

# 2019 Toyota Camry Builds on Exciting Style, Sport Performance, and Innovative Safety Tech with More Standard Equipment

March 05, 2019



The 2019 Toyota Camry, the best-selling car in America for the past 16 years, continues to build on its already thrilling style, performance, and innovative safety and technology. The continued excitement over the eighth-generation sedan is the result of its total evolution that first debuted last model year, from a proven, dependable and safe car to one that adds a more exciting and emotional character, thanks to its much talked about newfound performance and style.

The Camry continues to utilize TNGA (Toyota New Global Architecture), which represents a completely new strategy to the way the company designs, engineers, and packages its vehicles. TNGA retains all of Toyota's traditional values of superlative build quality and safety while injecting a fun driving experience that plays on all the senses. The physical manifestation is the usage of its engine, transmission, and GA-K platform.

## **Design Backstory**

The Camry development team aimed for a styling design concept that achieves strong harmony between

refinement and a sensual athletic image, creating a new approach to the market. The result is a signature design language that takes the car into a beautiful and futuristic new direction.

There were three primary design goals when penning the Camry: a distinctive, low center of gravity that results in a firm wide stance; a practical-yet-emotionally styled cabin profile, and a sporty and upscale image both inside and out. These design goals have resulted in a type of sedan that's both exciting to look at and, more importantly drive, reestablishing itself as the standard in the mid-size sedan category.

### **An Exterior with Unexpected Attitude**

The Camry's face is accentuated by a two-piece grille comprised of flowing thin and thick treatments – key elements of the Camry's "Keen Look" design philosophy. The curvaceous 1.6-inch-lower aluminum hood sits neatly above the grille's uppermost section which accommodates a commanding Toyota emblem. For the hybrid model, the emblem is tinged a distinct blue hue. This fashionable trifecta of grille, hood, and emblem blends flawlessly into the A-pillar, and produces a stance that is undoubtedly more aggressive than that of any predecessor.

The 2019 Camry has an unchanged exterior. By lowering the hip points of the occupants over the previous generation (0.8-inches in the front and 1.2-inches at the rear), and therefore their seating positions, the design team was able to reduce the car's overall vehicle height by approximately one inch and incorporate a lower roofline, without sacrificing interior space. This invited the designers to pursue a wind-cutting shape and improve aerodynamics. Striking character lines around and along the body augment the aggressive front and rear fenders, giving the reimagined Camry a sportiness that it's never had.

The hip point, shoulder line, roof line and hood height gives the Camry the appearance that it has a low center of gravity, which it does. The design team took full advantage of the TNGA platform's versatility to create a very expressive sedan. They penned ground-hugging lines, and formed an energetic silhouette. Their efforts enhanced the Camry's stance, which is now striking at all angles.

Like the front, the rear features an athletic motif that melds flowing lines and complex shapes to form a sculpted landscape. Looking closely at the C-pillar's detail reveals a multitude of surfaces that reflect light from all angles. A distinct crease extends from the slim multicolor taillights down to the bumper, effectively "pushing" the wheels outward in appearance to create a wide posture akin to that of a premium sports sedan. The exclamation point here is provided by the "C A M R Y" badge that gives the car an upscale identity.

Camry is available in five grades: L, LE, XLE, SE, and XSE. The sportier SE and XSE grades wear a noticeably different body style than the entry level L and LE, and premium XLE grades, highlighted by a sculpted rocker panel, 19-inch black machined-finish alloy wheels (standard on XSE) a subtle rear spoiler lip, aggressive front bumper, and rear bumper with a lower diffuser. The face is much more distinctive with large side intakes flanking the lower bumper's unique "Catamaran-inspired" accents, a high and slim upper intake encompassing the central Toyota badge, and a powerfully expressive gloss black mesh grille. A unique rear bumper with distinctive corner lines highlight the changes at the rear. Smoke-tinted rear combination lamps are available on the XSE grade.

Designers sought to make the Camry sport grades instantly recognizable and appear different from the other models from as far as 200 yards away.

### **Rigid Body/Platform for a Comfortable and Stable Ride**

The Camry provides a high-quality comfortable and stable ride manner with superior handling characteristics using a lightweight, high-rigidity body/platform structure with a 30-percent increase in torsional rigidity versus its predecessor.

Despite the increased use of high-tensile-strength sheet metal and hot stamping materials resulting in a lightweight body, further weight reduction has been achieved through the use of an aluminum hood, while construction techniques have led to the use of thinner body panels for the roof, hood, trunk lid, front and rear doors and front fenders when compared with the previous model.

Laser Screw Welding (LSW) has been incorporated at key junctures throughout the body/platform for increased joint rigidity. A special high-rigidity urethane adhesive has been applied to both the windshield and rear window where it meets the vehicle body that helps to realize increased body rigidity. The fortified body includes additional gussets for the front/rear door frame (B-pillar) that have greatly increased the frame/joint strength.

Also, the front suspension tower brace embedded within the cowl body now makes use of a closed cross-section construction, further advancing the vehicle's dynamic handling prowess and stability in the corners. At the rear of the vehicle, a rear body frame of annular construction enhances structural rigidity, joined by additional braces added to the rear suspension that can withstand higher levels of lateral force and increase the vehicle's lateral rigidity.

Building on the Camry's undisputed reputation as an extremely smooth and quiet car in its class, Toyota engineers incorporated a variety of noise, vibration and harshness (NVH) countermeasures that were previously found exclusively on luxury models. These include sound absorbing/insulation through the fitment of a hood insulator and upper and lower fender separator. The passenger compartment is further insulated from the engine and road noise using foam/vibration dampening materials throughout the vehicle along with a thicker dash silencer mat across the entire interior firewall section.

Furthermore, a special vibration-damping coating has been applied over a wider area of the underfloor, joined by noise-proofing material encompassing more surface area of the interior's ceiling. Wind noise has been suppressed through a rain gutter molding and a reduction in the step at the bottom of the windshield.

### **Available Exterior Colors**

Colors include Wind Chill Pearl, Ruby Flare Pearl, Brownstone, Galactic Aqua Mica, Super White, Celestial Silver Metallic, Predawn Gray Mica, Midnight Black Metallic, Blue Streak Metallic, and Supersonic Red. Camry XSE models will also offer a Midnight Black Metallic roof option mated to a choice of Blue Streak Metallic, Celestial Silver, or Wind Chill Pearl body colors.

The exterior palette will be mated to interior colors in either Ash, Macadamia, or Black. A sporty Cockpit Red interior is available on the XSE.

### **Striking and Comfortable Cabin**

The interior is a fusion of functionality, futuristic styling, and a high degree of personal space and craftsmanship. While the driver is situated in a sporty cockpit-type environment having gauges angled toward his or her direction, the front passenger is treated to a sense of openness and freedom that results from the innovative dashboard design. A key visual element of this driver-focused design concept is a sweeping yet elegant character line that flows down from the instrument cluster and bisects the center console waterfall. The design of the entire front console strikes a smooth connection between the ease of use of all controls/systems

and a handsome and modern sculptural look that is pleasing to the eye.

All surfaces throughout the cabin – dashboard, instrument panel, center console, door trim, etc. – employ the highest grade of soft touch and premium materials. Using an approach typically used in home furnishings, the design utilizes a mix of tones and hues throughout the space rather than a strict color profile. The result is a cabin space having diverse colors and materials, and that enhances passenger comfort and visual satisfaction.

The front seats have improved ergonomics, providing maximum comfort with a level of ease and engagement to match the Camry's elevated performance and athleticism. Rear-seat accommodations are more refined than ever too, with improved comfort and ergonomics. Exquisite stitching on the front- and rear-seat surfaces is but one example of the high level of craftsmanship found throughout the vehicle.

### **Accessible Information Designed with Minimal Distraction**

The Camry features Toyota's latest in-vehicle information technology whose next-generation displays offer a unique level of integrated information with minimal distraction. It relays information through three available displays: a 10-inch color Head-Up Display (HUD); a seven-inch multi-information display within the instrument cluster, and an eight-inch audio/navigation/HVAC (heating, ventilation and air conditioning) control panel that's seamlessly integrated into the center console in a modern, flush-surface design. Convenient and highly intuitive operation is assured through customizable features and smart phone-like touch screen icons that create a seamless connection and user workflow between the in-vehicle information technology and other digital media.

### **2019 Camry: Continued Implementation of the Toyota's New Global Architecture (TNGA)**

Development of the Camry was advanced by Toyota's company-wide implementation of Toyota New Global Architecture (TNGA). TNGA builds upon Toyota's engineering and design strengths to make every new vehicle even better, with the Toyota Camry being the first vehicle to take full advantage of the new architecture for creating fun-to-drive vehicles.

TNGA is much more than an approach to designing a vehicle's platform; it is a strategy that strengthens the development of Toyota vehicles going forward in an unprecedented manner, while playing an important role as the driving force behind the transformation of the company itself as it incorporates many ways of working with a variety of new and advanced technologies.

While each department involved in the development of new vehicles advanced the "*kaizen*" or continuous improvement within their respective area of design/engineering expertise to make every Toyota vehicle even better, the development of the TNGA-based Camry progressed as a single unified team that encompassed all areas of the vehicle's development.

The Camry's TNGA-based body/platform has created a compelling dimension of design freedom that includes an extended wheelbase and a wider vehicle stance, realizing a stylish and sporty design aesthetic.

Along with the platform, a 2.5-liter four-cylinder Dynamic Force Engine, Direct Shift-8AT eight-speed automatic transmission, and a multi-link rear suspension design are all representative technologies that have evolved through TNGA. The most noticeable change for the driver will be that TNGA will deliver an unprecedented level of driving enjoyment through dynamic and spirited handling capability.

Through TNGA, the Camry has an ideal driving position for the driver – allowing for better concentration on

the road ahead while helping to reduce driver fatigue – along with improving the overall seating position for all the vehicle’s occupants. Thanks to these changes, plus the beltline height and the more integrated design of the instrument panel, the driver and front passenger will experience more expansive outward visibility. Lateral visibility for the driver is enhanced, thanks to a repositioning of the A-pillars and side view mirrors; this design reconfiguration further aids the sense of openness for both the driver and the front passenger.

### **Power with Class-leading MPG**

Three powertrains will continue to be available on the 2019 Camry: They include a 2.5-liter inline-four-cylinder D-4S gasoline engine and a 3.5-liter V6 with D-4S Fuel Injection, both of which are paired to an eight-speed Direct-Shift automatic transmission (8AT); and a next-generation Toyota Hybrid System (THS II).

### **TNGA-Inspired 2.5-Liter 4-Cylinder Dynamic Force Engine**

Providing high power output with smooth and highly refined operation, the Camry’s 2.5-liter four-cylinder Dynamic Force Engine has outstanding combustion efficiency. This powerplant incorporates an array of Toyota’s most advanced technologies including Dual VVT-i with VVT-iE (Variable Valve Timing intelligent system by Electric motor), D-4S (Direct injection 4-stroke gasoline engine Superior version) direct injection and laser-clad valve seats for optimal power production, emissions performance and fuel efficiency. With its long-stroke and high compression ratio, multi-hole direct fuel injectors, variable cooling system and VVT-iE, this high-output powerplant takes the gasoline-powered internal combustion engine to an increased level of thermal efficiency.

The engine features VVT-iE on the intake side while utilizing VVT-i (Variable Valve Timing with intelligence) for the exhaust, a highly efficient compression ratio of 13:1 (14:1 for the hybrid version) for increased thermal efficiency and fuel efficiency and a bore and stroke measuring 3.44 inches and 4.07 inches, respectively; the stroke was increased from the previous generation’s 3.86 inches to achieve the higher compression ratio.

Peak horsepower is estimated at 206 at 6,600 rpm (176 horsepower at 5,700 rpm in the hybrid configuration) with torque estimated at 186 lb.-ft. at 5,000 rpm (163 lb.-ft. at 3,600-5,200 rpm for the hybrid). Peak fuel economy for gas models is rated at an EPA-estimate of 29 mpg city/41 mpg highway/34 mpg combined.

The innovative Dual VVT-i with VVT-iE variable valve timing system uses an electric motor instead of oil pressure to control variable valve timing, helping the system enhance fuel efficiency with cleaner exhaust emissions – even when operating in cold temperatures or at low RPMs.

Utilizing a combination of both higher-pressure direct fuel injection (DI) and lower-pressure port fuel injection (PFI) – controlling the appropriate fuel injection method in accordance with certain driving/operational conditions – and multi-hole (six per injector) nozzle direct injectors further elevate both fuel economy and power production.

Other important technological innovations for the 2.5-liter 4-cylinder Dynamic Force Engine include a variable cooling system, full variable oil pump and a cooled Exhaust Gas Recirculation (EGR) system.

### **3.5-Liter V-6 Engine**

Like the 2.5-liter inline 4-cylinder Dynamic Force Engine, the Camry’s 3.5-liter V-6 is equipped with the highly-advanced D-4S direct injection system, along with a specially-developed VVT-iW (Variable Valve Timing-intelligent Wide) variable valve timing system. Thanks to the addition of these highly efficient engine

technologies, it delivers higher power output, and class-leading fuel efficiency.

The 24-valve DOHC 3.5-liter V-6 engine employs the VVT-iW system for the intake, with VVT-i (Variable Valve Timing – Intelligent) on the exhaust, an efficient 11.8:1 compression ratio and a more squared bore and stroke of 3.70 inches and 3.27 inches, respectively, in comparison to the longer stroke of the Camry's 2.5-liter inline 4-cylinder power plant. Power output is rated at 301 horsepower at 6,600 rpm an impressive torque rating of 267 ft.-lb. at 4,700 rpm. Despite its exceptional power output, the 3.5-liter V-6 engine achieves exemplary fuel efficiency with an EPA-estimated rating of 22 mpg city/33 mpg highway/26 mpg combined, an increase of eight percent for combined mpg over the previous V6.

The V-6's VVT-iW variable valve timing system has been engineered to ensure high torque production at all engine speeds. It utilizes the Atkinson cycle to enhance fuel economy without sacrificing performance or engine start ability at extremely low temperatures as well as in wide-open throttle (WOT) engine operation. Fuel efficiency is further enhanced by decreasing pumping losses from the delayed closing of the intake valves.

### **Direct Shift Eight-Speed Automatic Transmission**

Both the 2.5-liter 4-cylinder Dynamic Force Engine and the 3.5-liter V-6 are equipped with the Direct Shift 8-speed automatic transmission that allows the driver to freely experience the direct and impressive acceleration capability of the engines, along with the satisfyingly crisp-yet-smooth, quick-shifting capability of a performance-oriented gearbox. What's more, not only does this transmission deliver outstanding fuel economy, it also always operates within a calm and refined manner.

The unit's gear ratios have been carefully selected for enhanced power delivery as well as optimal fuel efficiency, with the mid-range gears utilizing close ratios to improve passing power.

The gearbox also includes a torque converter that offers a wider range of lock-up (when compared to the previous 6-speed automatic transmission) for a more direct driving feel while contributing to improved fuel efficiency through suppressed engine revving.

Other impressive features engineered into this 8-speed automatic transmission include control logic, for more precise matching of engine torque, and smoother transitions when downshifting.

### **Toyota Hybrid System**

Like the Camry's conventional gasoline powertrain, the Toyota Hybrid System (THS II) has been engineered to provide spirited performance and driving enjoyment – including Sequential Shiftmatic technology that allows the driver to “shift” the electronically controlled continuously variable transmission (ECVT), mimicking a quick-shifting six-speed automatic transmission via paddle shifters (on SE grade) or with the console-mounted shift lever – while simultaneously achieving an optimal balance between high power output and exemplary energy efficiency.

The 2019 Camry Hybrid is available in three grades, LE, SE, and XLE. In addition to its enhanced handling and driving performance, the hybrid version of the Camry achieves outstanding fuel efficiency with a best-in-class EPA-estimated mpg of 51 city/53 highway/52 combined on the LE grade, and 44 city/47 highway/46 combined on the SE and XLE.

Dynamic performance is assured thanks to optimal control of the engine working in concert with the electric motor (MG2), while exemplary energy efficiency is achieved by using both electric motors (MG1 and MG2) for

hybrid battery charging.

Driving characteristics and trunk room are improved through the implementation of the TNGA packaging as it allows for the hybrid system's battery pack to be moved from the trunk area to beneath the rear seat, positioning the battery weight at a lower center of gravity axis.

The updated Power Control Unit (PCU) of the hybrid system plays a key role in improving the operational efficiency of this eco-sensitive powertrain. Thanks to improvements in the conversion efficiency of the PCU and the transaxle/electric motor, they combine to reduce energy loss by a total of approximately 20 percent. Additionally, improvements to cooling system efficiency has reduced energy loss by about 10 percent.

Just like the Prius, the PCU is lighter and more compact as a result of integrating microcontrollers and using a power stack structure, allowing the unit to be packaged directly above the transaxle. This design lowers the vehicle's overall center of mass and allows for a lower hood height.

The PCU is a revised DC-DC converter (converts a source of direct current from one voltage level to another) that sees its control output optimized – including the conversion to AC power – helping to reduce the vehicle's overall power consumption. What's more, the output filter for the DC-DC converter has been redesigned so that it is more dimensionally compact (improved packaging/weight savings) and produces less noise (reduced NVH).

The 2019 Camry Hybrid is equipped with a Lithium-ion (Li-Ion) battery pack on the LE grade and Nickel-Metal Hydride (Ni-MH) battery pack on the SE and XLE. Along with the traditional Camry Hybrid system drive modes of NORMAL, ECO and EV, a SPORT drive mode setting allows for an increase in power from the hybrid system for improved acceleration response relative to pedal input. The NORMAL, ECO, and SPORT modes can each be used while EV mode is activated.

The Camry Hybrid also features Auto Glide Control (AGC), which helps to improve fuel efficiency by calculating an efficient coasting logic. When driving normally, engine braking will slow the vehicle down when the driver lifts off from the accelerator pedal. However, to avoid aggressive engine braking, AGC limits the loss of vehicle speed through an automatic drive setting that acts more like a neutral gear, allowing the vehicle to coast to the stoplight.

An AGC indicator light is illuminated on the Multi-Information Display (MID) when AGC is in operation to alert the driver that less deceleration torque than normal is currently being used. Of note, AGC can only be activated when the vehicle is being operated in the ECO drive mode setting.

### **An Experience Focused on Vastly Superior Driving Dynamics**

While in the throes of development, the Camry's engineering team had a huge challenge on their collective to-do list: Create a soul-stirring sedan possessing enhanced, praise-worthy driving dynamics.

At the foundation of the Camry's sporty handling and enhanced ride quality is its high-strength body/platform structure. Through the use of ultra-high-tensile steel and the application of a new molding technology it delivers enhanced structural rigidity.

Further aiding performance is an innovative multi-link rear suspension system that imbues the chassis with responsive handling and precise steering control while simultaneously delivering ride quality on par with premium luxury vehicles. A four-point engine mounting system adds to the vehicle's civil road manners as it greatly reduces unwanted noise, vibration and harshness (NVH) from permeating into the passenger

compartment.

## **Toyota Safety That Makes Sense**

Among the many features on the 2019 Camry is the standard Toyota Safety Sense P (TSS-P) suite of safety systems and technologies that is helping to make gradual progress toward Toyota Motor Corporation's ultimate goal of "zero casualties from accidents." This multi-feature advanced active safety suite bundles cutting edge active safety technologies including Pre-Collision System with Pedestrian Detection (PCS w/PD), Dynamic Radar Cruise Control (DRCC), Lane Departure Alert with Steering Assist (LDA w/SA); and Automatic High Beams (AHB). Select models will also have an available Blind Spot Monitor (BSM) with Rear Cross Traffic Alert (RCTA). The available Intelligent Clearance Sonar (ICS) also includes Rear Cross Traffic Braking (RCTB) system.

All 2019 Camry's have 10 standard airbags and Toyota's Star Safety System, which includes Enhanced Vehicle Stability Control, Traction Control, Electronic Brake-force Distribution, Brake Assist, Anti-lock Braking System, and Smart Stop Technology. All Camrys also come equipped with a standard backup camera.

## **Ever Better Entune 3.0 Multimedia for Everyone**

Camry drivers will enjoy enhanced connectivity and entertainment through the Toyota Entune 3.0 multimedia system. The 2019 Camry will feature Entune 3.0 on all models, offering an enhanced set of connected vehicle technologies.

All Camry models are Apple CarPlay® compatible. They also include Amazon Alexa compatibility (requires Toyota+Alexa in-car app, available now for android smartphone versions 5.0 and above and Apple® iPhone users in early 2019).

Camry four-cylinder and hybrid models will come standard with Entune 3.0 Audio with App Suite and Scout GPS Link compatible. Entune 3.0 Premium Audio with JBL w/ Clari-Fi, Dynamic Navigation and App Suite will be available on the four-cylinder and Hybrid models as well. Camry V6 models will offer the Dynamic Navigation system, providing improved map accuracy. The wireless map updates provide over-the-air map downloads of recently added roads and point-of-interest not contained in the existing head unit map.

Entune 3.0 delivers available Remote Connect, which provides remote start and door unlock capability, vehicle status notifications, a guest driver monitor, and vehicle finder. Keeping up with your vehicle's health status has never been easier. Available Service Connect will provide up-to-date vehicle information on fuel level, maintenance alerts, and more. Entune 3.0 will also offer available in-vehicle Wi-Fi Connect powered by Verizon, allowing up to five mobile devices to connect using 4G LTE.

The 2019 Camry will also offer a JBL premium audio system. Sound enhancements include Sound Staging, which positions speakers directly in front of the listener to help emulate a live concert venue; Low Frequency Sounds, made possible by an added 10.1-inch subwoofer; Clari-Fi, a technology that "un-compresses" music to help restore an audio track's dynamic range; and nine speakers that are specifically tuned to the Camry's cabin dimensions and materials.

## **Camry – Everybody's All-American**

For three decades, Camry's American manufacturing home has been Toyota Motor Manufacturing, Kentucky (TMMK) in Georgetown, Kentucky. Most Camrys sold in America are assembled in Georgetown by about



8,000 proud American team members. This pride has been reflected by the fact the current-generation Camry is the best-selling car in America and has held this sales crown for 16 consecutive years! Overall Camry sales in the U.S. since it first launched back in 1983 have surpassed 10 million units and counting.

With Camry as a cornerstone of its US operations, Toyota has been part of the cultural fabric of America for nearly 60 years. With over \$22 billion in direct U.S. investment, including 10 manufacturing facilities, 1,500 dealerships and 136,000 dedicated employees, Toyota has produced 25 million vehicles in the U.S. over the last 30 years.

### **History of Camry**

Sold in more than 100 countries, the Toyota Camry is the segment leader in many global markets where it is available. Introduced in Japan in 1982, the Camry was Toyota's first mass-produced vehicle with a transverse engine layout. Its welcomed combination of affordability with superior packaging, quality and engineering was a revolutionary concept, allowing the Camry to distinguish itself from other, notably larger American sedans that were popular at the time. One could say it was a pioneer in establishing the Midsize-sedan segment. In the following years, the Camry became a sales success everywhere it was sold. Today, Camry remains a key model in the Toyota lineup and is manufactured in multiple plants around the globe, with total sales surpassing 18 million units.