

**TOYOTA**  
**2019 Pre-MODEL YEAR**  
**AUTOMOTIVE FUEL ECONOMY REPORT**

**December 2018**

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Section I - General Description

1) Identification of this report: Pre-Model Year Report

2) Official responsible for preparing this report:

The name, title and address of the official responsible for preparing this report is as follows:

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3) Identification of the current model year: 2019 model year

4) of the information:

In accordance with 49 CFR Section 537.5 (c)(7) and 49 CFR Part 512, we request to withhold from public disclosure any sales projection information that is included in this report, as trade secret, until December 31, 2019. This is because these data fall within our sales strategy plans and come under 5 U.S.C. 552 (b)(4), "Trade Secrets and Commercial Information." Release of the information, which is claimed to be [REDACTED] to competitors before the specified date may result in significant competitive damage to Toyota. Application for certification submitted to EPA also includes similar information. We have requested its [REDACTED] for the same reason.

The pages requesting [REDACTED] treatment will be stamped "[REDACTED]" in the top right-hand corner. Each specific portion containing [REDACTED] information will be squared, and will have the letter "C" (such as \_\_\_\_\_ C). We appreciate your support of our claim of [REDACTED] and treatment of the material as such.

Section II - Specific Information on 2019 Model Year Vehicle Fuel EconomyA. Domestically Produced Passenger Automobiles1. Projected Average Fuel Economy

| §600.510-12 (h)<br>-Without AC and Off-Cycle credits | §600.510-12 (c)(1)(ii)<br>-With AC and Off-Cycle credits | §600.510-12 (e)<br>-Adjustment for passenger automobiles | Final average fuel economy |
|--|--|--|----------------------------|
| 42.2239 mpg  | 44.0437 mpg  | 44.4996 mpg  | 44.5 mpg                   |

2. Projected Required Fuel Economy

The projected required fuel economy is 40.1 MPG.

3. Projected Total Sales

The projected total sales are 480,433.

4. Footprint Information for each Model Type

The footprint information for each model type is provided.

5. Model Type Fuel Economy

Model type fuel economy and technical information are provided.

6. Projected Air conditioning Fuel Consumption improvements (S600.510-12(c)(3)(i))

The projected Air conditioning fuel economy credits is 0.000539624 gallons/mile. Detailed information is provided.

7. Projected Off-Cycle Fuel Consumption improvements (S600.510-12(c)(3)(ii))

The projected Off-Cycle technology fuel economy credits is 0.000438903 gallons/mile. Detailed information is provided.

B. Non-domestically Produced Passenger Automobiles1. Projected Average Fuel Economy

| §600.510-12 (h)<br>-Without AC and Off-Cycle credits | §600.510-12 (c)(1)(ii)<br>-With AC and Off-Cycle credits | §600.510-12 (e)<br>-Adjustment for passenger automobiles | Final average fuel economy |
|--|--|--|----------------------------|
| 41.4362 mpg  | 43.2649 mpg  | 43.5572 mpg  | 43.6 mpg                   |

2. Projected Required Fuel Economy

The projected required fuel economy is 42.1MPG.

3. Projected Total Sales

The projected total sales are 507,768.

4. Footprint Information for each Model Type

The footprint information for each model type is provided.

5. Model Type Fuel Economy and Technical Information

Model type fuel economy and technical information is provided.

6. Projected Air conditioning Fuel Consumption improvements (S600.510-12(c)(3)(i))

The projected Air conditioning fuel economy credits is 0.000502835 gallons/mile. Detailed information is provided.

7. Projected Off-Cycle Fuel Consumption improvements (S600.510-12(c)(3)(ii))

The projected Off-Cycle technology fuel economy credits is 0.000517213 gallons/mile. Detailed information is provided.

C. Light Trucks

1. Projected Average Fuel Economy

|  |  |  |                            |
|--|--|--|----------------------------|
| §600.510-12 (h)<br>-Without AC and Off-Cycle credits | §600.510-12 (c)(1)(ii)<br>-With AC and Off-Cycle credits | §600.510-12 (e)<br>-Adjustment for passenger automobiles | Final average fuel economy |
| 28.1833 mpg  | 29.4510 mpg  | N/A  | <b>29.5 mpg</b>            |

3. Projected Required Fuel Economy

The projected required fuel economy is **31.3MPG**.

4. Projected Total Sales

The projected total sales are 1,155,470.

5. Footprint Information for each Model Type

The footprint information for each model type is provided.

6. Model Type Fuel Economy and Technical Information

Model type fuel economy and technical information is provided.

7. Projected Air conditioning Fuel Consumption improvements (S600.510-12(c)(3)(i))

The projected Air conditioning fuel economy credits is 0.000665666 gallons/mile. Detailed information is provided.

8. Projected Off-Cycle Fuel Consumption improvements (S600.510-12(c)(3)(ii))

The projected Off-Cycle technology fuel economy credits is 0.000861595 gallons/mile. Detailed information is provided.

9. Data for Non-passenger vehicle

The data for each model type of automobile, classified as a non-passenger vehicle (light truck), as required by Section 537.7(c)(5), are as follows

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|                   | (i)(A) Transport more than 10 persons | (i)(B) Temporary living quarters | (i)(C) Transport property on an open bed | (i)(D) Greater cargo-carrying than passenger-carrying volume | (i)(E) Permit expanded use for non-passenger carrying purposes |
|-------------------|---------------------------------------|----------------------------------|--|--|--|
| RAV4              | No                                    | No                               | No                                       | No   | No   |
| RAV4 HYBRID       | No                                    | No                               | No                                       | No   | No   |
| NX 300            | No                                    | No                               | No                                       | No   | No   |
| NX 300h           | No                                    | No                               | No                                       | No   | No   |
| HIGHLANDER        | No                                    | No                               | No                                       | No   | Yes  |
| HIGHLANDER HYBRID | No                                    | No                               | No                                       | No   | Yes  |
| SIENNA            | No                                    | No                               | No                                       | No   | Yes  |
| RX 350            | No                                    | No                               | No                                       | No   | No   |
| RX 350 L          | No                                    | No                               | No                                       | No   | No   |
| RX 450h           | No                                    | No                               | No                                       | No   | No   |
| RX 450h L         | No                                    | No                               | No                                       | No   | No   |
| TACOMA            | No                                    | No                               | Yes                                      | Yes  | No   |
| 4RUNNER           | No                                    | No                               | No                                       | No   | No   |
| GX 460            | No                                    | No                               | No                                       | No   | No   |
| TUNDRA            | No                                    | No                               | Yes                                      | Yes  | No   |
| TUNDRA FFV        | No                                    | No                               | Yes                                      | Yes  | No   |
| SEQUOIA           | No                                    | No                               | No                                       | No   | Yes  |
| LAND CRUISER      | No                                    | No                               | No                                       | No   | No   |
| LX 570            | No                                    | No                               | No                                       | No   | No   |

|                   | (ii)(A) 4-wheel drive | (ii)(B) GVW (lbs.) | (ii)(C)(1) Approach angle (deg.) | (ii)(C)(2) Breakover angle (deg.) | (ii)(C)(3) Departure angle (deg.) | (ii)(C)(4) Minimum running clearance (inch) | (ii)(C)(5) Axle clearance (inch) |      |
|-------------------|-----------------------|--------------------|----------------------------------|-----------------------------------|-----------------------------------|---|----------------------------------|------|
|                   |                       |                    |                                  |                                   |                                   |   | Front                            | Rear |
| RAV4              | YES                   | 4658               | 19.0                             | 18.0                              | 21.0                              | 8.4   | 10.1                             | 10.4 |
| RAV4 HYBRID       | YES                   | 4920               | 19.0                             | 17.5                              | 21.0                              | 8.1   | 10.0                             | 10.2 |
| NX 300            | YES                   | 5200               | 28.4                             | 15.9                              | 24.0                              | 6.3   | 9.0                              | 9.7  |
| NX 300h           | YES                   | 5335               | 28.4                             | 15.9                              | 24.0                              | 6.3   | 9.0                              | 9.7  |
| HIGHLANDER        | YES                   | 6000               | 17.9                             | 18.3                              | 23.4                              | 8.0   | 8.4                              | 10.2 |
| HIGHLANDER HYBRID | YES                   | 6260               | 17.6                             | 16.9                              | 24.1                              | 8.0   | 8.4                              | 9.7  |
| SIENNA            | YES                   | 5995               | 15.0                             | 14.0                              | 18.0                              | 6.4   | 6.4                              | 8.3  |
| RX 350            | YES                   | 5860               | 17.0                             | 16.8                              | 24.9                              | 8.2   | 9.6                              | 9.8  |
| RX 350 L          | YES                   | 5985               | 17.1                             | 20.6                              | 21.3                              | 8.0   | 9.1                              | 9.6  |
| RX 450h           | YES                   | 6000               | 17.0                             | 16.8                              | 24.9                              | 8.2   | 9.6                              | 9.8  |
| RX 450h L         | YES                   | 6200               | 17.1                             | 20.6                              | 21.3                              | 8.0   | 9.1                              | 9.6  |
| TACOMA            | YES                   | 5600               | 29.0                             | 20.0                              | 23.1                              | 9.4   | 9.1                              | 8.1  |
| 4RUNNER           | YES                   | 6300               | 30.0                             | 22.0                              | 26.0                              | 9.0   | 7.6                              | 9.2  |
| GX 460            | YES                   | 6600               | 22.0                             | 21.0                              | 23.0                              | 8.1   | 8.7                              | 9.1  |
| TUNDRA            | YES                   | 7050               | 27.0                             | 18.0                              | 20.0                              | 9.8   | 9.6                              | 8.5  |
| TUNDRA FFV        | YES                   | 7150               | 27.0                             | 18.0                              | 20.0                              | 9.8   | 9.6                              | 8.5  |
| SEQUOIA           | YES                   | 7300               | 28.0                             | 20.0                              | 21.0                              | 9.5   | 9.5                              | 8.6  |
| LAND CRUISER      | YES                   | 7385               | 30.0                             | 23.0                              | 20.0                              | 8.9   | 9.6                              | 8.9  |
| LX 570            | YES                   | 7385               | 25.0                             | 23.0                              | 20.0                              | 8.9   | 9.3                              | 8.9  |

## **The Abbreviation for Technical Information**

For making tables compact, we use the following abbreviations.

| <u>Abbreviation</u> | <u>Actual Meaning</u>                      | <u>I.D. No. of Information</u><br><u>Category*</u> |
|---------------------|--|--|
| LOAD WGT            | Loaded vehicle weight                      | (I)  |
| ETW                 | Equivalent test weight                     | (ii)   |
| LIT                 | Engine displacement, liters                | (iii)  |
| CYL                 | Number of engine cylinder                  | (iv)   |
| SAE HP              | SAE net horsepower                         | (v)  |
| ENG CODE            | Engine code                                | (vi)   |
| FS                  | Fuel system                                | (vii)  |
| ECS                 | Emission control system                    | (viii)   |
| TRANS               | Transmission class                         | (ix)   |
| N/G                 | Number of forward speed                    | (x)  |
| OD                  | Existence of overdrive                     | (xi)   |
| N/V                 | Total drive ratio                          | (xii)  |
| AXLE                | Axle ratio                                 | (xiii)   |
| SALES               | Projected sales for the Current model year | (xv)   |
| INT VOL             | Interior volume index                      | (xvi)  |
| BDY STY             | Body style                                 | (xvi)  |
| PASS VOL            | Passenger-carrying volume                  | (xvi)  |
| CARGO VOL           | Cargo-carrying volume                      | (xvi)  |
| FRONT AREA          | Frontal area                               | (xix)  |
| ROAD LOAD           | Road Load power at 50 mph                  | (xx)   |
| OPT                 | Optional equipment                         | (xxi)  |

\*: Corresponds to the number of information categories provided in section 537.7(c)(4).

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The abbreviations for specific information categories are as follows:

- (1) “(vii)Fuel system (FS)  
FI : Fuel Injection
- (2) “(viii) Emission control system (ECS)”
- |     |   |  |
|-----|---|--|
| E1  | : | SFI,WR-HO2S,TWC(2),HO2S                  |
| E2  | : | DFI+SFI,EGR,EGRC,2WR-HO2S(2),2TWC        |
| E3  | : | DFI+SFI,EGR,EGRC,WR-HO2S(2),TWC(2)       |
| E4  | : | TWC(2),WR-HO2S,HO2S,SFI,DFI              |
| E5  | : | DFI+SFI,WR-HO2S,TWC(2),HO2S,TC,CAC       |
| E6  | : | SFI,2AIR,EGR,EGRC,2WR-HO2S,2TWC(2),2HO2S |
| E7  | : | DFI+SFI,2WR-HO2S,2TWC,2HO2S,TWC          |
| E8  | : | SFI,AIR,WR-HO2S,TWC(2),HO2S              |
| E9  | : | SFI,EGR,EGRC,WR-HO2S,TWC(2),HO2S         |
| E10 | : | SFI,AIR,EGR,EGRC,2WR-HO2S,2TWC(2),2HO2S  |
| E11 | : | DFI+SFI,EGR,EGRC,2WR-HO2S,2TWC,2HO2S,TWC |
| E12 | : | SFI,AIR,2WR-HO2S,2TWC(2),2HO2S           |
| E13 | : | DFI+SFI,2WR-HO2S,2TWC(2),2HO2S           |
| E14 | : | SFI,2AIR,2WR-HO2S,2TWC(2),2HO2S          |
| E15 | : | DFI+SFI,2WR-HO2S(2),2TWC(2),2TC,2CAC     |
| E16 | : | TWC, WU-TWC, HO2S, WR-HO2S, DFI          |

And also in the description above;

|         |   |   |
|---------|---|---|
| DFI     | : | Direct Fuel Injection                                 |
| SFI     | : | Sequential Multipoint Electronic Fuel Injection       |
| HO2S    | : | Heated Oxygen Sensor                                  |
| TWC     | : | Three-Way Catalyst                                    |
| A/FS    | : | Air-fuel ratio sensor                                 |
| HAFS    | : | Heated air-fuel ratio sensor                          |
| AIR     | : | Air Injection Pump                                    |
| EGR     | : | Exhaust Gas Recirculation                             |
| ADS     | : | HC adsorber   |
| EGRC    | : | Exhaust Gas Recirculation Cooler                      |
| WR-HO2S | : | Wide Range/Linear/Air-Fuel Ratio Heated Oxygen Sensor |
| CAC     | : | Charge Air Cooler                                     |
| TC      | : | Turbocharger  |

- (3) “(ix) Transmission class (TRANS)”  
The number after “-” indicates the number of transmission mode.  
SS : Start and Stop

- (4) “(xvi) Body style(BDY STY)”
- |   |   |               |
|---|---|---------------|
| B | : | Hatchback     |
| C | : | Coupe         |
| D | : | Sedan         |
| V | : | Convertible   |
| W | : | Station Wagon |
| S | : | Sport Utility |

- (5) “(xxi) Optional equipment (OPT)”
- |   |   |                  |
|---|---|------------------|
| A | : | Air Conditioning |
|---|---|------------------|