



OBSERVATIONS

Dennis DesRosiers

Trends in Vehicle Longevity

This Observation is about one of my favourite topics: vehicle longevity and survival rates. It ranks high on my list of preferred topics because changes in survival rates profoundly affect most elements of the vehicle industry. For instance, the abundance of over-10-year-old vehicles now on the road (over 6 million in 2006) has developed primarily because vehicles are lasting so long. Think about this carefully and translate this statistic in your own mind into implications for the aftermarket, for used vehicle sales, and for the most important issue facing the auto sector today: climate change. I'll discuss these issues later in this Observation, but let us first turn our attention to what is happening with the hard numbers.

It's old news that cars last longer than ever before. We've known for years that longevity curves have been trending upwards, with the long-lasting full-frame trucks and import-nameplate cars that gained popularity during the 1990s finally reaching the end of their lives - or, rather, what would have been the end had they been products of a previous automotive era. In the here-and-now, Canadian drivers are taking full advantage of their vehicles' increased usage potential by extending their ownership into previously unplumbed high-mileage territory. Never before have we seen such compelling, large-scale evidence of improved long term

Survival Rates - GM/Ford/Chrysler Nameplates

	As Of 2000	As Of 2006
1 Year	99.9%	100.0%
2 Year	91.2%	99.8%
3 Year	90.4%	97.3%
4 Year	94.9%	94.4%
5 Year	95.9%	94.9%
6 Year	95.4%	90.4%
7 Year	94.4%	86.2%
8 Year	92.2%	81.5%
9 Year	89.0%	82.5%
10 Year	85.2%	82.9%
11 Year	76.7%	78.1%
12 Year	66.6%	72.3%
13 Year	53.1%	62.8%
14 Year	43.5%	52.8%
15 Year	35.2%	43.7%
16 Year	26.8%	34.9%

Source: DesRosiers Automotive Consultants Inc.
and Registration Data © R.L. Polk Canada, Inc.
2006, released September 2006.

Survival Rates - Import Nameplates

	As Of 2000	As Of 2006
1 Year	100.0%	100.0%
2 Year	92.7%	100.0%
3 Year	95.4%	98.5%
4 Year	97.2%	95.5%
5 Year	97.6%	96.4%
6 Year	94.2%	95.4%
7 Year	92.4%	94.3%
8 Year	92.6%	93.0%
9 Year	89.6%	92.1%
10 Year	86.4%	90.8%
11 Year	77.3%	84.2%
12 Year	65.9%	78.4%
13 Year	57.1%	69.8%
14 Year	42.0%	64.8%
15 Year	30.5%	53.9%
16 Year	24.6%	45.1%

Source: DesRosiers Automotive Consultants Inc.
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durability - regardless of nameplate origin, country of manufacture, or class of vehicle.

We perform our vehicle longevity study using current vehicles-on-the-road information from Polk Canada. By comparing, for instance, the number of vehicles annually registered in any particular year with the number of same-year vehicles registered today, we arrive at a survival rate. This sort of analysis is performed for every vehicle available in Canada since 1984 and it enables us to evaluate vehicle lifecycles in the most unbiased possible manner.

Older used vehicles comprise the hidden backwater of this industry. With an intense focus placed on new and nearly-new products, the existence of an old-but-serviceable used fleet is acknowledged but not talked about. It is unlikely that most people - even seasoned industry observers - are aware how

Survival Rates - Passenger Car

	As Of 2000	As Of 2006
1 Year	99.9%	100.0%
2 Year	97.6%	100.0%
3 Year	96.3%	98.2%
4 Year	99.0%	95.4%
5 Year	97.4%	96.9%
6 Year	95.5%	95.4%
7 Year	93.6%	93.7%
8 Year	92.2%	92.2%
9 Year	88.9%	89.9%
10 Year	84.3%	87.1%
11 Year	74.1%	78.7%
12 Year	62.3%	71.3%
13 Year	49.0%	61.7%
14 Year	37.5%	53.4%
15 Year	28.1%	43.0%
16 Year	21.0%	33.5%

Source: DesRosiers Automotive Consultants Inc. and Registration Data © R.L. Polk Canada, Inc. 2006, released September 2006.

quickly changes are taking place in this arena. In the same way that Newsweek might trumpet the fact that a trifecta of diet, exercise and lifestyle has made sixty the new forty, it is entirely possible to make similar statements about the swaths of old cars filling independent dealers' lots across Canada. Fifteen isn't quite the new ten, but major advances by all manufacturers have made it hard to ignore the creeping durability of vehicles and the way in which this longevity is changing the Canadian automotive landscape.

Surprising Gains

In order to highlight these significant changes, I'd like to focus for a moment on vehicles bought fifteen years ago - an eternity for most vehicles. In 2000, just 28.1 percent of passenger cars purchased fifteen years previous remained on the road. Just seven years later, 43.0 percent of same-age cars were

Survival Rates - Light Truck

	As Of 2000	As Of 2006
1 Year	99.9%	100.0%
2 Year	87.5%	99.7%
3 Year	85.7%	97.4%
4 Year	90.8%	94.2%
5 Year	94.5%	93.5%
6 Year	94.5%	87.7%
7 Year	94.0%	82.9%
8 Year	92.6%	76.9%
9 Year	89.8%	78.8%
10 Year	88.4%	81.6%
11 Year	82.9%	81.2%
12 Year	75.7%	77.9%
13 Year	68.2%	70.8%
14 Year	60.1%	63.9%
15 Year	53.9%	56.0%
16 Year	45.8%	48.5%

Source: DesRosiers Automotive Consultants Inc. and Registration Data © R.L. Polk Canada, Inc. 2006, released September 2006.

registered for use. An identical dramatic change occurred with all other age segments.

This is a remarkable statistic. It is, in fact, proof positive that all the gains in "perceived quality" and extended maintenance intervals have amounted to measurable gains in "actual" vehicle lifespan.

The data becomes more interesting (though not entirely surprising) when broken down by brand. For instance, GM, Ford, and Chrysler products are still subject to shorter lifespans than their import-nameplate counterparts, but they too have shown impressive longevity growth. Whereas just 35.2 percent of fifteen-year-old GM, Ford, and Chrysler vehicles were still registered in 2000, 43.7 percent remained registered in 2006. While auto analysts like me have occasionally derided the Detroit-based OEMs for a slew of product issues, there is no denying the fact that the vehicles we picked on in the early-1990s were quantitatively better cars than their predecessors.

An even more interesting story has developed on the import-nameplate side of the industry. From a 15-year survival rate of just 30.5 percent in 2000, a full 53.9 percent of import-nameplate vehicles remained registered for use in 2006. Reflect on that: over half of the import-nameplate cars

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and trucks purchased in 1991 are still in service today. I don't believe I'd be exaggerating by speculating that if this study were to have been performed in 1990, it would have been decidedly newsworthy if more than fifteen percent of 1975 products were found to be in service.

A strict logician would argue that these data points beg the follow conclusion: the cars and trucks of the early-1990s have weathered the tests of time more capably than those of the late-1980s. A theorist, on the other hand, might make a grander statement: the more recent the year of manufacture, the more durable the vehicle.

Why Is This Happening?

When asked why recently-manufactured vehicles tend to last longer, most people offer the following two words: higher quality. Push further, however, and many struggle to define exactly what differentiates modern vehicles from their forebears. The quick answer is that there is no quick answer: a confluence of factors - including the widespread adoption of electroplate-galvanized sheet-metal, tighter manufacturing tolerances, superior lubricants, the ubiquity of electronic fuel injection, and many others - has extended the useable life of many vehicles by some two to five years. This technological cocktail has resulted in an explosion of older vehicles on the road.

Winners and Losers

Certain vehicles stand the test of time better than others. When tabulating the list of brands with the greatest longevity over the past twenty two years (ie. the OEMs with the smallest variation between original sales and current registrations), luxury brands take the lead. If our full 22-year record of vehicles-on-the-road data is taken into account - and brands that have not had market presence during the entire period, such as Kia, are removed from the mix - names like Porsche, Mercedes-Benz, BMW, and Volvo tend to filter towards the top. Not one of these OEMs has a 16-20 year-old survival rate below 50 percent. Think about that for a second: over 50 percent of these manufacturers' vehicles bought over the last 20 years are still on the road

Passenger Car Survival Rates

	Vehicles Sold 11 to 15 Years Ago	Vehicles Sold 16 to 20 Years Ago	Vehicles Sold 21 and 22 Years Ago
Porsche	98.7%	84.3%	73.5%
Volvo	87.2%	53.2%	19.2%
Lexus	83.8%	N.A.	N.A.
BMW	83.6%	60.5%	29.6%
Mercedes-Benz	82.6%	72.0%	65.6%
Jaguar	81.4%	45.7%	31.7%
Toyota	78.2%	27.6%	9.9%
Audi	76.5%	23.2%	6.0%
Honda	76.5%	27.7%	4.6%
Acura	75.9%	42.1%	N.A.
Cadillac	74.6%	41.4%	20.3%
Lincoln	72.8%	32.2%	17.5%
Saab	72.2%	29.9%	16.4%
Saturn	69.2%	N.A.	N.A.
Buick	68.8%	21.0%	6.4%
Chrysler	68.8%	20.4%	5.8%
Oldsmobile	67.2%	20.8%	8.5%
Infiniti	65.8%	N.A.	N.A.
Mazda	64.8%	21.5%	5.4%
Volkswagen	63.1%	20.3%	9.7%
Nissan	61.0%	16.4%	4.5%
Subaru	59.1%	13.4%	2.5%
Mercury	54.9%	11.8%	4.3%
Dodge	54.6%	10.3%	2.5%
Pontiac	53.6%	12.6%	6.3%
Ford	53.6%	13.4%	3.9%
Plymouth	52.5%	10.8%	2.2%
Eagle	51.6%	10.0%	2.5%
Chevrolet	48.6%	15.0%	6.3%
Hyundai	32.8%	2.8%	1.1%
Suzuki	30.8%	7.4%	N.A.
Isuzu	19.8%	8.5%	8.3%
Lada	5.1%	1.1%	0.2%
Industry Average	60.6%	17.7%	6.0%

Source: DesRosiers Automotive Consultants Inc. and Registration Data © R.L. Polk Canada, Inc. 2006, released September 2006.

today. They still require service, they still need to be insured, they still need fuel, they still are put up for sale in the used vehicle market. By any measure this is a lot of economic activity. And may I also say they still emit emissions into our environment and would emit fewer emissions if they were replaced with newer vehicles.

Luxury vehicles tend to live long lives for a number of reasons. Foremost among them is purchase price: if a vehicle costs more at the outset, it will retain a modicum of market value for a longer period of time than a less expensive vehicle. A BMW, for example, will take more time to "bottom out" on the used car market than a high volume brand. Additionally, cars that retain their worth are more likely to be repaired if involved in a collision (rather than being scrapped).

Demographics also play a key role. Luxury vehicles are often purchased by older, wealthier consumers who highly value these vehicles. They are maintained more diligently and driven less frequently. Longevity and dealer loyalty seem to run hand-in-hand. The brands topping our longevity list are arranged in virtually the same order as the dealer loyalty leaders. This correlation should be noted by all OEMs as it does shed light on the long term value of positive dealership service experiences.

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On the other end of the spectrum are brands which no longer exist in the new vehicle market: Lada, Eagle, Mercury, Plymouth, Isuzu, and Oldsmobile. Lacking a dealer network and the regular media chatter it creates - not to mention the aftermarket support that "living" brands engender - these vehicles fall to the bottom of many used vehicle buyers' lists and are hence scrapped earlier. Of all Oldsmobile vehicles sold between 1984 and 2004 (the final year of sales in Canada), only 43.7 percent are still in operation.

Implications

Implications of these trends are profound for all aspects of the sector. My quick assessment is that they would be positive for the aftermarket, negative for the environment, negative for new vehicle manufacturers, negative for the government - and most immediately, positive for the average Canadian vehicle owner.

Older vehicles that remain in operation are old vehicles that will reliably generate maintenance and upkeep dollars in the range of a thousand dollars per year and usually more. The traditional aftermarket stands to benefit a great deal from any extension of the average vehicle's service life. Longer lasting cars and trucks spend a larger proportion of their lives outside the dealer service system, their owners often frequenting independent installers or non-dealer chains after their

Light Truck Survival Rates

	Vehicles Sold 11 to 15 Years Ago	Vehicles Sold 16 to 20 Years Ago	Vehicles Sold 21 and 22 Years Ago
Honda	95.1%	N.A.	N.A.
Volkswagen	92.9%	96.8%	98.8%
Nissan	82.1%	31.1%	8.7%
Toyota	80.1%	43.0%	17.2%
Chrysler	78.0%	47.4%	N.A.
Mercury	75.8%	N.A.	N.A.
Jeep	74.7%	37.1%	16.0%
Chevrolet	74.4%	40.4%	23.2%
Pontiac	73.7%	51.4%	N.A.
GMC	73.5%	38.6%	22.3%
Land Rover	72.9%	52.7%	N.A.
Dodge	69.0%	30.9%	17.4%
Kia	66.7%	N.A.	N.A.
Ford	66.3%	31.1%	18.5%
Mazda	65.6%	27.1%	4.1%
Plymouth	61.9%	17.6%	5.8%
Suzuki	61.7%	28.5%	15.6%
Isuzu	60.8%	25.5%	25.7%
Oldsmobile	58.1%	69.4%	N.A.
Lada	19.1%	4.6%	5.2%
Subaru	N.A.	22.7%	6.7%
Industry Average	70.5%	34.1%	19.0%

Source: DesRosiers Automotive Consultants Inc. and Registration Data © R.L. Polk Canada, Inc. 2006, released September 2006.

warranty coverage expires. Independent service providers can capitalize on this opportunity by building long-term relationships with their customers. And with higher survival rates these service relationships now have the potential to last longer than ever.

Stemming from increased aftermarket business will be the need for more aftermarket parts. Wholesalers and warehouse distributors will need to extend the period of time older SKUs are kept in their systems, potentially increasing inventory sizes. Despite the carrying costs associated with larger inventories, a larger old vehicle fleet can still be regarded as a very positive development for all in the aftermarket value chain.

I also believe that better-built vehicles are very positive for the used vehicle market. The adage that used car buyers are "buying someone else's problems" is not true anymore, at least through the first

decade of ownership. I suspect that better longevity is one of the reasons that ownership of vehicles in Canada has increased from about two thirds of the driving age population in the 1990s to closer to three quarters of the driving age population today. Higher ownership results in more used vehicle sales and possibly more new vehicle sales. The used vehicle market has grown by about 500k units this decade, generating a lot of profit in this segment of the market.

Unfortunately, the extension of average vehicle lifespans is not beneficial across the board. Many things are negatively affected by this trend, not the least of which is the quality of our air. Older vehicles are the least fuel efficient and highest polluting users of the road. A current model year vehicle emits 98 percent less toxins into the air than a vehicle bought 15 years ago. So keeping these old smokers on the road is definitely not good for the environment. Given that we are only now witnessing the first of the double-galvanized, electronically fuel-injected cars entering the fifteen-year-plus age segment, we are poised to see growth in the number of very old cars remaining on the road. Indeed this represents a much bigger challenge for green-concerned legislators than the issues related to getting the OEMs to deliver a greener vehicle to the new vehicle buyer. **DAR**