Non-Technical Report for Used Car Pricing and Model Selection

I analyzed the full dataset you provided, keeping all listings, even those with unusually high mileage or low prices, so the analysis would reflect the complete range of real-world listings you might see. Based on this, here are several key findings that could help guide pricing, inventory, and marketing strategies at Three Rivers Auto.

One of the most important insights was how price declines with mileage. The biggest drop in value tends to occur in the early stages of a car's life, especially before hitting 60,000 miles. After that point, the depreciation curve flattens. This means that cars in the 60k–100k mileage range may offer better value for both you and the customer—they're cheaper to acquire than low-mileage vehicles but don't necessarily lose much more value in resale. It may make sense to focus more on acquiring these mid-mileage vehicles for inventory.

Horsepower also affects price, but the effect has limits. As horsepower increases, so does price, but only up to a point. After roughly 250 horsepower, the price premium levels off. This means that for many buyers, extremely powerful trims may not be worth the extra investment if they don't lead to a corresponding increase in selling price. Trims in the mid-performance range may offer the best balance of appeal and profitability.

The relationship between brand and transmission type revealed something more nuanced. For most brands, manual transmission cars tend to sell for less. But for certain performance-oriented brands, especially Porsche and Genesis, manual transmission listings actually commanded higher prices. This suggests that for enthusiast brands, manual models can

be an asset. But for most other makes, automatic or CVT vehicles tend to retain more value and appeal to a wider audience.

Other variables had surprisingly little influence. Interior and exterior color, for example, had almost no consistent effect on price once other factors like mileage and brand were accounted for. Likewise, while accident history was slightly associated with lower prices, the difference was smaller than expected. This suggests that clean titles may not always justify a significant markup and that well-priced vehicles with prior accidents may still perform well if other features are strong.

While these patterns reflect meaningful trends across the listings, there are limitations to keep in mind. The dataset didn't include certain factors like service records, vehicle condition, or geography, which could all affect final sale prices. These recommendations should be taken as general guidance and paired with your team's on-the-ground knowledge of local demand and vehicle condition. Still, the results offer a useful starting point for thinking about which cars to prioritize and how certain features, like mileage bands, horsepower levels, and brand-transmission combinations, relate to value in practice.