Automated Vehicles: For Whom the Bell Tolls

- Framing the discussion

Jonathan Charak, FCAS MAAA
CAS Automated Vehicle Task Force

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The task force has a clearly defined goal

Task Force's Goals

- Further the understanding of risks surrounding automated vehicles
- Help ensue the products is brought to the market as safely and efficient as possible
- Facilitate better decisions where there is risk and uncertainty

Insurers have 3 main roles to fulfill

Roles

1 Sharing risks improves ability to plan

2 Compensating claims fairly and efficiently

3 Quantifying risk through premiums provides financial incentives to decrease risk

Properly matching price with risk will help AVs come to market

Question	*Response*
How will industry insurance premiums change?	Little interest from the public
How much of a discount will the vehicle I purchase receive?	High interest from the public

Inaccurate pricing will also come with societal harms

Pricing error	*Response*
Overpricing Automated Vehicles	Make a life saving technology <u>unaffordable</u> to some customers
Underpricing Automated Vehicles	Insureds in other, less-safe vehicles will subsidize the insurance of insureds with safer vehicles

Further, there are multiple issues that still need to be solved

Issues

1 Data Availability

- Cannot ID which vehicles have the AV tech

2 Pricing Models

- What is the quality of our models to price these new vehicles?

CAS partnered with a national personal auto carrier to explore pricing credibility

Year	"New Vehicle" Discount: # of vehicles	"New Vehicle" Discount: Loss Cost Reduction 50%	"New Vehicle" Discount: Loss Cost Reduction 100%	Avg. Vehicle Discount: # of vehicles	Avg. Vehicle Discount: Loss Cost Reduction 50%	Avg. Vehicle Discount: Loss Cost Reduction 100%	Max Vehicle Discount: # of vehicles	Max Vehicle Discount: Loss Cost Reduction 50%	Max Vehicle Discount: Loss Cost Reduction 100%
1	2,500	0.9%	1.8%	Actual	7.4%	13.6%	Actual	15.0%	30.6%
2	5,000	2.6%	5.1%	Actual	13.7%	26.3%	Actual	24.7%	50.5%
3	7,500	5.1%	9.7%	Actual	18.2%	35.4%	Actual	31.9%	65.6%
4	10,000	8.0%	15.2%	Actual	21.0%	41.2%	Actual	38.0%	77.6%

Source: CAS Automated Vehicles Task Force yet-to-be released analysis, expected publication 2016

Implications of the study

Implications

1 Long run: the Vehicles will be priced accurately

2 Short run: vehicles that increase or decrease loss costs will be mispriced

More data is needed

- Which vehicles have the technology
- What is the technology's expected impact on frequency and severity
- What / how are the vehicles operated
- What is the driver interface

Source: CAS Automated Vehicles Task Force yet-to-be released analysis, expected publication 2016

An efficiently liability system is the first step to compensating claimants

Question	*Response*
Who will be liable for automated vehicle accidents?	Narrow focus
What is the optimal liability system?	Efficiency will hasten claims handling

There are four main goals for a liability system

1	Align accountability & responsibility
2	Compensate claimants fairly & efficiently
3	Encourage product development & safety
4	Perform these tasks at the lowest possible cost

Two main schemes for insuring AVs, auto liability and products liability, which will impact cost and coverages

1	Operating Expenses
2	Claim settlement strategy and expenses
3	Capital allocation and profit targets
4	Coverage triggers
5	Coverage limits

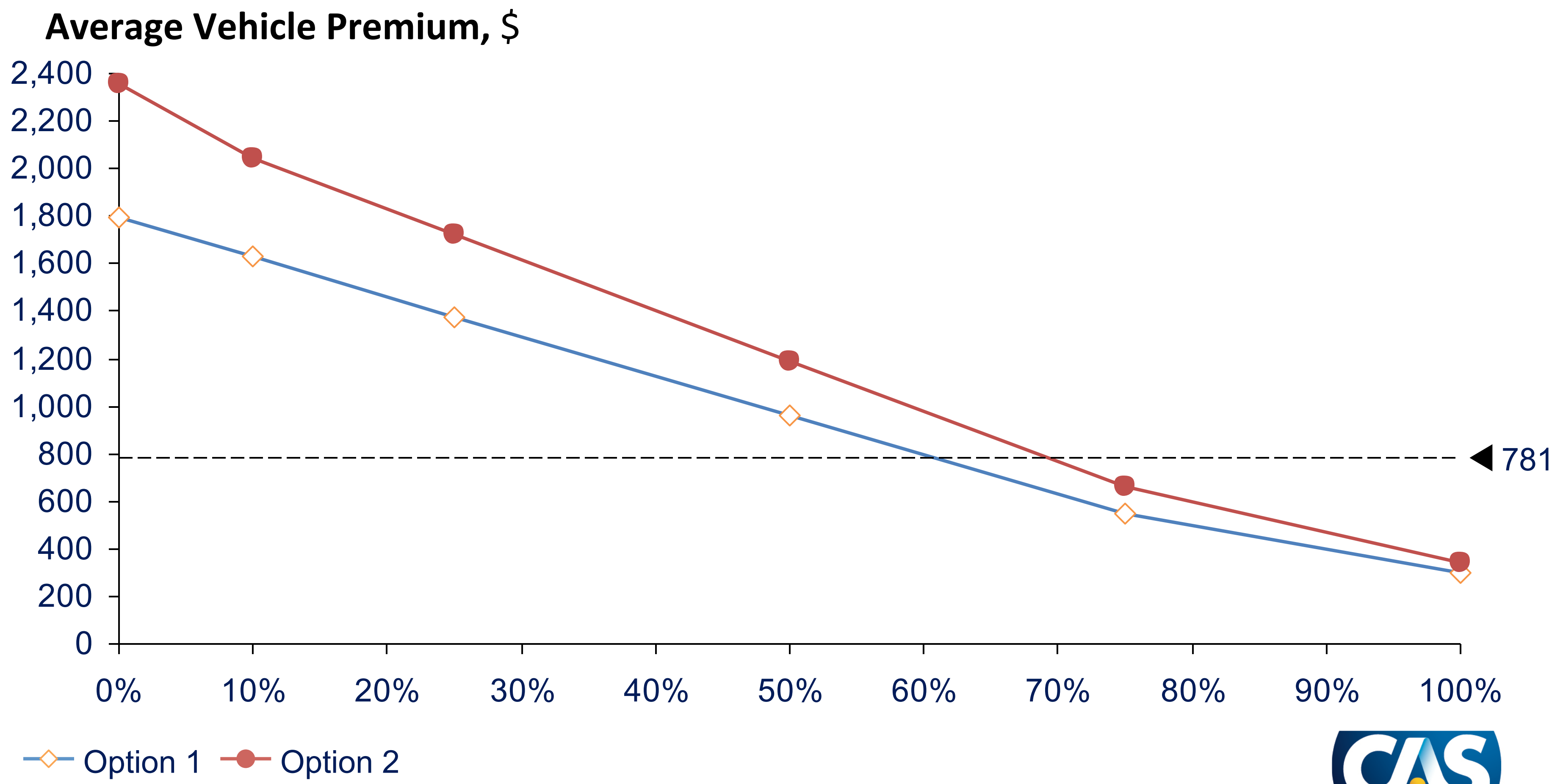
Adjusting from personal auto to products liability, may increase premium

% of Prem Dollar	PPA Baseline	Products Liability Option 1	Products Liability Option 2
Avg Prem	**$ 781**	**$ 1,794**	**$ 2,355**
Expected Loss	60.3%	57.7%	55.0%
ALAE	2.2%	4.0%	4.3%
Expenses	34.4%	30.4%	32.4%
Profit	3.1%	7.8%	8.4%
Total	**100%**	**100%**	**100%**

No figures above take loss mitigation from Automated Vehicles into account

Source: CAS Automated Vehicles Task Force yet-to-be released analysis, expected publication 2016

Loss mitigation would need to be 60-70% to place Products Liability premium close to personal auto rates



Implications of the study

Premium Analysis

- Calculating liability costs is extremely complex
- Products liability offers much greater coverage
- Greater coverage also entails greater frictional costs

Liability System

- Accident reporting data should be determined, in part, by insurance industry's needs

Liability system is not a problem but an opportunity for involvement

Source: CAS Automated Vehicles Task Force yet-to-be released analysis, expected publication 2016

Thank you