

## **Subaru Quality Insight Project**

### Analyzing Customer Complaints and Competitive Trends

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The Subaru Quality Insight Project is a data analysis project I created to explore customer complaints and identify which Subaru models may need further investigation while also comparing Subaru to other automotive brands. I initiated this project using customer complaint data from the National Highway Traffic Safety Administration (NHTSA), sourced from Kaggle, covering the years 2019 to the present. The dataset includes three columns: model year, vehicle name, and automotive brand name.

I created a dashboard with three pages:

1. Overview – This page provides general information about the data.
2. Subaru Focus – This section details complaints specifically related to Subaru vehicles.
3. Competition View – This page compares Subaru with other automotive brands.

## Overview

The overview reveals that there have been a total of 3,573 complaints reported over the past five years, with 57 of those related to Subaru. Subaru makes up just 1.6% of all complaints. This relatively low percentage suggests that Subaru vehicles receive fewer complaints compared to other brands, which reflects positively on product quality and customer satisfaction.

Figure 1 shows “Complaint Trends by Model Year.” The line chart presents complaint data from 2019 to 2025 across 262 vehicle brands. Mercedes-Benz consistently received a higher number of complaints than other brands. Subaru’s trend is more stable. However, there’s a noticeable spike in 2024. This may require further investigation to identify if there were any quality or safety issues with the 2024 models.

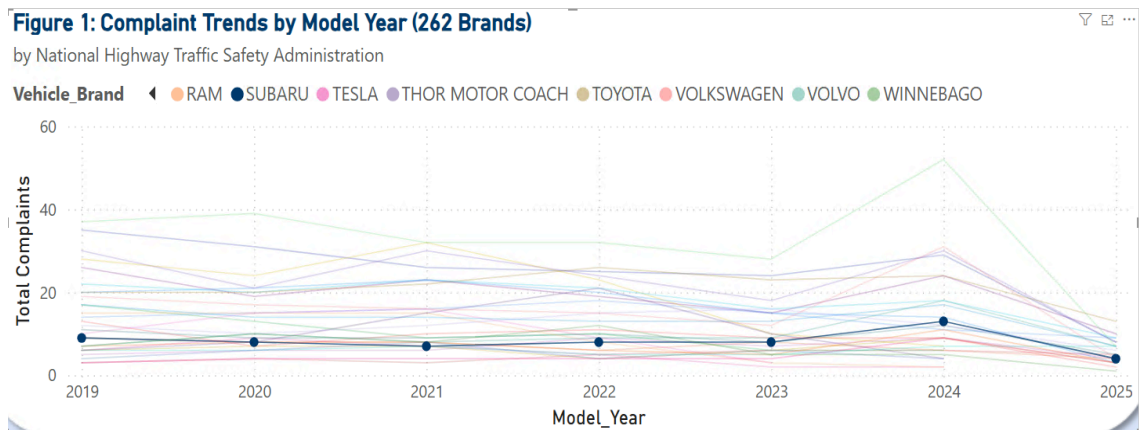
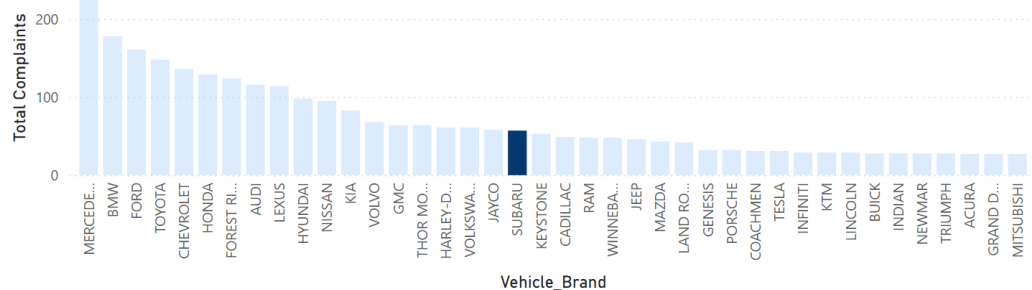


Figure 2 shows “Total Complaints by Vehicle Brand.” Mercedes-Benz, BMW, and Ford had the most complaints over the five-year period. Subaru falls in the middle range, which may be related to its strong presence and popularity in the U.S. market. While it’s not one of the most complained-about brands, I may still need to gather more detailed information to understand the root causes of complaints and support efforts to improve overall vehicle quality.

**Figure 2: Total Complaints by Vehicle Brand (262 Brands)**  
by National Highway Traffic Safety Administration



## Subaru Focus

This section looks specifically at Subaru's complaint trends.

Figure 3 shows "Subaru Complaints by Model Year." From 2019 to 2025, Subaru complaints stayed consistent, between 7 and 9 per year. But in 2024, complaints jumped to 13, the highest in the dataset. This sudden increase may suggest issues with the 2024 models and could be worth a deeper look to see if manufacturing, design, or safety changes played a role.

**Figure 3: Subaru Complaints by ModelYear**

Based on NHTSA Complaint Data

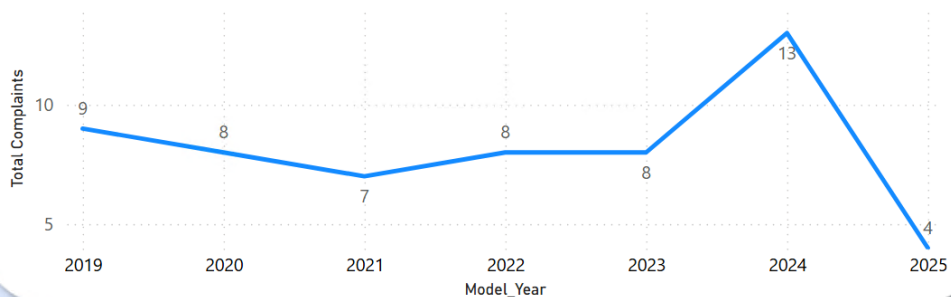


Figure 4 shows "Subaru Complaints by Model." The Crosstrek, Forester, and Outback each received 7 complaints, followed by Ascent, Impreza, Legacy, and WRX with 6 each. These models also happen to be Subaru's top sellers in the U.S., according to Ruge's Subaru. This shows a common pattern: the more units sold, the more complaints there tend to be. This doesn't mean poor quality, but it shows why it's important to monitor high-volume models closely to catch any trends early.

**Figure 4: Subaru Complaints by Model**

Based on NHTSA Complaint Data

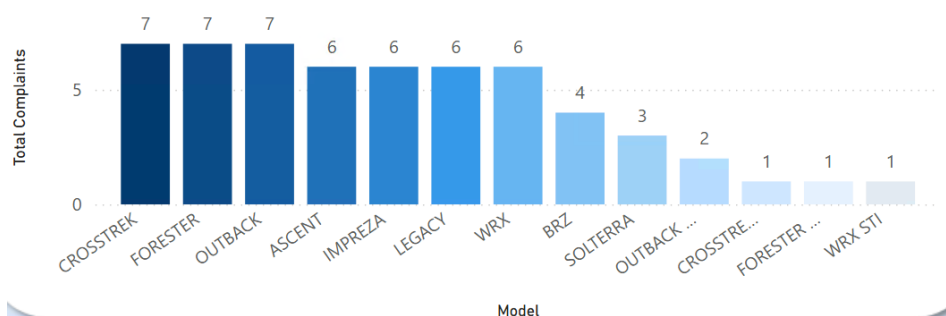


Table 5 breaks down complaints by Subaru model and year. The 2024 Solterra, Subaru’s first EV, had 2 complaints It’s more than other single models that year. Several top-selling models also received complaints for both regular and wilderness trims. This lines up with Figure 1, where many brands saw a spike in 2024. According to the J.D. Power 2024 U.S. Vehicle Dependability Study, the industry average increased to 190 problems per 100 vehicles (up from 186), mostly due to vehicle complexity, especially in infotainment, ADAS, and electronic systems. This suggests the issue may not be specific to Subaru, but part of a broader industry shift.

**Table 5: Breakdown of Subaru Complaints by Model Year**

Based on NHTSA Complaint Data

YearModel	Total Complaints
2025 FORESTER	1
2025 CROSSTREK	1
2024 WRX	1
2024 SOLTERRA	2
2024 OUTBACK WILDERNESS	1
2024 OUTBACK	1
2024 LEGACY	1
2024 IMPREZA	1
2024 FORESTER WILDERNESS	1
2024 FORESTER	1
2024 CROSSTREK WILDERNESS	1
2024 CROSSTREK	1
2024 BRZ	1
2024 ASCENT	1
2023 WRX	1
<b>Total</b>	<b>57</b>

Comparison View

This page compares Subaru’s complaint rate with other brands. Subaru’s complaint score is 4.18, which is higher than the industry average. While Subaru’s overall volume of complaints is relatively low, the rate of complaints per vehicle or model is higher than expected. Subaru ranks 17th out of 262 brands in total complaints. That might seem high, but Subaru is also a popular brand in the U.S., so higher exposure likely plays a role. This shows that while Subaru is performing well overall, there's room to improve when it comes to complaint frequency relative to its market size. Focusing on quality improvement and reducing complaint intensity could help boost consumer trust even further.

Figure 6 shows “Complaint Trends by Year and Brand.” One thing that stands out is that many brands, not only Subaru, had more complaints in the 2024 model year. As mentioned earlier, this increase could be caused by:

- More electric vehicles (EVs) are being introduced
- More complex features like ADAS (Advanced Driver Assistance Systems)
- Expanding infotainment systems and digital features

The J.D. Power study supports this trend, showing that complaints are rising across the industry for these reasons.

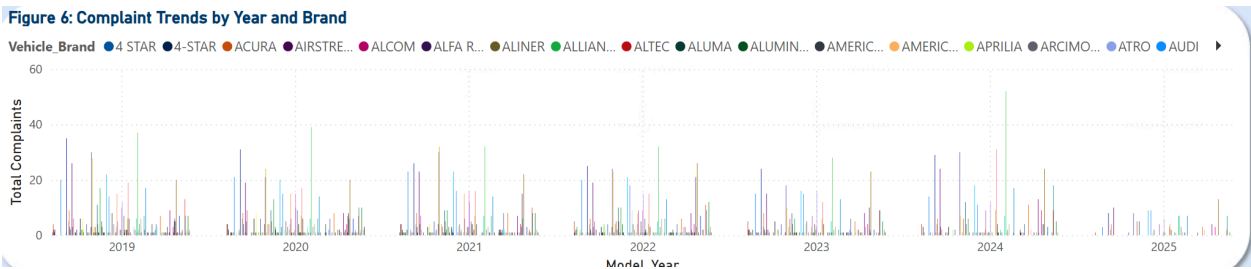


Table 7 lists the top models by total complaints. Each model on the list, including the Subaru Crosstrek and Forester, received 7 complaints, the highest number in this dataset. Other popular models like the Toyota Camry, Honda Accord, and Ford Explorer are also included. This suggests that complaints are not always brand-specific. High sales volume and shared technologies across different brands can also be contributing factors.

**Table 7 : Total Complaints by Brand and Model**

Brand_Model	Total Complaints
1500 RAM	7
ACCORD HONDA	7
ALTIMA NISSAN	7
ATLAS VOLKSWAGEN	7
CAMRY TOYOTA	7
COMPASS JEEP	7
COROLLA TOYOTA	7
COUNTRYMAN MINI	7
CROSSTREK SUBARU	7
CR-V HONDA	7
CX-5 MAZDA	7
ENCLAVE BUICK	7
EQUINOX CHEVROLET	7
ESCALADE CADILLAC	7
EXPLORER FORD	7
FORESTER SUBARU	7
Total	3573

## Conclusion

The Subaru Quality Insight Project helped identify which Subaru vehicles may require further investigation. While Subaru accounts for only 1.6% of all complaints, a noticeable increase in 2024 complaints, especially from high-volume models like the Crosstrek, Forester, Outback, and Solterra, stands out. This matches a larger trend across the industry, where increased technology and vehicle complexity have led to more issues overall. Subaru's ranking of 17 out of 262 brands and its 4.18 score suggests that while the brand does well in overall volume, the rate of complaints per model is worth watching. In short, Subaru has a strong reputation. However, maintaining that will require continued monitoring of high-volume models and newer technologies. I believe this kind of analysis can support quality improvement and strengthen customer satisfaction.

## Reference

White, J. (n.d.). *The best-selling Subaru Models*. Ruge's Subaru.  
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