

## Undertaking # 5

MPI to provide some form of analysis with respect to the calculation of the anticipated additional 30 million in cost as well as the time frame over which it may unfold.

### RESPONSE:

#### Trend Driver:

CAFE (Corporate Average Fuel Economy) United States regulation on aggressive new average mileage standards is resulting in auto manufacturers reducing vehicle weight while preserving safety and driver amenities. This is happening with the extensive use of complex materials.

#### Concern:

Recent model year vehicles have incorporated complex materials in body and chassis construction.

- As these trends become pervasive across North America including Manitoba, the established repair practices inside MPI and the Repair Industry in Manitoba will be affected.
- Mitchell International has incorporated special annotation into their estimating system on a per vehicle basis to highlight when a component is composed of complex materials, such as Ultra-High Strength Steel (UHSS), Aluminum, Magnesium, Carbon Fiber, etc.
  - This feature is added for vehicles with model years of 2010 and newer.
  - We interpret this to mean that vehicles with model years of 2010 or newer are likely to have these types of materials and that the associated repair methods and associated costs will be different and most likely increase.

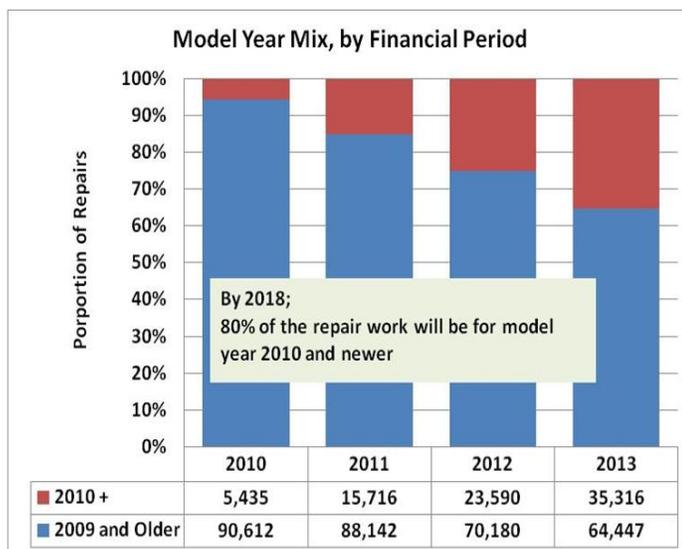
- The introduction of these vehicles into the fleet will, over time, systematically transform the historical cost structure for repairs.

**Scope of Change:**

- This change is on par with the shift to Uni-Body Construction in the late 1980’s & 1990’s when the nature and scope of auto repair was significantly and permanently changed.
  - The pervasive introduction of complex materials into new vehicles will achieve a similar impact; the average cost of repairs will increase as the new structural materials become pervasive.
  - The Inter-Industry Conference on Auto Collision Repair (ICAR-USA) has forecast that over 240 new models will be entering the market in the next couple of years; most of these, like the 2012 Dodge Dart, are expected to have complex materials as part of the body structure.

**Rate of Change:**

- New vehicle transition into repairable vehicles for MPI claims is directly tied to the introduction of these vehicles into the registered Manitoba fleet. MPI has evaluated the rate of growth for new model vehicle repairs (model year 2010 and newer). The following trend for MPI paid repairs has been determined.



- Newer models enter the repair mix activity at around a 50% year over year increase.
- By the end of fiscal year (FY) 2014, the split for old (pre 2010 models) vs new (2010 & newer models) repairs should be 50-50.
- If 2015 & 2016 represent a major influx of new vehicles with extensive use of complex materials; a similar transition rate will see these at 50% of the repair activity by 2020-2021

**Magnitude:**

What is the **magnitude** of the impact to existing repair costs and revenue to repair shops due to this new technology becoming pervasive?

1. **Repair Impact Assessment** is based on examination of recent models available at the MPI Physical Damage Training & Research Facility for comprehensive review. The original estimate was recorded and compared to a comprehensive updated estimate where repairs as per Original Equipment Manufacturer's (OEM) standards of all the affected structure components were factored in.

- a) One significant change to common practice is the effect of sacrificial parts to the scope of repairs; that is per OEM requirements, panels and parts attached to the damaged components, also had to be replaced. These types of parts have extremely limited tolerance for heat based treatment (welding) and must be replaced in their entirety to retain the vehicle integrity for crash worthiness.
- b) It should be noted that most newer structural components are more likely to be replaced vs repaired; this is to preserve the crash worthiness of the vehicle.

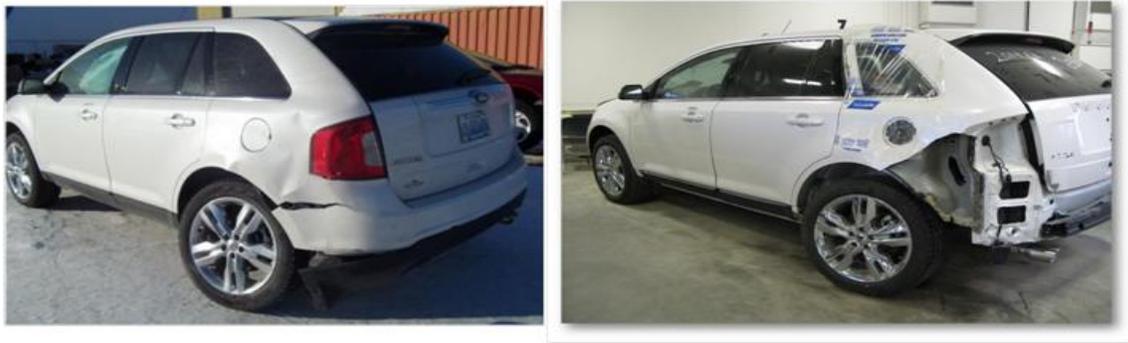
2. **Three vehicles were examined;**

- a) 2014 Ford Edge

Estimate	Labour	Parts	Material	Gross Total		ACV:
Original	\$3,362.85	\$4,496.30	\$531.26	\$8,390.41		
Final	\$8,026.31	\$24,815.84	\$1,294.68	\$34,136.83		\$45,453.00
			% Change	307%		

Damage:

- o Vehicle is damaged in the left suspension and quarter panel. SRS airbag deployed.



b) 2013 Chevrolet Equinox

Estimate	Labour	Parts	Material	Gross Total	ACV:
Original	\$7,410.97	\$5,917.08	\$1,256.11	\$14,584.16	
Final	\$8,010.15	\$13,592.68	\$1,448.81	\$23,051.64	\$25,493.00
			% Change	58%	

Damage:

- o Vehicle has heavy right side structural damage to the right rocker panel and "B" pillar. SRS side curtain airbag deployed.



c) 2014 Lexus 350

Estimate	Labour	Parts	Material	Gross Total	ACV:
Original	\$9,414.37	\$25,530.77	\$1,709.74	\$36,654.88	
Final	\$13,576.45	\$28,511.37	\$2,364.38	\$44,452.20	\$41,069.50
			% Change	21%	

Damage:

- o Vehicle has heavy right side structural damage to the right rocker panel and "B" pillar. SRS side curtain airbag deployed.



**Simple Average of the Cost Changes**

Simple Average of 3 Recent Model Vehicles					
Estimate	Labour	Parts	Material	Gross Total	ACV:
Original	\$6,729.40	\$11,981.38	\$1,165.70	\$19,876.48	
Final	\$9,870.97	\$22,306.63	\$1,702.62	\$33,880.22	\$37,338.50
			% Change	70%	

Based on the limited data set; repair costs involving structural components will increase over the 'standard' estimate by 21% to 307%; with the simple average being 70%.

- o **70% shall be used as a 'typical' cost increase to those jobs involving structural components.**
3. **Work Distribution Data** (Job Size) is taken from analysis of light vehicle repairs undertaken internally by MPI in 2012 & 2013.
- a) The purpose of this work was to establish a framework for evaluating the scope of repair work undertaken by Autobody repair shops on MPI's behalf.

- b) Complete year repair data from 2011-12 was used as the baseline;
- i. This shows 107,000 repairs worth \$265 million to the Manitoba Repair Trade.
  - ii. The information used for this analysis is not aligned with an insurance year view; the focus is on repair work completed by Autobody shops in Manitoba that MPI pays for.
- c) Operating assumption was that this represented a 'typical' year for the Repair Trade.
- i. ***Source data contains detailed and confidential business information by repair shop***
- d) The job size distribution is a segmentation approach to highlight meaningful differences in the scope of repair that may affect how the work is handled or what the extent of the work includes.
- i. The *Typical* segment, at about 50% of the volume by quantity, represents what most customers would encounter as a repair.
    - o Most of these are expected to NOT involve structural components.
  - ii. Larger repairs including those vehicles that cannot/should not be driven (Non-Drives) are expected to have a higher incidence of structural repairs with the majority of *Extensive* types requiring this type of work.

**Extrapolation:**

***If ALL repairs involving structural components see a similar cost growth of almost doubling, what would be the impact?***

**Approach:**

1. Job Size represents a mix of work; some have structural components, some do not.
2. Large repairs will tend to include structural components more often than smaller jobs.
3. Very small jobs will tend to have no structural components involved.

**Worst Case Projection** (*based on best judgement*) if all repair jobs included complex materials in their vehicle make up:

1. A weighting factor by job size as well as the 70% overall repair cost increase is applied to the base year work to develop the financial impact to repair costs.
  - a) The weighting factors per job category were selected based on the **judgement** of MPI staff involved in the Physical Damage Management Processes.
  - b) The biggest impacts would be for Non-Drivable Vehicles, Large and Extensive Repairs;
    - i. These types of repairs with this level of repair cost, would most likely result in an increased volume of total loss (T/L) vehicles.
    - ii. The cost impact of T/L is expected to be higher than the repair values shown.
    - iii. This aspect was NOT investigated further.

Impacts to Repair costs due to changes in structural components in newer vehicles											
	average value: per job category	Estimate Range		Category: Claims Size	Value % of \$	Revenue Value \$\$ Based on <b>2011-12</b> operating results	Job Type: Counts	Count %	Extended Impact Scenario		
		lo	hi						All	Distribute to Category: <b>Best Judgment</b>	\$ Impact to Shop Revenues (MPI Repair Costs)
total	\$ 2,457.76			All		\$ 264,560,719	107,643			\$30,925,423	11.7%
	\$ 4,166.98	na	na	Non Drive	16.1%	\$42,511,530	10,202	9.5%	40%	\$ 11,980,397	28.2%
mid point	\$ 12,615.09	\$10,000	\$10,000	Extensive	3.5%	\$9,246,864	733	0.7%	75%	\$ 4,886,076	52.8%
\$8,500	\$ 8,144.21	\$7,000	\$10,000	Large	7.2%	\$18,919,000	2,323	2.2%	25%	\$ 3,332,289	17.6%
\$5,250	\$ 4,745.62	\$3,500	\$7,000	Medium	25.5%	\$67,454,192	14,214	13.2%	15%	\$ 7,128,607	10.6%
\$2,250	\$ 1,942.29	\$1,000	\$3,500	Typical	38.6%	\$102,139,361	52,587	48.9%	5%	\$ 3,598,054	3.5%
\$500	\$ 705.10	\$0	\$1,000	Small	4.3%	\$11,269,669	15,983	14.8%	0%	\$ -	0.0%
	\$ 1,122.33	na	na	No Replacement Parts (NRP)	4.9%	\$13,020,102	11,601	10.8%	0%	\$ -	0.0%
<i>Note: Jobs categorized by size (dollar range) do NOT include the jobs in the two special categories of Non-Drive &amp; NRP</i>											
<b>Extrapolating the Structural Repair Cost Growth Impacts based on 2013 Ford Explorer Investigation</b>											
Simple Average of 3 Recent Model Vehicles											
	Estimate	Labour	Parts	Material		Gross Total	ACV:				
	Original	\$6,729	\$11,981	\$1,166		\$19,876.48					
	Final	\$9,871	\$22,307	\$1,703		\$33,880.22	\$37,339				
				% Change		70.5%					

### Observations:

- The combined effect to overall repair costs on 107,000 jobs valued at \$265 million is \$30 million.
  - The simple average cost increase due to new structural components using complex materials is 70%.
- This transition will not occur overnight; the new normal will be a significant part of the repair mix in the 2020-2021 time frame.
- The overall impact is about a 12% increase on the entire repair pool costs; the majority of the increases are associated with Non-Drives & Extensive Repairs.
  - The potential impact to total loss outcomes was not explored.
- The available small sample size of cost impacted structural repairs made the projections *indicative* of a trend which should be monitored; this is not a forecast.

- It will take time for the newer vehicles with complex structural components to enter the fleet and become the 'typical' repair experience.
  - This type of work will be the New Normal; preparing business partners and MPI practices to deal with it will be necessary.
  - It is expected that a significant number of jobs in the 5 to 8 year time horizon will encounter these types of repair issues.
  - If manufacturers expand the usage of these materials into non-structural parts, the impact will be larger and more pervasive.
  - OEMs do not share design details on new vehicles until they are in the marketplace.
- This cost impact has not been incorporated into the current rates forecast as these mechanisms identified will take time to develop. However, the data is sufficient that this trend presents a serious concern that can not be ignored. As per the testimony of D. Guimond, the corporation will undertake a number of strategic initiatives to mitigate these increased costs.

**Conclusion:**

- The market shifts are sustained and pervasive. All OEMs are embracing the use of complex materials into their newer models - this trend will not reverse itself. The industry will see a sustained increase in severity.
- The anticipated cost increases due to more expensive parts and larger repair jobs when these types of materials are involved will be material and will exceed simple inflation rates for cost growth of vehicle repairs.

- The repair industry will need to invest in facility changes, new equipment and more extensive staff training to handle the advent of these technologies.
- MPI, working with the repair industry in Manitoba, must find a balanced approach to avoid these very real impacts to the overall collision repair costs and consequently the rates Manitobans pay for Basic Insurance.
- The Corporation intends to offset savings in other areas in physical damage based on improving efficiencies and better use of resources to offset this expected cost growth.
- Cost growth in repairs needs to be mitigated by cost savings in other areas, such that the overall costs are in line with stable and predictable rates.