

Resale Value of Used Cars

Anthony Parrillo

Purpose

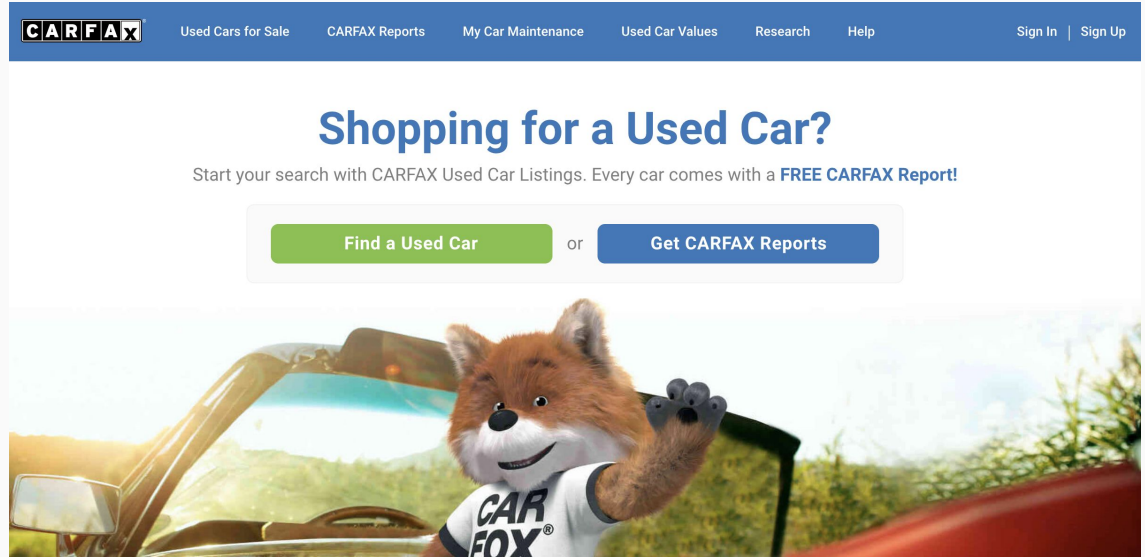
- Which brands (makes) of cars hold their value the best?
- What factors significantly alter resale values?
- Ultimately which model has the best resale price

Motivation

-Nearly everyone buys a used car or sells a used car at some point, if not many times in one's lifetime.

Carfax

Carfax.com is a website that is well known for checking the history and status of used cars to help used car buyers from being sold a car that has problems that the buyer is unaware of.



The data was scraped
(using Selenium) from
used cars using filters:

- Sold within a 50 mile
radius of New York city

- Under \$15,000

CARFAX Used Cars for Sale CARFAX Reports My Car Maintenance Used Car Values Research Help 0 Sign In | Sign Up

Home > Used Cars > \$15000 > New York, NY

Used Vehicles Under \$15,000 for sale in New York, NY

23,069 results Displaying 1 - 25 Sort by **CARFAX Best Match**

[Save This Search](#)

Select Body Type


Less than \$15,000

50 miles of 10027

Search

[Search by Make & Model](#)

Rubber Bros Auto World [Follow 46](#)



34 Photos

2015 Nissan Altima SV

\$8,999 \$147/mo est.
GREAT VALUE \$2,541 below \$11,540 CARFAX Value

Mileage: 98,100 miles **Body Type:** Sedan
Color: Black **Engine:** 4 Cyl 2.5 L

Description: Used 2015 Nissan Altima SV with FWD, AM/FM, Air Conditioning, Alloy Wheels, Cruise Control, Fog Lights, Keyless Entry, Power Windows, Remote Start....

[Rubber Bros Auto World](#) Brooklyn, NY (12 miles from New York, NY)

No Accident or Damage Reported No accident or damage reported to CARFAX	CARFAX 1-Owner Purchased on 09/12/15 and owned in PA until 04/23/18.	Personal Use Driven an estimated 38,011 miles/year.	Service History Last serviced at 69,184 miles in Feasterville Trevose, PA on 08/04/1...
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Extraction of Vehicle Info

The end result of using selenium was to extract URLs containing the detailed information of each car.

Once all the URLs were collected, I extracted the detailed information for each car using scrapy.

CARFAXUsed Cars for SaleCARFAX ReportsMy Car MaintenanceUsed Car ValuesResearchHelp

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2015 Nissan Altima SV


98,100 miles • Stock #489922

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Rubber Bros Auto World

718-621 of 34



Vehicle Info

Price	\$8,999
Mileage	98,100 miles
Location	Brooklyn, NY
Exterior Color	Black
Interior Color	Gray
Drive Type	FWD
Transmission	Automatic
Body Style	Sedan
Engine	4 Cyl 2.5 L
Fuel	Gasoline
MPG City/Hwy	27/37
VIN	1N4AL3AP3FC489922
Stock #	489922

Price & Payment

\$8,999

GREAT VALUE\$2,541 below \$11,540 CARFAX Value

\$147/mo est. 10% down / 60 months

Check Availability

Call: (347) 686-8657

Send To: Rubber Bros Auto World

Hi, my name isFirst NameLast Name

and I'm interested in your 2015 Nissan Altima SV. I'm in the10027area. You can reach me at

When can I test drive this vehicle?

+ Add a personal note(optional)

Send Message

☒ Email me price drops and new listings for my search

I agree to receive autodialed and/or prerecorded telemarketing calls/texts from or on behalf of CARFAX and/or seller at the mobile number provided above. I understand that consent is not a condition of purchase. I agree to creating an account subject to the Privacy Policy & Terms of Use

Dealer Info

Rubber Bros Auto World

5335 Kings Hwy

Brooklyn, NY 11203

Map & Directions

The prices are based on dealer selling prices.

In total, there are 6747 used car rows included in this analysis.

VIN	accident	body_style	damage	drive_type	engine	ext_color	fuel	int_color	location	mileage	one_owner
19XFB2F81FE298796	Accident reported	Sedan	CARFAX 1-Owner vehicle	FWD	4 Cyl 1.8 L	Black	Gasoline	Black	Brooklyn, NY	44,120	Service history records
KNMAT2MV4FP525883	No accidents reported to CARFAX	SUV	No other damage reported to CARFAX	AWD	4 Cyl 2.5 L	Black	Gasoline	Black	Great Neck, NY	47,325	CARFAX 1-Owner vehicle
1N4AL3AP1FC472133	Accident reported	Sedan	CARFAX 1-Owner vehicle	FWD	4 Cyl 2.5 L	Black	Gasoline	Gray	Brooklyn, NY	51,807	Service history record
2T1BURHE0FC298548	No accidents reported to CARFAX	Sedan	No other damage reported to CARFAX	FWD	4 Cyl 1.8 L	Silver	Gasoline	Black	Great Neck, NY	36,125	CARFAX 1-Owner vehicle
5N1AT2MV2FC913410	No accidents reported to CARFAX	SUV	No other damage reported to CARFAX	AWD	4 Cyl 2.5 L	Gray	Gasoline	Black	Great Neck, NY	35,690	CARFAX 1-Owner vehicle
2T3RFREV5FW278394	No accidents reported to CARFAX	SUV	No other damage reported to CARFAX	AWD	4 Cyl 2.5 L	Black	Gasoline	Black	Great Neck, NY	48,520	CARFAX 1-Owner vehicle
19UDE2F73GA005332	No accidents reported to CARFAX	Sedan	No other damage reported to CARFAX	FWD	4 Cyl 2.4 L	Black	Gasoline	Black	Great Neck, NY	44,407	CARFAX 1-Owner vehicle
1N4AA5AP4EC475995	No accidents reported to CARFAX	Sedan	Other damage reported	FWD	6 Cyl 3.5 L	Gray	Gasoline	Gray	Brooklyn, NY	74,316	CARFAX 1-Owner vehicle
5J6RM4H35FL088143	No accidents reported to CARFAX	SUV	No other damage reported to CARFAX	AWD	4 Cyl 2.4 L	White	Gasoline	Tan	Great Neck, NY	23,585	CARFAX 1-Owner vehicle
1N4AA5AP1BC845313	Accident reported	Sedan	Previous owners	FWD	6 Cyl 3.5 L	Black	Gasoline	Black	Brooklyn, NY	91,037	Service history records
19XFB2F52FE285609	No accidents reported to CARFAX	Sedan	No other damage reported to CARFAX	FWD	4 Cyl 1.8 L	White	Gasoline	Tan	Great Neck, NY	28,166	CARFAX 1-Owner vehicle
19XFB5F58CE000165	No accidents reported to CARFAX	Sedan	No other damage reported to CARFAX	FWD	4 Cyl 1.8 L	Gray	Alternative	Tan	Brooklyn, NY	64,402	CARFAX 1-Owner vehicle
JNKC6V61F09M358790	Accident reported	Sedan	Previous owners	AWD	6 Cyl 3.7 L	Gray	Gasoline	Black	Brooklyn, NY	137,375	Service history records
WVGWU73C09E520071	No accidents reported to CARFAX	Sedan	No other damage reported to CARFAX	AWD	6 Cyl 3.6 L	White	Gasoline	Unspecified	Hawthorne, NJ	137,798	Previous owners
WBAPH7C51BE675995	No accidents reported to CARFAX	Sedan	No other damage reported to CARFAX	RWD	6 Cyl 3.0 L	Blue	Gasoline	Tan	Rahway, NJ	110,789	CARFAX 1-Owner vehicle
1HGCR2F56FA032442	No accidents reported to CARFAX	Sedan	No other damage reported to CARFAX	FWD	4 Cyl 2.4 L	Black	Gasoline	Black	Brooklyn, NY	49,056	CARFAX 1-Owner vehicle
1N4AL24E99C199046	No accidents reported to CARFAX	Coupe	No other damage reported to CARFAX	FWD	4 Cyl 2.5 L	Gray	Gasoline	Gray	Brooklyn, NY	93,386	CARFAX 1-Owner vehicle
WAUDFAFL4BN035229	No accidents reported to CARFAX	Sedan	Other damage reported	AWD	4 Cyl 2.0 L	Silver	Gasoline	Black	Teterboro, NJ	100,911	Previous owners

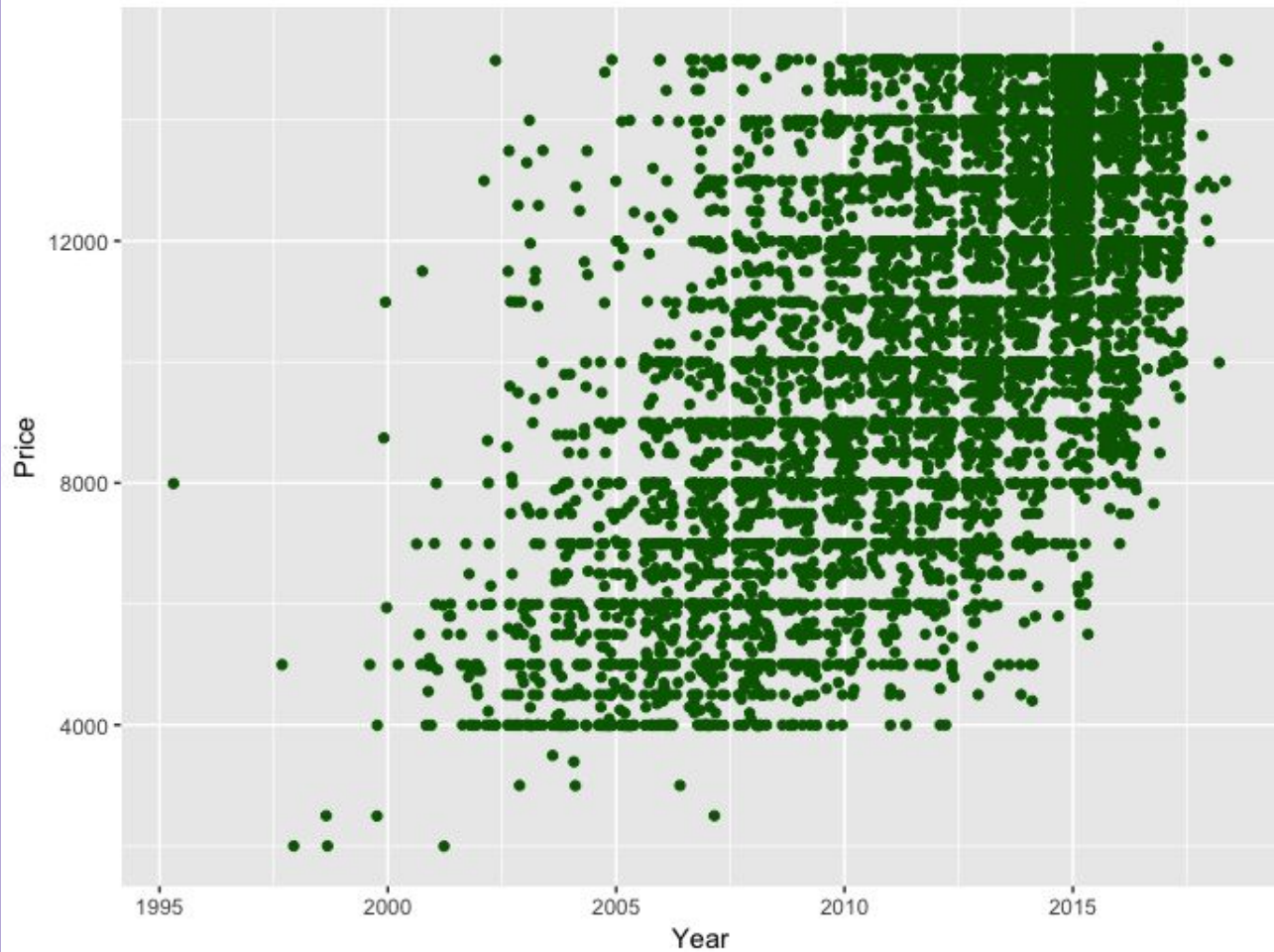
The prices are based on dealer selling prices.

In total, there are 6747 used car rows included in this analysis.

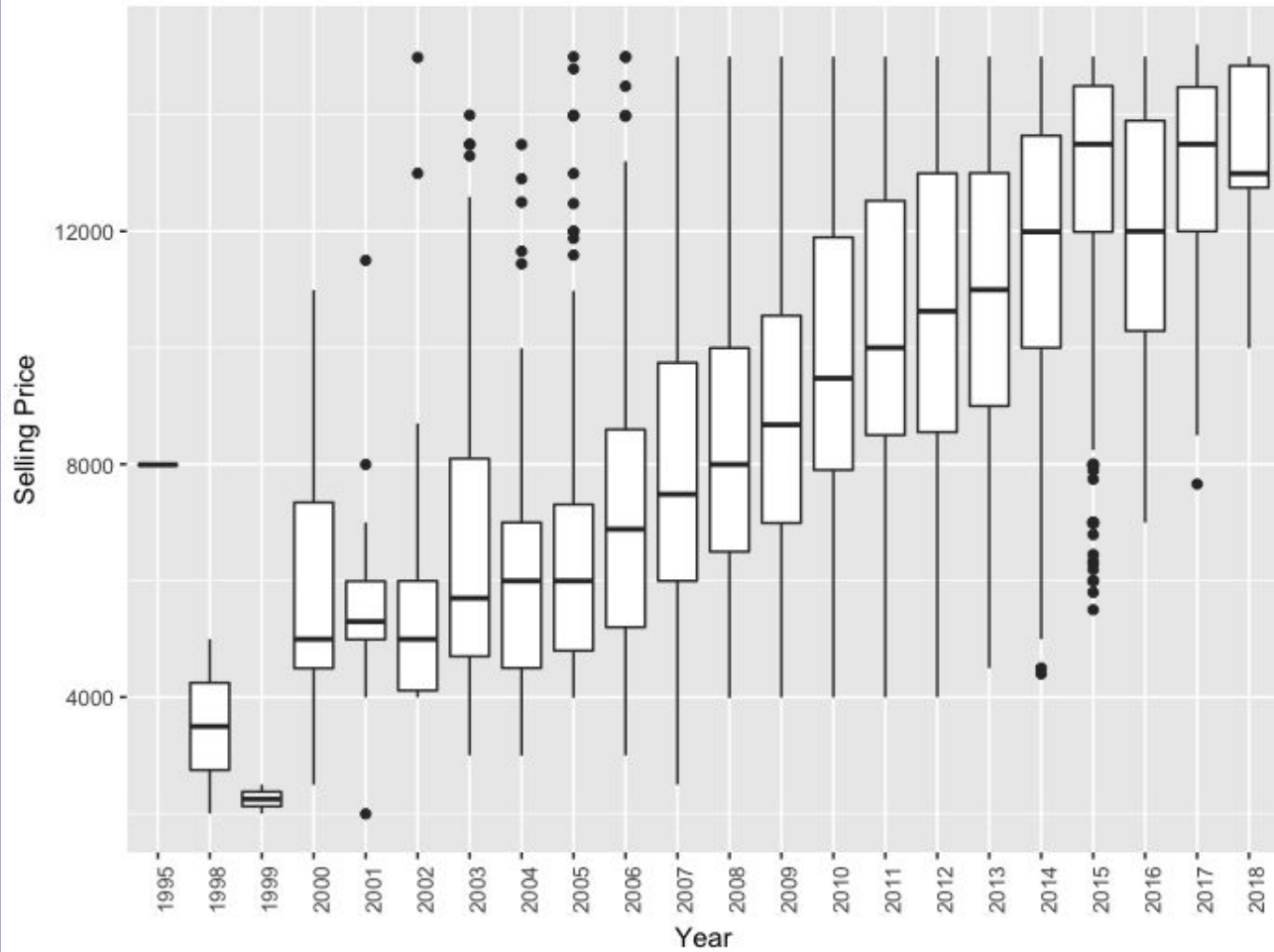
one_owner	personal	price	service	transmission	name	make	model	trim	special
Service history records	Last owned in Virginia	12,999	Personal vehicle	Automatic	2015	Honda	Civic EX		
CARFAX 1-Owner vehicle	Personal lease vehicle	12,480	Service history records	Automatic	2015	Nissan	Rogue S		
Service history record	Last owned in New York	10,999	Personal lease vehicle	Automatic	2015	Nissan	Altima SV		
CARFAX 1-Owner vehicle	Personal lease vehicle	10,980	Regular oil changes	Automatic	2015	Toyota	Corolla S	Plus	
CARFAX 1-Owner vehicle	Personal lease vehicle	14,980	Service history records	Automatic	2015	Nissan	Rogue SV		
CARFAX 1-Owner vehicle	Personal lease vehicle	14,890	Service history records	Automatic	2015	Toyota	RAV4 XLE		
CARFAX 1-Owner vehicle	Personal lease vehicle	14,890	Service history records	Automatic	2016	Acura	ILX Technology	Plus	
CARFAX 1-Owner vehicle	Personal vehicle	10,999	Service history records	Automatic	2014	Nissan	Maxima SV		
CARFAX 1-Owner vehicle	Personal lease vehicle	14,890	Service history records	Automatic	2015	Honda	CR-V LX		
Service history records	Last owned in New Jersey	5,999	Types of owners: Personal lease, Personal	Automatic	2011	Nissan	Maxima SV		
CARFAX 1-Owner vehicle	Personal lease vehicle	9,980	Service history records	Automatic	2015	Honda	Civic LX		
CARFAX 1-Owner vehicle	Personal vehicle	6,999	Service history records	Automatic	2012	Honda	Civic		
Service history records	Last owned in Virginia	4,999	Types of owners: Personal lease, Personal	Automatic	2009	Infiniti	G37		
Previous owners	Types of owners: Personal lease, Personal	7,450	Service history records	Automatic	2009	Volkswagen	CC		
CARFAX 1-Owner vehicle	Service history records	5,995	At least 1 open recall	Automatic	2011	BMW		3 Series 328i	
CARFAX 1-Owner vehicle	Service history records	14,999	At least 1 open recall	Automatic	2015	Honda	Accord Sport		
CARFAX 1-Owner vehicle	Personal vehicle	6,999	Service history records	Automatic	2009	Nissan	Altima S		
Previous owners	Personal vehicle	8,999	Regular oil changes	Manual	2011	Audi	A4 Premium		

Data Analysis

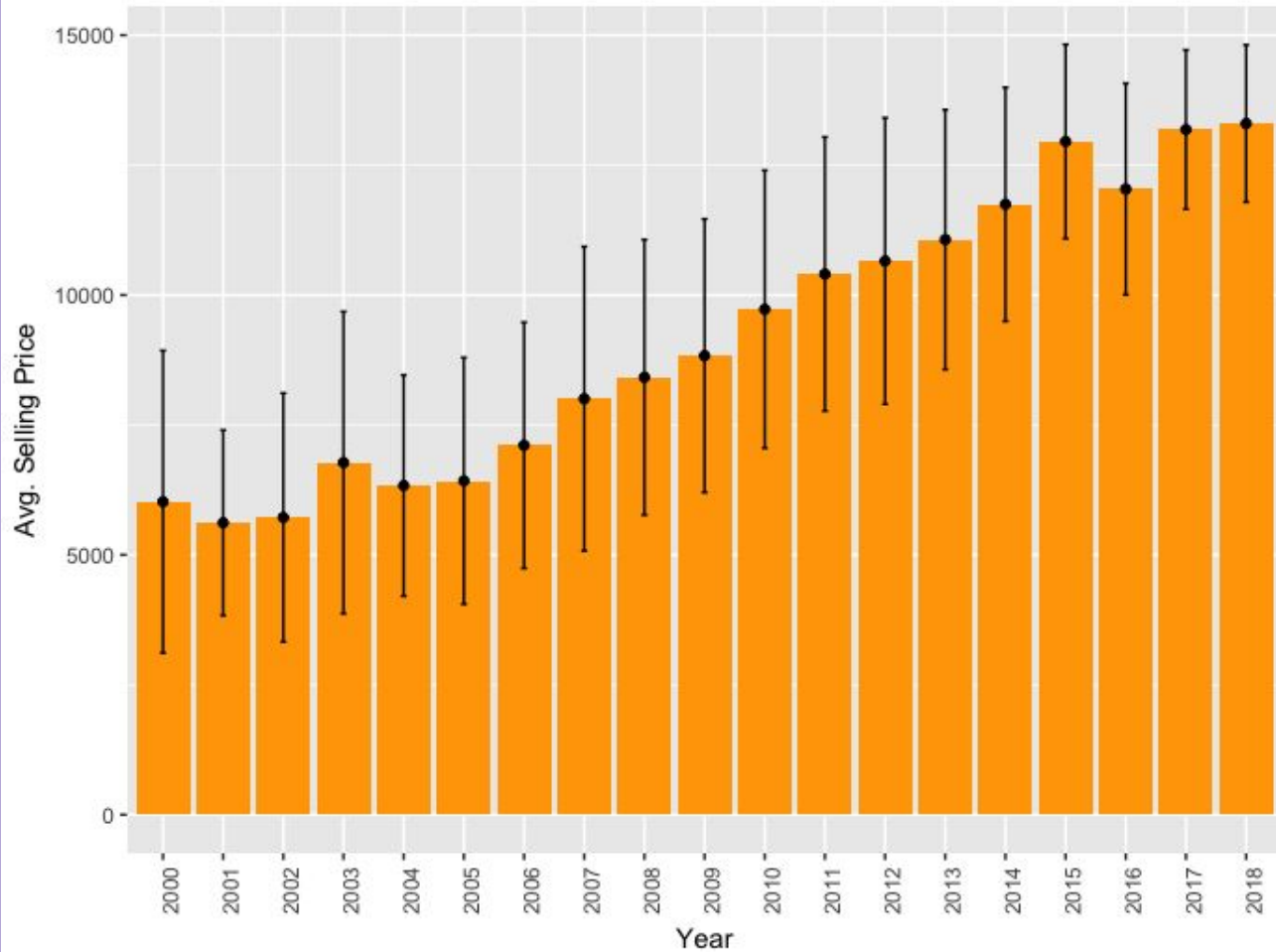
Used Car Resale Data: Price vs. Year



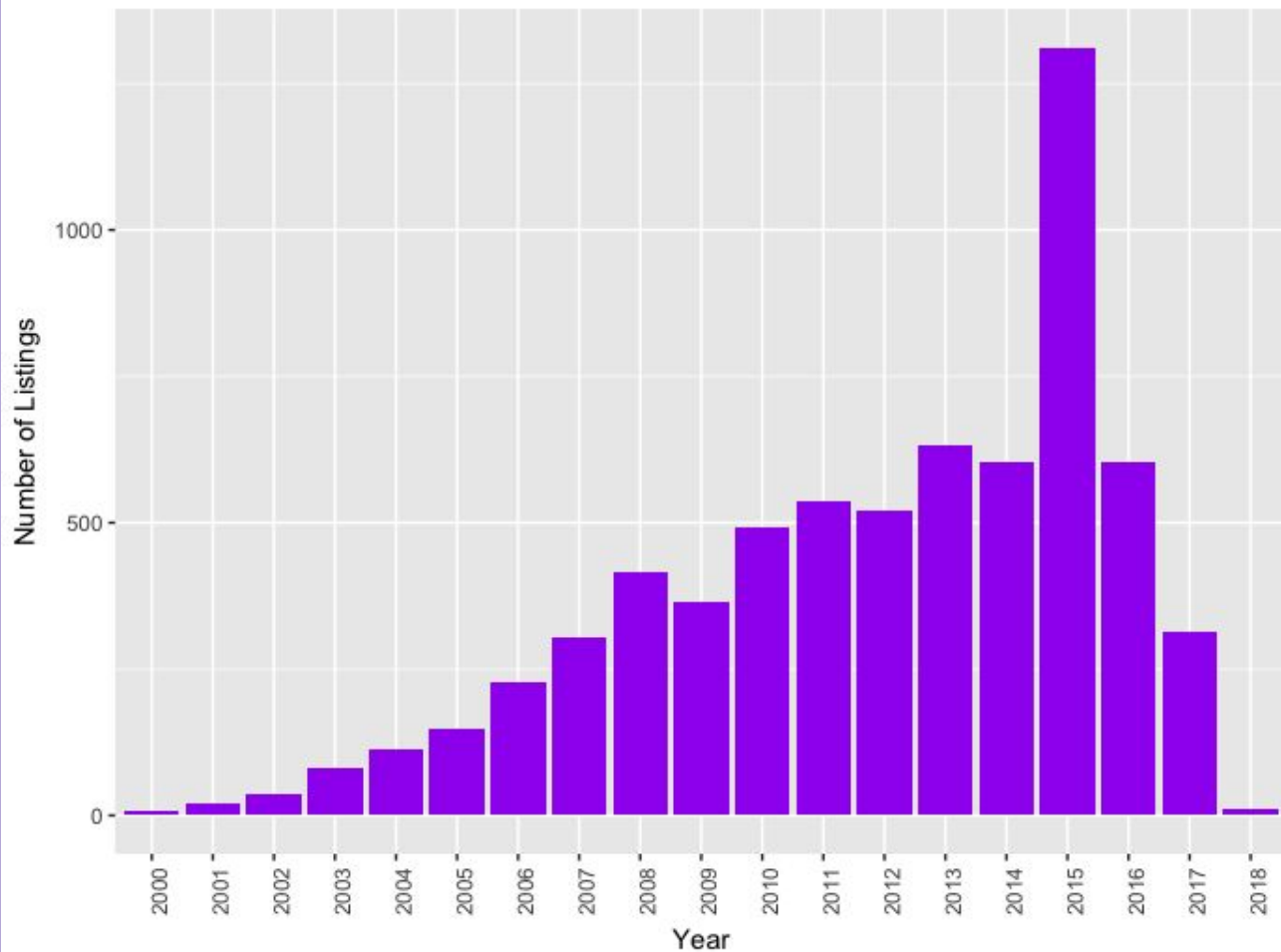
Used Car Resale Data: Price vs. Year



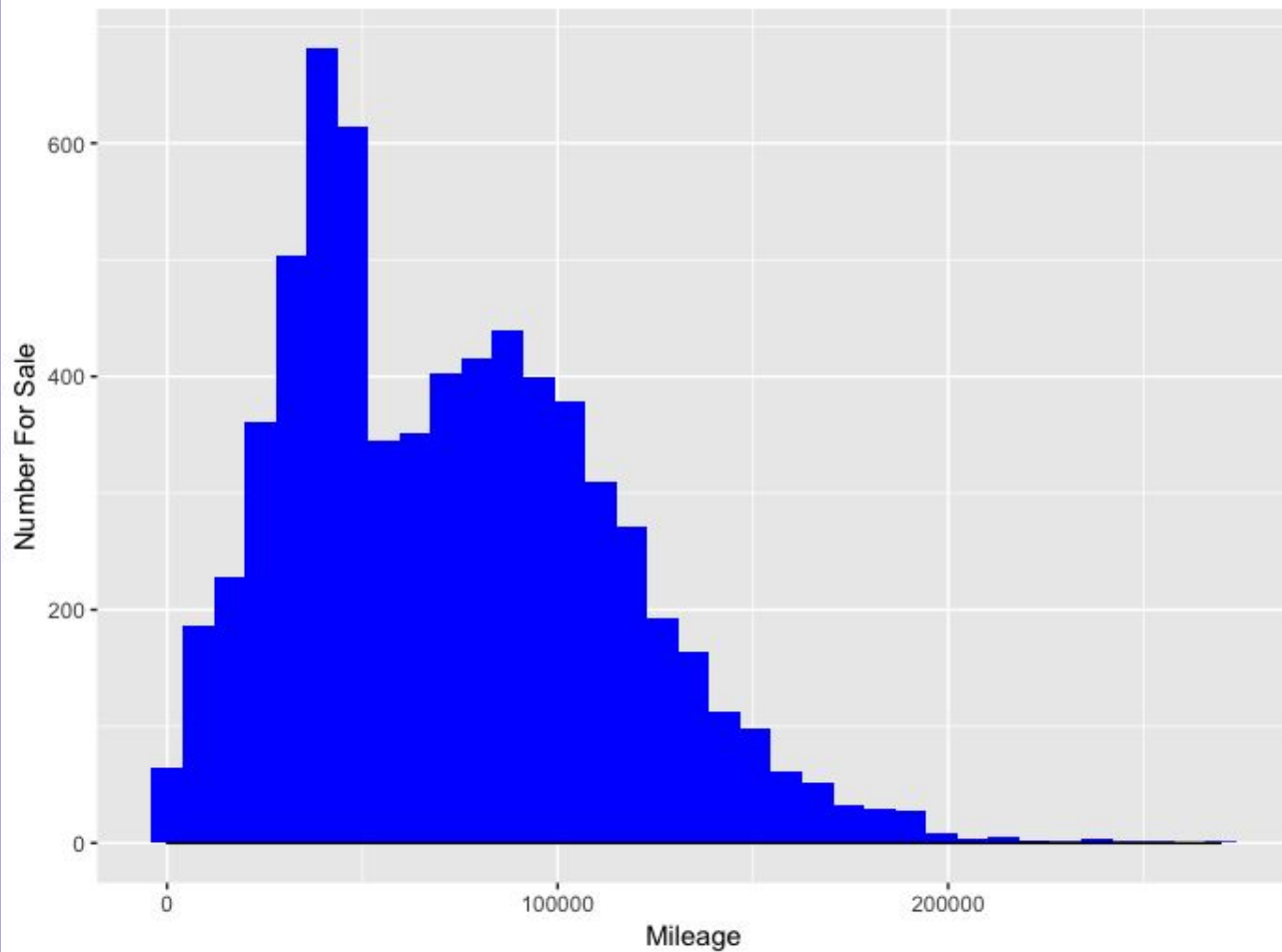
Used Car Resale Data: Price vs. Year



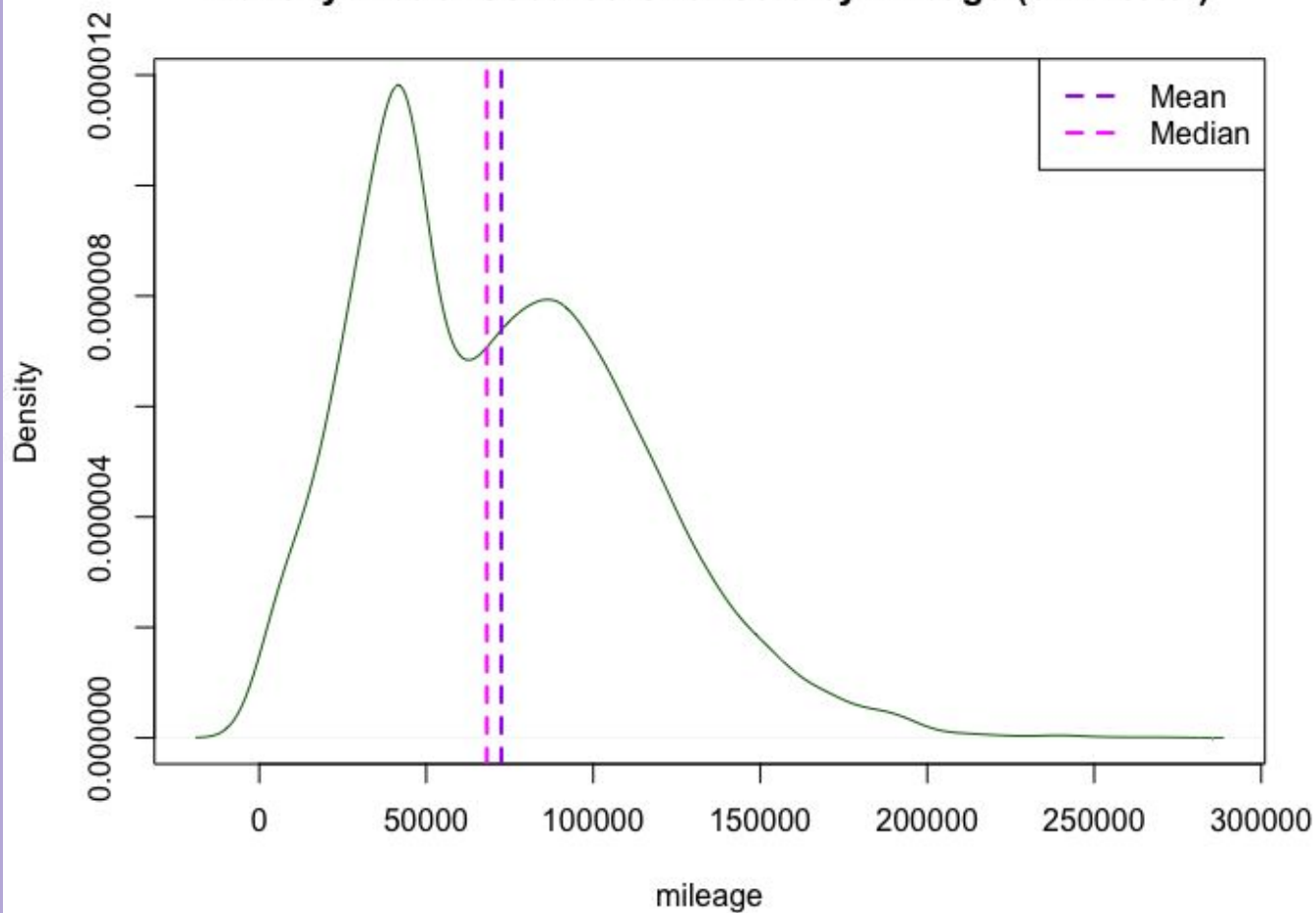
Used Car Resale Data: Number of Listings by Year



Used Cars for Sale by Mileage (6747 total)

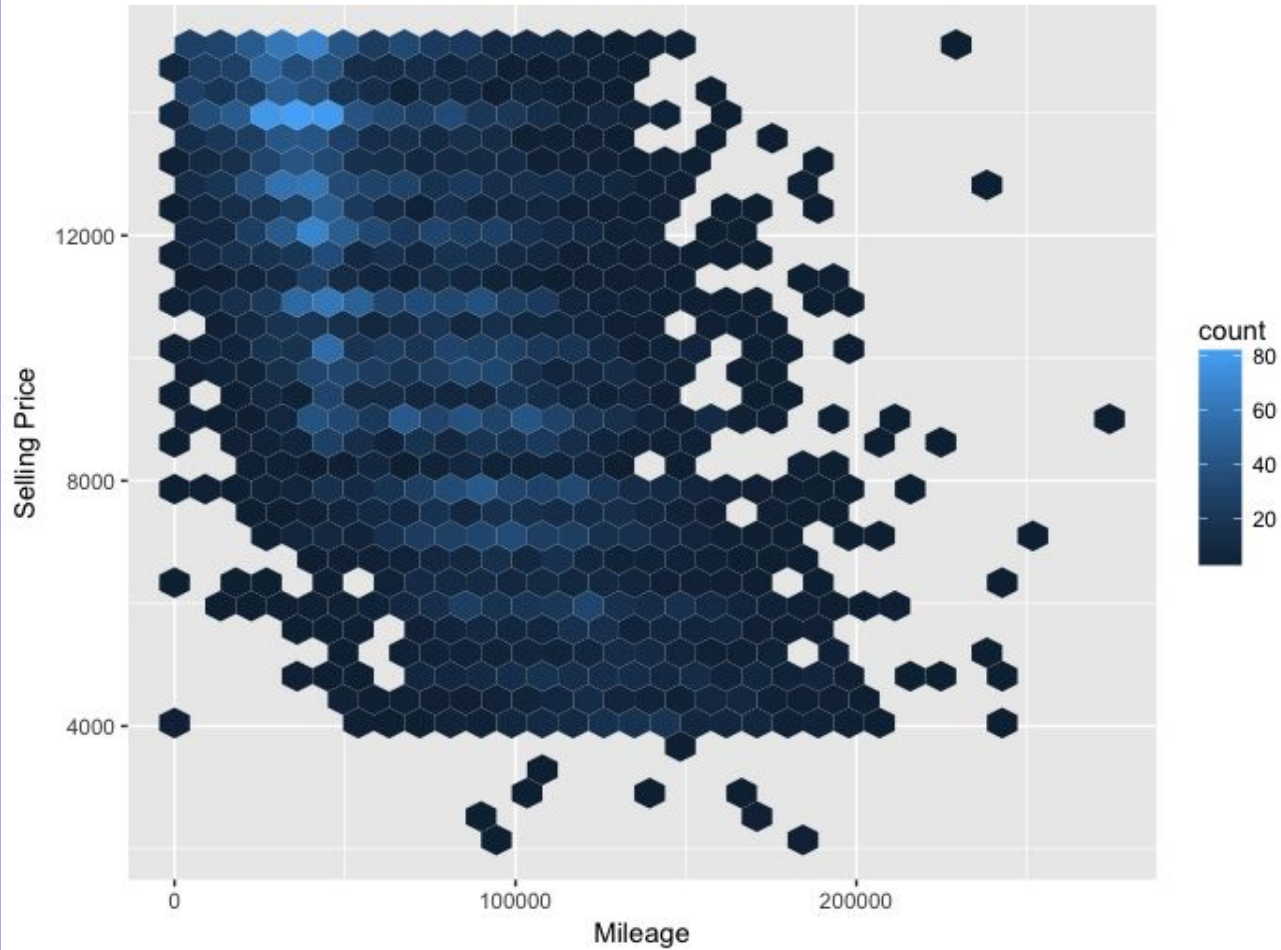


Density Plot of Used Cars for Sale by Mileage (6747 total)

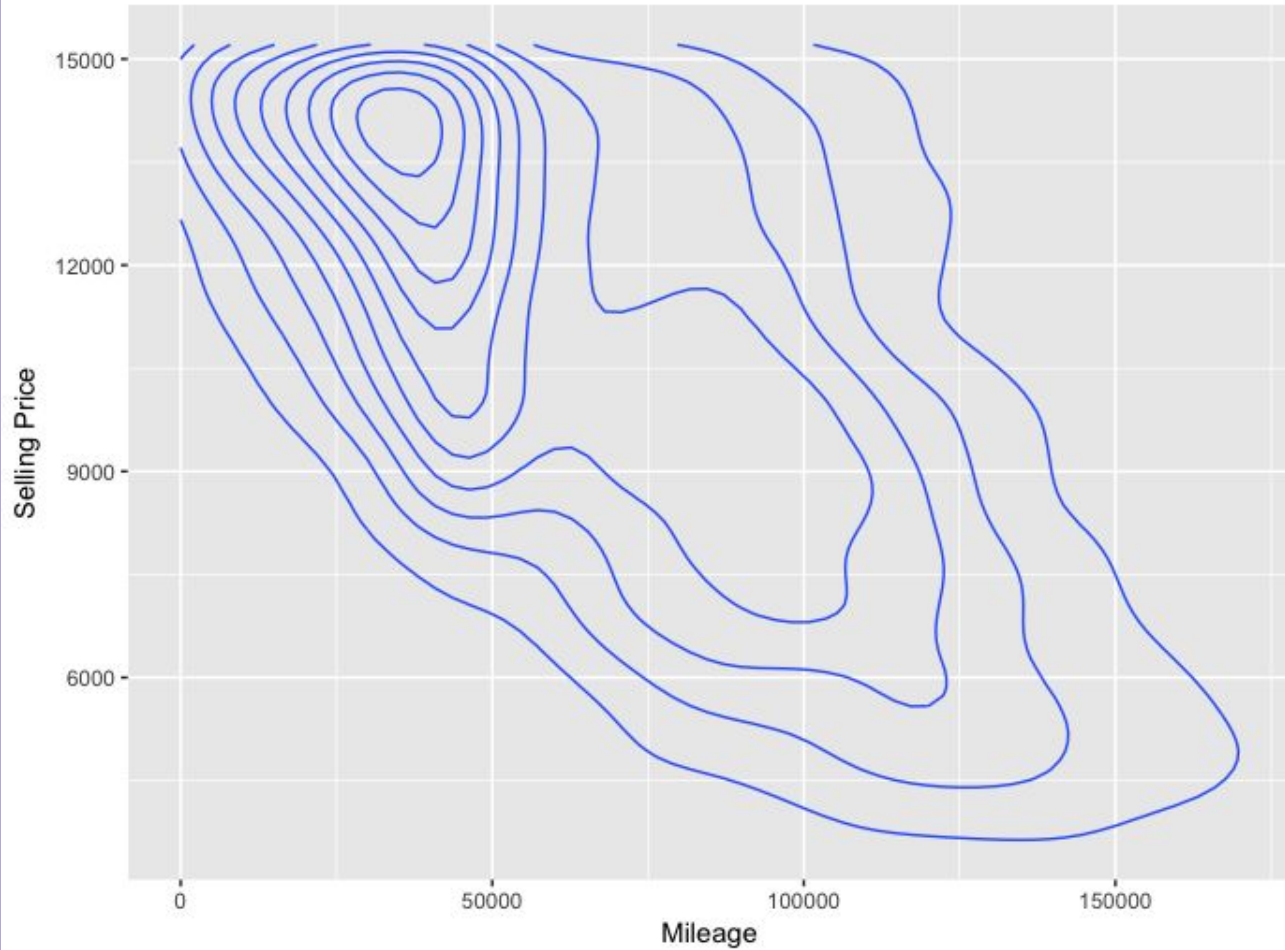


```
##      meanval medianval      std
## 1 72484.35      68155 41156.2
```

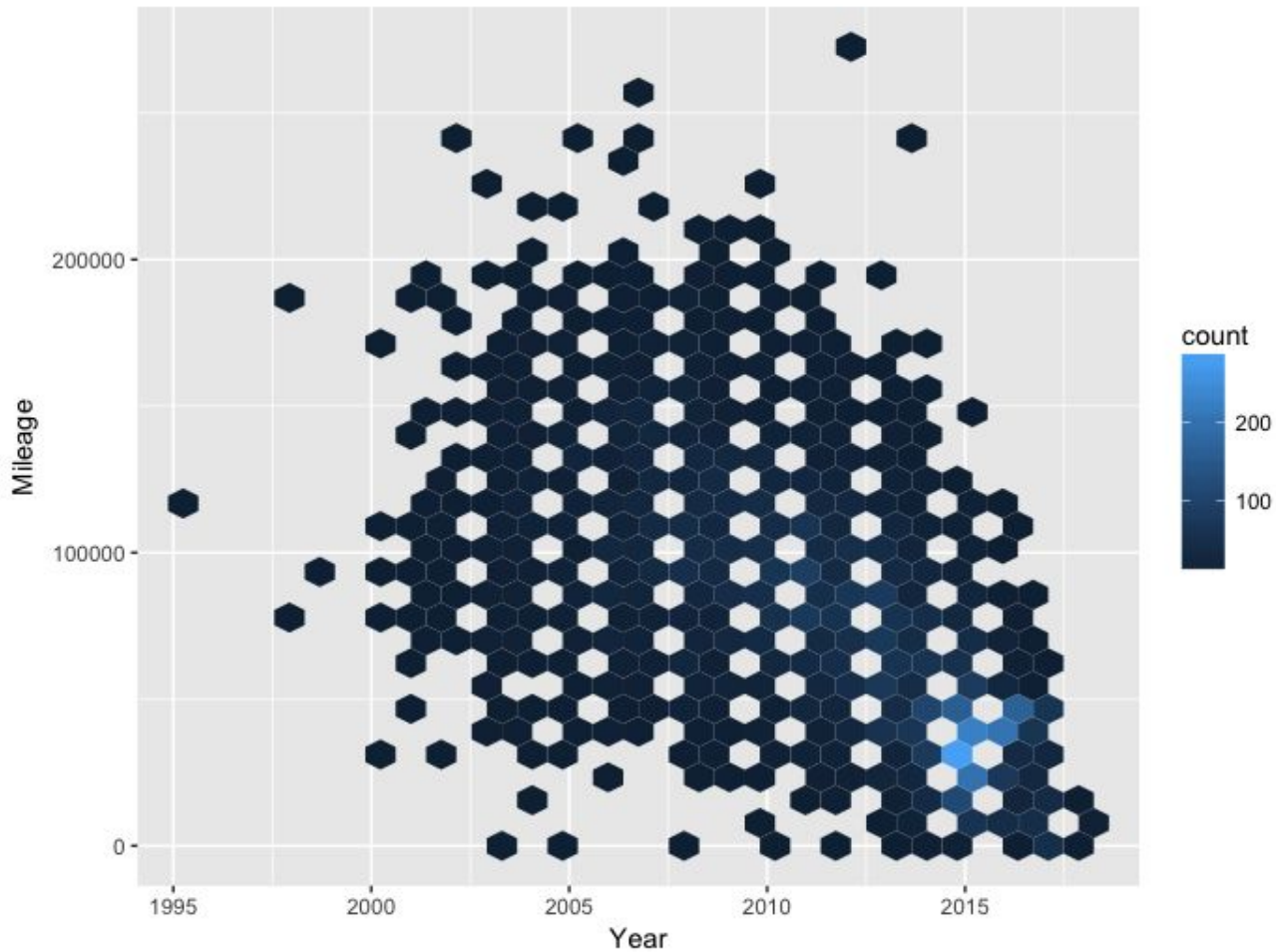

Used Car Resale Data: Price vs. Mileage



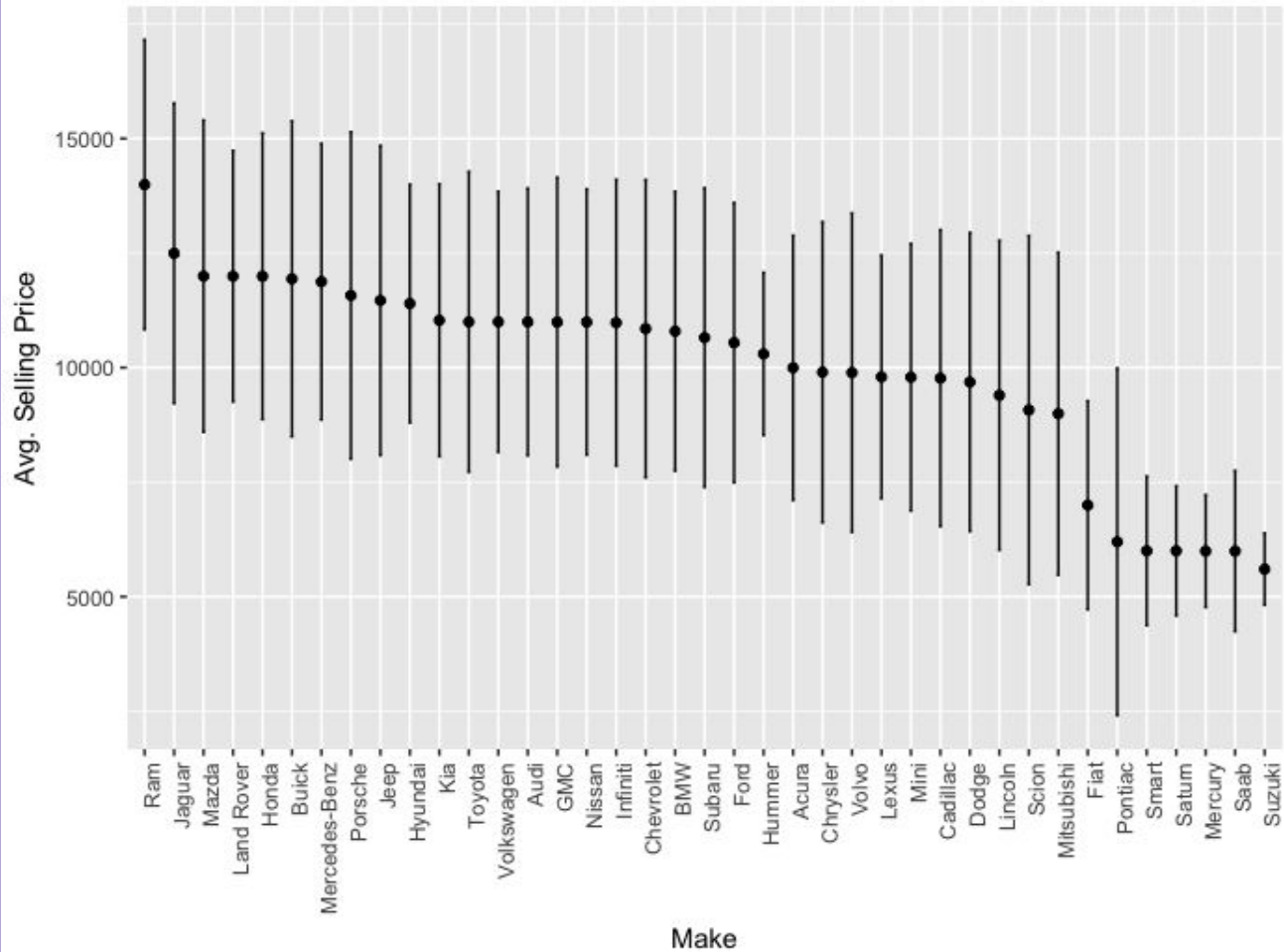
Used Car Resale Data: Price vs. Mileage



Used Car Resale Data: Mileage vs. Year



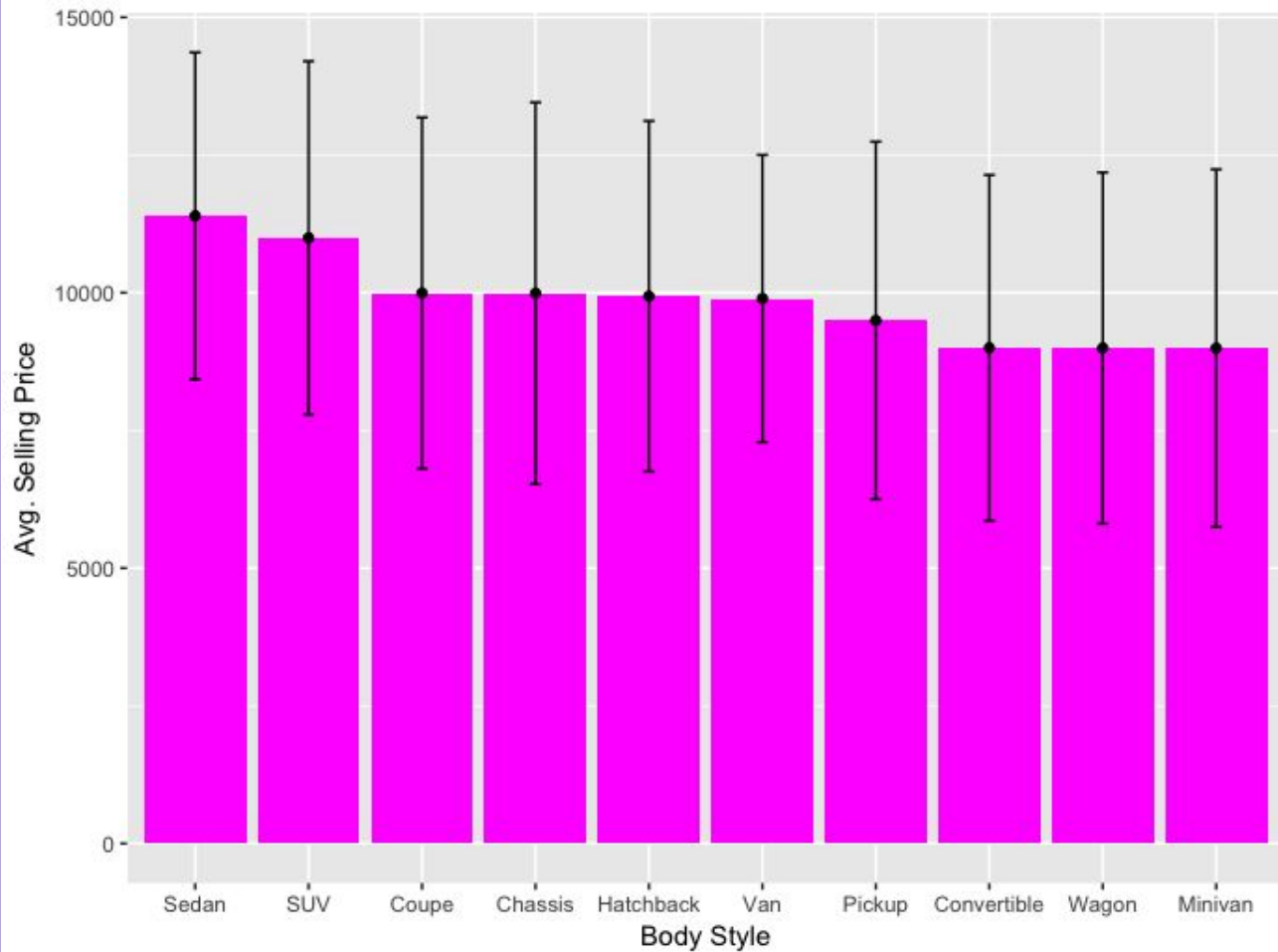
Used Car Resale Data: Price vs. Make



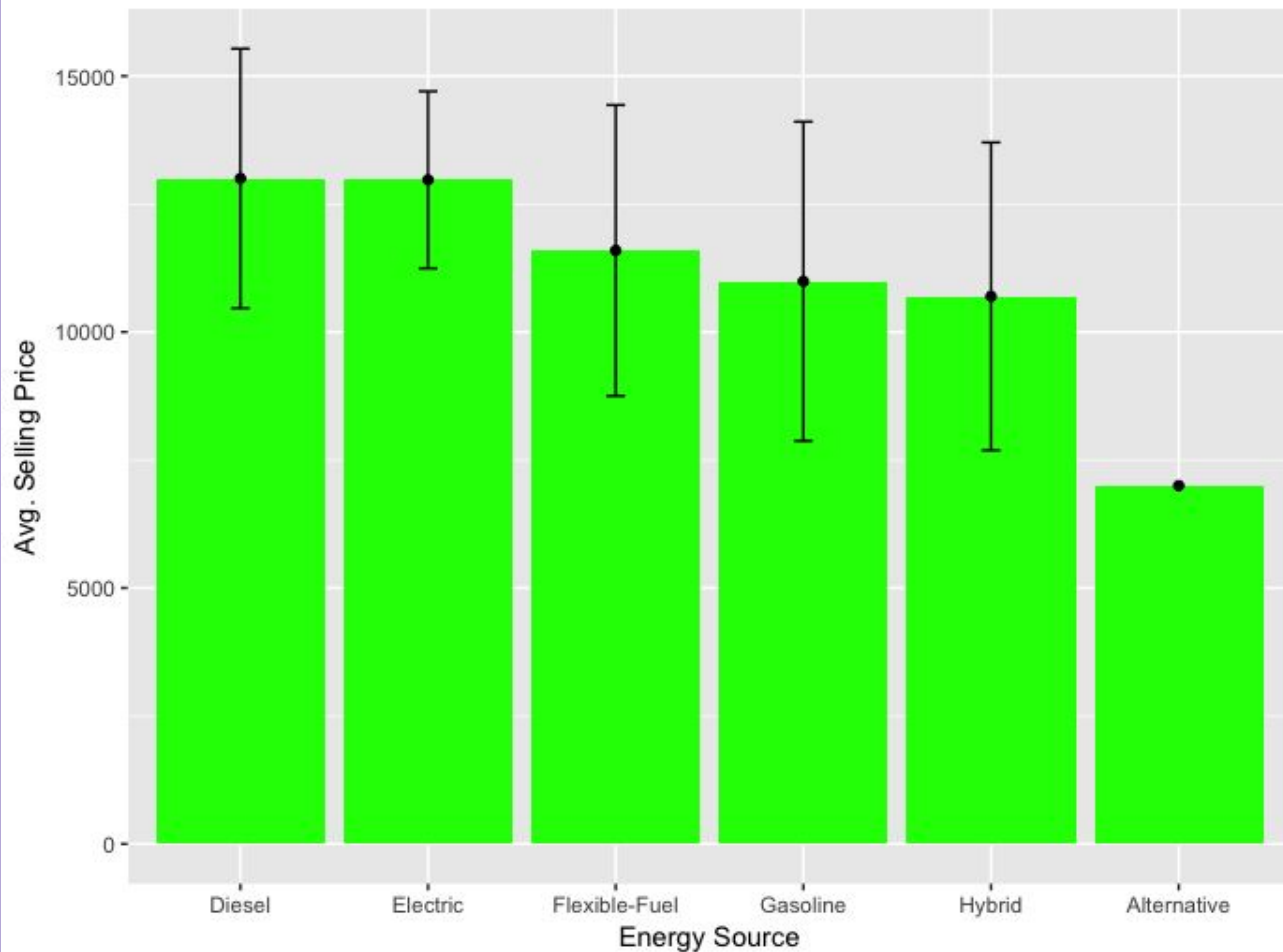
Make

##	make	medianval	std
## 1	Ram	13995.0	3162.5919
## 2	Jaguar	12495.0	3276.3215
## 3	Mazda	11997.0	3402.4451
## 4	Land Rover	11995.0	2739.5943
## 5	Honda	11994.0	3125.9311
## 6	Buick	11938.0	3444.4390
## 7	Mercedes-Benz	11877.0	3014.2723
## 8	Porsche	11575.0	3567.6272
## 9	Jeep	11467.0	3379.7847
## 10	Hyundai	11399.0	2600.1233
## 11	Kia	11033.0	2973.5412
## 12	Toyota	10999.0	3280.6603
## 13	Volkswagen	10999.0	2844.6444
## 14	Audi	10998.0	2916.1142
## 15	GMC	10995.0	3156.8343
## 16	Nissan	10995.0	2900.4482
## 17	Infiniti	10980.0	3126.1959
## 18	Chevrolet	10849.5	3251.5422
## 19	BMW	10794.5	3049.2763
## 20	Subaru	10655.0	3264.3019
## 21	Ford	10544.5	3052.6072
## 22	Hummer	10298.0	1774.7533
## 23	Acura	9995.0	2891.0438
## 24	Chrysler	9900.0	3282.8165
## 25	Volvo	9890.0	3481.0095
## 26	Lexus	9797.0	2655.5260
## 27	Mini	9790.0	2914.1477
## 28	Cadillac	9770.0	3235.7789
## 29	Dodge	9685.0	3260.6616
## 30	Lincoln	9397.0	3379.5961
## 31	Scion	9074.5	3807.9695
## 32	Mitsubishi	8994.0	3521.0927
## 33	Fiat	6997.0	2275.1845
## 34	Pontiac	6197.5	3788.2106
## 35	Smart	6000.0	1627.0120
## 36	Saturn	5999.0	1414.8208
## 37	Mercury	5995.0	1225.8297
## 38	Saab	5995.0	1755.8748
## 39	Suzuki	5600.0	783.9877

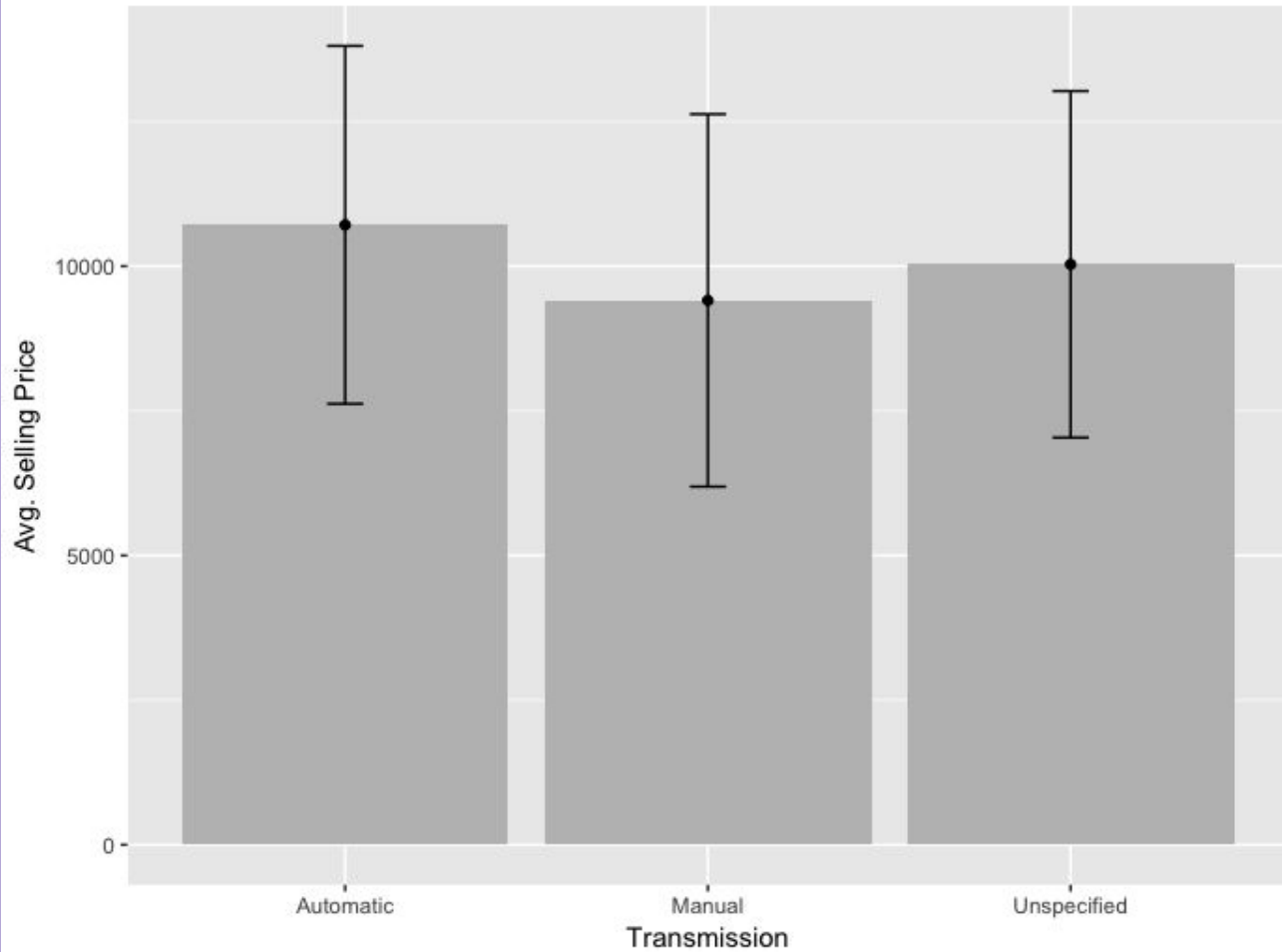
Used Car Resale Data: Price vs. Body Style



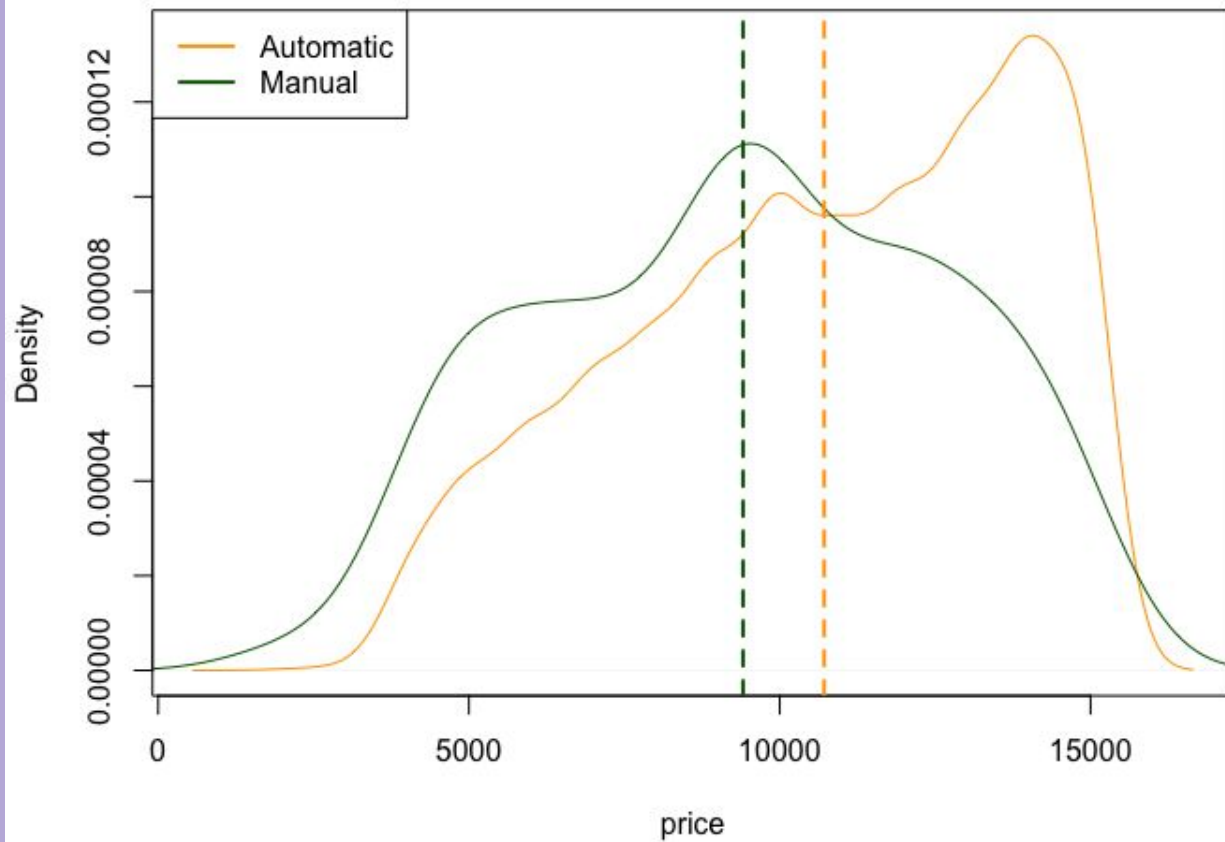
Used Car Resale Data: Price vs. Energy Source



Used Car Resale Data: Price vs. Transmission Type

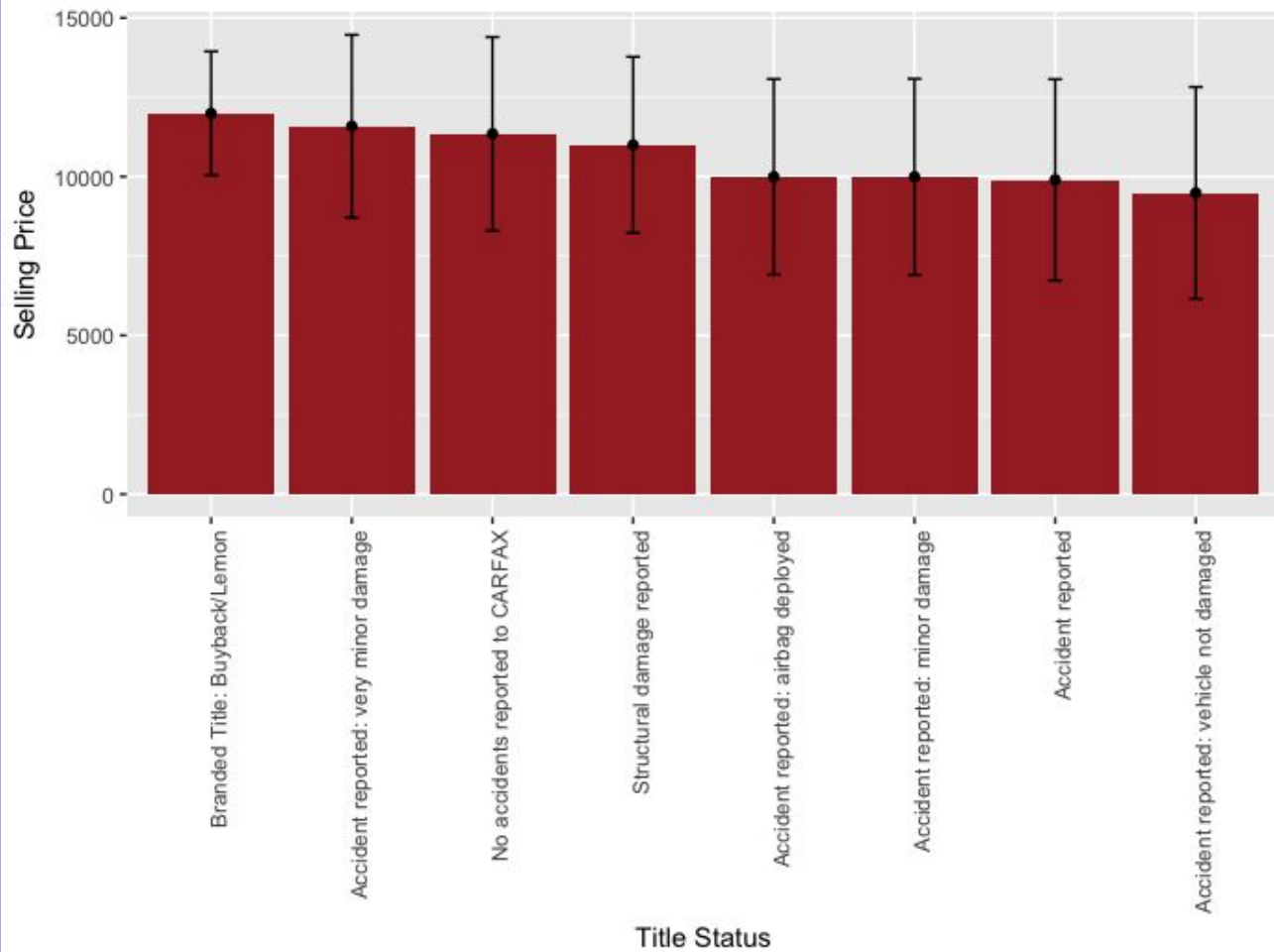


Resale Value of Automatic vs. Manual Transmission

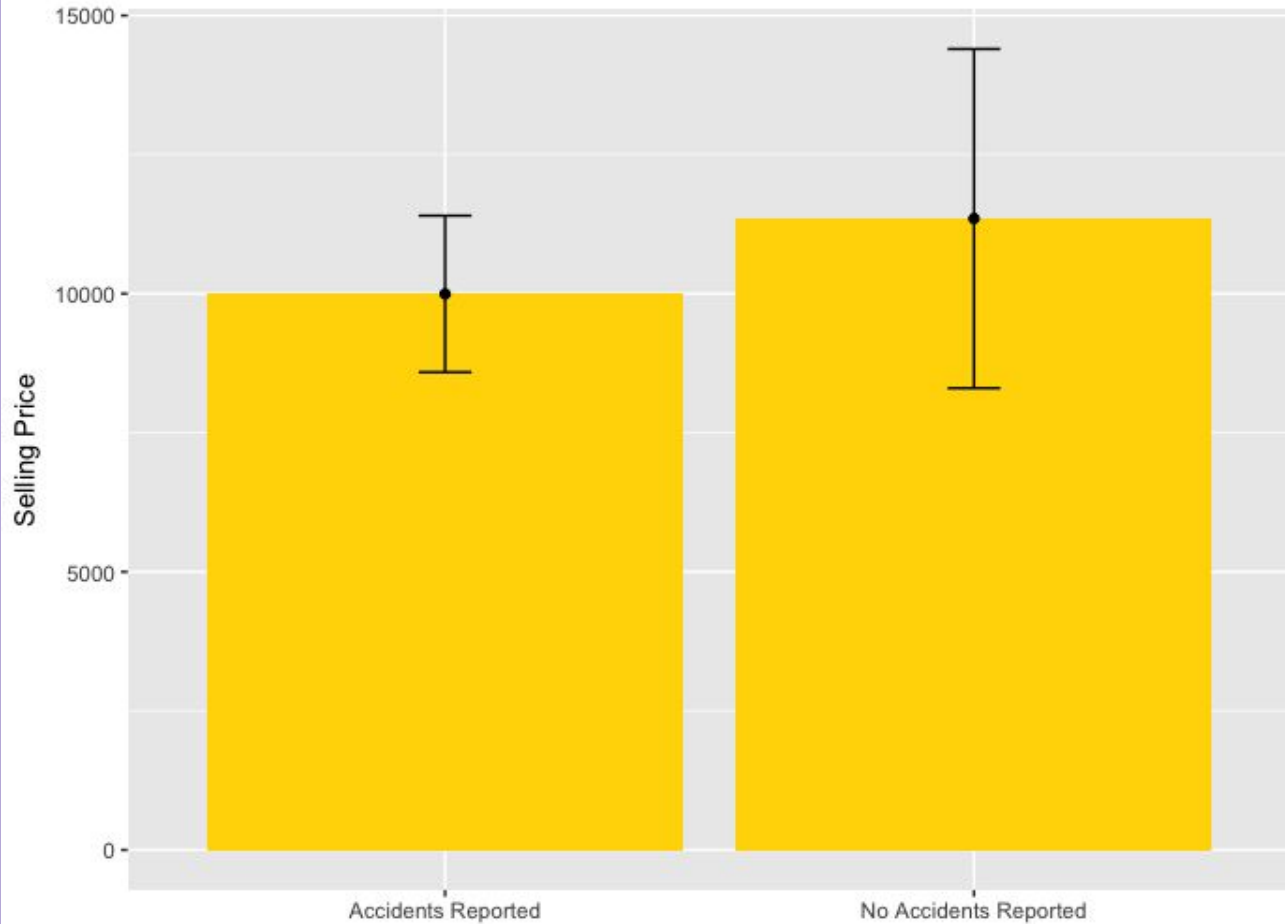


```
##  
## Welch Two Sample t-test  
##  
## data: withautomatic and withmanual  
## t = 6.4112, df = 277.62, p-value = 0.0000000006181  
## alternative hypothesis: true difference in means is not equal to 0  
## 95 percent confidence interval:  
## 905.0155 1707.0337  
## sample estimates:  
## mean of x mean of y  
## 10714.936 9408.911
```

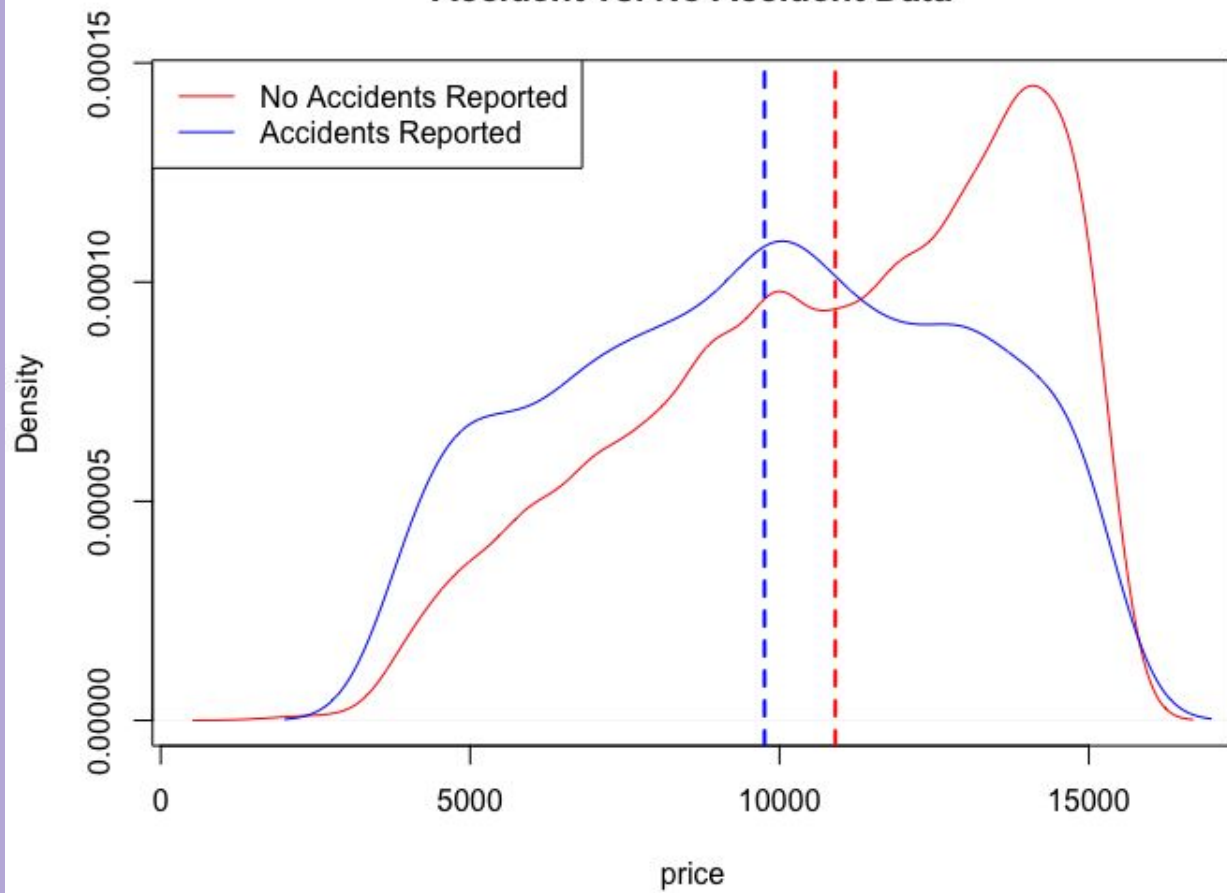
Comparing Used Cars by Title Status



Side-by-Side Used Car Accident vs. Non-Accident Comparison

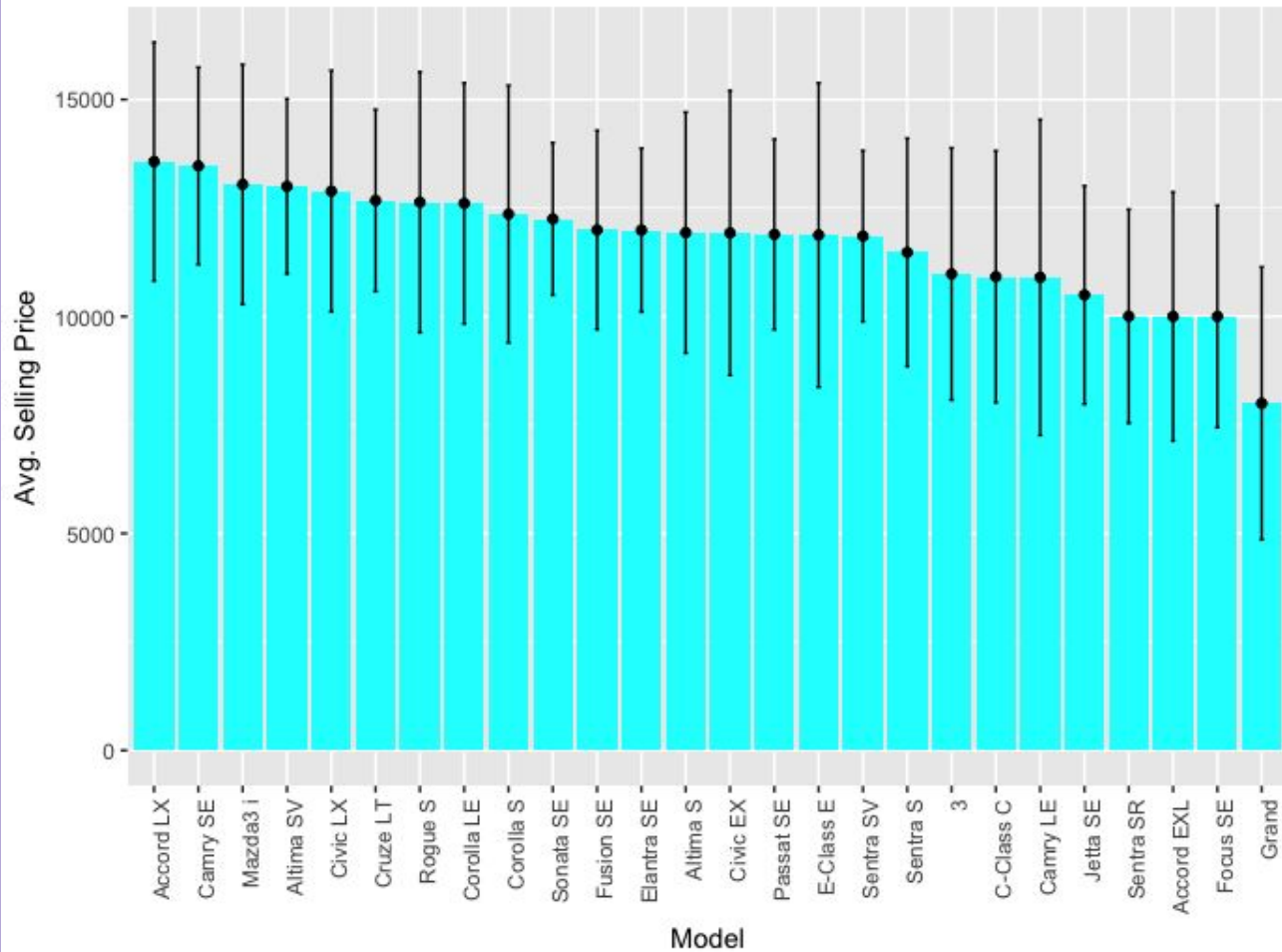


Accident vs. No Accident Data



```
##  
## Welch Two Sample t-test  
##  
## data: withaccident and withoutaccident  
## t = -12.344, df = 2258.4, p-value < 2.2e-16  
## alternative hypothesis: true difference in means is not equal to 0  
## 95 percent confidence interval:  
## -1325.6244 -962.1869  
## sample estimates:  
## mean of x mean of y  
## 9758.947 10902.853
```

Used Car Resale Data: Price vs. Model (50 or More Data Points)



Conclusions

1. An automatic transmission resells at about \$1300 more than a manual transmission.
2. A used car without accidents reported resells at about \$1150 more than a car with accidents reported.

Sedans resell better than other body types of used cars.

Interesting fact: Gold color cars resell the worst of all exterior colors.

Conclusions

These results can be applied not only for those who are interested in purchasing a used car, but also for:

- **Those considering purchasing a new car.**
- **Whether or not to buy or lease a new car.**
- **Whether to sell a currently owned used car or keep it.**

Dream Cars

Don't make much financial sense, but are really, really fun!

