.2)	Yes (20.5)	No (18.5)	Yes (23.9x1.0)	4.500
Santa Fe Ultimate AWD 3.3 AT	Santa Fe Ultimate AWD	3.3 AWD	SA6 21559119	215/65R16	GRDHAC	4.484	4.500	3.3	216	200	DP1	TWC	SA6	6	Yes	28.0	3.04	24.9197	3.201	111.45(CP)	43.95(CP)	Small SUV 2WD	16.2	Yes, a tire row is provided as standard equipment, and when the vehicle is on a level, levelled cargo surface that allows for unobstructed cargo-carrying purposes.	AWD	Yes (17.1)	Yes (16.2)	Yes (20.5)	No (18.5)	Yes (23.9x1.0)	4.500

IV. Projected A/C Efficiency Credits

Model Type Description	Carline	Basic Engine (disp)	Drive	T/M class (Drive, type, gear)	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 Exchange r	Improved Condensor and/or Evaporator (requires EPA approval)	Oil Separator (requires EPA approval)	Total Menu-based Credits	A/C Efficiency Credit	VLM
									2.2 qpm	1.4 qpm	2.2 qpm	1.4 qpm							
Santa Fe FWD 3.3 AT	Santa Fe FWD	3.3	FWD	SA6	235/60R18	R134a	Belt-Driven	5,045	2.2	0.0	0.0	0.0	1.1	1.4	1.4 qpm	0.7 qpm	5.4	6,153	225,865
Santa Fe Ultimate FWD 3.3 AT	Santa Fe Ultimate FWD	3.3	FWD	SA6	235/55R19 P235/55R19	R134a	Belt-Driven	2,741	2.2	0.0	0.0	0.0	1.1	1.4	0.0	0.7	5.4	3,343	225,865
Santa Fe AWD 3.3 AT	Santa Fe AWD	3.3	AWD	SA6	235/60R18	R134a	Belt-Driven	3,230	2.2	0.0	0.0	0.0	1.1	1.4	0.0	0.7	5.4	3,940	225,865
Santa Fe Ultimate AWD 3.3 AT	Santa Fe Ultimate AWD	3.3	AWD	SA6	235/55R19 P235/55R19	R134a	Belt-Driven	3,281	2.2	0.0	0.0	0.0	1.1	1.4	0.0	0.7	5.4	4,002	225,865

ACCredit	17,438
LT volume	14,297
FCIV <sub>Ac</sub> (Gal/mi)	0.000607642

VLM 225,865

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



V. Projected Off-cycle Credits

Model Type Description	Carline	Basic Engine (disp)	Drive	T/M class (Drive, type, gear)	Base Tire	Description	Projected sales	Off-cycle benefit per vehicle		VLM
								gpm	megagrams	
Santa Fe FWD 3.3 AT	Santa Fe FWD	3.3	FWD	SA6	235/60R18	ATF Warmer 3.2, Glazing 1.6	4,494	4.8	4,872	225,865
Santa Fe FWD 3.3 AT	Santa Fe FWD	3.3	FWD	SA6	235/60R18	ATF Warmer 3.2, Glazing 1.4	1	4.6	1	225,865
Santa Fe FWD 3.3 AT	Santa Fe FWD	3.3	FWD	SA6	235/60R18	ATF Warmer 3.2, Glazing 1.4, Active seat ventilation 1.3	61	5.9	81	225,865
Santa Fe FWD 3.3 AT	Santa Fe FWD	3.3	FWD	SA6	235/60R18	ATF Warmer 3.2, Glazing 1.6, Lamp 0.06	446	4.9	494	225,865
Santa Fe FWD 3.3 AT	Santa Fe FWD	3.3	FWD	SA6	235/60R18	ATF Warmer 3.2, Glazing 1.4, Lamp 0.06, Active seat ventilation 1.3	43	6.0	58	225,865
Santa Fe Ultimate FWD 3.3 AT	Santa Fe Ultimate FWD	3.3	FWD	SA6	235/55R19, P235/55R19	ATF Warmer 3.2, Glazing 1.6	2,457	4.8	2,664	225,865
Santa Fe Ultimate FWD 3.3 AT	Santa Fe Ultimate FWD	3.3	FWD	SA6	235/55R19, P235/55R19	ATF Warmer 3.2, Glazing 1.4, Active seat ventilation 1.3	22	5.9	29	225,865
Santa Fe Ultimate FWD 3.3 AT	Santa Fe Ultimate FWD	3.3	FWD	SA6	235/55R19, P235/55R19	ATF Warmer 3.2, Glazing 1.6, Lamp 0.06	219	4.9	242	225,865
Santa Fe Ultimate FWD 3.3 AT	Santa Fe Ultimate FWD	3.3	FWD	SA6	235/55R19, P235/55R19	ATF Warmer 3.2, Glazing 1.6, Lamp 0.06, Active seat ventilation 1.3	1	6.2	1	225,865
Santa Fe Ultimate FWD 3.3 AT	Santa Fe Ultimate FWD	3.3	FWD	SA6	235/55R19, P235/55R19	ATF Warmer 3.2, Glazing 1.4, Lamp 0.06, Active seat ventilation 1.3	42	6.0	57	225,865
Santa Fe AWD 3.3 AT	Santa Fe AWD	3.3	AWD	SA6	235/60R18	ATF Warmer 3.2, Glazing 1.4, Active seat ventilation 1.3	1,394	5.9	1,858	225,865
Santa Fe AWD 3.3 AT	Santa Fe AWD	3.3	AWD	SA6	235/60R18	ATF Warmer 3.2, Glazing 1.4, Lamp 0.06, Active seat ventilation 1.3	1,836	6.0	2,488	225,865
Santa Fe Ultimate AWD 3.3 AT	Santa Fe Ultimate AWD	3.3	AWD	SA6	235/55R19, P235/55R19	ATF Warmer 3.2, Glazing 1.4, Active seat ventilation 1.3	1,094	5.9	1,458	225,865
Santa Fe Ultimate AWD 3.3 AT	Santa Fe Ultimate AWD	3.3	AWD	SA6	235/55R19, P235/55R19	ATF Warmer 3.2, Glazing 1.4, Lamp 0.06, Active seat ventilation 1.3	2,187	6.0	2,964	225,865

OCCredit	17,267
Truck volume	14,297
FCV <sub>oc</sub> (Gal/mi)	0.000601683

**VLM 225,865**

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

## VI. Projected Average Fuel Economy Adjustment

Average MPG	27.2
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P4	MPG	26.3
P6	FCIV <sub>AC</sub> (Gal/mi)	0.000607642
P7	FCIV <sub>OC</sub> (Gal/mi)	0.000601683
N/A	FCIV <sub>PU</sub> (Gal/mi)	0

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