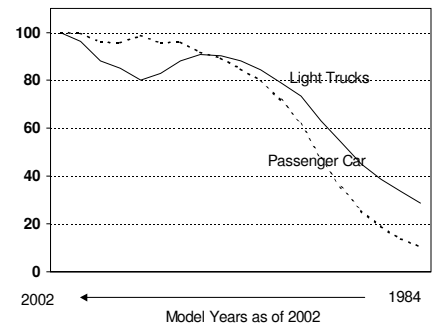


## Vehicle Longevity

I'm not convinced that the industry or our governments truly understand the implications of increased vehicle longevity and its impact on profits in the automotive sector and major public policy initiatives. The result is that governments, in some ways, are taking wrong-headed policy approaches.

Let's take the implications of Kyoto for example, which is also the biggest current issue for our governments. Kyoto stipulations require participating countries to reduce greenhouse gas emissions by six percent by 2008 to 2012 from the base year of 1990. Our government has arbitrarily decided that the automotive sector has to improve their emission by 25 percent in this period, a

Survival Rates as of 2002  
Passenger Car vs. Light Truck  
(Percent)



Source: DesRosiers Automotive Consultants Inc.

number picked out of mid-air, but that is another topic.

An analysis of vehicle longevity clearly shows that trying to address Kyoto requirements by getting consumers to purchase more fuel-efficient new vehicles is unlikely to have much of an impact. There are almost 19 million units in operation in Canada and survival rates for these vehicles are very high. Indeed 50 percent of the vehicles purchased 15 years ago are still on the road today. A quarter of the light trucks are still on the road after 20 years of operation. It takes between 20 and 25 years for the entire fleet of vehicles to 'turn over.'

Encouraging consumers to purchase more fuel-efficient vehicles is certainly important. But even if consumers were by

### Light Vehicle Sales by Segment - Canada vs United States

	United States		Canada	
	1997	2004	1997	2004
<b>Passenger Cars</b>				
Subcompact	1.4%	1.5%	3.5%	5.2%
Compact	14.2%	11.5%	22.1%	25.3%
Sport	4.0%	2.3%	2.3%	1.9%
Luxury	3.2%	4.5%	2.1%	3.6%
Intermediate	27.5%	20.1%	21.4%	15.7%
Luxury High	3.9%	3.4%	1.7%	1.3%
Luxury Sport	0.5%	1.3%	0.2%	0.5%
<b>Total Passenger Car</b>	<b>54.7%</b>	<b>44.6%</b>	<b>53.2%</b>	<b>53.4%</b>
<b>Light Trucks</b>				
Compact Sport Utility	2.9%	7.0%	3.5%	7.5%
Intermediate Sport Utility	8.6%	10.0%	5.6%	5.7%
Large Sport Utility	4.0%	6.3%	1.6%	1.2%
Luxury Sport Utility	0.6%	4.7%	0.3%	2.6%
Small Pick Up	5.6%	3.3%	2.1%	1.7%
Large Pick Up	12.7%	15.4%	15.1%	13.9%
Small Van	8.1%	6.6%	16.7%	12.0%
Large Van	2.7%	2.1%	2.0%	1.9%
<b>Total Light Truck</b>	<b>45.3%</b>	<b>55.4%</b>	<b>46.8%</b>	<b>46.6%</b>
<b>Total All Light Vehicles</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: DesRosiers Automotive Consultants Inc.

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# Observations - "Vehicle Longevity"

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some stroke of magic to begin immediately purchasing vehicles that are 25 percent more fuel-efficient it would take from 20 to as many as 30 years for the entire fleet of vehicles on the road to become this much more fuel efficient.

Of course consumers need to be more energy aware but wouldn't the government be better to focus on getting older vehicles off the road? The 'rated' fuel efficiency of the older vehicles is less than new vehicles but more importantly because of poor maintenance practices, older vehicles operate far below their 'rated' efficiency. By getting older vehicles off the road the environment would benefit and the OEM's would be able to sell more vehicles and address their profitability issue. I suspect this would never happen because even though our governments want to retain all

the manufacturing jobs associated with the automobile sector, government does nothing to encourage consumers to buy the products workers are making. High taxes, high fees and now misplaced policies like 'Kyoto' all resulting in keeping the market for vehicles sluggish. At some point our governments are going to have to realize that if consumers can't afford to own vehicles and replace them regularly, then the economy can't rely on the 250,000 manufacturing jobs related to the automotive industry.

Every year the motor vehicle industry offers a proliferation of new vehicles designed to entice consumers into their showrooms it also offers new financing products to help consumers pay for them. The development of leasing, for instance, as a way to finance a vehicle helps consumers acquire the vehicle of their dreams

sooner and more often than otherwise would be possible.

However, most Canadian consumers are actually very conservative with their vehicle buying and ownership habits. The most popular vehicles purchased each year in Canada are entry-level vehicles. On a market share basis, Canadians purchase twice as many of the very practical entry level passenger cars and light trucks than do Americans and half as many of the large, luxury, sport utilities and sports cars — which are often viewed by analysts as less practical to own and operate. Yes, leasing is popular in Canada, but about half of the vehicles leased are purchased by the consumer at the end of the lease and are driven for another five to six years. Indeed, the average length of vehicle ownership in Canada for product originally bought new is over eight years.

And this is the average. About a third of consumers keep their vehicles for 11 to 15 years. In Canada there are over seven million vehicles on the road that are over 10 years old, over 30 percent of the total.

So, for many consumers, it is important to purchase a vehicle, new or used, that will last a long time. Using data from R.L. Polk Canada Inc., we are able to calculate survival rates for vehicles and the results are somewhat surprising. What we do is sum all the vehicles

Survival Rates - Passenger Car vs. Light Truck

Model Year	Passenger Car			Light Truck			Passenger Car Versus Light Truck
	Original Registrations	Number On the Road As Of July 2003	Survival Rate	Original Registrations	Number On the Road As Of July 2003	Survival Rate	
2002	854,878	854,878	100.0%	579,251	579,251	100.0%	0.0%
2001	742,263	738,463	99.5%	504,818	485,557	96.2%	3.4%
2000	808,846	776,808	96.0%	593,050	521,717	88.0%	9.2%
1999	677,444	649,171	95.8%	524,340	445,697	85.0%	12.7%
1998	689,581	680,348	98.7%	621,186	497,110	80.0%	23.3%
1997	687,688	658,496	95.8%	514,309	426,235	82.9%	15.5%
1996	522,673	501,216	95.9%	388,588	341,767	88.0%	9.0%
1995	690,802	633,024	91.6%	417,881	379,926	90.9%	0.8%
1994	649,629	579,782	89.2%	399,436	360,606	90.3%	-1.1%
1993	704,637	596,351	84.6%	367,420	324,162	88.2%	-4.1%
1992	815,515	651,008	79.8%	368,048	310,571	84.4%	-5.4%
1991	802,920	574,388	71.5%	358,803	282,578	78.8%	-9.2%
1990	855,411	527,444	61.7%	368,115	269,704	73.3%	-15.8%
1989	928,807	437,641	47.1%	416,194	262,077	63.0%	-25.2%
1988	1,018,015	357,009	35.1%	447,992	243,264	54.3%	-35.4%
1987	971,436	248,234	25.6%	346,339	155,837	45.0%	-43.2%
1986	1,101,519	207,412	18.8%	355,783	138,201	38.8%	-51.5%
1985	999,706	138,346	13.8%	292,363	97,784	33.4%	-58.6%
1984	941,081	99,245	10.5%	253,210	72,788	28.7%	-63.3%

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purchased 11 to 19 years ago (1984 to 1992 models) by brand name and then by using the Polk data, compare this to how many are still on the road today (latest data is as of July 2003).

Luxury marques are the clear winners when it comes to long lasting passenger cars. Seventy-five percent to as high as ninety percent of luxury marques sold 11 to 19 years ago are still on the road today. Toyota and Honda lead the non-luxury units as the longest lasting vehicles.

But why do some vehicles last longer than others? Is it simply that some are better quality than others? There are a number of variables, besides quality, which play a role in survival rates and although quality is important, it may not even be the top variable.

Other variables would include:

- The original price of vehicles
- The size of vehicle
- Type of construction
- Used vehicle exports and imports
- Accident rates
- Kilometres driven

First, it is very clear that luxury and high-priced vehicles are kept around a lot longer than lower priced vehicles. This is partially because they are built better but I suspect a lot of it is because they are driven less, looked after more diligently and are owned by older consumers who can afford the maintenance and who have no reason to get rid of them. Perhaps the message here is that "if you take care of your vehicle

## Light Trucks bought 11 to 19 Years Ago Still Remaining on the Road Today

	Model Year Registrations 1984 - 92	Number Still on the Road as of 2003	Percent Still on the Road as of 2003	Percent Above/Below Average
Pontiac	12,379	10,474	84.6%	48.0%
Chrysler	822	692	84.2%	47.3%
Volkswagen	9,041	7,325	81.0%	41.8%
Land Rover	479	347	72.4%	26.8%
Chevrolet	598,884	369,642	61.7%	8.0%
Jeep	143,056	87,883	61.4%	7.5%
Isuzu	18,559	11,321	61.0%	6.7%
Toyota	144,885	86,986	60.0%	5.0%
GMC	525,007	312,460	59.5%	4.1%
Mazda	118,265	68,676	58.1%	1.6%
<b>Industry Average</b>	<b>3,206,847</b>	<b>1,832,804</b>	<b>57.2%</b>	
Dodge	445,575	249,308	56.0%	-2.1%
Plymouth	162,782	87,334	53.7%	-6.1%
Ford	868,026	461,403	53.2%	-7.0%
Nissan	115,217	57,853	50.2%	-12.1%
Suzuki	41,654	20,740	49.8%	-12.9%
Lada	2,179	356	16.3%	-71.4%
Subaru	37	4	10.8%	-81.1%

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it will last longer!" Many older luxury vehicles are also collectable whereas I'm not sure many smaller vehicles are collectible.

Second, the larger, more substantive vehicles generally physically last longer than smaller vehicles. The small car divisions of DaimlerChrysler, Ford and GM all rank much lower than their luxury car divisions. Light trucks, which are usually bigger, have larger engines, are built tougher to withstand rugged use and therefore are a lot more durable than passenger cars. Light trucks also have a higher utility as they age versus a passenger car. There are many old pickup trucks in use on farms as second, third or fourth vehicles. This would not be the case for cars.

Vehicles with body-on-frame construction last longer than

those with uni-body construction because they are easier to repair if in an accident or if there is a rust problem. A case can also be made that a smaller vehicle in a collision is more likely to be written off than a larger vehicle because they sustain more damage. Finally, smaller cars have to be priced lower which means they also have to be built at lower cost and are therefore more likely to fail sooner.

Third, some of the under-performance by certain makes is due to poor quality. I can't think of any other reason that would explain the huge gap between older Lada, Hyundai and Eagle models and the industry average. Likewise, Toyota and Honda's excellent showing must be related to their quality record. Toyota has the number one ranking passenger vehicles amongst those brands selling a complete range of product

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# Observations - "Vehicle Longevity"

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followed by Honda. It is clear that the full line Japanese companies have passenger cars that last a long time.

It is also important to understand that companies such as Hyundai have significantly improved their quality, so comparing an 11-19 year old 'Excel' model to a new 'Accent' model is not fair. I expect a much better performance for Hyundai as their new models age.

Fourth, used vehicle imports and exports clearly play a role in survival ratings. There is an important anomaly in the data that needs to be noted. Polk does not track individual vehicles. They know how many vehicles were originally registered and they know how many vehicles are still on the road, but the ones on the road today may not be the ones originally registered. The ones that have disappeared may have been exported rather than scrapped. An imported used vehicle would show up in the Polk data today even though it was purchased in the United States. Brands with high used exports appear to have a lower survival rate and brands with high imports appear to have a better survival rate.

Similarly, luxury vehicles are a prime snowbird purchase and I suspect some of the luxury vehicles currently in Canada were imported as used vehicles from the United States over the last ten years. Moreover, luxury vehicles were historically much more expensive in Canada than in

the United States. Used vehicle imports create the perception that luxury vehicles last longer. Yes, they do, but not to the level indicated by this analysis. We have no way of knowing how many luxury vehicles currently on the road in Canada were actually purchased in Canada and/or in the U.S.

We also know that used vehicle exports have become very significant over the last three to five years. A vehicle class with high exports shows up in this analysis as having a lower survival rate. These vehicles may still be on the road, but they may be registered in the U.S. instead of Canada. Light trucks are the most popular used vehicle exports from Canada and this is why their survival rates during the first three to five years of

ownership are so low (see table on page two).

Older light trucks actually have higher survival rates than passenger cars because of some of the issues discussed earlier. The lesson here is that survival rates depend on a long list of factors, not just vehicle quality. Quality is certainly one of the most important variables but it is not the only variable. Consumers may be more willing to drive a banged up pick-up truck than a banged up sub-compact car. We do not know how to weight the various factors.

Finally, all the vehicle companies have made major improvements in quality over the last decade, so it is not fair to rate the vehicles they sold 11 to 19 years ago against the vehicles they sell today.

**DAR**

Passenger Cars Bought 11-19 Years Ago that Remain on the Road Today

	Model Year Registrations 1984-92	Number Still on the Road as of 2003	Percent Still on the Road as of 2003	Percent Above/Below Average
Lexus	6,161	5,299	86.0%	47.6%
Mercedes	32,827	27,359	83.3%	116.9%
Infiniti	2,262	1,843	81.5%	112.1%
Acura	65,498	49,183	75.1%	95.4%
BMW	39,027	28,211	72.3%	88.1%
Volvo	53,656	35,882	66.9%	74.0%
Cadillac	66,088	41,601	62.9%	63.8%
Jaguar	12,480	7,482	60.0%	56.0%
Lincoln	45,901	25,553	55.7%	44.9%
Toyota	583,213	320,075	54.9%	42.8%
Honda	631,457	337,786	53.5%	39.2%
Saab	10,313	5,156	50.0%	30.1%
Mazda	238,234	116,567	48.9%	27.3%
Volkswagen	279,308	125,322	44.9%	16.8%
Buick	371,892	160,918	43.3%	12.6%
Oldsmobile	533,109	214,469	40.2%	4.7%
Nissan	270,091	106,040	39.3%	2.2%
Chrysler	318,710	124,606	39.1%	1.8%
<b>Industry Average</b>	<b>8,434,410</b>	<b>3,240,727</b>	<b>38.4%</b>	
Chevrolet	1,089,460	406,419	37.3%	-2.9%
Pontiac	913,896	311,518	34.1%	-11.3%
Subaru	70,150	23,753	33.9%	-11.9%
Isuzu	10,466	3,420	32.7%	-15.0%
Audi	31,539	10,211	32.4%	-15.7%
Ford	984,244	314,957	32.0%	-16.7%
Mercury	486,426	150,832	31.0%	-19.3%
Plymouth	436,566	123,476	28.3%	-26.4%
Dodge	437,734	123,126	28.1%	-26.8%
Suzuki	38,180	10,671	27.9%	-27.3%
Eagle	98,945	24,608	24.9%	-35.3%
Hyundai	318,081	41,307	13.0%	-66.2%
Lada	9,686	351	3.6%	-90.6%

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