



A High Price on Safety

How Automakers Require Consumers to Pay a Premium
for Proven Vehicle Safety Features

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Executive Summary

This study investigated the added cost to consumers of purchasing a model year 2020 passenger vehicle equipped with two specific advanced safety features: blind spot warning and automatic emergency braking with pedestrian detection. Both have proven safety benefits, yet consumers are often forced to buy a more expensive version of a vehicle, or an add-on luxury package, to get these features on their car. Researchers used tools available on manufacturer websites to quantify how much consumers must pay above the base vehicle price to get these safety features on the 15 top-selling models in the U.S. The analysis found that blind spot warning was a standard feature on just three of the 15 top-selling models and was unavailable on one. On the other 11, the median manufacturer's suggested retail price (MSRP) increase required to equip the model with blind spot warning was \$2,510, with a range of \$590 to \$12,285. Automatic emergency braking with pedestrian detection was standard on 13 of the 15 top-selling models. Of the two remaining models, it was not available on one, the Ram 1500, and it was available but not standard on the Chevrolet Silverado 1500—at an additional cost of \$16,735, an increase of 60 percent over the base MSRP.

Introduction

In recent years, more than 36,000 people have been killed and an additional 3 million people injured in U.S. motor vehicle crashes annually.¹ The direct and indirect economic costs of these crashes total over \$800 billion each year.² Recent advances in automotive safety technology—such as the development of blind spot warning (BSW), automatic emergency braking (AEB) with pedestrian detection, forward collision warning (FCW), and lane departure warning (LDW)—have proved to be effective in reducing both crash and fatality risk.³

Automakers made a voluntary commitment in 2016, brokered by the National Highway Traffic Safety Administration and the Insurance Institute for Highway Safety, to equip almost all new light vehicles with FCW and AEB by 2022.⁴ However, other safety technologies—including BSW and pedestrian detection, an enhancement of AEB—similarly offer opportunities to save lives and avoid crashes, yet they have not received the same commitment from automakers. These features are not always offered as standard equipment on vehicle models, despite their proven safety benefits. Instead, they are often packaged as part of luxury “trim levels,” along with items such as leather seats and premium infotainment systems.⁵

Preliminary analysis of Consumer Reports data determined that, of four common advanced safety systems (BSW, AEB with pedestrian detection, FCW, and LDW), blind spot warning is the one most often available as an *optional* feature of a model line; some but not all trim levels come equipped with it. Previous investigation of

¹ Centers for Disease Control and Prevention. WISQARS (Web-based Injury Statistics Query and Reporting System). Atlanta: Department of Health and Human Services, CDC; 2018. Available at www.cdc.gov/injury/wisqars. Accessed May 30, 2020.

² National Highway Traffic Safety Administration (NHTSA). May 2015. “The Economic and Societal Impact Of Motor Vehicle Crashes, 2010 (Revised).” Available at crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812013.

³ NHTSA. April 2020, “Final Regulatory Impact Analysis - The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Year 2021 – 2026 Passenger Cars and Light Trucks.” Available at www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/final_safe_fria_web_version_200330.pdf.

⁴ The voluntary commitment covers FCW and city-speed AEB, which often functions at speeds below 30 mph. NHTSA. December 2019. “NHTSA Announces Update to Historic AEB Commitment by 20 Automakers.” Available at www.nhtsa.gov/press-releases/nhtsa-announces-update-historic-aeb-commitment-20-automakers.

⁵ Trim levels are different versions of the same model, each with its own price and set of features. Consumer Reports. August 2018. “Sticker Shock: Navigating Car Trim Levels.” Available at www.consumerreports.org/buying-a-car/sticker-shock-navigating-car-trim-levels.

insurance claims data has found that vehicles equipped with BSW were 14 percent less likely to get in a crash, and 23 percent less likely to get in a crash that resulted in an injury to the driver.⁶ Additionally, currently available blind spot warning systems have been estimated to prevent up to 26 percent of fatal lane-change crashes.⁷ This feature is also highly rated by CR members who own a vehicle with BSW, who have reported multiple firsthand accounts of its crash-prevention capabilities and among whom 82 percent have said they are "very satisfied" with the feature.⁸

Consumer Reports also has tracked the adoption of AEB with pedestrian detection and found significantly more manufacturers including the feature as standard. Pedestrian detection comes standard on 61 percent of 2020 mainstream vehicle models, up from 38 percent of 2019 models. However, 16 percent of mainstream models still require additional spending to obtain the feature, and it remains unavailable even as an optional feature on 23 percent of models.

Pedestrian fatalities have been rising in recent years, totaling 6,283 deaths in 2018, an increase of 53 percent since 2009.⁹ Previous research has found that pedestrian detection systems have the potential to prevent up to 3,944 deaths per year, or 68 percent of all pedestrian fatalities.¹⁰ Additional research has found that Subaru vehicles equipped with the automaker's pedestrian detection system had 35 percent fewer bodily injury insurance claims when compared with the same vehicle models without the feature.¹¹

⁶ Jessica B. Cicchino. 2018. "Effects of blind spot monitoring systems on police-reported lane-change crashes," *Traffic Injury Prevention*, 19:6, 615–622, DOI: 10.1080/15389588.2018.1476973.

⁷ NHTSA. April 2020. "Final Regulatory Impact Analysis - The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Year 2021 – 2026 Passenger Cars and Light Trucks." Available at www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/final_safe_fria_web_version_200330.pdf.

⁸ Consumer Reports Data Intelligence. November 2019. "Consumer Perceptions of ADAS." Available at data.consumerreports.org/wp-content/uploads/2020/05/consumer-reports-consumer-perceptions-of-adas-november-2019.pdf.

⁹ NHTSA. Fatality Analysis Reporting System. Available at www.nhtsa.gov/research-data/fatality-analysis-reporting-system-fars. Accessed May 30, 2020.

¹⁰ Samantha H. Haus, Rini Sherony & Hampton C. Gabler. 2019. "Estimated benefit of automated emergency braking systems for vehicle-pedestrian crashes in the United States," *Traffic Injury Prevention*, 20:sup1, S171-S176, DOI: 10.1080/15389588.2019.1602729.

¹¹ Insurance Institute for Highway Safety. May 2018. "Subaru crash avoidance system cuts pedestrian crashes." Available at www.iihs.org/news/detail/subaru-crash-avoidance-system-cuts-pedestrian-crashes.

Given the staggering cost of traffic fatalities and the proven safety benefits of these two systems, Consumer Reports has advocated previously for both BSW and AEB with pedestrian detection to become standard on all vehicle models.¹²

This paper seeks to quantify the average additional cost to consumers of purchasing a new vehicle equipped with these two features relative to a base vehicle without these features. We hypothesized that consumers would be forced to spend substantially more money on top of the base vehicle cost to acquire a vehicle with blind spot warning and/or automatic emergency braking with pedestrian detection.

Methods

Researchers used manufacturer website tools to quantify the cost of these features to consumers.

If a vehicle model came standard with the safety feature across all trim levels, or if the safety feature was not available across any trim level, the base MSRP was recorded and no additional analysis was done. For the remaining vehicle models—those that required additional spending above the base MSRP to acquire the feature—researchers manually entered the vehicle model into the tool, selected the base version of the vehicle model, and recorded the MSRP.

Next, the lowest-priced trim level on which the safety feature was available was identified.¹³ Researchers then used the manufacturer's website tool to select that trim level and, if necessary, add a package that included the safety feature.¹⁴ The updated MSRP was then recorded.

This analysis was repeated twice, each with a different ZIP code entered into the manufacturer website. The first was 20036, representing downtown Washington, D.C. The second was 06415, representing Colchester, Conn., home of the Consumer Reports Auto Test Center. ZIP code influenced the final price of the vehicles

¹² See, e.g., Consumer Reports. June 2019. "Car Safety Systems That Could Save Your Life." Available at www.consumerreports.org/automotive-technology/car-safety-systems-that-could-save-your-life.

¹³ © 2020 Autodata, Inc. dba Chrome Data.

¹⁴ While it may be possible for consumers to negotiate a custom order with a dealer and thus pay for and receive just the safety features they want on the vehicle, we found no indication of this option when shopping online on manufacturer websites.

because of varying delivery fees or cash allowances, but the base MSRP and the lowest MSRP with the safety feature remained unchanged for all but one vehicle model, the Toyota Tacoma.¹⁵

The entire process was done separately for each of the two features, blind spot warning and pedestrian detection.

The 15 top-selling models were identified through WardsAuto's U.S. commercial sales data for the first and second quarter of 2019. They represented 33 percent of all unit sales in the U.S. during that period. To restrict our analysis to current new vehicles, only model year 2020 vehicles were analyzed. To compute the median and mean increased vehicle cost to obtain each safety feature, only the vehicle models that required additional spending to obtain the feature were used. This is because it would be impossible to quantify the increased cost of a vehicle where the feature is either unavailable or standard across all trim levels. The prices for each model were recorded May 15, 2020.¹⁶

Results

Availability. Among the 15 top-selling vehicle models, three offered blind spot warning as a standard feature across all trim levels (Table I). Eleven offered it as an optional feature. One did not make the feature available on any trim level.

Automatic emergency braking with pedestrian detection was a standard feature across all trim levels on 13 of the 15 top-selling models. One vehicle model offered it as an optional feature, and one did not offer the feature as part of any trim level.

¹⁵ The Tacoma SR5 (the lowest trim level at which blind spot warning becomes available as an additional option) was available with two-wheel drive when using the Colchester, Conn., ZIP code, but not when using the Washington, D.C., ZIP code, thus making the D.C. vehicle more expensive because an additional upgrade to four-wheel drive was necessary to get blind spot warning. For calculations in the analysis, the lower of the two prices was used.

¹⁶ After release of this study on June 1, 2020, Ford Motor Company contacted Consumer Reports to inform CR that it was possible to add blind spot warning to a Ford F-150 for a lower price than that which CR previously included in this report. CR conducted an additional review of the Ford website on June 1, using the same method outlined in this section, and found that it was in fact possible to get blind spot warning on the Ford F-150 for \$12,285 above the base MSRP, instead of \$15,805 above the base MSRP, which was the figure included in this report originally.

Table I. Top 15 Most Popular Vehicle Models As Identified by WardsAuto Commercial Sales Data and Their Respective Safety Feature Availability for Blind Spot Warning and Pedestrian Detection.

Vehicle Model (MY 2020)	Blind Spot Warning	Pedestrian Detection
Ford F-150	Optional	Standard
Chevrolet Silverado 1500	Optional	Optional
Ram 1500	Optional	Not Available
Nissan Rogue	Standard	Standard
Toyota RAV4	Optional	Standard
Honda CR-V	Optional	Standard
Toyota Camry	Optional	Standard
Chevrolet Equinox	Optional	Standard
Honda Civic	Not Available ¹⁷	Standard
Honda Accord	Optional	Standard
Toyota Corolla	Optional	Standard
Ford Escape	Standard	Standard
Ford Explorer	Standard	Standard
Toyota Highlander	Optional	Standard
Toyota Tacoma	Optional	Standard

Added cost. The median increased cost for a consumer to purchase a vehicle with blind spot warning was \$2,510, which represents an increase of 10 percent over the median base MSRP of the vehicle models (Figure 1). Prices for every vehicle

¹⁷ Honda has offered vehicles with LaneWatch, a camera that helps with the passenger-side blind spot only, instead of a radar-based BSW system that assists with blind spots on both sides of the vehicle. Honda is phasing out LaneWatch in favor of BSW, but BSW is not yet available on the Civic. Car and Driver. April 2019. "Honda Is Phasing Out LaneWatch in Favor of Blind-Spot Monitoring." Available at www.caranddriver.com/news/a27007185/honda-lanewatch-camera-safety-phasing-out.

analyzed can be found in Appendix A. The mean increased cost was \$3,755, representing a 14 percent increase over the mean base trim MSRP. The highest additional cost to add blind spot warning was \$12,285 for the Ford F-150, the top-selling vehicle model in the U.S. That represents a 43 percent increase over the base MSRP for the model.

In many of the vehicles analyzed, BSW was available only through the purchase of a "convenience" package or higher-level equipment group (Figure 2), rather than as a stand-alone upgrade option.

The one vehicle model on which pedestrian detection was available but not standard, the Chevrolet Silverado 1500, required spending an additional \$16,735 to receive this feature—an increase of 60 percent over the base MSRP.

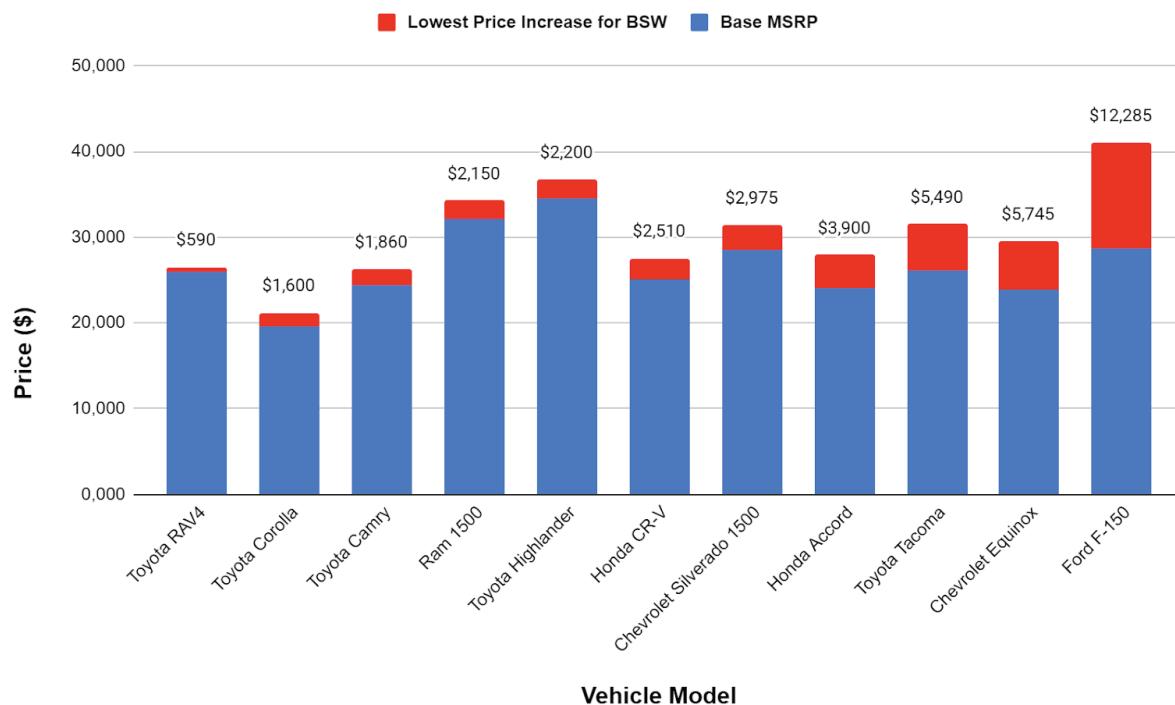


Figure 1. Base MSRP and the lowest price increase to purchase the vehicle with blind spot warning for the vehicle models where blind spot warning was available but not standard across trim lines.

CONFIGURATION ASSISTANT

Changing WT Safety Package will also change the following:

ADD

- Front and Rear Park Assist
- Deep-tinted glass
- Black recovery hooks
- 120-volt power outlet
- Chrome front bumper
- Power door locks
- Power windows
- Lane Change Alert with Side Blind Zone Alert
- 120-volt box-mounted power outlet
- Remote Keyless Entry
- Rear Cross Traffic Alert
- Tailgate with EZ Lift assist, power lock & release
- WT Convenience Package
- Heated power outside mirrors
- Chrome rear bumper
- Painted mirror caps
- Power windows
- Cruise control
- Rear window defogger

Price Change: \$2,975

Figure 2. Screenshot showing that, to add a safety package that includes blind spot warning to a 2020 Chevrolet Silverado, it was necessary to also purchase a “convenience” package—further contributing to the 10 percent price bump (over the base MSRP) required to get the feature.

Discussion

The two safety features identified—blind spot warning and automatic emergency braking with pedestrian detection—represent lifesaving potential and proven crash reduction. The technology is fully developed and already deployed on many models: Only 14 percent of vehicle models cannot be equipped with blind spot warning, and only 23 percent of vehicle models cannot be equipped with pedestrian detection. Further, these currently available systems have been found to significantly reduce the risk of a crash, injury, and death. Despite this clear safety benefit, these features are available only at a high cost for many of the top-selling vehicles in the U.S.

To receive the protection offered by blind spot warning systems, this study found that consumers have to pay an average of \$2,510 over the base vehicle cost. The feature was offered as a standard option on only three of the 15 vehicles analyzed. This is in stark contrast to how the industry handles other proven safety features,

such as airbags and seat belts, which are required by federal regulations and thus standard across all vehicles and all trim lines.

More vehicle models—13 of the 15 top-selling ones—were found to offer pedestrian detection as a standard feature across all trim levels. Consumer Reports has found that 61 percent of all 2020 models offer it as a standard feature across all trims, and it is encouraging that an even greater percentage of the top-selling vehicles do so.¹⁸

However, the second-highest-selling vehicle, the Chevrolet Silverado 1500 pickup truck, can be purchased with pedestrian detection only at an alarmingly large \$16,735 increase over the base model price. That additional cost is probably attributable to the fact that consumers must upgrade three trim levels to get the feature—a troubling sales practice, especially considering the size of the model. The tall hoods of some pickup trucks and SUVs reduce the field of vision in front of the vehicle relative to smaller models, possibly increasing the chance of striking a pedestrian.¹⁹ Taller hood height can also lead to impacting a pedestrian in the upper torso or head, rather than the legs, which is more likely to be a fatal collision.²⁰

This automotive sales practice—upselling on the basis of safety, in effect—limits the number of consumers who can benefit from these safety technologies. Safety should not be treated as a luxury item, which is why Consumer Reports has taken several steps to encourage automakers to add advanced safety systems to their vehicles. CR has previously called for these safety technologies to come standard across all trim levels on new passenger vehicle models and has incorporated the technologies into CR's ratings, with a vehicle's Overall Score adjusted depending on the availability of safety technology.²¹

¹⁸ Consumer Reports. May 2020. "Consumer Reports analysis finds automakers equipping many more new car models with pedestrian detection technology." Press release. Available at advocacy.consumerreports.org/press_release/consumer-reports-analysis-finds-automakers-equipping-many-more-new-car-models-with-pedestrian-detection-technology.

¹⁹ Kids and Cars. April 2019. "Millions of Vehicles Have Unexpected, Dangerous Front Blind Zone." Available at www.kidsandcars.org/2019/04/26/millions-of-vehicles-have-unexpected-dangerous-front-blind-zone.

²⁰ Watanabe, R., Katshuhara, T., Miyazaki, H., Kitagawa, Y., Yasuki, T. 2012. "Research of the Relationship of Pedestrian Injury to Collision Speed, Car-Type, Impact Location and Pedestrian Sizes Using Human FE model (THUMS Version 4)." Stapp Car Crash Journal, 56, p. 269-321.

²¹ Consumer Reports. February 2019. "A Guide to New-Car Ratings and Reviews." Available at www.consumerreports.org/cro/2012/04/a-guide-to-new-car-ratings-and-reviews/index.htm.

Appendix A: Base price and lowest price to get blind spot warning

1. Ford F-150

- Base MSRP: \$28,745
- XLT MSRP with BLIS package: \$41,030

The screenshot shows a configuration interface for a 2020 Ford F-150 XLT. On the left, there's a list of options under 'Choose Options Below': 'Black Vinyl Floor Covering' (unchecked), 'BLIS® (Blind Spot Information System) with Cross-Traffic Alert and Trailer Coverage' (checked), and 'Color Coordinated Carpet with INC' (unchecked). The main panel displays a summary of the vehicle's cost:

Base MSRP ^{\$1}	\$37,670
Total of Options ^{\$4}	+\$3,360
Destination Charges ^{\$17}	+\$1,695
Acquisition Fee ^{\$18}	+\$645
Total MSRP ^{\$16}	= \$43,370
Available Incentives ^{\$3} ⓘ	-\$2,925
Estimated Net Price ^{\$5}	= \$40,445

At the bottom, there are buttons for 'Get an Internet Price', 'Search Inventory', and 'Special Offers'.

2. Chevrolet Silverado 1500

- Base MSRP: \$28,500
- WT MSRP with WT Safety Package and required WT Convenience Package: \$31,475

The screenshot shows a configuration interface for a 2020 Chevrolet Silverado 1500 2WD. A modal window titled 'CONFIGURATION ASSISTANT' lists changes made by adding the WT Safety Package:

Changing WT Safety Package will also change the following:

ADD

- Front and Rear Park Assist
- Deep-tinted glass
- Black recovery hooks
- 120-volt power outlet
- Chrome front bumper
- Power door locks
- Power windows
- Lane Change Alert with Side Blind Zone Alert
- 120-volt box-mounted power outlet
- Remote Keyless Entry
- Rear Cross Traffic Alert
- Tailgate with EZ Lift assist, power lock & release
- WT Convenience Package
- Heated power outside mirrors
- Chrome rear bumper
- Painted mirror caps
- Power windows
- Cruise control
- Rear window defogger

Price Change: \$2,975

Buttons at the bottom right of the modal are 'Cancel' and 'Select'. The background shows a blurred view of the vehicle's interior and exterior.

3. Ram 1500

- a. Base MSRP: \$32,145
- b. Tradesman MSRP with BSW and Required Level 1 Equipment Group: \$34,295

CLOSE X

PAYMENT SUMMARY

YOUR 2020 RAM 1500 TRADESMAN QUAD CAB® 4X2 6'4" BOX

NET PRICE (\$33,990)	FINANCE (\$519/MO)	LEASE (\$365/MO)
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NET PRICING

Base Price	\$32,145
Added Options ▾	\$2,150
Tradesman Level 1 Equipment Group	\$1,555
Blind-Spot and Cross-Path Detection	\$595

4. Toyota RAV4

- a. Base MSRP: \$25,950
- b. LE MSRP with Blind Spot Monitor: \$26,540

2020 RAV4 LE

Front-Wheel Drive, 2.5L 4-Cyl., 8-Speed Automatic

 [ESTIMATE PAYMENTS](#)

STARTING MSRP	\$25,950
EXTERIOR COLOR	
Magnetic Gray Metallic	\$0
INTERIOR COLOR	
Black Fabric	\$0
PACKAGES	
Blind Spot Monitor	\$590
ACCESSORIES	
DELIVERY, PROCESSING & HANDLING FEE	\$1,120

5. Honda CR-V

- a. Base MSRP: \$25,050
- b. EX MSRP: \$27,560



EX CVT STD

Blind Spot Information (BSI) System with ...
Dual-Zone Automatic Climate Control Sy...
Apple CarPlay® Integration
Android Auto™ Integration

[SEE MORE FEATURES](#)

Starting at
\$27,560*

[BUILD](#)

6. Toyota Camry

- a. Base MSRP: \$24,425
- b. LE with Convenience Package with options: \$26,285

Convenience Package with options X

\$1,315
msrp

▪ Blind Spot Monitor (BSM)¹²⁰ with Rear Cross-Traffic Alert (RCTA)¹³²
▪ Convenience Package: includes Smart Key System,⁷⁸ HomeLink^{®87} universal transceiver, auto-dimming rearview mirror
▪ 50 State Emissions

✓ ADDED

REMOVE

2020 Camry LE

FWD, 203-HP 2.5L 4-Cyl. Dynamic Force Engine, 8-Speed Automatic

[ESTIMATE PAYMENTS](#)

STARTING MSRP

\$24,970

EXTERIOR COLOR

Midnight Black Metallic

\$0

INTERIOR COLOR

Macadamia Fabric

\$0

PACKAGES

Convenience Package with options

\$1,315

ACCESSORIES

DELIVERY, PROCESSING & HANDLING FEE

\$955

7. Chevrolet Equinox

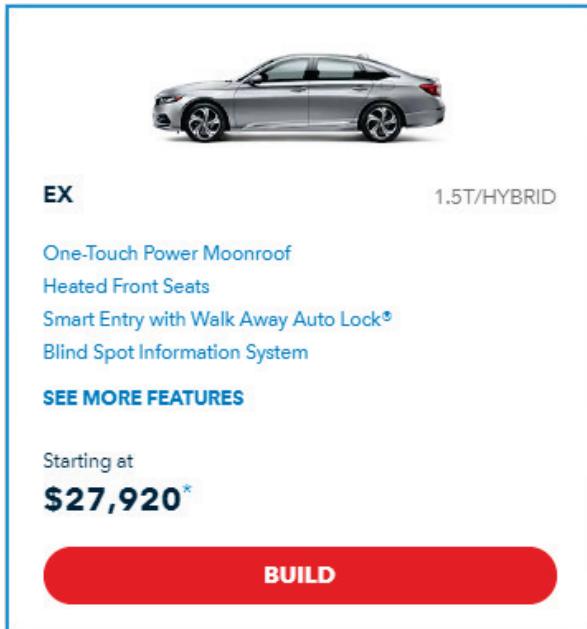
a. Base MSRP: \$23,800

b. LT MSRP with Confidence & Convenience Package: \$29,545

The screenshot shows the GM Configuration Assistant interface for a 2020 Equinox FWD LT. The main view displays the exterior of the vehicle. A modal window titled "CONFIGURATION ASSISTANT" is open, showing the "CONFIDENCE & CONVENIENCE PACKAGE" details. The package includes features such as Rear Park Assist, Power programmable liftgate, Lane Change Alert with Side Blind Zone Alert, Rear Cross Traffic Alert, Heated driver and front passenger seats, Remote Start, Universal Home Remote, Leather-wrapped steering wheel, Dual-zone automatic climate control, and Fog lamps. The price change is listed as \$2,045. The "Select" button is highlighted in yellow.

8. Honda Accord

- a. Base MSRP: \$24,020
- b. EX MSRP: \$27,920



9. Toyota Corolla:

- a. Base MSRP: \$19,600
- b. LE MSRP with Smart Key, Blind spot Monitor, and 16" Alloy Wheels: \$21,200

Alloy Wheels. The total price is listed as \$21,200 msrp.

YOUR BUILD

2020 Corolla LE

VEHICLE OVERVIEW

\$21,200 msrp¹

GET QUOTE

VIEW OFFERS

Smart Key, Blind spot Monitor and 16" Alloy Wheels

\$1,150 msrp

▪ Smart Key System⁷³ on front doors and trunk with Push Button Start, remote keyless entry system with lock, panic, and trunk-release functions; 16-in. machined alloy wheels and P205/55R16 tires; blind spot warning indicators¹¹⁰ on color-keyed heated power outside mirrors with turn signal indicators

▪ 50 State Emissions

✓ ADDED

REMOVE

\$1,150 msrp | \$2,000 msrp

10. Toyota Highlander:

- a. Base MSRP: \$34,600
- b. LE MSRP: \$36,800

LE Details X

\$36,800
starting msrp¹



Highlighted Features

- Power Liftgate
- Power Driver's Seat
- Multi-Terrain Select (AWD Only)
- Smart Key System¹¹⁸
- LED Headlights and Daytime Running Lights (DRL)
- Android Auto^{TM135} & Apple CarPlay^{®85} Compatible
- Blind Spot Monitor (BSM)¹⁴⁵ w/Rear Cross-Traffic Alert (RCTA)⁹⁰
- Toyota Safety SenseTM 2.0 (TSS 2.0)⁷⁶

SELECT

FULL MODEL SPECS

11. Toyota Tacoma:

- a. Base MSRP: \$26,050
- b. SR5 MSRP with Technology Package: \$31,540

Technology Package with options X

\$570
msrp

- 16-in. alloy wheels with P245/75R16 tires
- Technology Package: includes Blind Spot Monitor (BSM)¹¹⁷ with Rear Cross-Traffic Alert¹³² (requires color-keyed rear bumper)
- 50 State Emissions

ADD