OREGON DEPARTMENT OF TRANSPORTATION

OREGON PASSENGER VEHICLE STOCK & FUEL EFFICIENCY FORECAST

July 2026

Economic & Financial Analysis

Foreword

Oregon passenger vehicle stock forecast is a monthly forecast of vehicles with valid registrations as of the last day of the month. The stock forecast includes stock summaries by fuel type and by MPG tier. Fuel efficiency is a complimentary estimate derived from the stock forecast. The forecast has a 30-year horizon. It is produced on an annual basis to assist in financial planning, the formulation of transportation budgets, and to support other decision-making activities.

Stock forecasting relies on two major inputs: US Light Vehicle Sales forecast from S&P Global and Light-Duty Vehicle Sales by Technology Type forecast from Annual Energy Outlook, Energy Information Administration (EIA).

The projections set forth in this forecast represent the Oregon Department of Transportation's forecast of future results as of the date of preparation based on information then available to ODOT as well as estimates, trends and assumptions that are inherently subject to economic, political, regulatory and other uncertainties, all of which are difficult to predict and many are beyond the control of ODOT. No assurance can be given that the future results discussed herein will be achieved, and actual results may differ materially from the forecasts described. In this respect, the words "estimate," "project," "forecast," "anticipate," "expect," "intend," "believe," and similar expressions are intended to identify forward-looking statements.

This document is also available online at: https://www.oregon.gov/odot/Data/Pages/Revenue-Forecasts.aspx

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Introduction

In the context of constantly improving fuel economy and the advent of electric vehicles that do not consume fuel, ODOT needed a better way to project future revenues from taxable fuels. The passenger vehicle stock forecast provides important inputs into our current fuel forecast models, specifically: the ***non-electric stock of vehicles*** and the ***fuel efficiency of non-electric vehicles***. In 2017 Oregon implemented tiered registration and title fees based on vehicle fuel efficiency as a first attempt to address the issue with more fuel-efficient vehicles paying their fair share for road maintenance, which are also referred to as enhanced registration fees. The stock forecast provides ***MPG tier projections*** that are used in title and registration revenue forecasting.

Furthermore, having projections of the composition of the passenger vehicle fleet over time has helped Oregon with implementation of an alternative taxation system that charges vehicles per mile driven (Road Usage Charge, RUC) rather than taxing gallons of fuel consumed. The RUC was legislatively approved in September of 2025, and it applies to Electric Vehicles, Plug-In Electric Vehicles and Regular Hybrid Vehicles. The subject vehicles would be phased into RUC starting in July 2027. With this change, our stock forecast has also become an important input into RUC revenue forecasting. The components of the stock forecast are used to build a ***RUC stock*** that would not pay enhanced registration fees versus ***non-RUC stock*** which would continue paying enhanced registration fees based on their fuel efficiency.

The stock forecast is a monthly estimate of vehicles with valid registrations as of the last day of the month. It is produced using the “components of change” approach, where current stock is estimated using a simple formula of adding new entries to the previous stock and subtracting vehicles that left. This forecast is produced on an annual basis with a target release in July of each year.

This publication contains a discussion of methodology and data, describes economic and policy backdrops for this forecast, discusses new vehicle entries, presents summary level forecasts and estimated fuel economy for the fleet. Appendix A is a technical appendix that goes into the details of survival analysis and Appendix B contains summary forecast tables.

Methodology

We utilize an application called LGAN that was developed by Looking Glass Analytics in 2005 for the Oregon Department of Human Services (DHS). Both parties have given us permission to use this tool for forecasting Oregon registered vehicle stocks. This application is based on the model originally designed by Willamette University for the forecasting of Oregon's Medicaid caseloads. It has been adapted to function with any group of mutually exclusive programs or services that meet the model requirements. The model uses the ***Components of Change*** approach to assemble the vehicle stock forecast, using the following formula:

$$VS_t = VS_{t-1} + EN_t - EX_t$$

Where **VS** is vehicle stock, **EN** is vehicles entering the stock, **EX** is vehicles exiting the stock, **t** is current month, and **t-1** is previous month.

Vehicles entering is comprised of the following three types:

- ✓ **Brand New** vehicles - these are vehicles that are registering in Oregon for the first time and their age is less than or equal to one. For example, vehicles that are registering for the first time in Oregon in calendar year 2025 and their model years were 2024, 2025, or 2026 were all considered Brand New according to this definition.

- ✓ **New to Oregon** vehicles - these are vehicles that are registering in Oregon for the first time and their age is greater than one (does not meet the criteria for brand new vehicles above).

- ✓ **Returning** vehicles - these are vehicles that have been registered in Oregon before and have a gap in registration that is greater than two months. Late renewals are quite common and because of that registration gaps of up to two months are ignored.

Vehicles exiting is comprised of the following two types:

- ✓ **Registration stop flag** - DMV receives information that stops registration activities for example: title cancellation, wrecker/dismantler notice, registered out of state, etc.

- ✓ **Registration expired** – vehicle's registration has expired and has not been renewed within two months of the expiration date.

We decided to use the approach of developing forecasts at the sub-group level and then to summarize it up to the level we want. Similarly, we chose to prepare monthly forecasts as they can be summarized into quarterly or annual forecasts very easily.

Forecast Groups

Total vehicle stock is divided into five **age groups.** Age group, or more accurately age cohort, is assigned based on the vehicle age at the time they enter the stock. They remain in the same age group until they exit or have a gap in their registration that is greater than two months.

- Age 0 – 1, A1
- Age 2 – 5, A2
- Age 6 – 9, A3
- Age 10 – 13, A4
- Age 14 plus, A5

Then each age group is divided into three **fuel economy groups:**

- 0 – 19 MPG, M1
- 20 – 39 MPG, M2
- 40 plus MPG, M3

And finally, if applicable, each of the groups above are divided into six **fuel type groups:**

- Battery Electric, BEV
- Plug-In Hybrid Electric, PEV
- Hybrid, HYB
- Gasoline, GAS
- Diesel, DIS
- Flex Fuel & Other, FLX

Table 1: Stock Forecast Groups

Fuel Type	MPG Range	Vehicle Age				
		Age 0-1	Age 2-5	Age 6-9	Age 10-13	Age 14+
Battery Electric Vehicle	MPG 40+	A1M3BEV	A2M3BEV	A3M3BEV	A4M3BEV	A5M3BEV
Plug-In Electric Vehicle	MPG 40+	A1M3PHE	A2M3PHE	A3M3PHE	A4M3PHE	A5M3PHE
Hybrid	MPG 40+	A1M3HYB	A2M3HYB	A3M3HYB	A4M3HYB	A5M3HYB
Hybrid	MPG 20-39	A1M2HYB	A2M2HYB	A3M2HYB	A4M2HYB	A5M2HYB
Gasoline	MPG 20-39	A1M2GAS	A2M2GAS	A3M2GAS	A4M2GAS	A5M2GAS
Diesel	MPG 20-39	A1M2DIS	A2M2DIS	A3M2DIS	A4M2DIS	A5M2DIS
Flex Fuel & Other	MPG 20-39	A1M2FLX	A2M2FLX	A3M2FLX	A4M2FLX	A5M2FLX
Gasoline	MPG 0-19	A1M1GAS	A2M1GAS	A3M1GAS	A4M1GAS	A5M1GAS
Diesel	MPG 0-19	A1M1DIS	A2M1DIS	A3M1DIS	A4M1DIS	A5M1DIS
Flex Fuel & Other	MPG 0-19	A1M1FLX	A2M1FLX	A3M1FLX	A4M1FLX	A5M1FLX

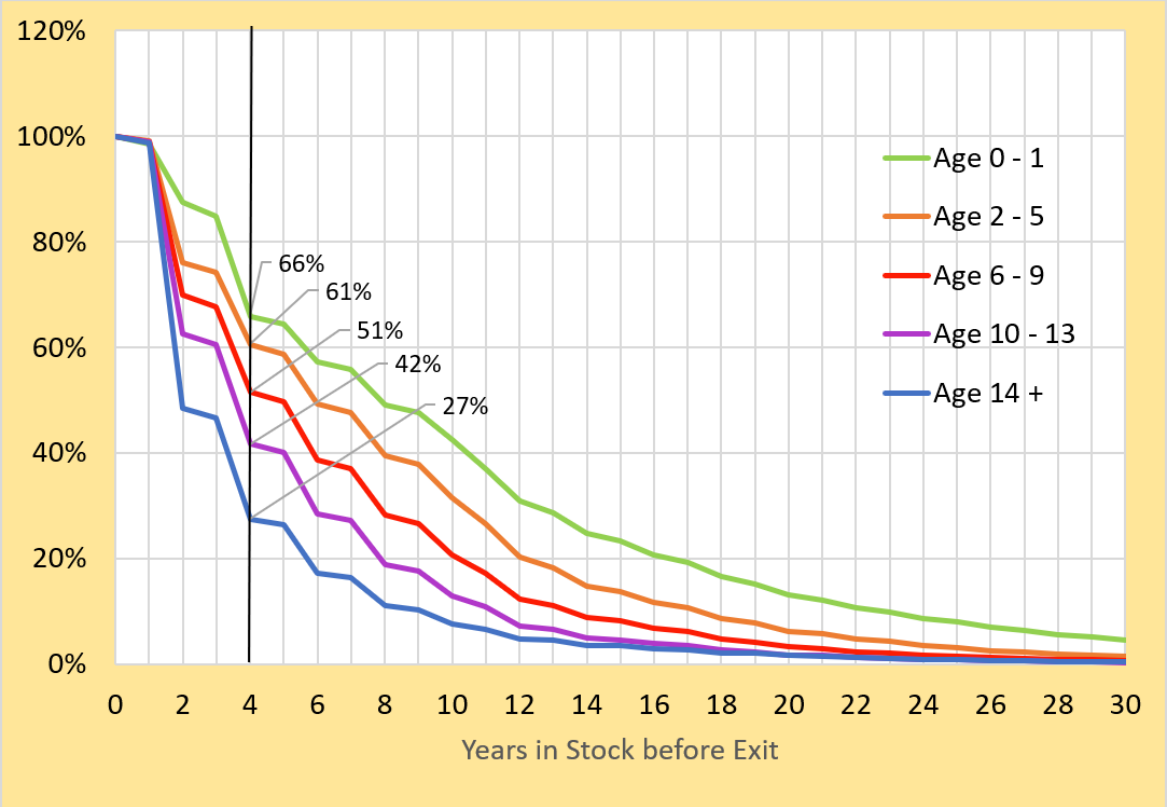
RUC

Assumption: Because of very small counts, Hybrid Vehicles under 20 MPG are added to the MPG 20-39 group and Plug-In Electric Hybrid Vehicles under 40 MPG are added to MPG 40+ group.

In total, the stock forecast is developed for 50 individual forecast groups summarized in Table 1. For convenience and for ease of working with data, groups are named using coded values of age group, mpg range, and fuel type. Age groups are determined at the time a vehicle enters the stock. The vehicle stays in the same group until it exits it. If the vehicle re-enters the stock later, it would be considered a new entry, and the age group would be assigned based on the age at the time it re-enters.

The main purpose of assigning vehicles into the age groups is because their survival rates are very different. Based on our analysis of various survival curves that were calculated by the LGAN tool (more details are provided in Appendix A) we decided to use calendar year (CY) 2010 Cohort Curves to calculate all the exits (Figure 1). For example, survival rate of vehicles at the 4-year mark is 66 percent for vehicles that were "Age 0-1" at the time they entered the stock compared to only 27 percent for those vehicles that were "Age 14+" when they entered.

Figure 1: Vehicle Survival Rates Based on the Age Group at the Time of Entry



Age group "Age 0-1" is considered a **brand-new vehicle** at the time of entry by our definition. Forecast for this age group is the first building block for the entire forecast. The brand-new vehicle entries are forecasted using US Light Vehicle Sales forecast by S&P Global. The forecast is further broken down into fuel type using the U.S. Energy Information Administration's (EIA) projections of light-duty vehicle sales by technology type from Annual Energy Outlook. Finally, the MPG tier level is forecasted using our current statistics (Table 2) and assuming that distributions would remain the same over the forecast horizon.

The forecasts for vehicle entries into subsequent age groups are all derived using regression models that tie back to the historical vehicle entries, using lagged variables of completed forecasts for the previous age groups.

The benefit of developing forecasts for all these sub-groups is that we can easily summarize them to a higher level. This report will provide summary level forecasts by fuel type, by MPG tier and for RUC vehicles. Appendix B will provide summary tables. The forecast for all 50 forecast items, component of change details, and monthly forecasts can be provided upon request. Table 3 provides summary statistics for current stock of vehicles by Fuel Type and MPG Range to give you an idea of the size for each summary sub-group.

Table 2: Vehicle Entries by Forecast Group, CY 2025

Fuel Type	MPG Range	Percent Entries by Vehicle Age, CY 2025					
		Age 0-1	Age 2-5	Age 6-9	Age 10-13	Age 14+	Total
		180,080	68,198	88,175	78,778	220,214	635,445
		28%	11%	14%	12%	35%	100%
Battery Electric Vehicle	MPG 40+	12%	8%	2%	1%	0%	5%
Plug-In Electric Vehicle	MPG 40+	4%	2%	1%	1%	0%	1%
Hybrid	MPG 40+	4%	4%	2%	4%	1%	3%
Hybrid	MPG 20-39	13%	3%	1%	1%	1%	4%
Gasoline	MPG 20-39	46%	57%	64%	60%	42%	50%
Diesel	MPG 20-39	1%	1%	1%	2%	3%	2%
Flex Fuel & Other	MPG 20-39	1%	0%	1%	1%	0%	0%
Gasoline	MPG 0-19	14%	18%	19%	18%	44%	26%
Diesel	MPG 0-19	5%	5%	5%	4%	5%	5%
Flex Fuel & Other	MPG 0-19	1%	2%	5%	8%	4%	4%
Total Entries		100%	100%	100%	100%	100%	100%

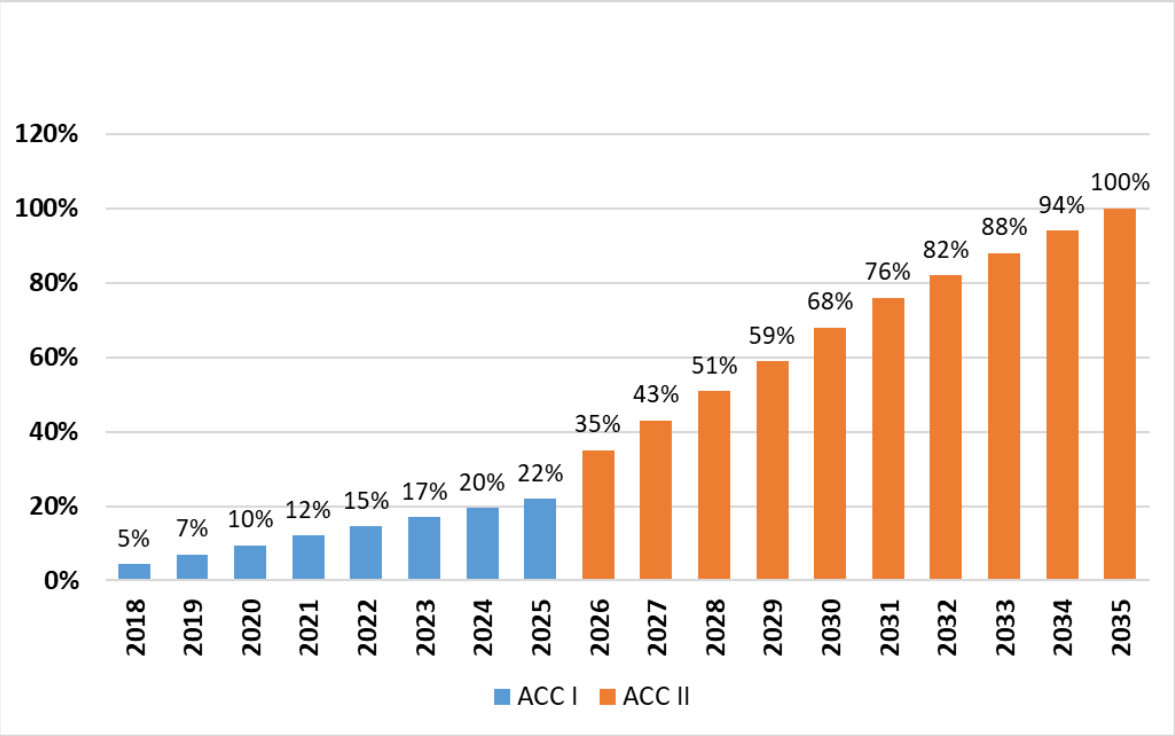
Table 3: Total Passenger Vehicle Stock by Fuel Type and MPG Range, CY 2025

Fuel Type	MPG Range	CY 2025 Counts	Percent Total
Battery Electric Vehicle	MPG 40+	96,284	2.6%
Plug-In Electric Vehicle	MPG 40+	38,019	1.0%
Hybrid	MPG 40+	102,229	2.8%
Hybrid	MPG 20-39	87,702	2.4%
Gasoline	MPG 20-39	1,874,947	51.1%
Diesel	MPG 20-39	81,421	2.2%
Flex Fuel & Other	MPG 20-39	11,837	0.3%
Gasoline	MPG 0-19	1,031,766	28.1%
Diesel	MPG 0-19	181,073	4.9%
Flex Fuel & Other	MPG 0-19	161,944	4.4%
Total Stock		**3,667,222**	**100%**

Economic & Policy Backdrop

Oregon adopted California's Advanced Clean Cars II (ACC II) regulations in November 2022. These regulations require increasing percentage of zero emission vehicle sales starting with model year 2026. Zero Emission Vehicles (ZEV) include battery electric vehicles (EV) and plug-in hybrid electric vehicles (PHEV). Prior to ACC II, Oregon followed Advanced Clean Cars I (ACC I) regulations (Figure 2).

Figure 2: Advanced Clean Cars I & II Regulations, ZEV Requirements



However, recent developments at the federal level have impacted the state's ability to enforce ACC II regulations, resulting in the Department of Environmental Quality (DEQ) issuing a memorandum exempting model year 2026 from compliance. In our forecast advisory meeting DEQ representatives advised that 2027 model year vehicles and beyond would also be impacted. Our forecast for ZEV vehicles was built using assumptions provided by DEQ (Figure 3). Obviously, this is a very dramatic shift from our previous (April 2025) forecast.

The expiration of Federal rebates in October 2025 was another factor that negatively impacted the sales of ZEV vehicles. In addition, Oregon Clean Vehicle Rebate Program has also been sporadic - open only for periods of time and closing once annual funding runs out. DEQ announced that the program will reopen on August 25, 2026 and close on November 4, 2026. Only qualifying vehicles purchased in that time frame will be eligible for the rebate. However, this was not known at the time this forecast was prepared, so it's mentioned here as a risk factor to our current forecast.

We used S&P Global forecast for US Light Vehicle Sales as one of the main inputs (Figure 4). Compared to the previous forecast (April 2025), the vehicle sales are expected to be lower through 2043 and then higher for later years.

We also used Annual Energy Outlook 2026 from U.S. Energy Information Administration (EIA) to estimate distributions of vehicles by fuel type. This information is available from Table 38, Light-Duty Vehicle Sales by Technology Type. EIA provides estimates for several scenarios. The most appropriate scenario for this forecast was the Alternative Transportation Case, which took into consideration the most recent Federal policy impacts on vehicle manufacturers.

Figure 3: ZEV Sales as a Proportion of Total Sales, Forecast Comparison

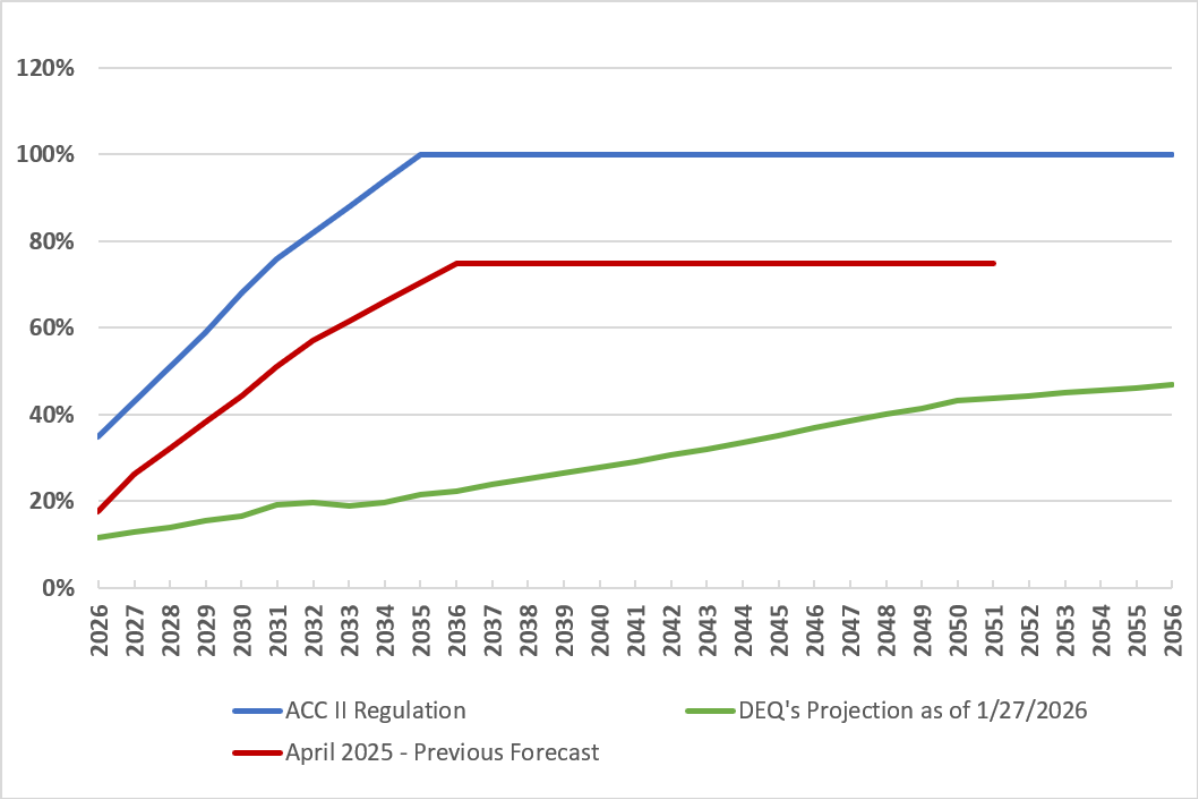
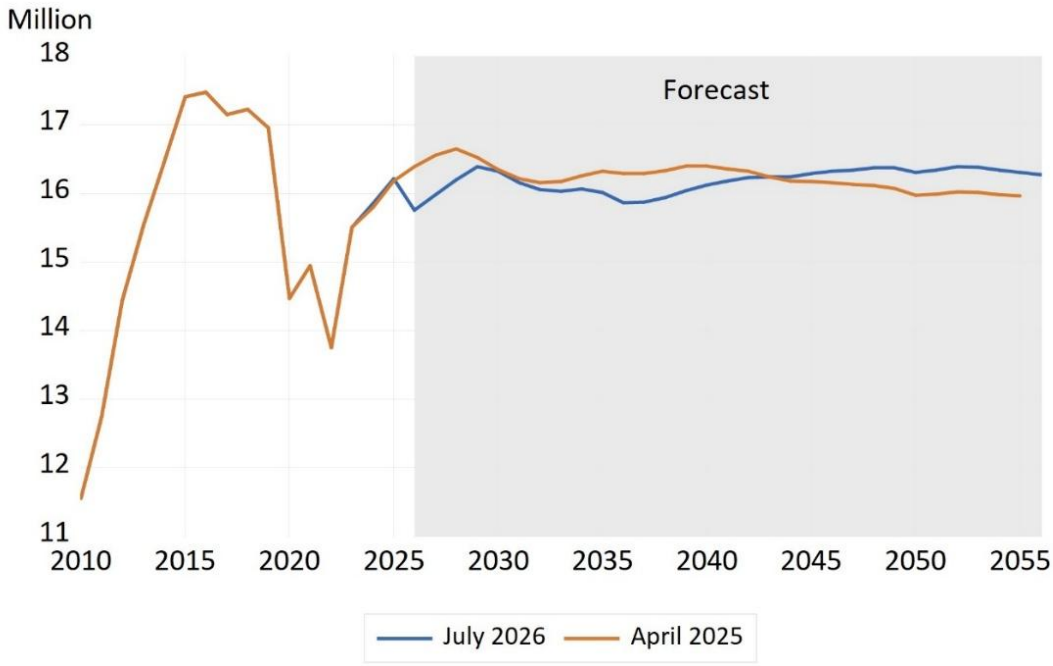


Figure 4: US Light Vehicle Sales, Forecast Comparison

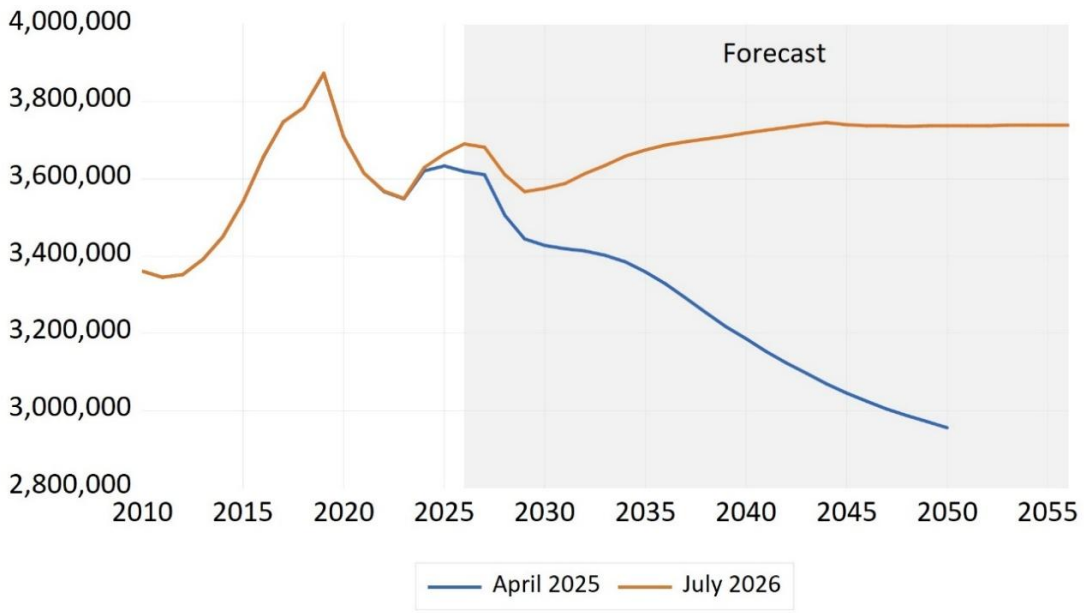


Source: S&P Global

Summary of Vehicle Stock Forecasts

The total passenger vehicle stock forecast has significantly improved compared to our previous forecast (Figure 5). The main reason for the improvement is the underlying change in consumer demand. Consumer demand for transportation has improved compared to our previous outlook, because more people have been called back to office. At first, in the post-COVID world, the belief was that remote work was here to stay, but more recently we are seeing some reversals of that policy. In the past year we have seen an increase in registration renewals of vehicles with expired registrations. Still, our current outlook assumes that we will never get back to pre-COVID high number of registered vehicles which was more than 3.8 million. Besides a mini recession that is expected in the next few years, overall, the stock is expected to grow modestly through 2045 and then somewhat flatten. While consumer demand is improving, there are still many factors negatively impacting vehicle sales, such as: high prices for new and used vehicles, minimal population growth, and youth delaying vehicle ownership due to high cost of owning a vehicle.

Figure 5: Total Vehicle Stock, Forecast Comparison



Further examination of components of change gives us a bit more clarity as what's behind the change in the total stock forecast. Brand-new vehicles entering stock is one of the main components of change, as it roughly accounts for 30 percent of total vehicle entries (Figure 6). As mentioned before, the US light vehicles sales forecast from S&P Global is used to estimate the total brand-new vehicle entries for Oregon. These new vehicle entries are then broken down into fuel type buckets using a combination of EIA's projections and ZEV assumptions. Our total forecast for brand new vehicle entries is slightly weaker compared to the previous

forecast, which is mainly driven by high prices of new vehicles and high interest rates. In contrast, total vehicle entries forecast has improved (Figure 7). As mentioned above, we are seeing higher number of vehicles re-entering the stock. Given there are fewer vehicles with expired registrations remaining, we are expecting a decline in the number of re-entries and a normalization of total entries just under 550 thousand per year range.

The exits are expected to be lower compared to the previous forecast (Figure 8). The expectation is that there will be fewer vehicles going into expired registration status for prolonged time. The combined result of the lower exits and higher entries produces an improved outlook for the total vehicle stock compared to the previous forecast. In the current forecast entries are just slightly above the exits for CY 2030 and thereafter, which explains why the vehicle stock is modestly growing before the stagnation point at around CY 2050 and beyond (Figure 9). Figure 10 shows the change in composition of the total fleet by fuel technology over time. By CY 2056, 37 percent of vehicle stock is projected to be Zero Emission Vehicles (EVs and PHEVs), 25 percent regular hybrid, and remaining 38 percent conventional engine vehicles (gasoline, diesel, flex fuel and other).

Due to significant changes to the fleet composition forecast, the average fuel economy expectations have changed as well. Figure 11 shows estimated fuel economy for the entire passenger vehicle fleet. Fully electric vehicles don't consume any gasoline, so their MPG estimates from EPA are calculated based on electricity consumption equivalent. Figure 12 shows fuel efficiency of non-electric vehicles for the purpose of estimating taxable fuel consumption.

Figure 6: Total Brand-New Vehicle Entries, Forecast Comparison

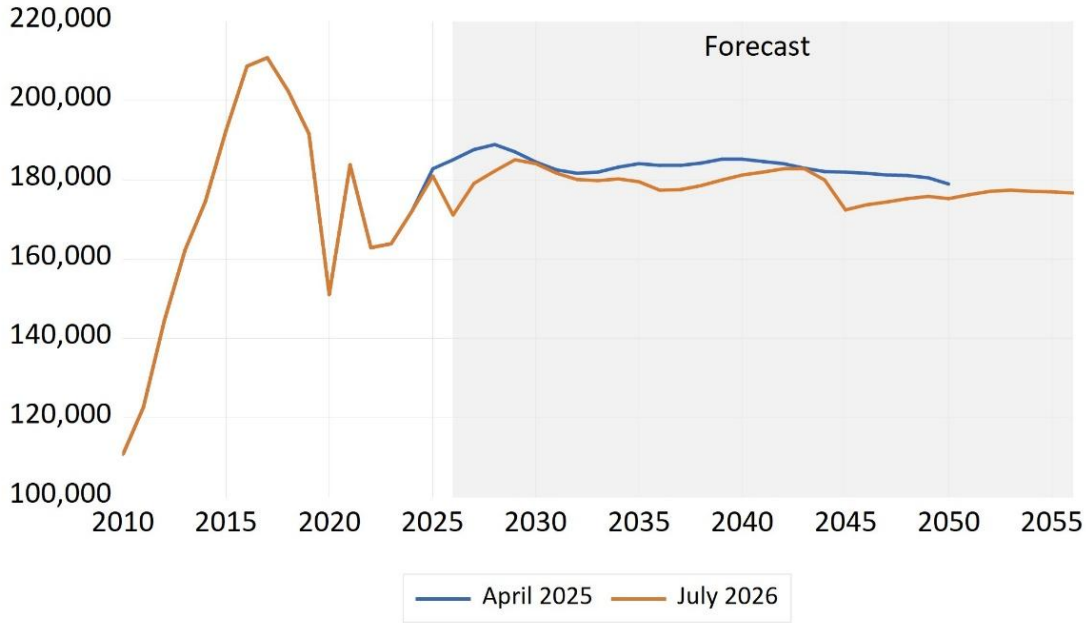


Figure 7: Total Entries, Forecast Comparison

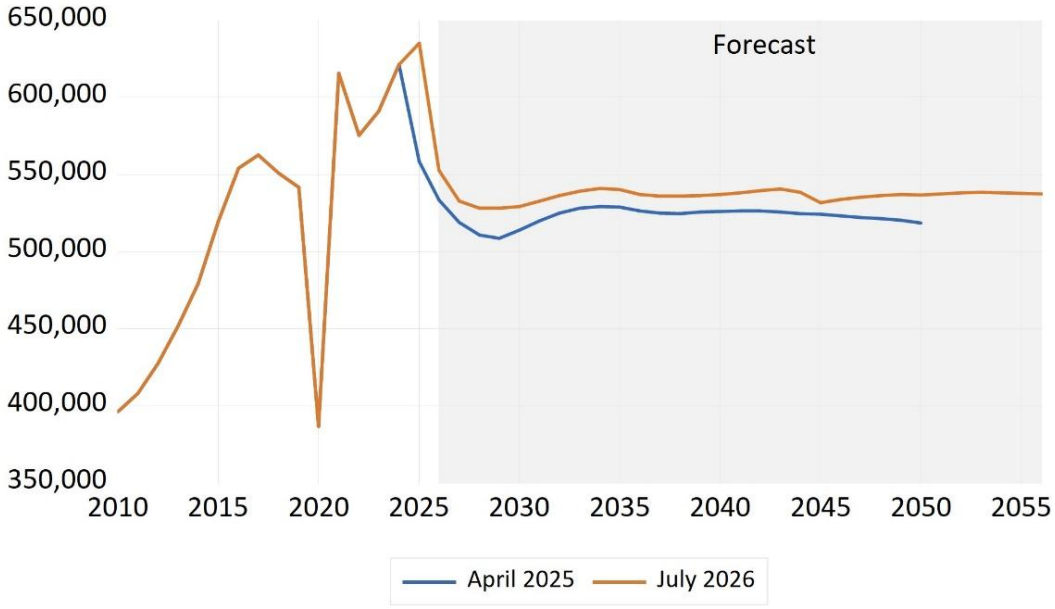


Figure 8: Total Exits

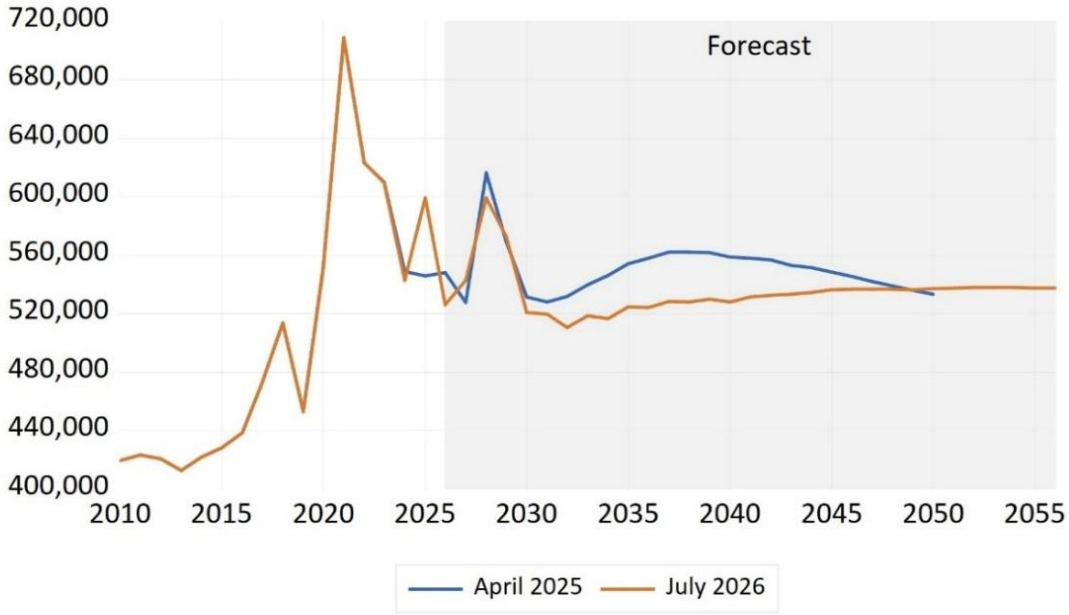


Figure 9: Total Entries versus Exits

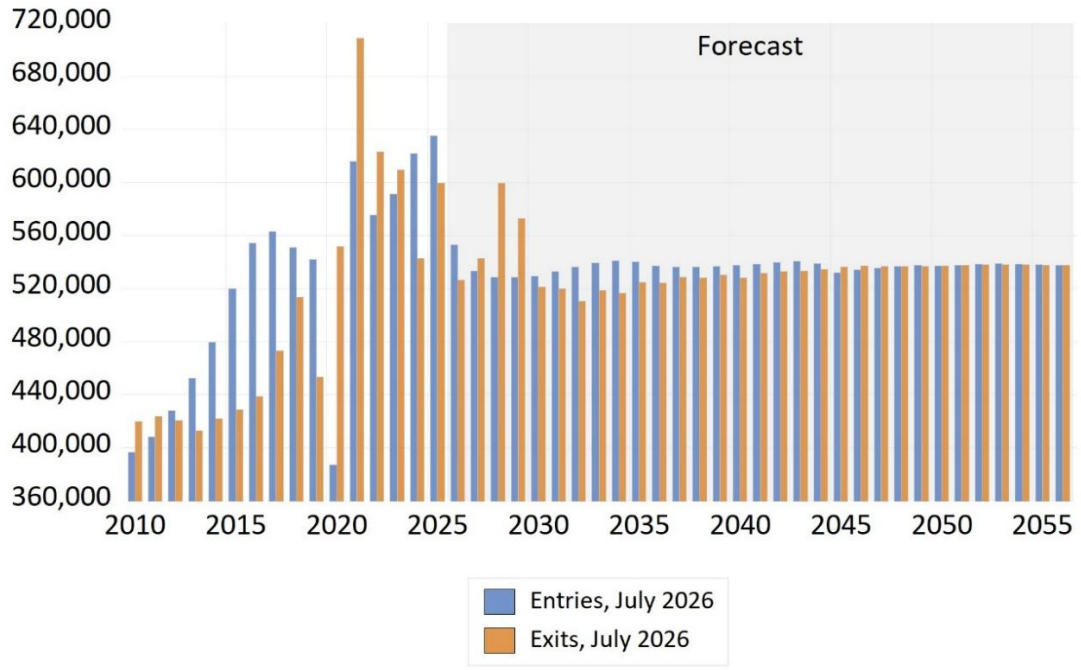


Figure 10: Total Stock by Fuel Technology

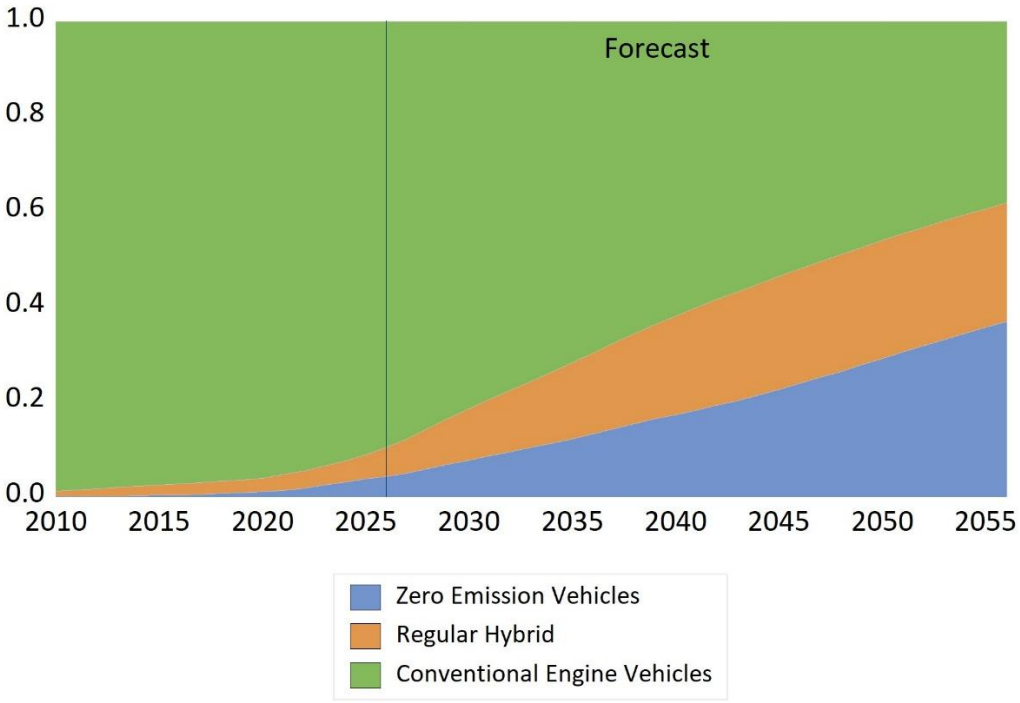


Figure 11: Fuel Economy of Total Vehicle Stock

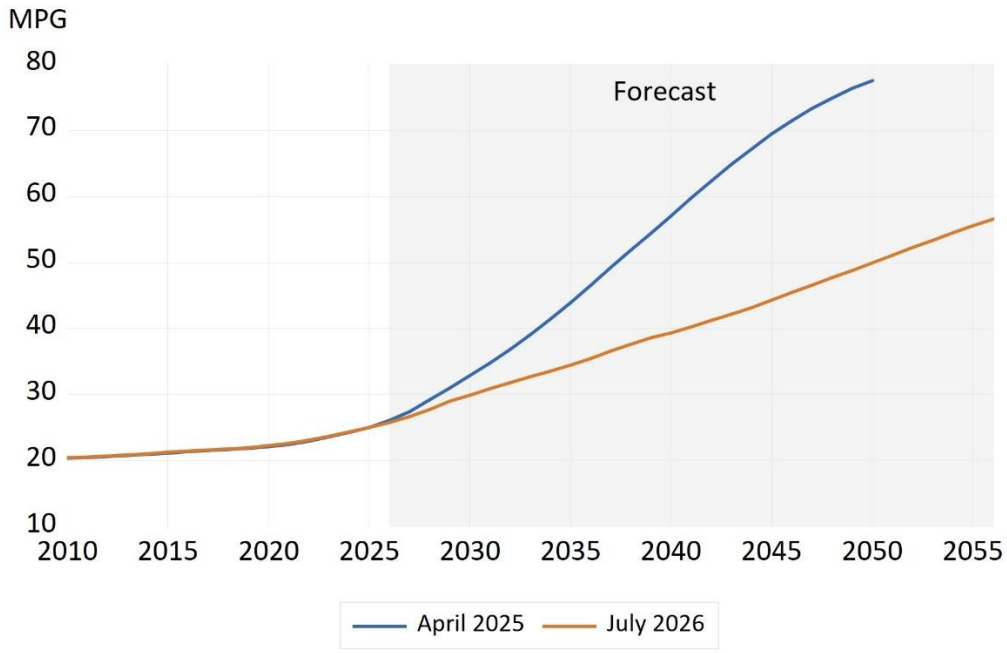
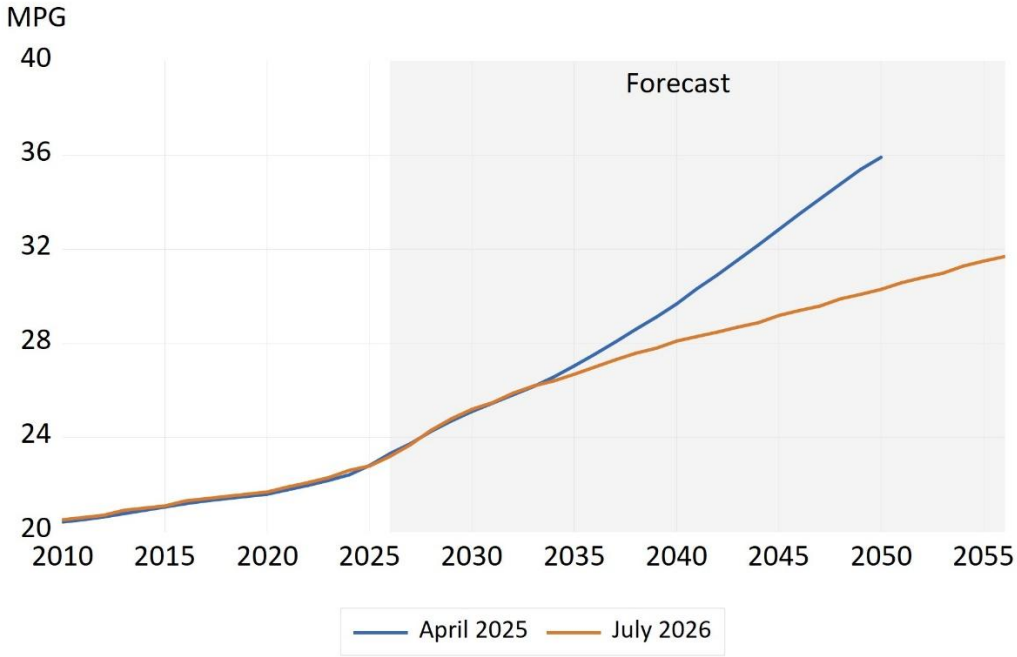


Figure 12: Fuel Economy of Non-Electric Vehicle Stock



Vehicle Stock Forecasts by Fuel Type

Our model produces detailed stock forecasts for six fuel groups:

- ✓ Electric Vehicles
- ✓ Plug-In Hybrid Electric Vehicles
- ✓ Hybrid Vehicles
- ✓ Gasoline Vehicles
- ✓ Diesel Vehicles
- ✓ Flex Fuel and Other Vehicles

Brand new vehicle entries by fuel type are forecasted using EIA's Annual Energy Outlook 2026, Alternative Transportation Scenario.

Electric Vehicles

The outlook for electric vehicle stock has been significantly revised downward compared to the previous forecast (Figure 13). The change in federal regulations and uncertainty with the enforcement of California's ACC II rules adopted by Oregon, has resulted in this sharp revision. While, overall, we are still expecting the stock of electric vehicles to grow throughout the forecast horizon, the consequences of de-regulation are striking. The brand-new electric vehicle entries are much lower than expected in our previous forecast (Figure 14). Figure 15 shows entries and exits for this forecast group side by side. Entries far exceed the exits thus this stock continues to grow through the forceable future.

Figure 13: Electric Vehicle Stock, Forecast Comparison

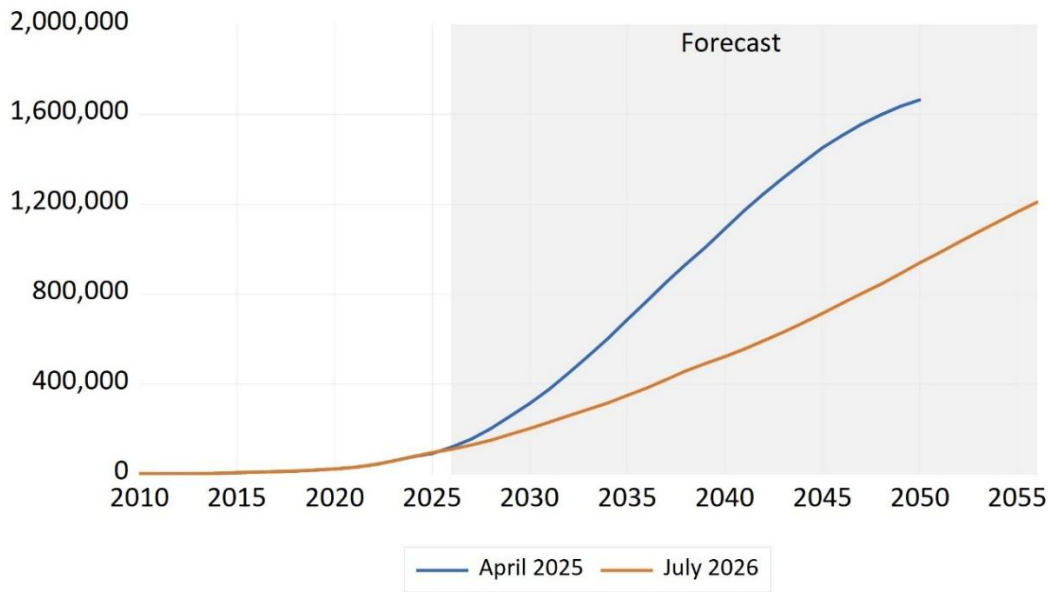


Figure 14: Brand New Electric Vehicle Entries, Forecast Comparison

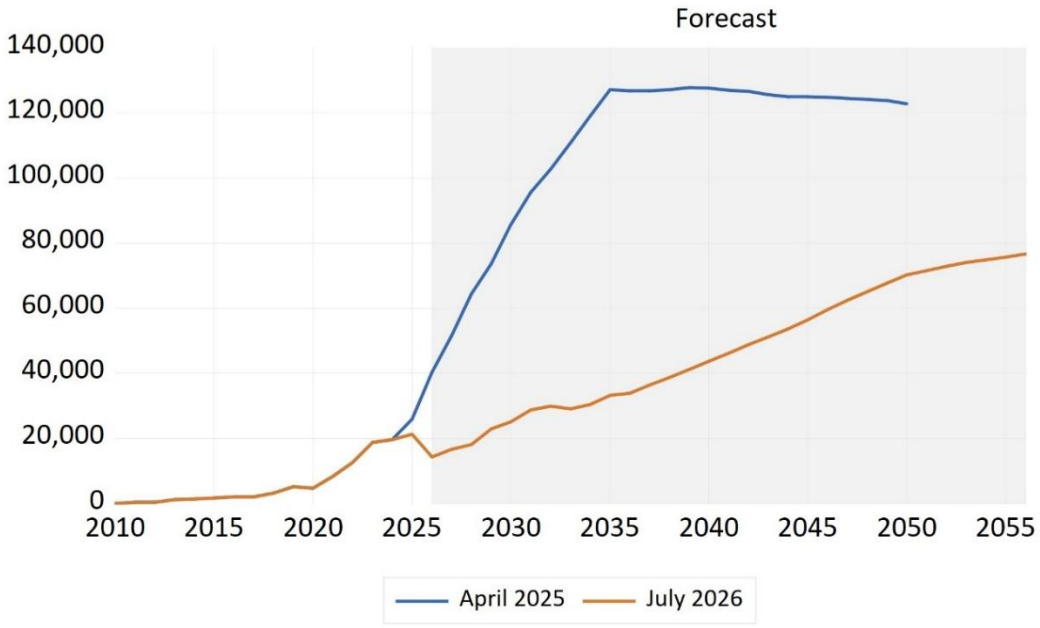
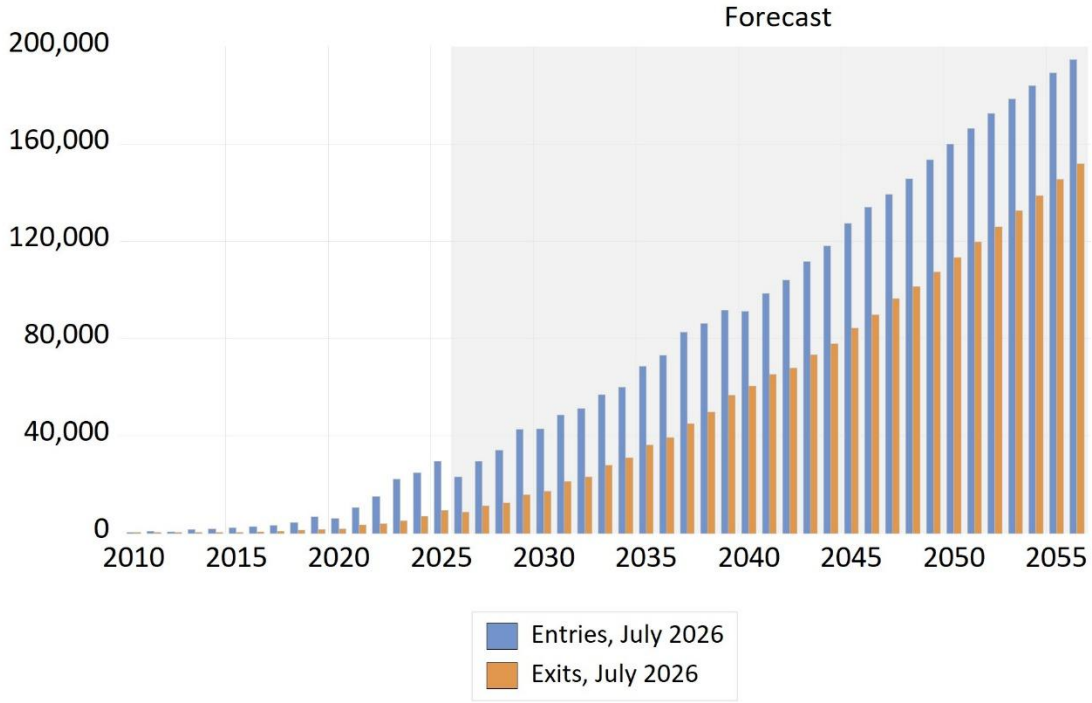


Figure 15: Electric Vehicle Total Entries versus Exits



Plug-In Hybrid Electric Vehicles

The outlook for plug-in hybrid electric vehicle stock is very similar to the electric vehicle outlook. The scale of the change is a bit less dramatic compared to the electric vehicles. Figure 16 compares current forecast for total stock for this group with the previous forecast. Figure 17 shows expected brand-new vehicle entries, and Figure 18 shows total entries and exits for this group side-by-side. As with electric vehicles, total entries far exceed the exits which is why the total stock of plug-in hybrid electric vehicles is expected to grow.

Figure 16: Plug-In Hybrid Electric Vehicle Stock, Forecast Comparison

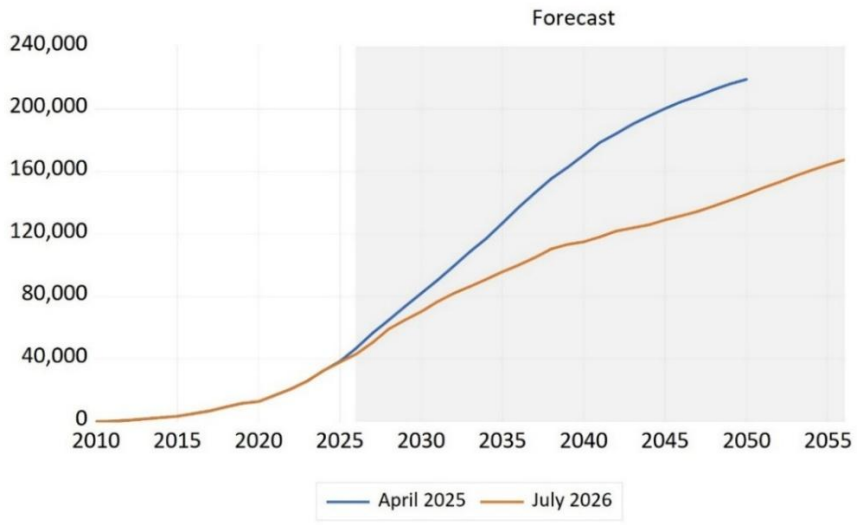


Figure 17: Brand New Plug-In Hybrid Electric Vehicle Entries, Forecast Comparison

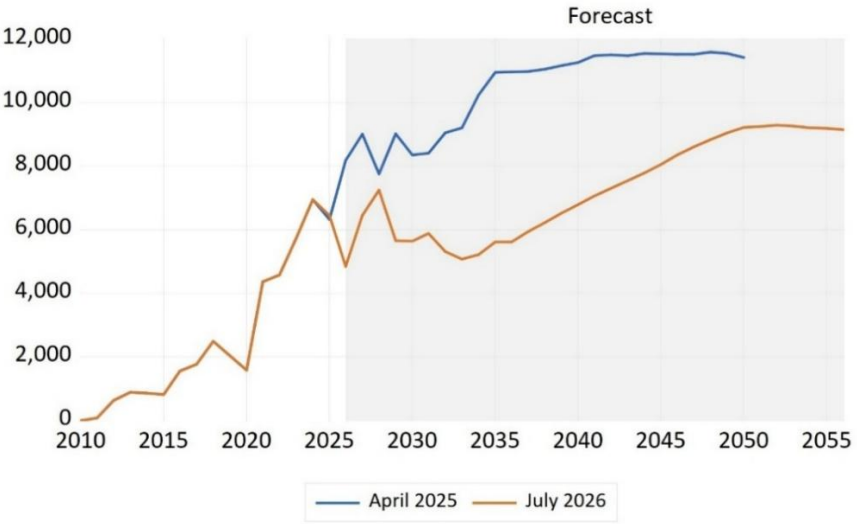
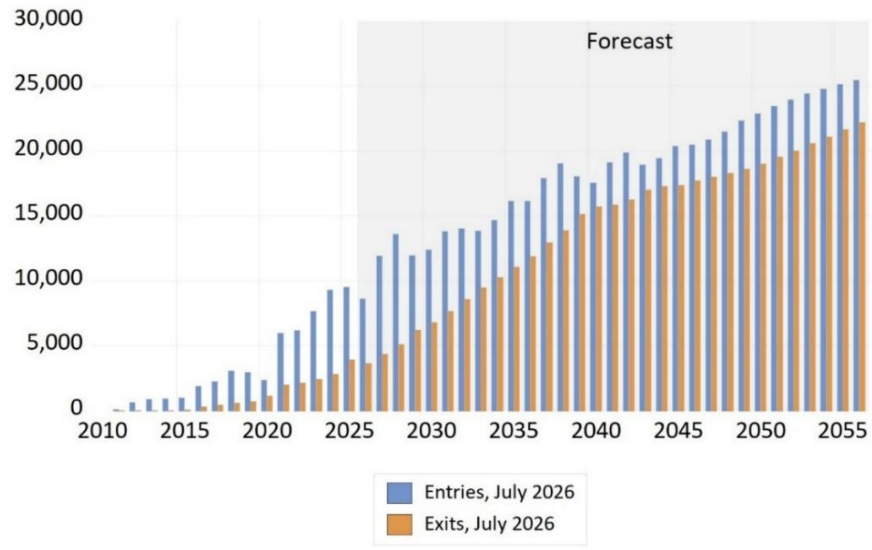


Figure 18: Plug-In Hybrid Electric Vehicle Total Entries versus Exits



Hybrid Vehicles

The outlook for regular hybrid vehicles has much improved compared to the previous forecast (Figure 19). The difference in the forecast reflects the most recent surge in hybrid sales (Figure 20) driven by a combination of falling EV incentives, higher EV prices, consumer demand for plug-in-free efficiency, and the dominance of a few automakers offering a wide range of hybrid models. This has made hybrids a more attractive and practical option than ever before. Entries are going to exceed exits for quite a while before they level off and the stock will flatten (Figure 21).

Figure 19: Regular Hybrid Vehicle Stock, Forecast Comparison

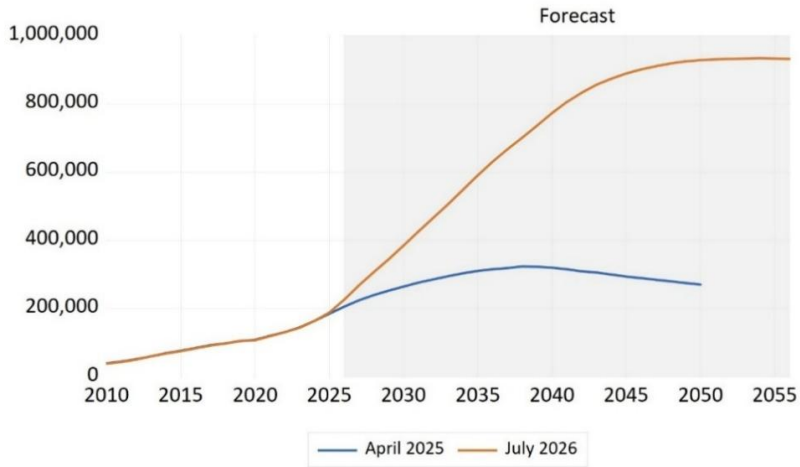


Figure 20: Brand New Regular Hybrid Vehicle Entries, Forecast Comparison

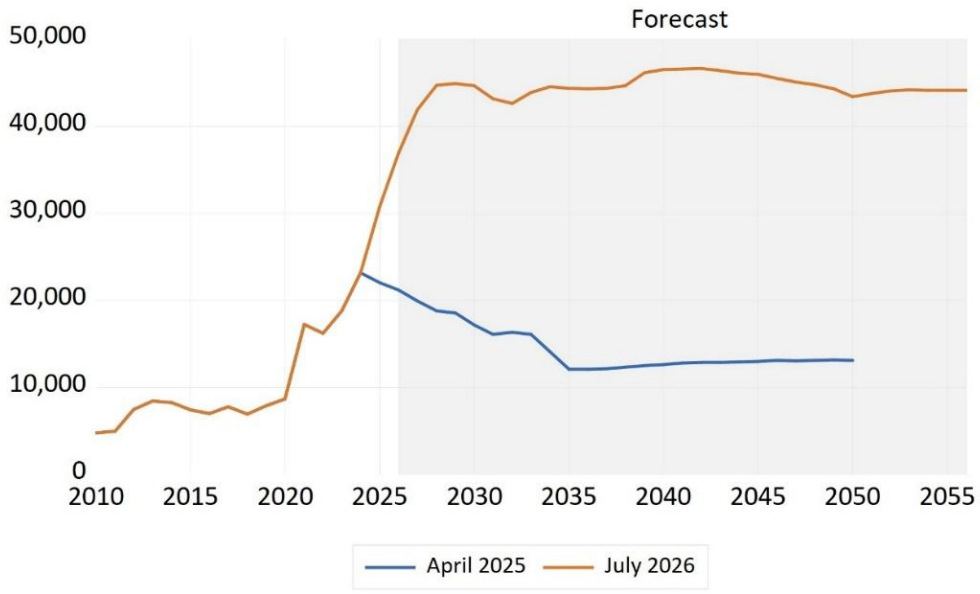
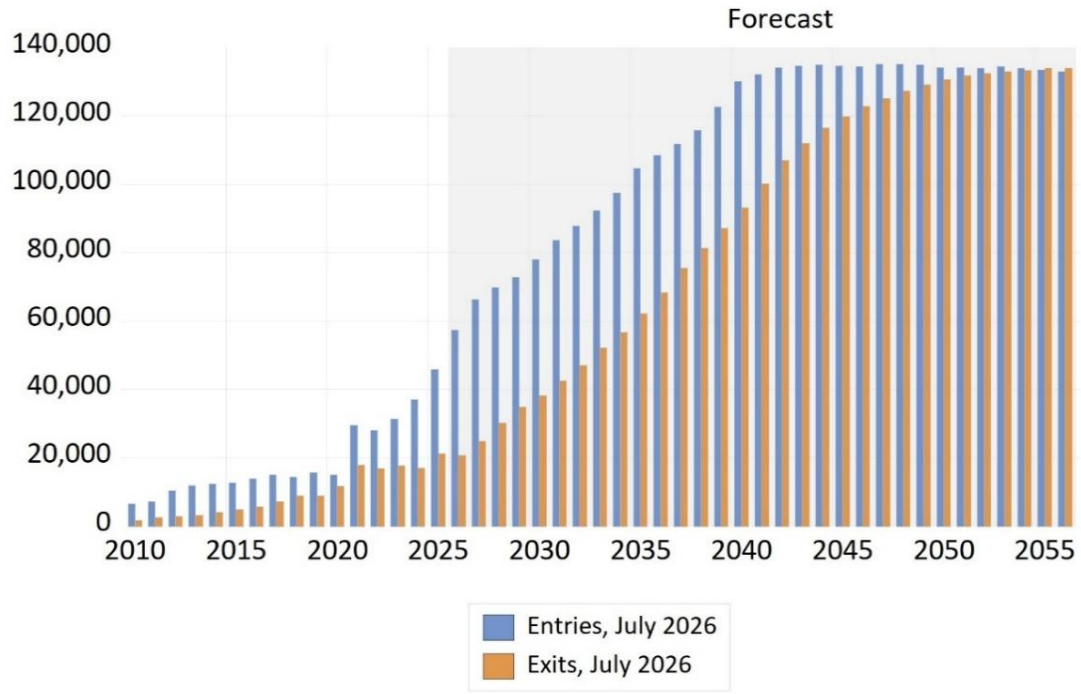


Figure 21: Regular Hybrid Vehicle Total Entries versus Exits



Gasoline Vehicles

While gasoline vehicles are forecast to decline gradually, it is not as dramatic of a decline compared to the previous forecast (Figure 22). With the prior forecast California's ACC II rules were basically set to ban vehicle manufacturers from selling combustion engine vehicles by 2035 or pay big penalties. In the absence of such restrictions, sales are expected to follow natural market trends (Figure 23). Figure 24 compares entries to the exits for gasoline powered vehicles. The expectation is that gasoline vehicles would be replaced by hybrid or electric vehicles over time, resulting in higher exits than entries.

Figure 22: Gasoline Vehicle Stock, Forecast Comparison

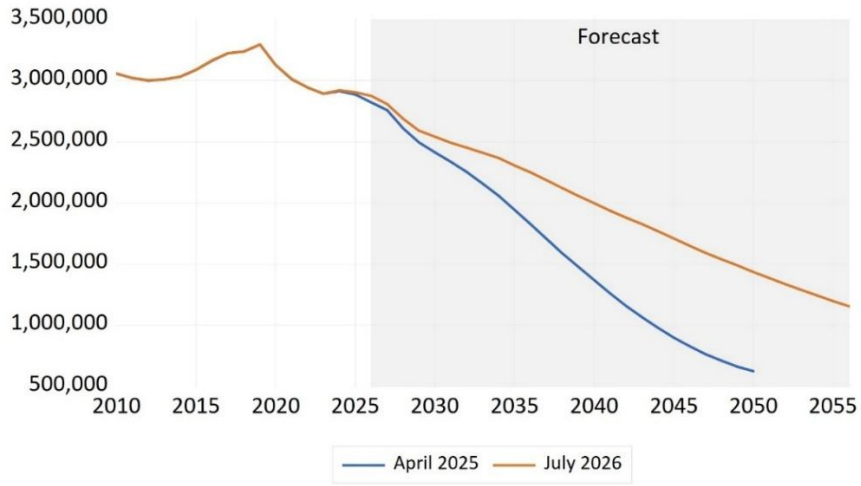


Figure 23: Brand New Gasoline Vehicle Entries, Forecast Comparison

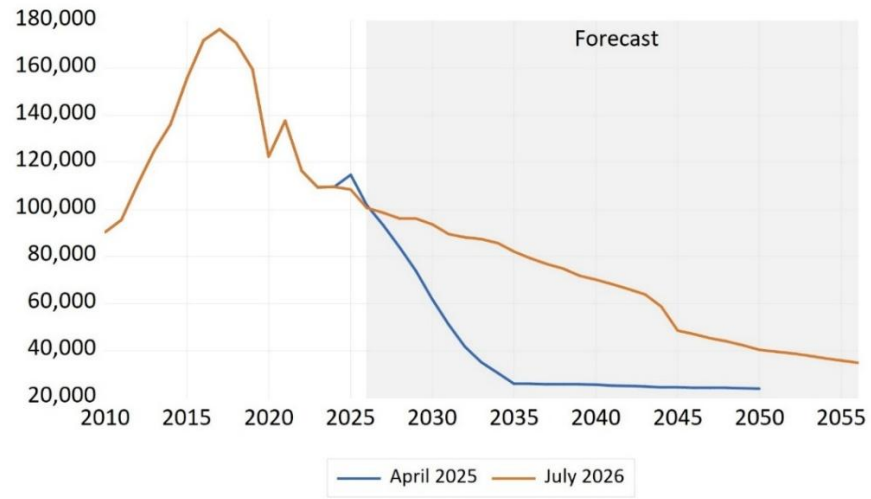
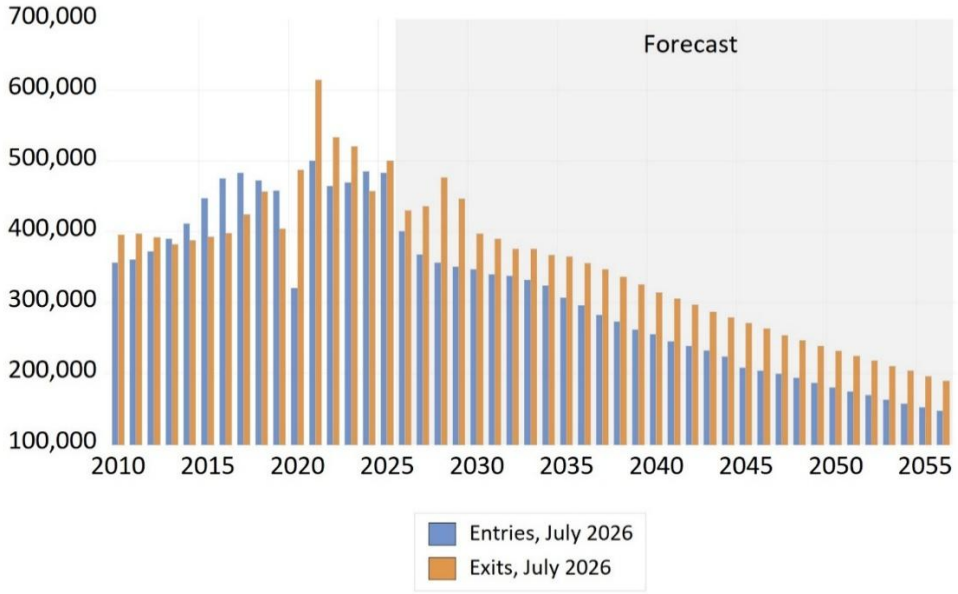


Figure 24: Gasoline Vehicle Total Entries versus Exits



Diesel Vehicles

The outlook for diesel vehicles is very similar to gasoline vehicles (Figure 25). The brand-new diesel vehicle sales are expected to grow a bit in the next few years before they start declining (Figure 26). However, the stock of diesel vehicles is still expected to decline despite the bump up in brand-new vehicle entries. This is largely due to higher number of expected exits compared to total entries for this forecast group (Figure 27).

Figure 25: Diesel Vehicle Stock, Forecast Comparison

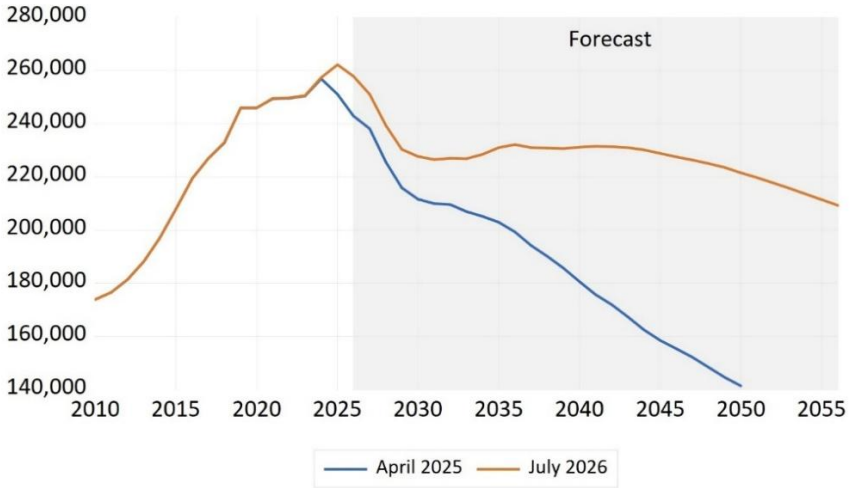


Figure 26: Brand New Diesel Vehicle Entries, Forecast Comparison

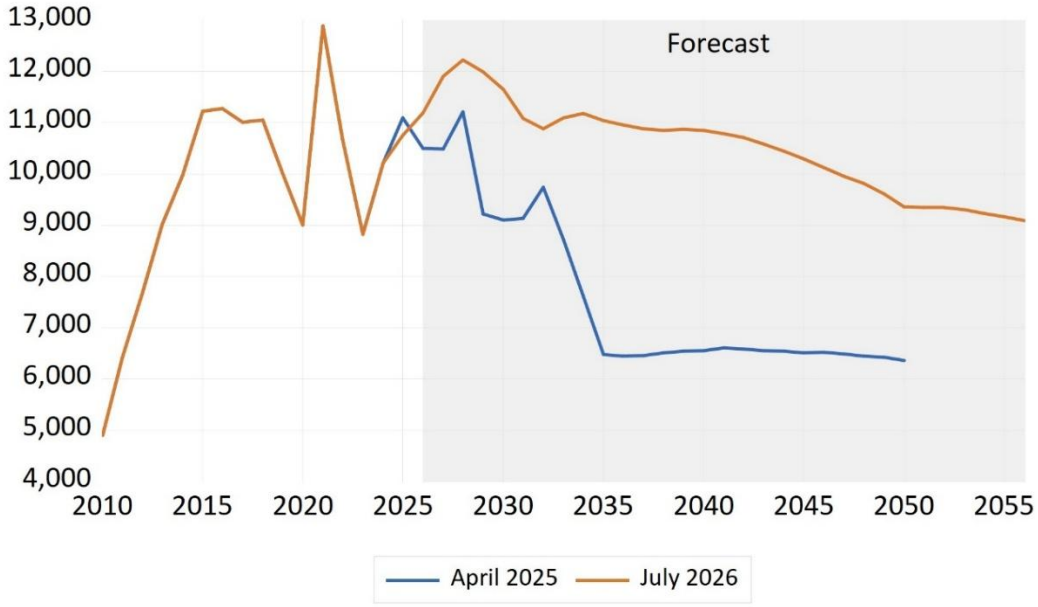
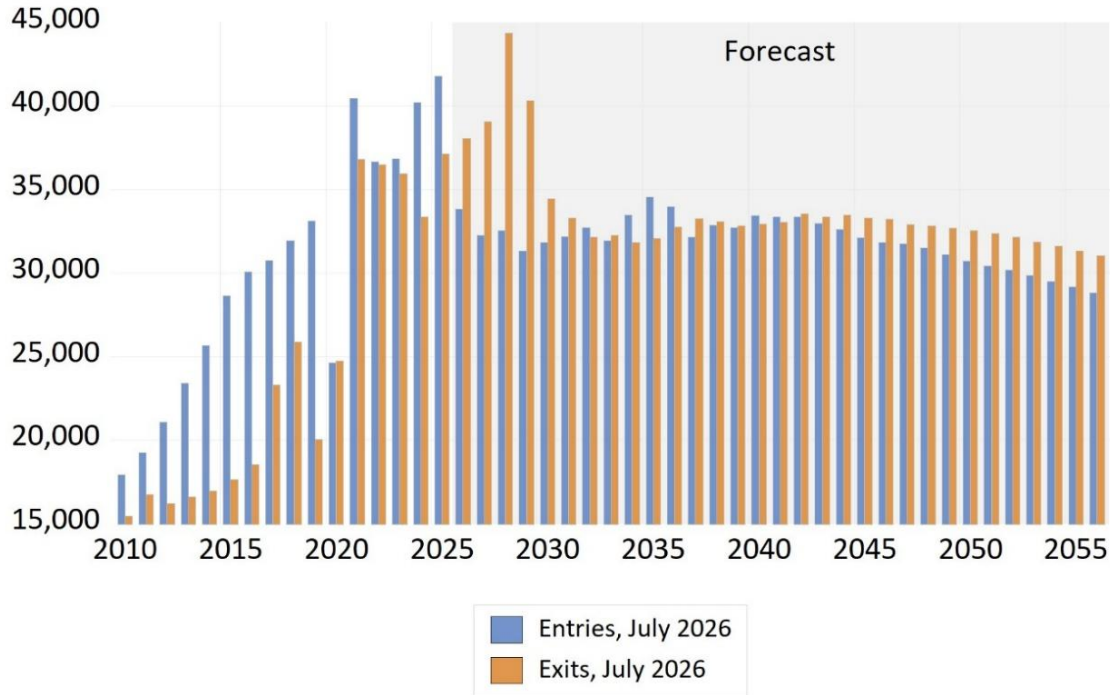


Figure 27: Diesel Vehicle Total Entries versus Exits



Flex Fuel and Other Vehicles

The stock of flex fuel and other vehicles is also set to decline (Figure 28). As with the gasoline and diesel vehicles, the forecast is a bit better than the previous one. The demand for these vehicles has been weak, and the brand-new vehicle sales are low (Figure 29). More of them will be aging out of the stock based on the survival analysis than entering stock which contributes to the decline (Figure 30)

Figure 28: Flex Fuel and Other Vehicle Stock, Forecast Comparison

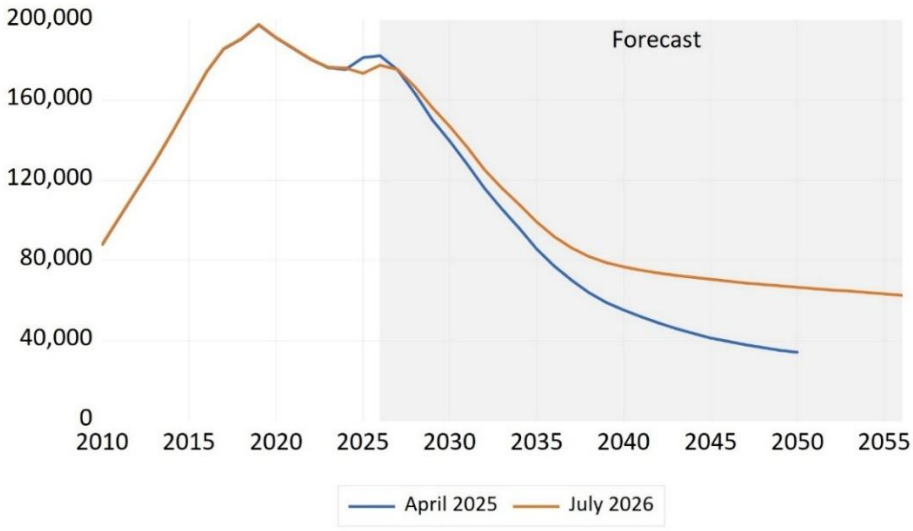


Figure 29: Brand New Flex Fuel and Other Vehicle Entries, Forecast Comparison

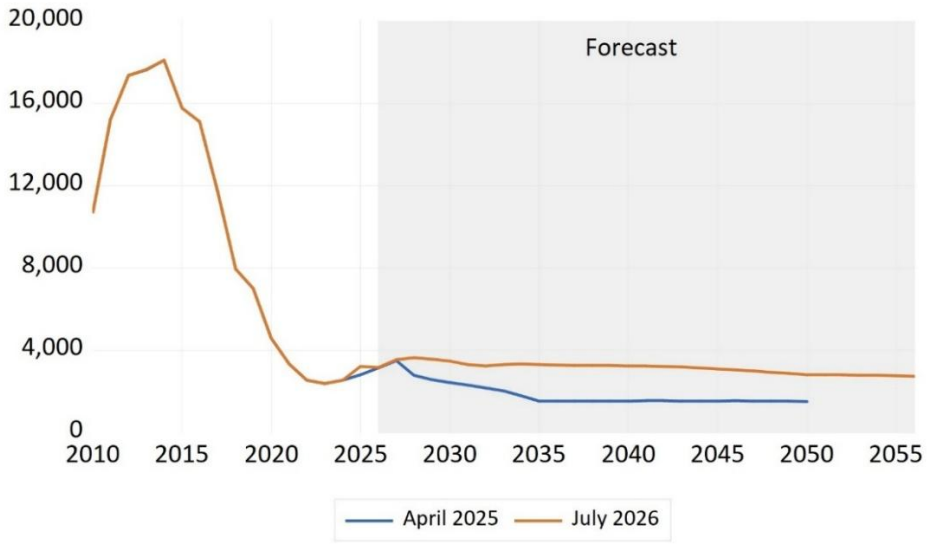
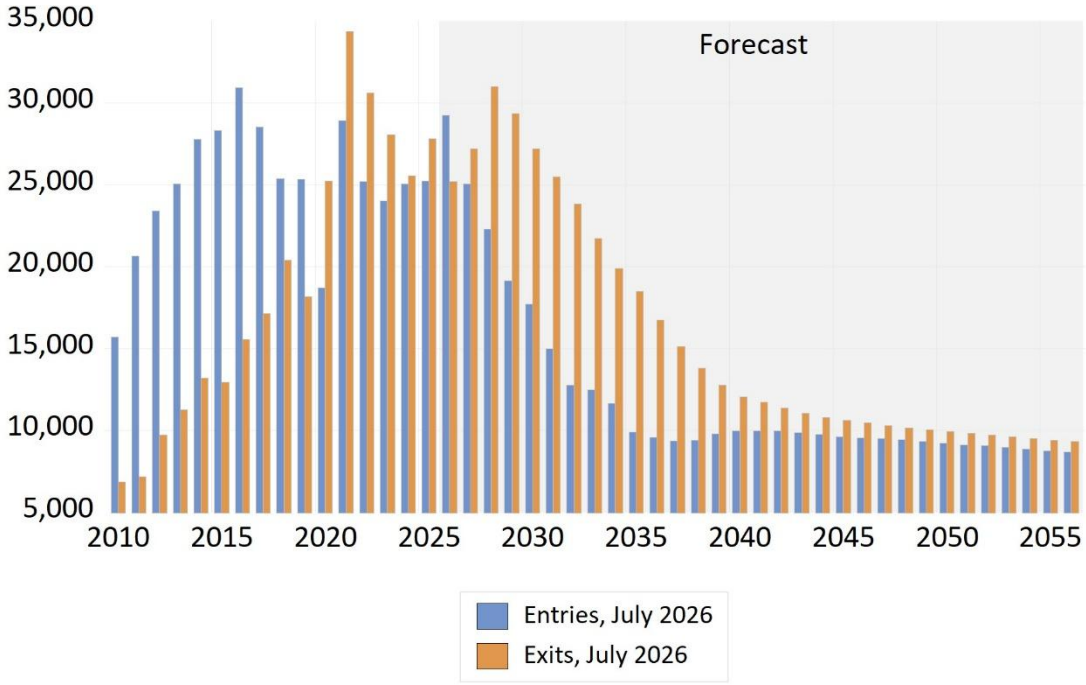


Figure 30: Flex Fuel and Other Vehicle Total Entries versus Exits



Vehicle Stock Forecasts by MPG Tier

The model produces detailed stock forecasts for three MPG tier groups:

- ✓ MPG 0 - 19
- ✓ MPG 20 - 39
- ✓ MPG 40 and above

In recent years we have seen a few hybrid vehicles with fuel efficiency under 20 MPG. These are typically larger trucks or SUVs, such as Toyota Tundra. We are closely monitoring this trend. Currently this segment has limited historical data and the counts are small, so we are unable to create a separate forecast group. Thus, in our stock forecast we treat all hybrid vehicles as either "MPG 20 – 39" or "MPG 40 and above" tier, and the small number of hybrid vehicles with MPGs under 20 will fall into "MPG 20 – 39" group and will not be part of the "MPG 0 – 19" stock. Similarly, there are a few plug-in hybrid electric vehicles with MPGs under 40, however they are all added to the "MPG 40 and above" stock.

MPG 0 - 19

Given that this stock is comprised mostly from conventional engine vehicles with declining vehicle stocks, it is not surprising that MPG 0 – 19 stock is also declining. Current forecast for MPG 0 – 19 stock is a bit higher compared to the previous forecast consistent with the changes in policy (Figure 31). Brand-new vehicle entries are expected to be higher than in our previous forecast as well (Figure 32). Total entries have been relatively high in the most recent years but expected to decline sharply (Figure 33).

Figure 31: MPG 0 - 19 Vehicle Stock, Forecast Comparison

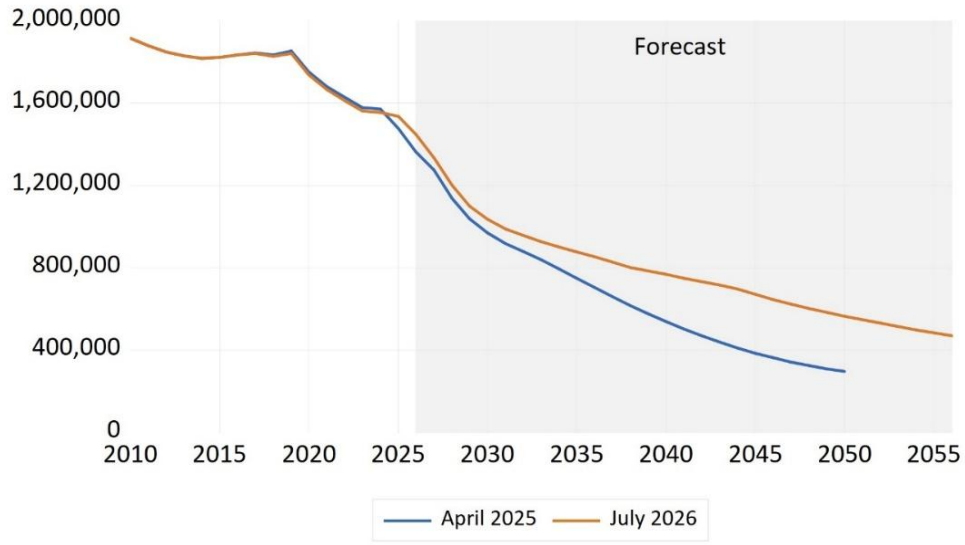


Figure 32: Brand New MPG 0 - 19 Vehicle Entries, Forecast Comparison

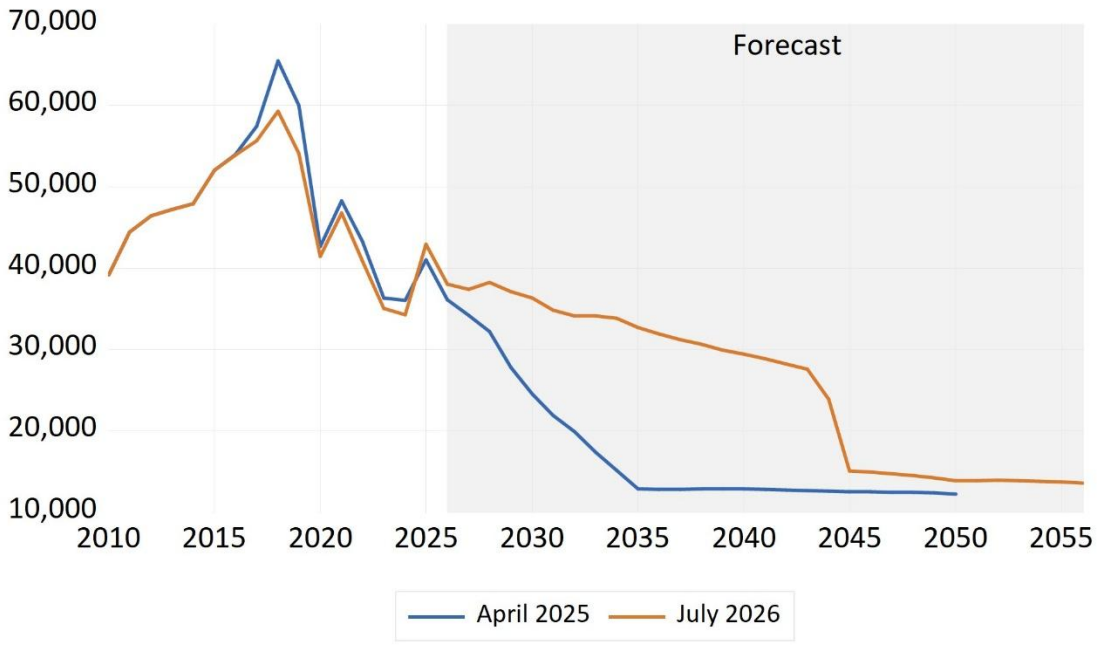
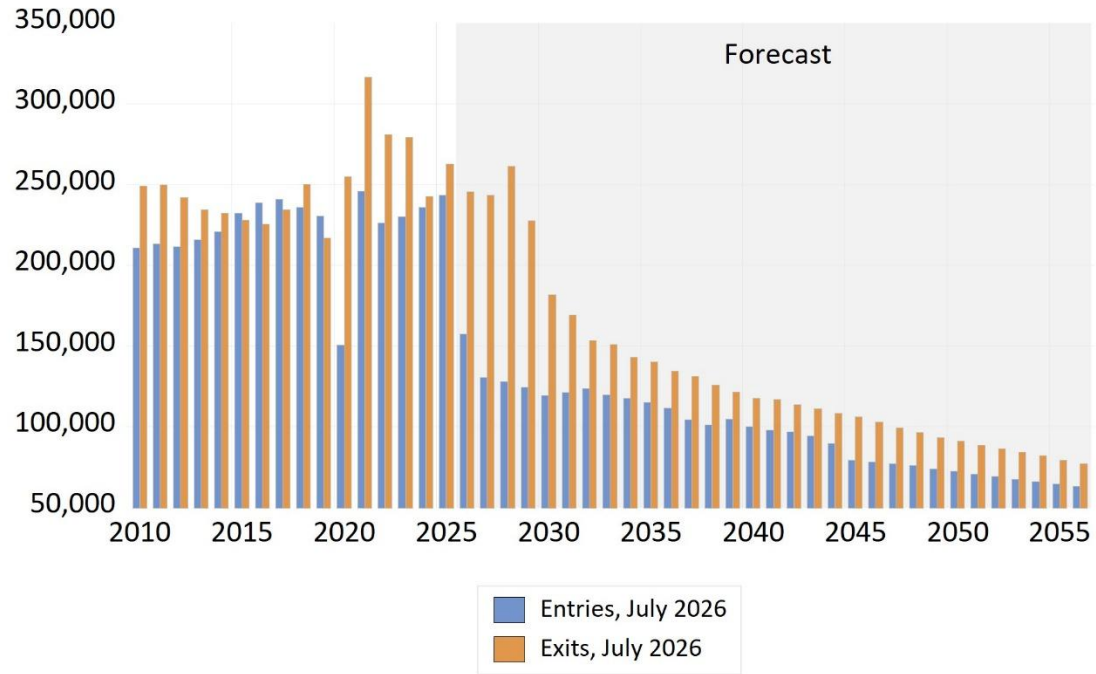


Figure 33: MPG 0 - 19 Vehicle Total Entries versus Exits



MPG 20 - 39

The outlook for MPG 20 – 39 group has improved compared to the previous forecast (Figure 34). Federal rebates for electric vehicles have expired making this group of vehicles more attractive price wise. Over time as fuel efficiency keeps improving and pushing vehicles into 40 plus MPG range and prices of electric vehicles come down, we will start seeing a decline in 20 – 39 MPG brand-new vehicle sales (Figure 35) and decline in total stock. Total entries will fall behind exits as people start replacing these vehicles with 40 plus efficiency vehicles (Figure 36)

Figure 34: MPG 20 - 39 Vehicle Stock, Forecast Comparison

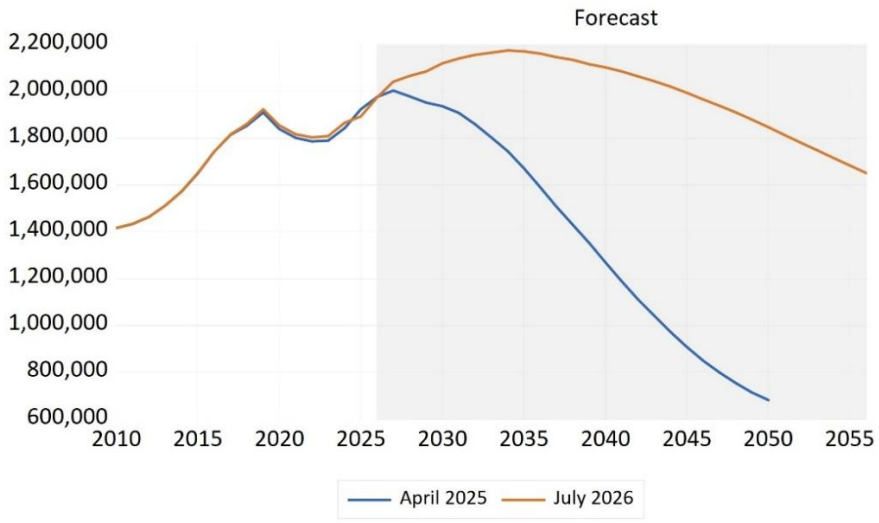


Figure 35: Brand New MPG 20 - 19 Vehicle Entries, Forecast Comparison

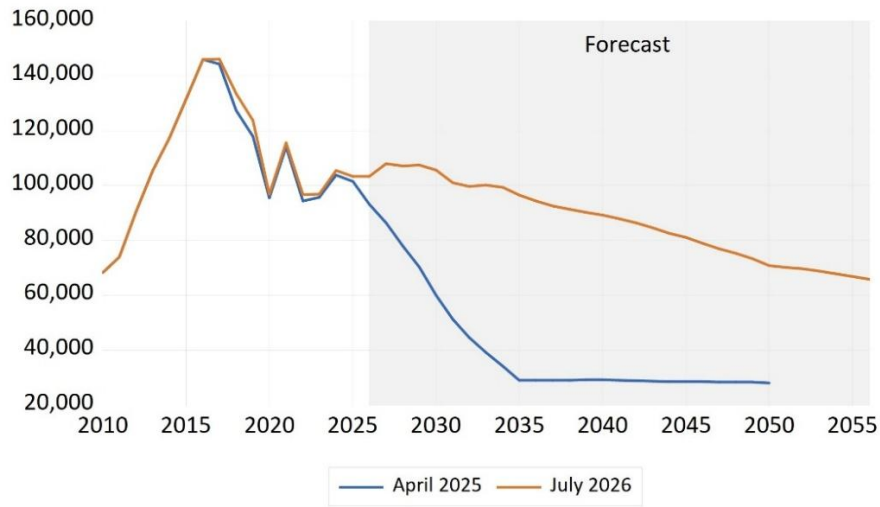
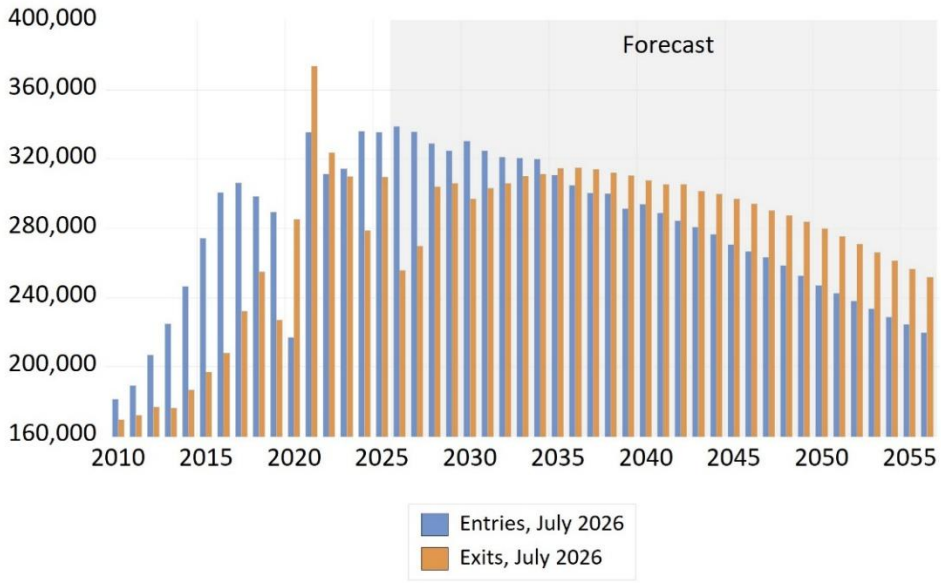


Figure 36: MPG 20 - 39 Vehicle Total Entries versus Exits



MPG 40 and above

This group consists of hybrid, plug-in electric hybrid and electric vehicles. As such, this stock is expected to continue growing (Figure 37). Given the current policy environment, the current forecast is revised down compared to the previous forecast mainly because of the much lower brand-new vehicle sales than previously expected (Figure 38). Entries are higher than exits throughout forecast timeline, resulting in continuously growing stock (Figure 39).

Figure 37: MPG 40 and above Vehicle Stock, Forecast Comparison

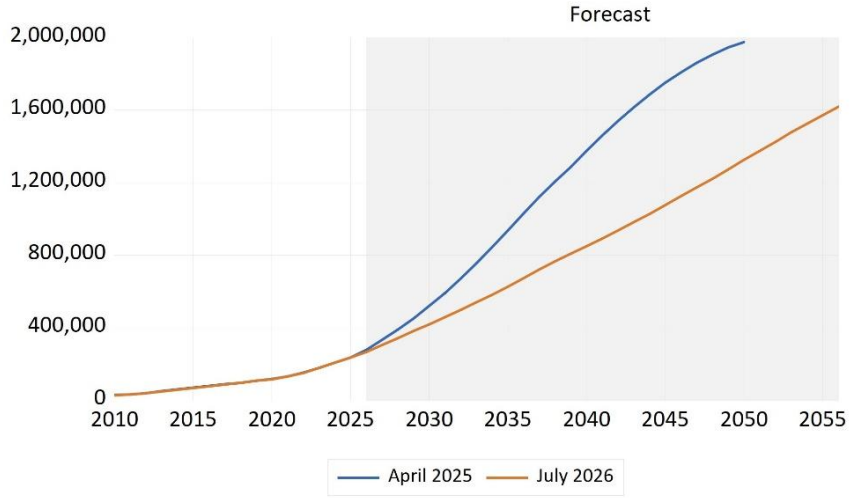


Figure 38: Brand New MPG 40 and above Vehicle Entries, Forecast Comparison

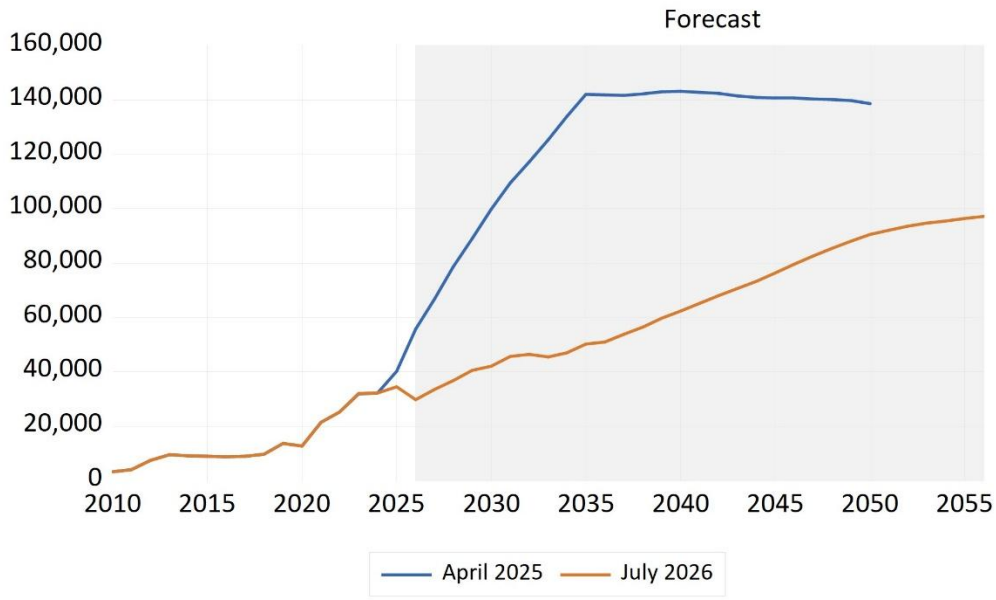
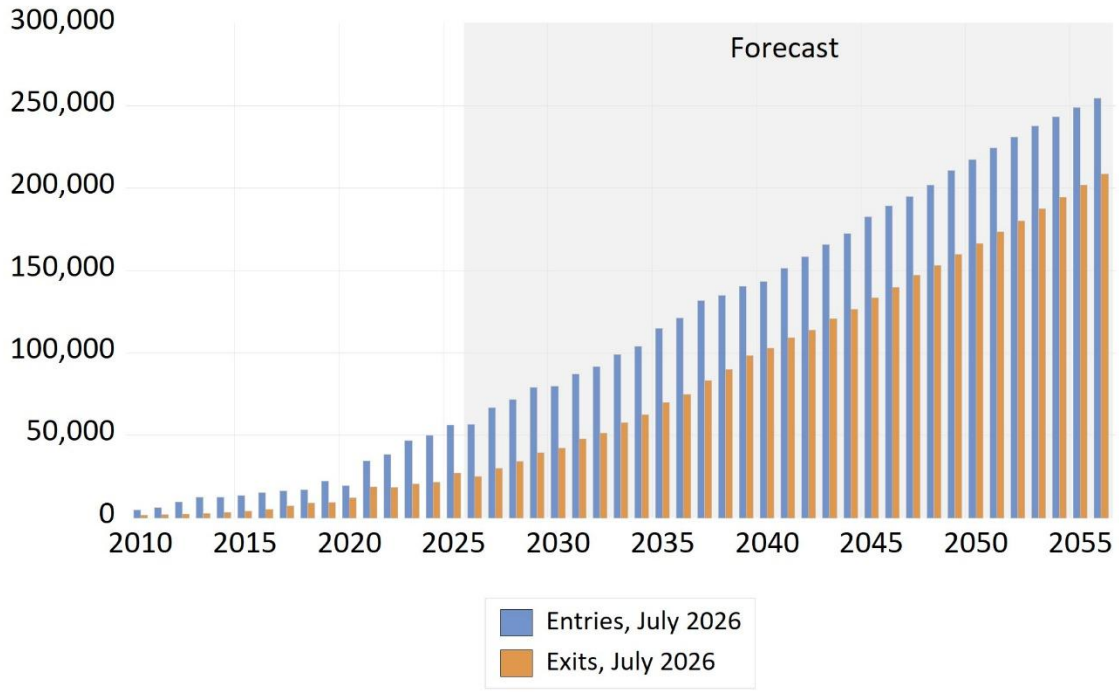


Figure 39: MPG 40 and above Vehicle Total Entries versus Exits



Vehicle Stock Forecasts for RUC and non-RUC vehicles

In Oregon, starting in July 2027, electric and all hybrid vehicles will be gradually enrolled into the mandatory Road Usage Charge (RUC) program. Vehicles in RUC will be paying 2 cents per mile driven which is equivalent to what 20 MPG vehicle is expected to pay in fuel taxes. Total population of RUC eligible vehicles is easily calculated from individual forecast groups produced by this stock forecast. RUC eligible vehicles would enroll into RUC in phases starting in July 2027. After about four to five years from the start of the program, we expect all RUC eligible vehicles to be enrolled in RUC but until then **RUC eligible** is **not the same** as **RUC enrolled**. Population of vehicles that are not subject to RUC is also estimated as they are going to continue paying the fuel tax.

RUC

While the outlook for RUC vehicles has declined a bit compared to the previous forecast, overall, the scale of change is far less drastic than what we were expecting from the revision of the electric vehicle forecast (Figure 40). The expectation is that consumers will continue to give a higher preference to more fuel-efficient vehicles, the manufacturers will continue to supply them, and competition will drive prices down. The sales of electric and hybrid vehicles are expected to continue to grow over time (Figure 41). Total entries into the stock will be outpacing the exits for the forceable future, resulting in the continuous growth of the RUC stock.

Figure 40: RUC Vehicle Stock, Forecast Comparison

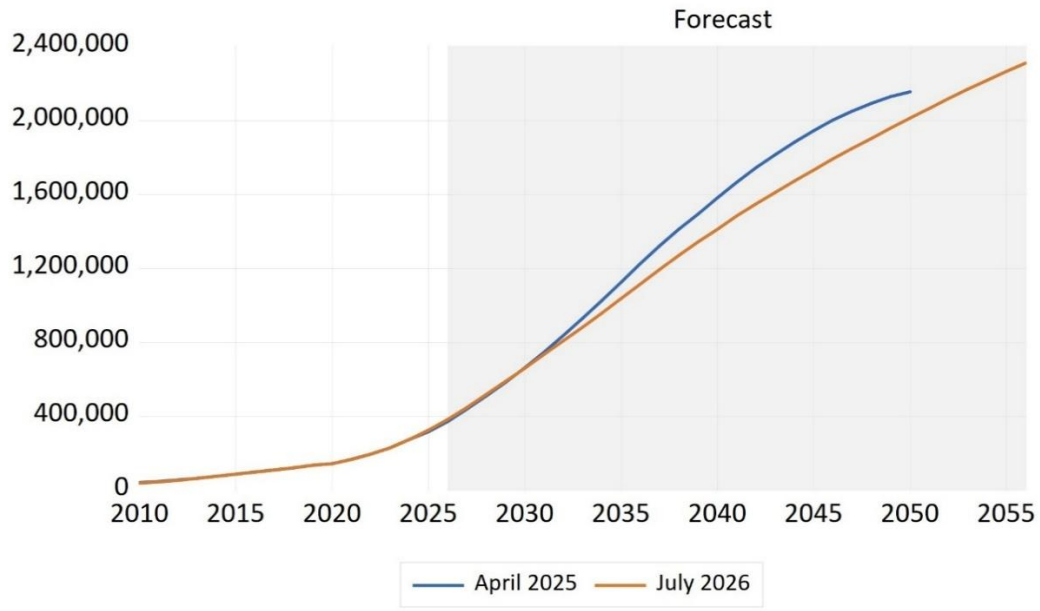


Figure 41: Brand New RUC Vehicle Entries, Forecast Comparison

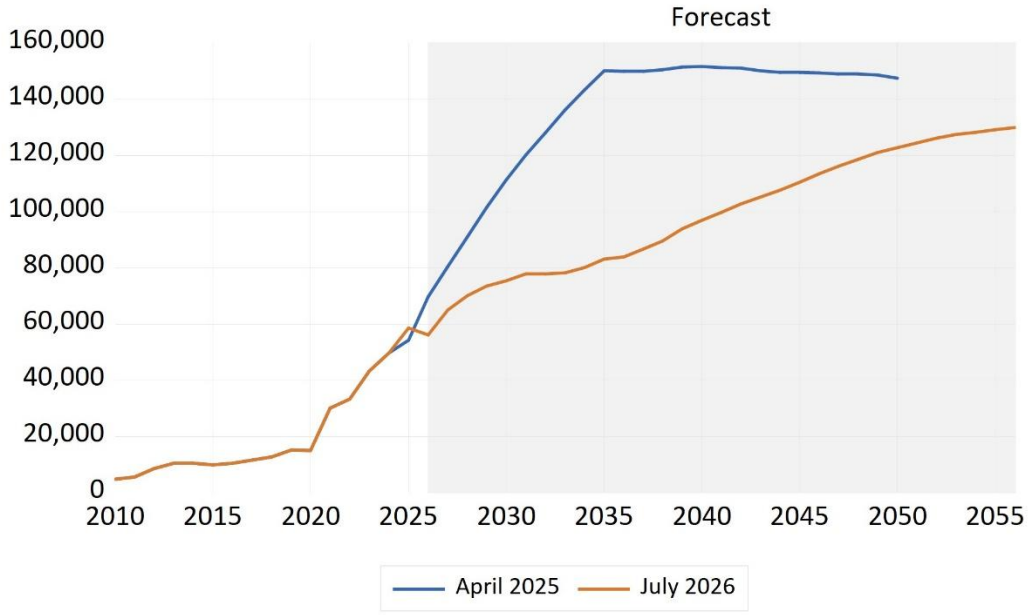
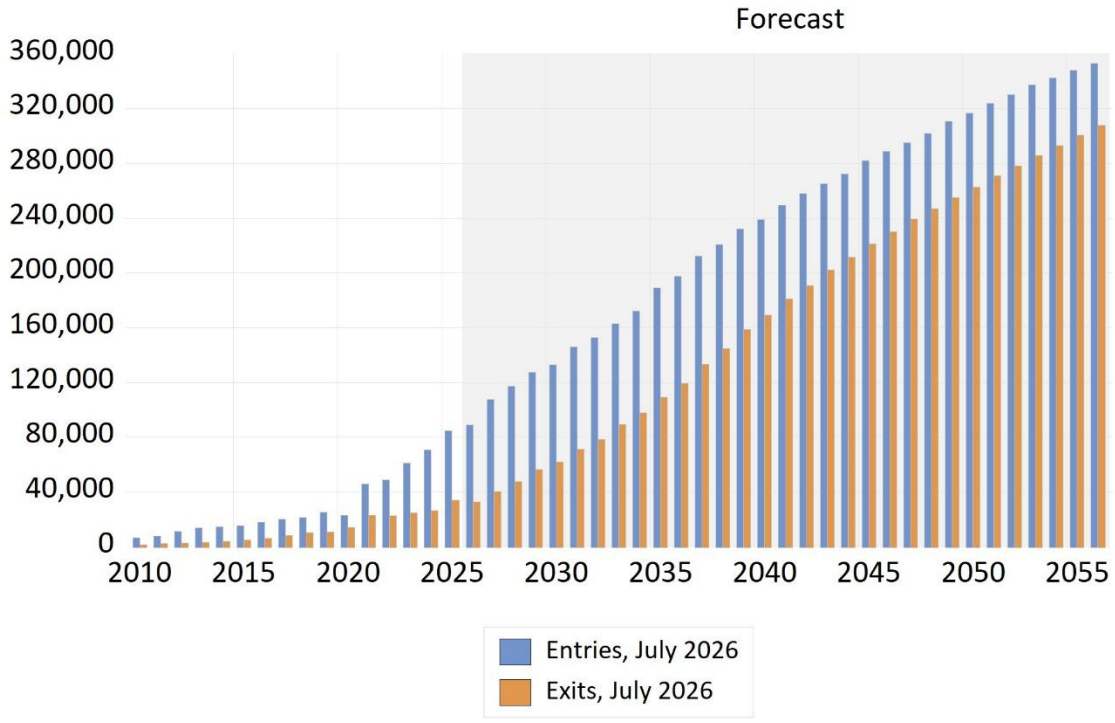


Figure 42: RUC Vehicle Total Entries versus Exits



Non-RUC

The flip side of the growing RUC stock is the declining non-RUC stock. As people keep replacing their vehicles with more efficient ones. However, the forecast has improved compared to our previous forecast mostly due to federal policy changes discussed in earlier chapters (Figure 43). Non-RUC brand-new vehicle sales will decline but more gradually compared to the previous forecast (Figure 44). In total, the exits would outpace the entries, thus this stock of vehicles is set to gradually decline (Figure 45).

Figure 43: Non-RUC Vehicle Stock, Forecast Comparison

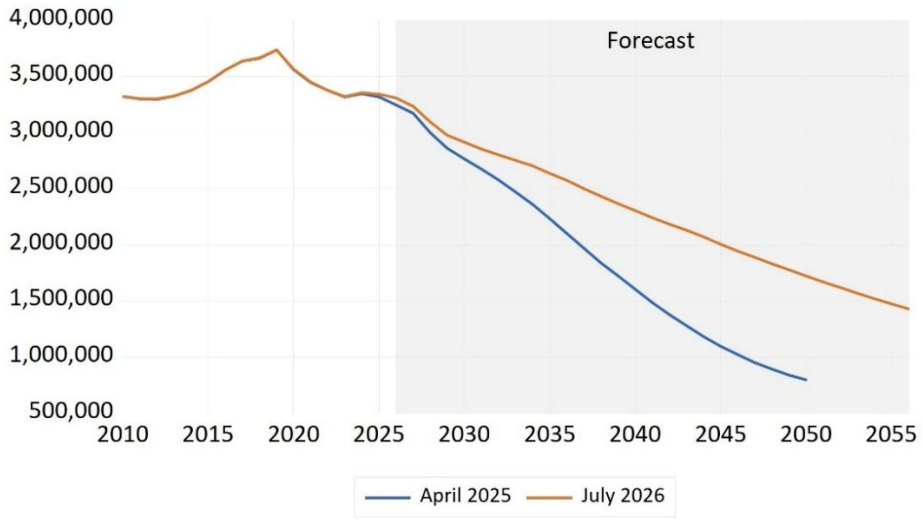


Figure 44: Brand New Non-RUC Vehicle Entries, Forecast Comparison

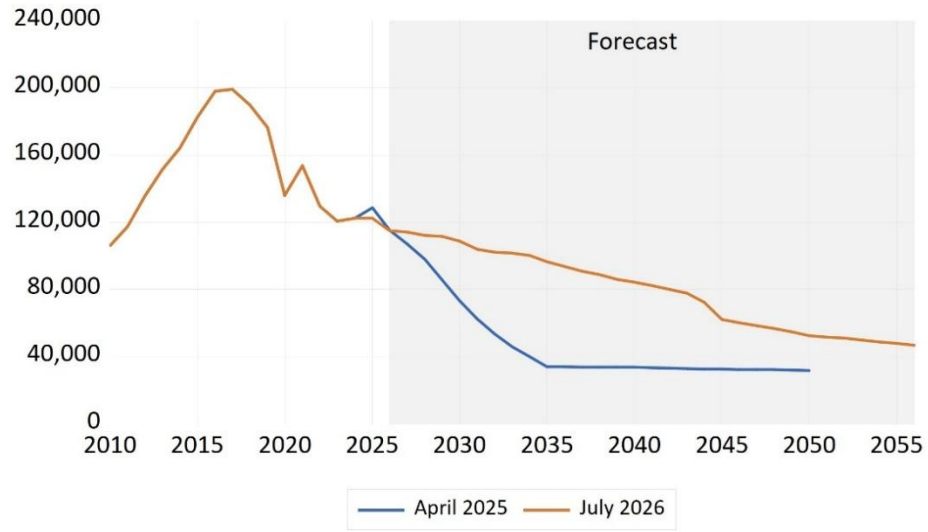
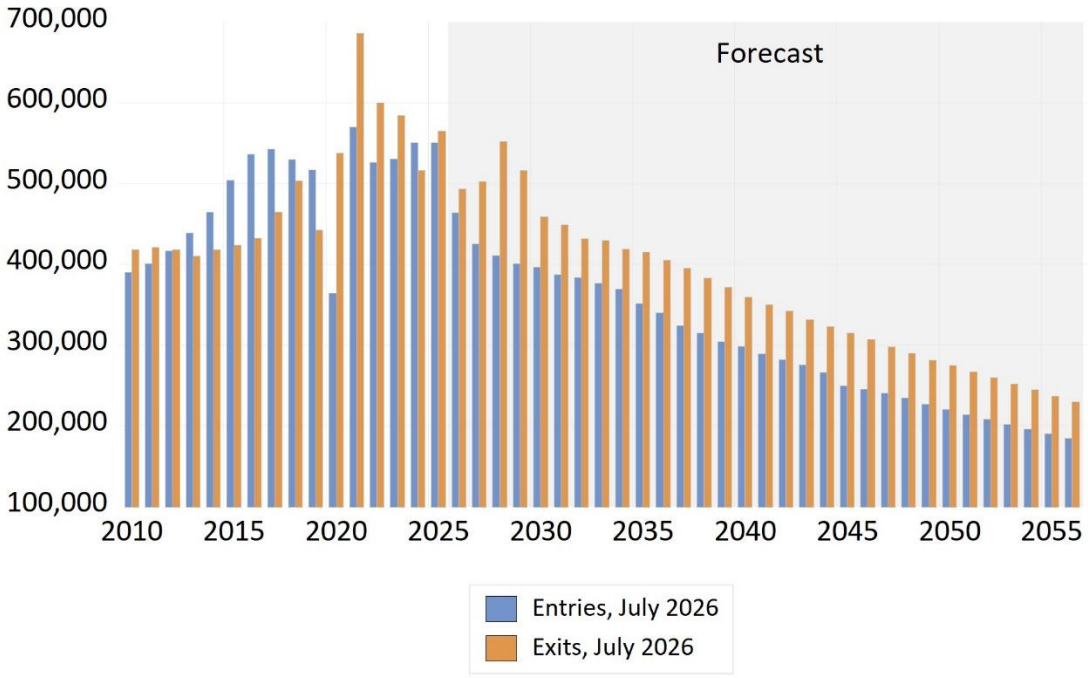


Figure 45: Non-RUC Vehicle Total Entries versus Exits



Appendix A: Vehicle Survival Analysis

How long the vehicle will remain in stock before it exits is referred to as survival rate. This name comes from statistical tools that were originally designed to estimate population death rates. A survival curve is calculated based on the number of months a vehicle had a valid registration before it left the stock. As a reminder, in our methodology we ignore registration gaps of two months or less. Late renewals are quite common, so we wanted to make sure we don't count them as an exit. A vehicle may have more than one exit in their history of being registered with Oregon DMV, if they had any gaps in registration that exceeded the allowed two-months gap.

Survival curves are generated selecting a cohort of vehicles and analyzing their exit rates. The selection of that cohort can greatly affect the resulting survival curve. The LGAN application that we utilize presents us with a choice of two cohort types:

- ✓ **Cohort Curves** – An entry based annual cohort of vehicles that entered the stock in a given year.
- ✓ **Exit Curves** – An exit based cohort of all vehicles that exited a program in a given year.

Each one has its advantages and disadvantages. Cohort curves work well if there is enough historical data to follow vehicles for many years. The tool gives you choice to use any of the calendar year (CY) curves calculated, which means that we can choose any year from 2009-2025. However, it does not make sense to choose late years. For example, CY 2023 will not have sufficient time to observe the exits for that cohort. If we choose CY 2009, then we would have to worry if the vehicles of today have similar retention rates to those that entered in CY 2009. The exit-based curves are more dynamic in that sense, because the most recent year available would have the longest tail as we are looking at a cohort of vehicles that exited in that year. The problem in this situation is that it is more subject to economic fluctuations and policies of that specific year. A good example would be exit curves for CY 2020 or CY 2021, when there was a moratorium on citations due to COVID-19 pandemic and many vehicles went into expired registration status.

Ultimately, we have decided to utilize Cohort 2010 curves for this forecast. We compared these curves to Exit 2024 and Exit 2025 curves (Figures A1 – A5). The survival rates for the exit curves are a little lower compared to cohort curves, plus we used cohort 2010 curves in our past forecasts, which provided methodological consistency. Our analysis indicates that survival rates are significantly different based on the age group of the vehicle at the time of entry, so our forecast utilizes Cohort 2010 survival rates based on vehicle age group (Figure A6). In the future, we would like to estimate separate survival curves by age group and by fuel type. The reason we are not doing it yet is because many of the fuel-efficient vehicles have not been around long enough to have sufficient historical data.

Figure A1: Survival Curves, Age 0 – 1

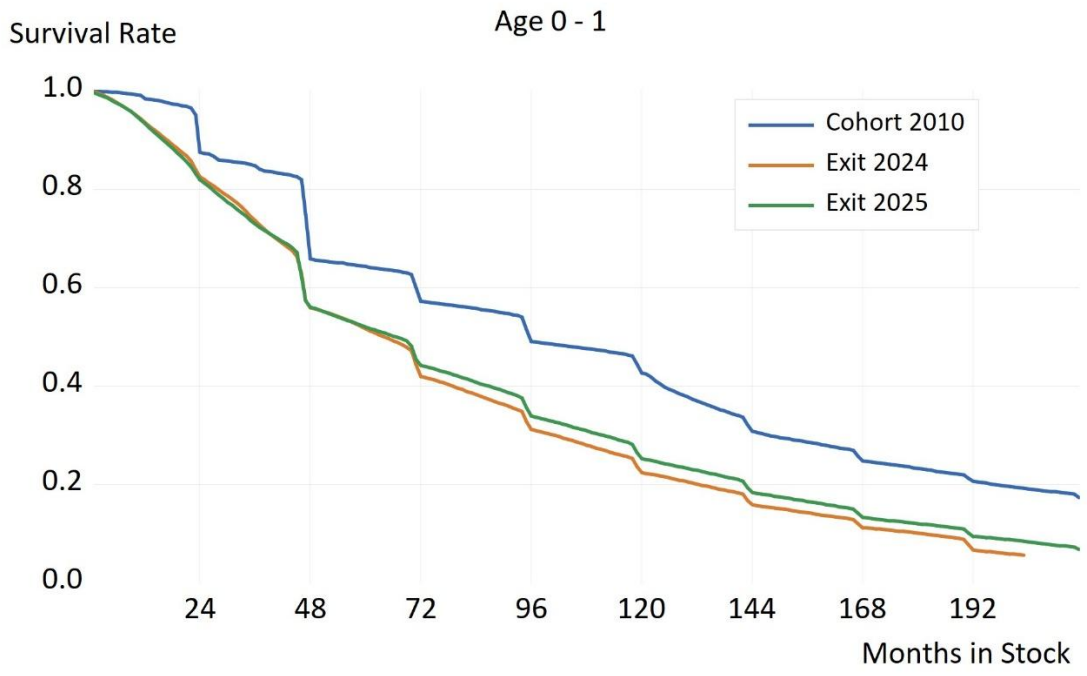


Figure A2: Survival Curves, Age 2 – 5

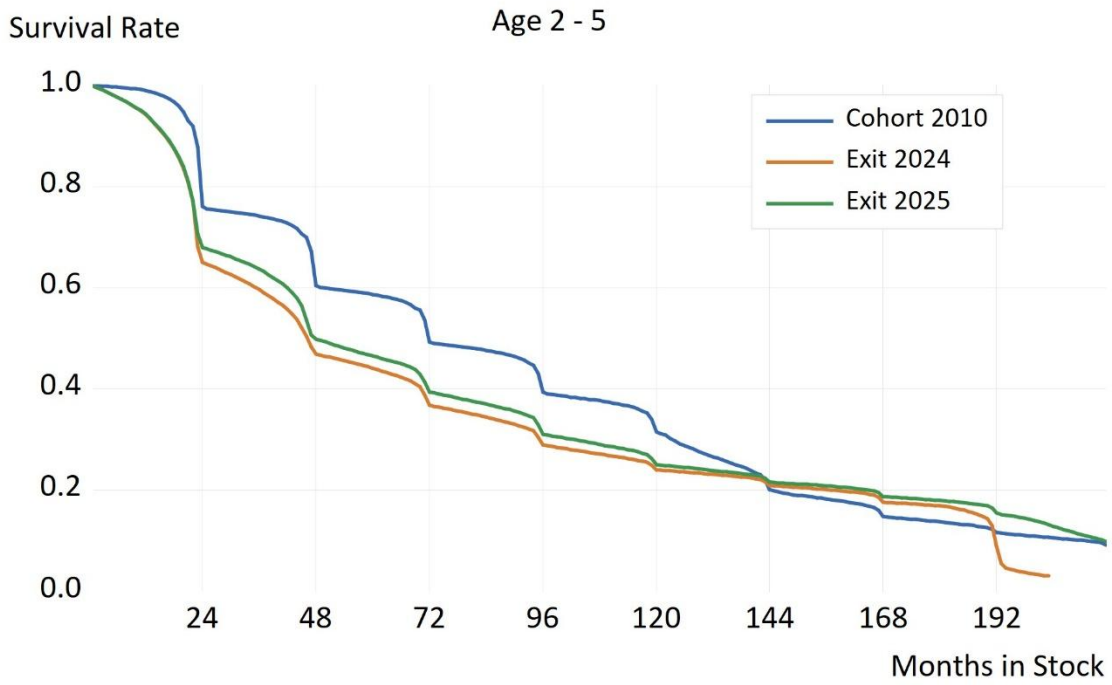


Figure A3: Survival Curves, Age 6 – 9

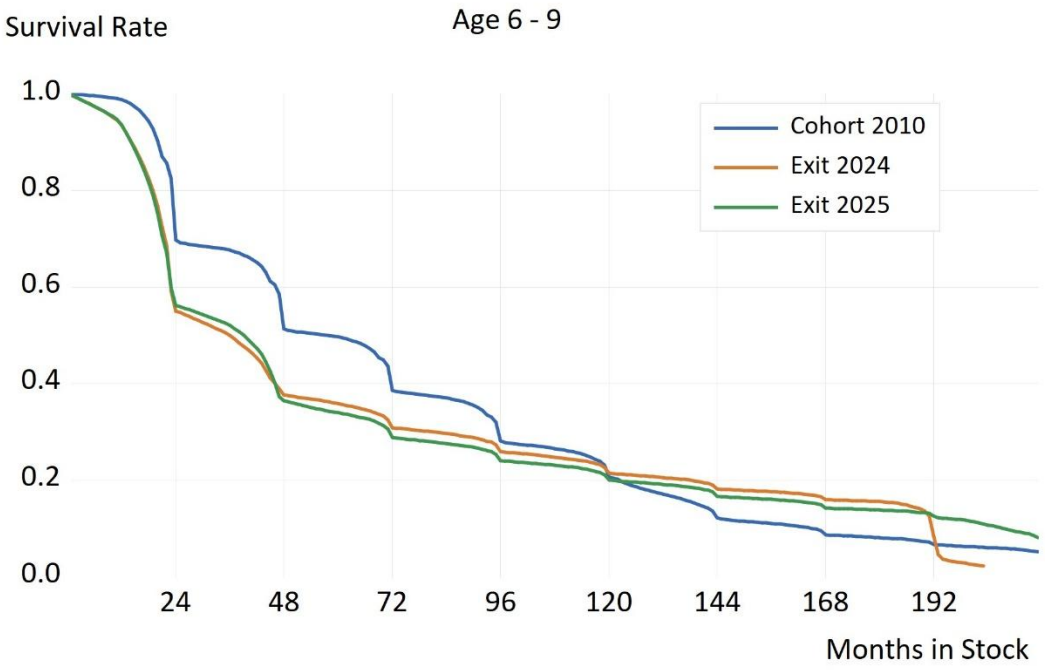


Figure A4: Survival Curves, Age 10 – 13

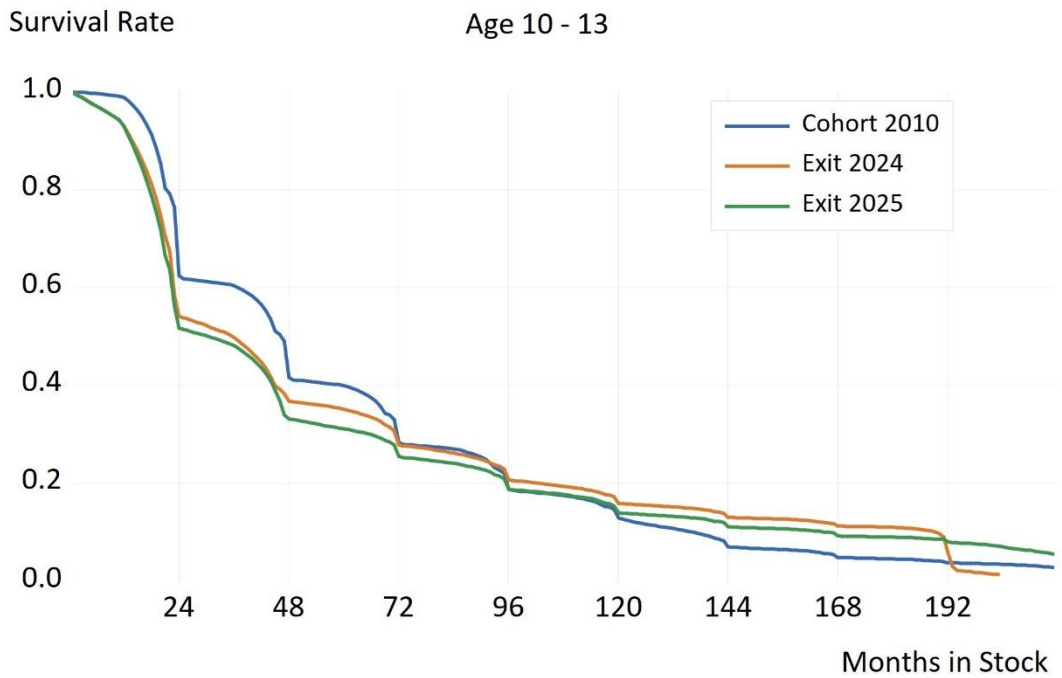
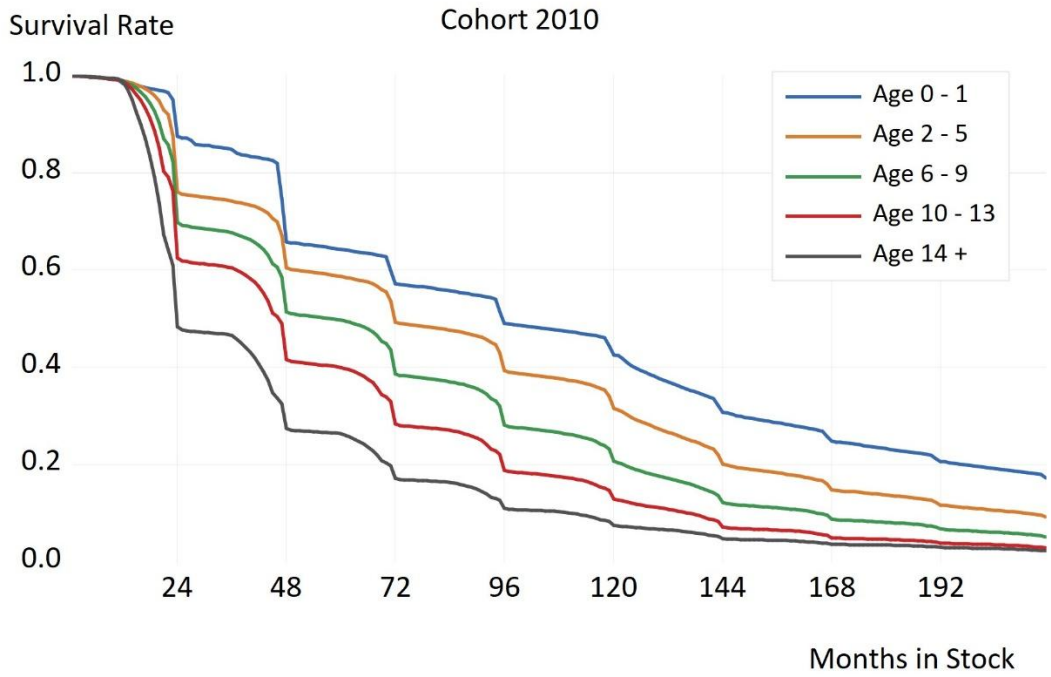


Figure A5: Survival Curves, Age 14 Plus

Figure A6: Survival Curves, Cohort 2010 by Age Group



Appendix B: Vehicle Stock Forecast Data Tables

Table B1: Total Passenger Vehicle Stock Forecast (End of the Year)

Year	Actual/ Forecast	Total Stock	Total Entries	Brand New Entries	Total Exits
2010	Actual	3,360,903	396,550	110,830	419,535
2011	Actual	3,345,782	408,114	122,648	423,235
2012	Actual	3,352,933	427,738	144,437	420,587
2013	Actual	3,392,393	452,292	162,364	412,832
2014	Actual	3,450,018	479,277	174,547	421,652
2015	Actual	3,541,361	519,735	192,585	428,392
2016	Actual	3,657,363	554,381	208,727	438,379
2017	Actual	3,747,372	562,902	210,774	472,893
2018	Actual	3,784,843	550,928	202,503	513,457
2019	Actual	3,873,658	541,871	191,602	453,056
2020	Actual	3,708,947	386,884	151,142	551,595
2021	Actual	3,615,791	615,578	183,851	708,734
2022	Actual	3,568,275	575,439	162,919	622,955
2023	Actual	3,550,159	591,204	163,912	609,320
2024	Actual	3,628,969	621,527	172,138	542,717
2025	Actual	3,664,725	635,091	180,905	599,335
2026	Forecast	3,691,414	552,739	171,099	526,050
2027	Forecast	3,681,703	532,933	179,081	542,644
2028	Forecast	3,610,863	528,311	182,226	599,151
2029	Forecast	3,566,502	528,213	185,119	572,574
2030	Forecast	3,574,907	529,288	184,094	520,883
2031	Forecast	3,588,022	532,888	181,666	519,773
2032	Forecast	3,613,948	536,316	180,181	510,390
2033	Forecast	3,634,684	539,280	179,841	518,544
2034	Forecast	3,659,333	541,058	180,331	516,409
2035	Forecast	3,675,018	540,206	179,610	524,521
2036	Forecast	3,688,028	537,179	177,366	524,169
2037	Forecast	3,695,898	536,193	177,582	528,323
2038	Forecast	3,704,053	535,933	178,535	527,778
2039	Forecast	3,710,584	536,426	179,941	529,895
2040	Forecast	3,719,763	537,234	181,219	528,055
2041	Forecast	3,726,765	538,238	182,002	531,236
2042	Forecast	3,733,707	539,583	182,780	532,641
2043	Forecast	3,741,134	540,522	182,828	533,095
2044	Forecast	3,745,502	538,623	180,008	534,255
2045	Forecast	3,741,213	531,954	172,493	536,243
2046	Forecast	3,738,299	533,901	173,695	536,815
2047	Forecast	3,736,993	535,233	174,450	536,539
2048	Forecast	3,736,772	536,456	175,343	536,677
2049	Forecast	3,737,644	537,221	175,842	536,349
2050	Forecast	3,737,363	536,785	175,347	537,066
2051	Forecast	3,737,530	537,520	176,213	537,353
2052	Forecast	3,738,214	538,346	177,180	537,662
2053	Forecast	3,738,978	538,500	177,432	537,736
2054	Forecast	3,739,164	538,066	177,114	537,880
2055	Forecast	3,739,304	537,763	176,924	537,623
2056	Forecast	3,739,276	537,402	176,747	537,430

Table B2: Electric Vehicle Stock Forecast (End of the Year)

Year	Actual/ Forecast	Total Stock	Total Entries	Brand New Entries	Total Exits
2010	Actual	85	9	2	13
2011	Actual	564	490	481	11
2012	Actual	1,014	461	456	11
2013	Actual	2,290	1,319	1,283	43
2014	Actual	3,719	1,464	1,366	35
2015	Actual	5,498	1,967	1,661	188
2016	Actual	7,767	2,559	1,993	290
2017	Actual	10,107	2,992	2,069	652
2018	Actual	13,154	4,068	3,263	1,021
2019	Actual	18,269	6,499	5,217	1,384
2020	Actual	22,524	5,867	4,773	1,612
2021	Actual	29,843	10,446	8,457	3,127
2022	Actual	40,989	14,862	12,609	3,716
2023	Actual	58,065	21,982	18,752	4,906
2024	Actual	76,005	24,686	19,722	6,746
2025	Actual	96,188	29,332	21,335	9,149
2026	Forecast	110,735	23,068	14,330	8,521
2027	Forecast	129,042	29,466	16,689	11,159
2028	Forecast	150,688	33,867	18,242	12,221
2029	Forecast	177,647	42,457	23,010	15,498
2030	Forecast	203,437	42,838	25,071	17,048
2031	Forecast	230,895	48,510	28,797	21,052
2032	Forecast	258,982	51,125	30,022	23,038
2033	Forecast	287,986	56,691	29,156	27,687
2034	Forecast	317,211	59,993	30,424	30,768
2035	Forecast	349,637	68,480	33,228	36,054
2036	Forecast	383,271	72,902	33,877	39,268
2037	Forecast	420,866	82,480	36,401	44,885
2038	Forecast	457,383	86,173	38,687	49,656
2039	Forecast	492,422	91,570	41,260	56,531
2040	Forecast	523,216	91,131	43,655	60,337
2041	Forecast	556,470	98,341	46,173	65,087
2042	Forecast	592,728	103,887	48,806	67,629
2043	Forecast	630,907	111,511	51,185	73,332
2044	Forecast	671,263	118,069	53,706	77,713
2045	Forecast	714,285	127,190	56,448	84,168
2046	Forecast	758,628	133,891	59,587	89,548
2047	Forecast	801,491	139,089	62,458	96,226
2048	Forecast	845,679	145,561	65,090	101,373
2049	Forecast	891,903	153,459	67,696	107,235
2050	Forecast	938,626	159,845	70,173	113,122
2051	Forecast	985,219	166,225	71,522	119,632
2052	Forecast	1,031,855	172,396	72,905	125,760
2053	Forecast	1,077,788	178,372	74,014	132,439
2054	Forecast	1,122,977	183,975	74,887	138,786
2055	Forecast	1,166,833	189,177	75,796	145,321
2056	Forecast	1,209,884	194,729	76,729	151,678

Table B3: Plug-In Electric Hybrid Vehicle Stock Forecast (End of the Year)

Year	Actual/ Forecast	Total Stock	Total Entries	Brand New Entries	Total Exits
2010	Actual	0	0	0	0
2011	Actual	72	73	73	1
2012	Actual	706	635	635	1
2013	Actual	1,582	885	885	9
2014	Actual	2,464	904	856	22
2015	Actual	3,370	972	817	66
2016	Actual	4,973	1,899	1,554	296
2017	Actual	6,778	2,236	1,771	431
2018	Actual	9,247	3,063	2,486	594
2019	Actual	11,490	2,941	2,032	698
2020	Actual	12,715	2,353	1,584	1,128
2021	Actual	16,680	5,967	4,368	2,002
2022	Actual	20,712	6,179	4,573	2,147
2023	Actual	25,938	7,646	5,729	2,420
2024	Actual	32,443	9,302	6,947	2,797
2025	Actual	38,008	9,502	6,453	3,937
2026	Forecast	42,976	8,612	4,850	3,644
2027	Forecast	50,523	11,903	6,448	4,356
2028	Forecast	59,021	13,599	7,253	5,101
2029	Forecast	64,747	11,953	5,665	6,227
2030	Forecast	70,345	12,374	5,652	6,776
2031	Forecast	76,508	13,833	5,886	7,670
2032	Forecast	81,966	14,029	5,316	8,571
2033	Forecast	86,372	13,870	5,073	9,464
2034	Forecast	90,794	14,681	5,212	10,259
2035	Forecast	95,879	16,138	5,620	11,053
2036	Forecast	100,146	16,153	5,620	11,886
2037	Forecast	105,107	17,908	5,948	12,947
2038	Forecast	110,268	19,036	6,231	13,875
2039	Forecast	113,154	18,044	6,531	15,158
2040	Forecast	115,010	17,560	6,796	15,704
2041	Forecast	118,265	19,115	7,062	15,860
2042	Forecast	121,855	19,859	7,312	16,269
2043	Forecast	123,796	18,936	7,550	16,995
2044	Forecast	125,968	19,460	7,793	17,288
2045	Forecast	128,963	20,363	8,059	17,368
2046	Forecast	131,722	20,470	8,359	17,711
2047	Forecast	134,570	20,868	8,609	18,020
2048	Forecast	137,771	21,490	8,835	18,289
2049	Forecast	141,496	22,362	9,058	18,637
2050	Forecast	145,354	22,883	9,226	19,025
2051	Forecast	149,261	23,450	9,256	19,543
2052	Forecast	153,191	23,963	9,289	20,033
2053	Forecast	157,014	24,414	9,268	20,591
2054	Forecast	160,694	24,788	9,216	21,108
2055	Forecast	164,155	25,130	9,189	21,669
2056	Forecast	167,418	25,453	9,148	22,190

Table B4: Gasoline Vehicle Stock Forecast (End of the Year)

Year	Actual/ Forecast	Total Stock	Total Entries	Brand New Entries	Total Exits
2010	Actual	3,058,991	356,546	90,460	395,571
2011	Actual	3,022,722	360,572	95,527	396,841
2012	Actual	3,002,714	371,980	110,821	391,988
2013	Actual	3,010,707	389,927	125,154	381,934
2014	Actual	3,034,332	411,185	136,021	387,560
2015	Actual	3,088,771	447,279	155,732	392,840
2016	Actual	3,165,903	475,254	171,825	398,122
2017	Actual	3,225,076	483,459	176,426	424,286
2018	Actual	3,240,361	472,151	170,798	456,866
2019	Actual	3,294,608	458,323	159,474	404,076
2020	Actual	3,127,830	320,519	122,540	487,297
2021	Actual	3,013,488	500,271	137,595	614,613
2022	Actual	2,944,989	464,651	116,347	533,150
2023	Actual	2,893,916	469,382	109,450	520,455
2024	Actual	2,921,805	485,283	109,567	457,394
2025	Actual	2,905,028	483,455	108,347	500,232
2026	Forecast	2,875,676	400,711	100,677	430,063
2027	Forecast	2,807,547	367,938	98,608	436,067
2028	Forecast	2,687,302	356,205	96,172	476,450
2029	Forecast	2,591,504	350,575	96,021	446,373
2030	Forecast	2,540,812	346,712	93,614	397,404
2031	Forecast	2,490,907	339,853	89,480	389,758
2032	Forecast	2,453,005	337,980	88,137	375,882
2033	Forecast	2,409,777	332,099	87,321	375,327
2034	Forecast	2,366,584	323,822	85,683	367,015
2035	Forecast	2,308,431	306,594	82,064	364,747
2036	Forecast	2,249,261	296,093	79,320	355,263
2037	Forecast	2,185,071	282,480	76,780	346,670
2038	Forecast	2,121,799	272,787	74,861	336,059
2039	Forecast	2,058,052	261,758	71,905	325,505
2040	Forecast	1,999,103	255,096	70,186	314,045
2041	Forecast	1,939,060	245,339	68,212	305,382
2042	Forecast	1,880,467	238,375	66,137	296,968
2043	Forecast	1,826,602	232,584	63,965	286,449
2044	Forecast	1,771,889	223,844	58,839	278,557
2045	Forecast	1,708,859	208,068	48,621	271,098
2046	Forecast	1,649,489	203,843	47,081	263,213
2047	Forecast	1,594,403	199,021	45,382	254,107
2048	Forecast	1,540,978	193,407	43,923	246,832
2049	Forecast	1,488,415	186,054	42,297	238,617
2050	Forecast	1,436,571	179,991	40,367	231,835
2051	Forecast	1,386,598	174,288	39,570	224,261
2052	Forecast	1,337,917	168,884	38,805	217,565
2053	Forecast	1,290,109	162,492	37,894	210,300
2054	Forecast	1,243,650	157,099	36,870	203,558
2055	Forecast	1,199,690	152,085	35,901	196,045
2056	Forecast	1,157,289	146,903	34,947	189,304

Table B5: Diesel Vehicle Stock Forecast (End of the Year)

Year	Actual/ Forecast	Total Stock	Total Entries	Brand New Entries	Total Exits
2010	Actual	173,997	17,939	4,898	15,438
2011	Actual	176,531	19,260	6,418	16,726
2012	Actual	181,383	21,064	7,688	16,212
2013	Actual	188,212	23,416	9,020	16,587
2014	Actual	196,909	25,659	9,971	16,962
2015	Actual	207,884	28,625	11,222	17,650
2016	Actual	219,391	30,055	11,276	18,548
2017	Actual	226,839	30,744	11,014	23,296
2018	Actual	232,894	31,950	11,058	25,895
2019	Actual	245,988	33,121	10,015	20,027
2020	Actual	245,860	24,612	9,002	24,740
2021	Actual	249,507	40,473	12,893	36,826
2022	Actual	249,678	36,667	10,672	36,496
2023	Actual	250,573	36,855	8,830	35,960
2024	Actual	257,426	40,231	10,208	33,378
2025	Actual	262,091	41,792	10,751	37,127
2026	Forecast	257,858	33,839	11,189	38,072
2027	Forecast	251,049	32,275	11,908	39,084
2028	Forecast	239,246	32,558	12,227	44,361
2029	Forecast	230,246	31,324	11,997	40,324
2030	Forecast	227,611	31,822	11,652	34,457
2031	Forecast	226,488	32,188	11,081	33,311
2032	Forecast	227,082	32,727	10,884	32,133
2033	Forecast	226,776	31,940	11,098	32,246
2034	Forecast	228,439	33,478	11,182	31,815
2035	Forecast	230,908	34,549	11,047	32,080
2036	Forecast	232,130	33,973	10,962	32,751
2037	Forecast	231,018	32,161	10,885	33,273
2038	Forecast	230,776	32,858	10,856	33,100
2039	Forecast	230,672	32,732	10,868	32,836
2040	Forecast	231,178	33,432	10,856	32,926
2041	Forecast	231,488	33,366	10,792	33,056
2042	Forecast	231,319	33,362	10,713	33,531
2043	Forecast	230,929	32,986	10,585	33,376
2044	Forecast	230,086	32,629	10,446	33,472
2045	Forecast	228,883	32,101	10,301	33,304
2046	Forecast	227,490	31,816	10,130	33,209
2047	Forecast	226,334	31,743	9,957	32,899
2048	Forecast	225,029	31,515	9,814	32,820
2049	Forecast	223,447	31,104	9,614	32,686
2050	Forecast	221,611	30,718	9,354	32,554
2051	Forecast	219,703	30,440	9,347	32,348
2052	Forecast	217,720	30,166	9,346	32,149
2053	Forecast	215,703	29,853	9,303	31,870
2054	Forecast	213,599	29,501	9,234	31,605
2055	Forecast	211,442	29,177	9,170	31,334
2056	Forecast	209,212	28,810	9,089	31,040

Table B6: Flex Fuel & Other Vehicle Stock Forecast (End of the Year)

Year	Actual/ Forecast	Total Stock	Total Entries	Brand New Entries	Total Exits
2010	Actual	88,255	15,707	10,718	6,852
2011	Actual	101,713	20,635	15,220	7,177
2012	Actual	115,404	23,389	17,361	9,698
2013	Actual	129,211	25,059	17,634	11,252
2014	Actual	143,793	27,765	18,090	13,183
2015	Actual	159,153	28,308	15,765	12,948
2016	Actual	174,514	30,930	15,097	15,569
2017	Actual	185,916	28,540	11,723	17,138
2018	Actual	190,895	25,374	7,961	20,395
2019	Actual	198,090	25,353	7,012	18,158
2020	Actual	191,541	18,695	4,593	25,244
2021	Actual	186,088	28,927	3,328	34,380
2022	Actual	180,680	25,205	2,539	30,613
2023	Actual	176,619	24,014	2,370	28,075
2024	Actual	176,117	25,036	2,553	25,538
2025	Actual	173,567	25,250	3,212	27,800
2026	Forecast	177,610	29,246	3,154	25,203
2027	Forecast	175,482	25,071	3,545	27,199
2028	Forecast	166,769	22,303	3,645	31,016
2029	Forecast	156,538	19,126	3,572	29,357
2030	Forecast	147,046	17,697	3,480	27,189
2031	Forecast	136,523	14,967	3,307	25,490
2032	Forecast	125,445	12,755	3,241	23,833
2033	Forecast	116,171	12,464	3,307	21,738

Year	Actual/ Forecast	Total Stock	Total Entries	Brand New Entries	Total Exits
2034	Forecast	107,908	11,636	3,337	19,899
2035	Forecast	99,336	9,908	3,307	18,480
2036	Forecast	92,178	9,564	3,280	16,722
2037	Forecast	86,428	9,364	3,248	15,114
2038	Forecast	82,003	9,392	3,247	13,817
2039	Forecast	79,045	9,790	3,257	12,748
2040	Forecast	76,981	9,970	3,243	12,034
2041	Forecast	75,231	9,963	3,226	11,713
2042	Forecast	73,831	9,975	3,218	11,375
2043	Forecast	72,665	9,861	3,181	11,027
2044	Forecast	71,626	9,759	3,129	10,798
2045	Forecast	70,637	9,614	3,103	10,603
2046	Forecast	69,707	9,524	3,039	10,454
2047	Forecast	68,922	9,492	2,988	10,277
2048	Forecast	68,201	9,427	2,937	10,148
2049	Forecast	67,485	9,328	2,883	10,044
2050	Forecast	66,756	9,211	2,815	9,940
2051	Forecast	66,039	9,114	2,801	9,831
2052	Forecast	65,382	9,057	2,815	9,714
2053	Forecast	64,732	8,952	2,794	9,602
2054	Forecast	64,078	8,852	2,782	9,506
2055	Forecast	63,429	8,751	2,758	9,400
2056	Forecast	62,784	8,658	2,731	9,303

Table B7: MPG 0 - 19 Vehicle Stock Forecast (End of the Year)

Year	Actual/ Forecast	Total Stock	Total Entries	Brand New Entries	Total Exits
2010	Actual	1,915,619	210,814	39,207	249,028
2011	Actual	1,879,320	213,389	44,463	249,688
2012	Actual	1,848,970	211,612	46,451	241,962
2013	Actual	1,830,064	215,611	47,193	234,517
2014	Actual	1,818,386	220,664	47,954	232,342
2015	Actual	1,822,695	232,205	52,073	227,896
2016	Actual	1,836,083	238,876	53,874	225,488
2017	Actual	1,842,626	240,792	55,685	234,249
2018	Actual	1,828,293	235,775	59,325	250,108
2019	Actual	1,841,898	230,507	54,113	216,902
2020	Actual	1,737,797	150,644	41,453	254,745
2021	Actual	1,667,252	245,967	46,766	316,512
2022	Actual	1,612,508	226,271	40,861	281,015
2023	Actual	1,563,560	230,279	35,051	279,227
2024	Actual	1,556,804	236,005	34,247	242,761
2025	Actual	1,537,422	243,489	42,915	262,871
2026	Forecast	1,449,103	157,313	38,068	245,632
2027	Forecast	1,336,251	130,556	37,416	243,408
2028	Forecast	1,202,824	127,862	38,249	261,289
2029	Forecast	1,099,791	124,446	37,116	227,479
2030	Forecast	1,037,240	119,220	36,339	181,771
2031	Forecast	989,254	121,146	34,819	169,132
2032	Forecast	959,515	123,817	34,106	153,556
2033	Forecast	928,336	119,761	34,169	150,940
2034	Forecast	902,785	117,421	33,843	142,972
2035	Forecast	877,575	114,936	32,741	140,146
2036	Forecast	854,441	111,363	31,950	134,497
2037	Forecast	827,543	104,310	31,204	131,208
2038	Forecast	802,916	101,095	30,677	125,722
2039	Forecast	786,264	104,724	29,925	121,376
2040	Forecast	768,820	100,152	29,454	117,596
2041	Forecast	749,888	97,898	28,877	116,830
2042	Forecast	733,348	96,943	28,263	113,483
2043	Forecast	716,745	94,388	27,567	110,991
2044	Forecast	698,426	89,756	23,926	108,075
2045	Forecast	671,628	79,135	15,051	105,933
2046	Forecast	646,726	78,125	14,973	103,027
2047	Forecast	624,730	77,223	14,751	99,219
2048	Forecast	604,250	75,858	14,539	96,338
2049	Forecast	584,973	73,848	14,245	93,125
2050	Forecast	566,278	72,296	13,905	90,991
2051	Forecast	548,465	70,739	13,903	88,552
2052	Forecast	531,247	69,279	13,927	86,497
2053	Forecast	514,679	67,520	13,878	84,088
2054	Forecast	498,704	66,010	13,796	81,985
2055	Forecast	483,970	64,604	13,715	79,338
2056	Forecast	470,035	63,121	13,619	77,056

Table B8: MPG 20 - 39 Vehicle Stock Forecast (End of the Year)

Year	Actual/ Forecast	Total Stock	Total Entries	Brand New Entries	Total Exits
2010	Actual	1,417,392	181,353	68,397	169,347
2011	Actual	1,434,602	189,038	74,034	171,828
2012	Actual	1,464,629	206,753	90,557	176,726
2013	Actual	1,513,188	224,705	105,650	176,146
2014	Actual	1,573,073	246,364	117,321	186,479
2015	Actual	1,650,534	274,335	131,560	196,874
2016	Actual	1,743,195	300,687	146,064	208,026
2017	Actual	1,817,473	306,246	146,107	231,968
2018	Actual	1,861,061	298,503	133,513	254,915
2019	Actual	1,923,547	289,546	123,769	227,060
2020	Actual	1,855,297	216,985	96,868	285,235
2021	Actual	1,816,857	335,377	115,612	373,817
2022	Actual	1,804,239	311,215	96,773	323,833
2023	Actual	1,808,640	314,468	96,838	310,067
2024	Actual	1,865,760	335,955	105,554	278,835
2025	Actual	1,891,806	335,638	103,428	309,592
2026	Forecast	1,974,992	338,914	103,286	255,728
2027	Forecast	2,041,225	335,869	108,007	269,636
2028	Forecast	2,066,277	329,080	107,163	304,028
2029	Forecast	2,085,182	324,789	107,468	305,884
2030	Forecast	2,118,428	330,357	105,594	297,111
2031	Forecast	2,140,106	324,786	101,040	303,108
2032	Forecast	2,155,288	321,068	99,684	305,886
2033	Forecast	2,165,648	320,666	100,123	310,306
2034	Forecast	2,174,375	319,930	99,349	311,203
2035	Forecast	2,170,242	310,635	96,549	314,768
2036	Forecast	2,160,149	304,769	94,470	314,862
2037	Forecast	2,146,298	300,349	92,569	314,200
2038	Forecast	2,134,067	300,059	91,395	312,290
2039	Forecast	2,114,887	291,267	90,303	310,447
2040	Forecast	2,101,107	293,860	89,296	307,640
2041	Forecast	2,084,754	288,980	87,858	305,333
2042	Forecast	2,063,670	284,391	86,355	305,475
2043	Forecast	2,042,910	280,676	84,539	301,436
2044	Forecast	2,019,700	276,552	82,667	299,762
2045	Forecast	1,993,251	270,481	81,054	296,930
2046	Forecast	1,965,818	266,648	79,014	294,081
2047	Forecast	1,938,825	263,165	76,984	290,158
2048	Forecast	1,910,125	258,632	75,312	287,332
2049	Forecast	1,879,123	252,670	73,393	283,672
2050	Forecast	1,846,298	247,088	70,821	279,913
2051	Forecast	1,813,365	242,462	70,231	275,395
2052	Forecast	1,780,475	238,100	69,679	270,990
2053	Forecast	1,747,788	233,444	68,856	266,131
2054	Forecast	1,715,046	228,690	67,808	261,432
2055	Forecast	1,682,790	224,356	66,821	256,612
2056	Forecast	1,650,730	219,757	65,850	251,817

Table B9: MPG 40 Plus Vehicle Stock Forecast (End of the Year)

Year	Actual/ Forecast	Total Stock	Total Entries	Brand New Entries	Total Exits
2010	Actual	27,892	4,383	3,226	1,160
2011	Actual	31,860	5,687	4,151	1,719
2012	Actual	39,334	9,373	7,429	1,899
2013	Actual	49,141	11,976	9,521	2,169
2014	Actual	58,559	12,249	9,272	2,831
2015	Actual	68,132	13,195	8,952	3,622
2016	Actual	78,085	14,818	8,789	4,865
2017	Actual	87,273	15,864	8,982	6,676
2018	Actual	95,489	16,650	9,665	8,434
2019	Actual	108,213	21,818	13,720	9,094
2020	Actual	115,853	19,255	12,821	11,615
2021	Actual	131,682	34,234	21,473	18,405
2022	Actual	151,528	37,953	25,285	18,107
2023	Actual	177,959	46,457	32,023	20,026
2024	Actual	206,405	49,567	32,337	21,121
2025	Actual	235,497	55,964	34,562	26,872
2026	Forecast	267,319	56,512	29,745	24,690
2027	Forecast	304,227	66,508	33,658	29,600
2028	Forecast	341,762	71,369	36,814	33,834
2029	Forecast	381,529	78,978	40,535	39,211
2030	Forecast	419,239	79,711	42,161	42,001
2031	Forecast	458,662	86,956	45,807	47,533
2032	Forecast	499,145	91,431	46,391	50,948
2033	Forecast	540,700	98,853	45,549	57,298
2034	Forecast	582,173	103,707	47,139	62,234
2035	Forecast	627,201	114,635	50,320	69,607
2036	Forecast	673,438	121,047	50,946	74,810
2037	Forecast	722,057	131,534	53,809	82,915
2038	Forecast	767,070	134,779	56,463	89,766
2039	Forecast	809,433	140,435	59,713	98,072
2040	Forecast	849,836	143,222	62,469	102,819
2041	Forecast	892,123	151,360	65,267	109,073
2042	Forecast	936,689	158,249	68,162	113,683
2043	Forecast	981,479	165,458	70,722	120,668
2044	Forecast	1,027,376	172,315	73,415	126,418
2045	Forecast	1,076,334	182,338	76,388	133,380
2046	Forecast	1,125,755	189,128	79,708	139,707
2047	Forecast	1,173,438	194,845	82,715	147,162
2048	Forecast	1,222,397	201,966	85,492	153,007
2049	Forecast	1,273,548	210,703	88,204	159,552
2050	Forecast	1,324,787	217,401	90,621	166,162
2051	Forecast	1,375,700	224,319	92,079	173,406
2052	Forecast	1,426,492	230,967	93,574	180,175
2053	Forecast	1,476,511	237,536	94,698	187,517
2054	Forecast	1,525,414	243,366	95,510	194,463
2055	Forecast	1,572,544	248,803	96,388	201,673
2056	Forecast	1,618,511	254,524	97,278	208,557

Table B10: RUC Vehicle Stock Forecast (End of the Year)

Year	Actual/ Forecast	Total Stock	Total Entries	Brand New Entries	Total Exits
2010	Actual	39,660	6,358	4,754	1,674
2011	Actual	44,816	7,647	5,483	2,491
2012	Actual	53,432	11,305	8,567	2,689
2013	Actual	64,263	13,890	10,556	3,059
2014	Actual	74,984	14,668	10,465	3,947
2015	Actual	85,553	15,523	9,866	4,954
2016	Actual	97,555	18,142	10,529	6,140
2017	Actual	109,541	20,159	11,611	8,173
2018	Actual	120,693	21,453	12,686	10,301
2019	Actual	134,972	25,074	15,101	10,795
2020	Actual	143,716	23,058	15,007	14,314
2021	Actual	166,708	45,907	30,035	22,915
2022	Actual	192,928	48,916	33,361	22,696
2023	Actual	229,051	60,953	43,262	24,830
2024	Actual	273,621	70,977	49,810	26,407
2025	Actual	324,039	84,594	58,595	34,176
2026	Forecast	380,270	88,943	56,079	32,712
2027	Forecast	447,625	107,649	65,020	40,294
2028	Forecast	517,546	117,245	70,182	47,324
2029	Forecast	588,214	127,188	73,529	56,520
2030	Forecast	659,438	133,057	75,348	61,833
2031	Forecast	734,104	145,880	77,798	71,214
2032	Forecast	808,416	152,854	77,919	78,542
2033	Forecast	881,960	162,777	78,115	89,233

Year	Actual/ Forecast	Total Stock	Total Entries	Brand New Entries	Total Exits
2034	Forecast	956,402	172,122	80,129	97,680
2035	Forecast	1,036,343	189,155	83,192	109,214
2036	Forecast	1,114,459	197,549	83,804	119,433
2037	Forecast	1,193,381	212,188	86,669	133,266
2038	Forecast	1,269,475	220,896	89,571	144,802
2039	Forecast	1,342,815	232,146	93,911	158,806
2040	Forecast	1,412,501	238,736	96,934	169,050
2041	Forecast	1,480,986	249,570	99,772	181,085
2042	Forecast	1,548,090	257,871	102,712	190,767
2043	Forecast	1,610,938	265,091	105,097	202,243
2044	Forecast	1,671,901	272,391	107,594	211,428
2045	Forecast	1,732,834	282,171	110,468	221,238
2046	Forecast	1,791,613	288,718	113,445	229,939
2047	Forecast	1,847,334	294,977	116,123	239,256
2048	Forecast	1,902,564	302,107	118,669	246,877
2049	Forecast	1,958,297	310,735	121,048	255,002
2050	Forecast	2,012,425	316,865	122,811	262,737
2051	Forecast	2,065,190	323,678	124,495	270,913
2052	Forecast	2,117,195	330,239	126,214	278,234
2053	Forecast	2,168,434	337,203	127,441	285,964
2054	Forecast	2,217,837	342,614	128,228	293,211
2055	Forecast	2,264,743	347,750	129,095	300,844
2056	Forecast	2,309,991	353,031	129,980	307,783

Table B11: Non-RUC Vehicle Stock Forecast (End of the Year)

Year	Actual/ Forecast	Total Stock	Total Entries	Brand New Entries	Total Exits
2010	Actual	3,321,243	390,192	106,076	417,861
2011	Actual	3,300,966	400,467	117,165	420,744
2012	Actual	3,299,501	416,433	135,870	417,898
2013	Actual	3,328,130	438,402	151,808	409,773
2014	Actual	3,375,034	464,609	164,082	417,705
2015	Actual	3,455,808	504,212	182,719	423,438
2016	Actual	3,559,808	536,239	198,198	432,239
2017	Actual	3,637,831	542,743	199,163	464,720
2018	Actual	3,664,150	529,475	189,817	503,156
2019	Actual	3,738,686	516,797	176,501	442,261
2020	Actual	3,565,231	363,826	136,135	537,281
2021	Actual	3,449,083	569,671	153,816	685,819
2022	Actual	3,375,347	526,523	129,558	600,259
2023	Actual	3,321,108	530,251	120,650	584,490
2024	Actual	3,355,348	550,550	122,328	516,310
2025	Actual	3,340,686	550,497	122,310	565,159
2026	Forecast	3,311,144	463,796	115,020	493,338
2027	Forecast	3,234,078	425,284	114,061	502,350
2028	Forecast	3,093,317	411,066	112,044	551,827
2029	Forecast	2,978,288	401,025	111,590	516,054
2030	Forecast	2,915,469	396,231	108,746	459,050
2031	Forecast	2,853,918	387,008	103,868	448,559
2032	Forecast	2,805,532	383,462	102,262	431,848
2033	Forecast	2,752,724	376,503	101,726	429,311
2034	Forecast	2,702,931	368,936	100,202	418,729
2035	Forecast	2,638,675	351,051	96,418	415,307
2036	Forecast	2,573,569	339,630	93,562	404,736
2037	Forecast	2,502,517	324,005	90,913	395,057
2038	Forecast	2,434,578	315,037	88,964	382,976
2039	Forecast	2,367,769	304,280	86,030	371,089
2040	Forecast	2,307,262	298,498	84,285	359,005
2041	Forecast	2,245,779	288,668	82,230	350,151
2042	Forecast	2,185,617	281,712	80,068	341,874
2043	Forecast	2,130,196	275,431	77,731	330,852
2044	Forecast	2,073,601	266,232	72,414	322,827
2045	Forecast	2,008,379	249,783	62,025	315,005
2046	Forecast	1,946,686	245,183	60,250	306,876
2047	Forecast	1,889,659	240,256	58,327	297,283
2048	Forecast	1,834,208	234,349	56,674	289,800
2049	Forecast	1,779,347	226,486	54,794	281,347
2050	Forecast	1,724,938	219,920	52,536	274,329
2051	Forecast	1,672,340	213,842	51,718	266,440
2052	Forecast	1,621,019	208,107	50,966	259,428
2053	Forecast	1,570,544	201,297	49,991	251,772
2054	Forecast	1,521,327	195,452	48,886	244,669
2055	Forecast	1,474,561	190,013	47,829	236,779
2056	Forecast	1,429,285	184,371	46,767	229,647