What Does All That Safety Technology on Your Vehicle Really Cost?

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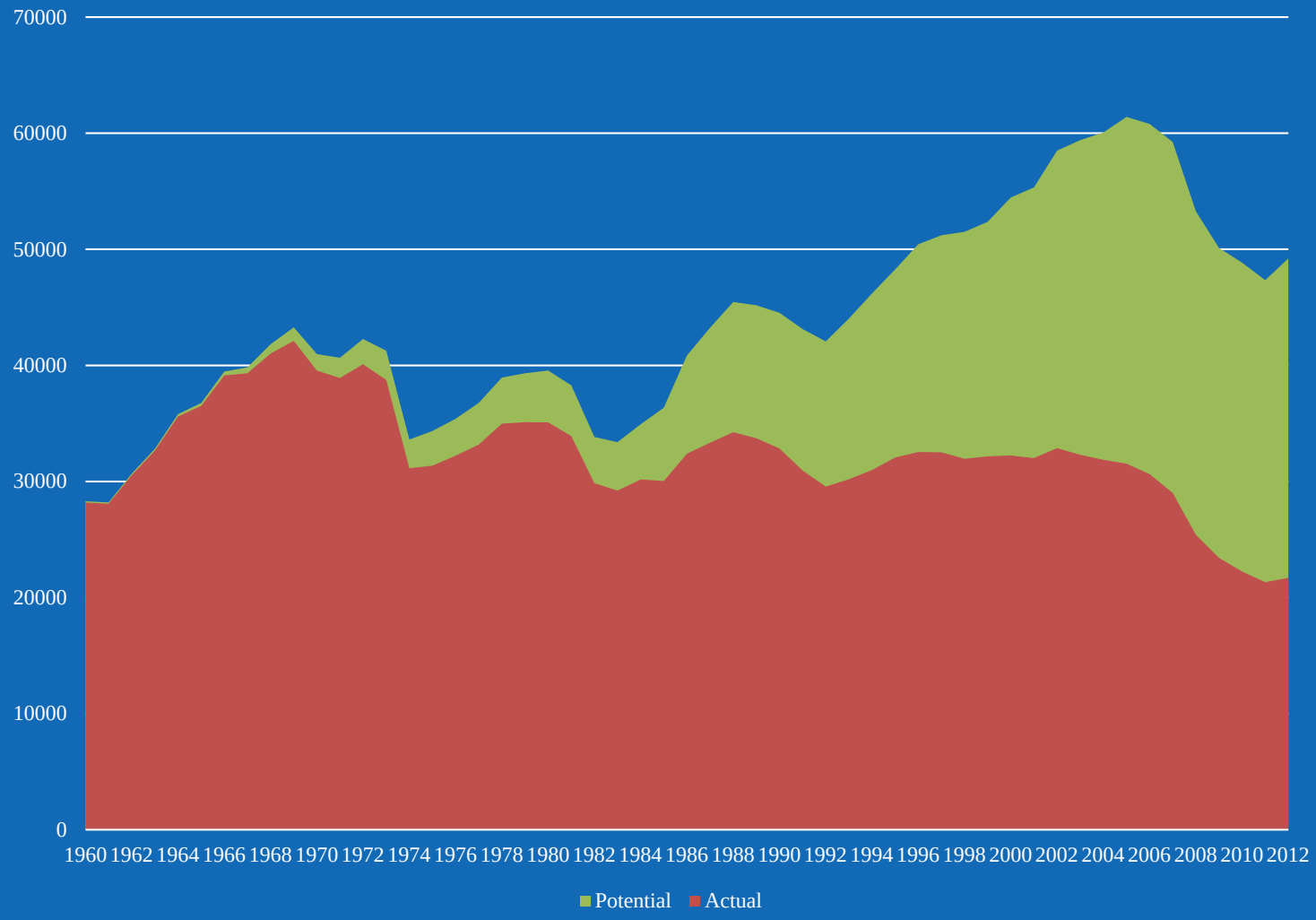
NHTSA
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

Background

- Motor vehicle crashes cause over 35,000 deaths and millions of serious injuries every year, imposing over $800 billion in societal harm.
- NHTSA has been tasked by Congress to improve motor vehicle safety. NHTSA's mission is to save lives, prevent injuries and reduce traffic-related health care and other economic costs.
- Since it was established in 1970, NHTSA has promulgated safety standards that saved over 600,000 lives and tens of thousands of serious injuries.
- Currently saving about 28,000 lives annually

Actual and Potential Fatalities, 1960-2012



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- These savings are enabled by technologies such as safety belts, air bags, electronic stability control, improved brakes, and many other safety features.
- As effective as these standards are, they are not free. What price are consumers paying for this added safety?

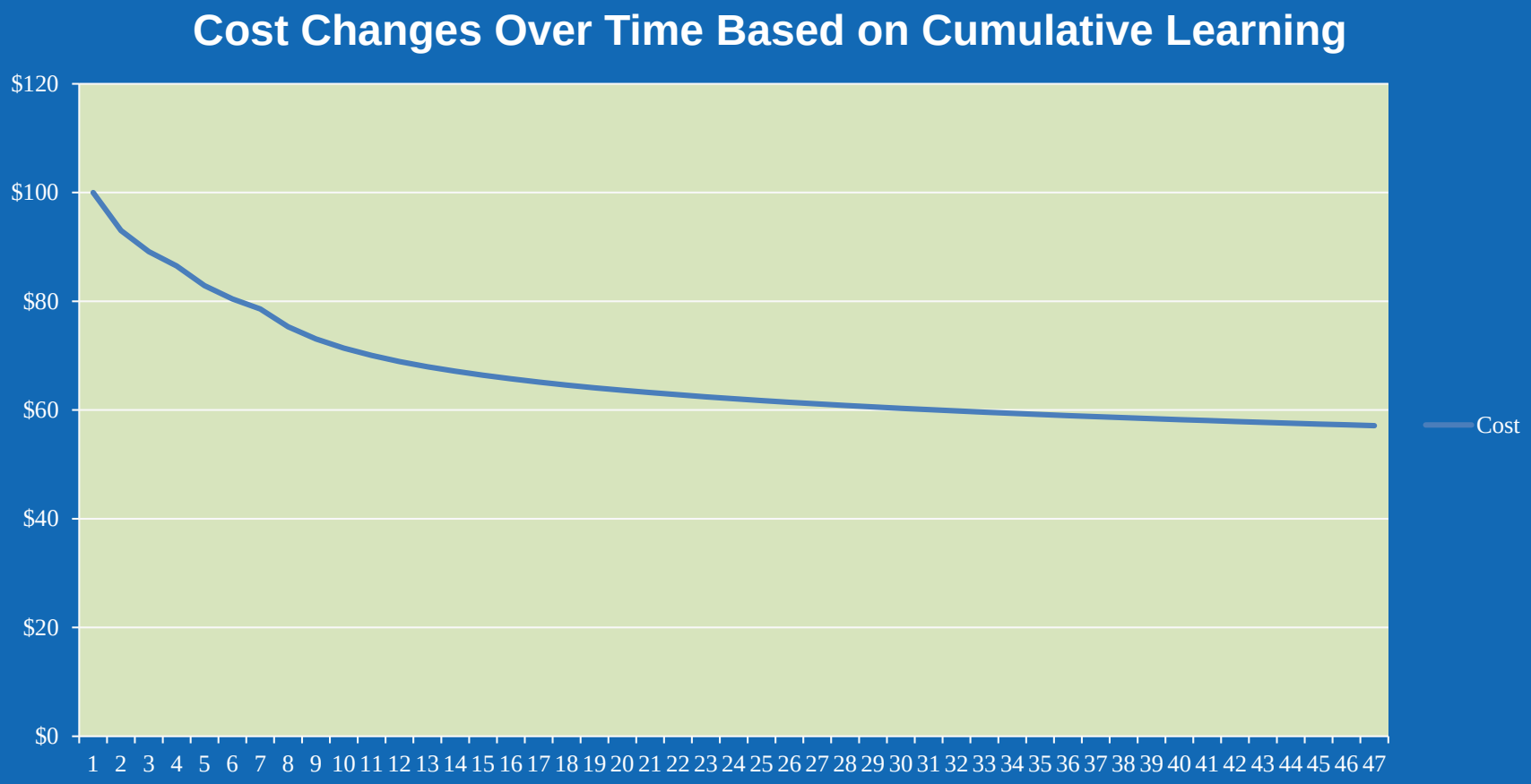
Scope

- 1968 through 2012 model years
- Price Increases
- Weight Increases
- Measures both impacts attributable to FMVSS and those voluntarily adopted
    - Technologies are considered to be voluntarily adopted in a model year vehicle if they were in production by September 1 prior to the publication of an NPRM.

Methods

- Derived from NHTSA Cost Teardown studies conducted from 1975 through 2012 covering virtually every FMVSS on MY 2012 vehicles
- Direct manufacturing costs marked up to retail price level derived from NHTSA teardown studies
- Costs modified to reflect manufacturer learning curve
    - Each doubling of cumulative production produces a measured decrease in costs
        - Due to knowledge gained in production
        - Economies of scale

Learning Curve Example



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Results Summary, 2012 Model Year Vehicles

	Cost/Vehicle ($)	% Vehicle Price	Weight (lbs.)	% Vehicle Weight
FMVSS				
Passenger Cars	$1,346	5.3%	132	3.9%
LTVs	$1,074	3.3%	92	2.0%
Voluntary				
Passenger Cars	$583	2.3%	39	1.2%
LTVs	$735	2.2%	44	0.9%
Total				
Passenger Cars	$1,929	7.6%	171	5.1%
LTVs	$1,808	5.5%	136	2.9%

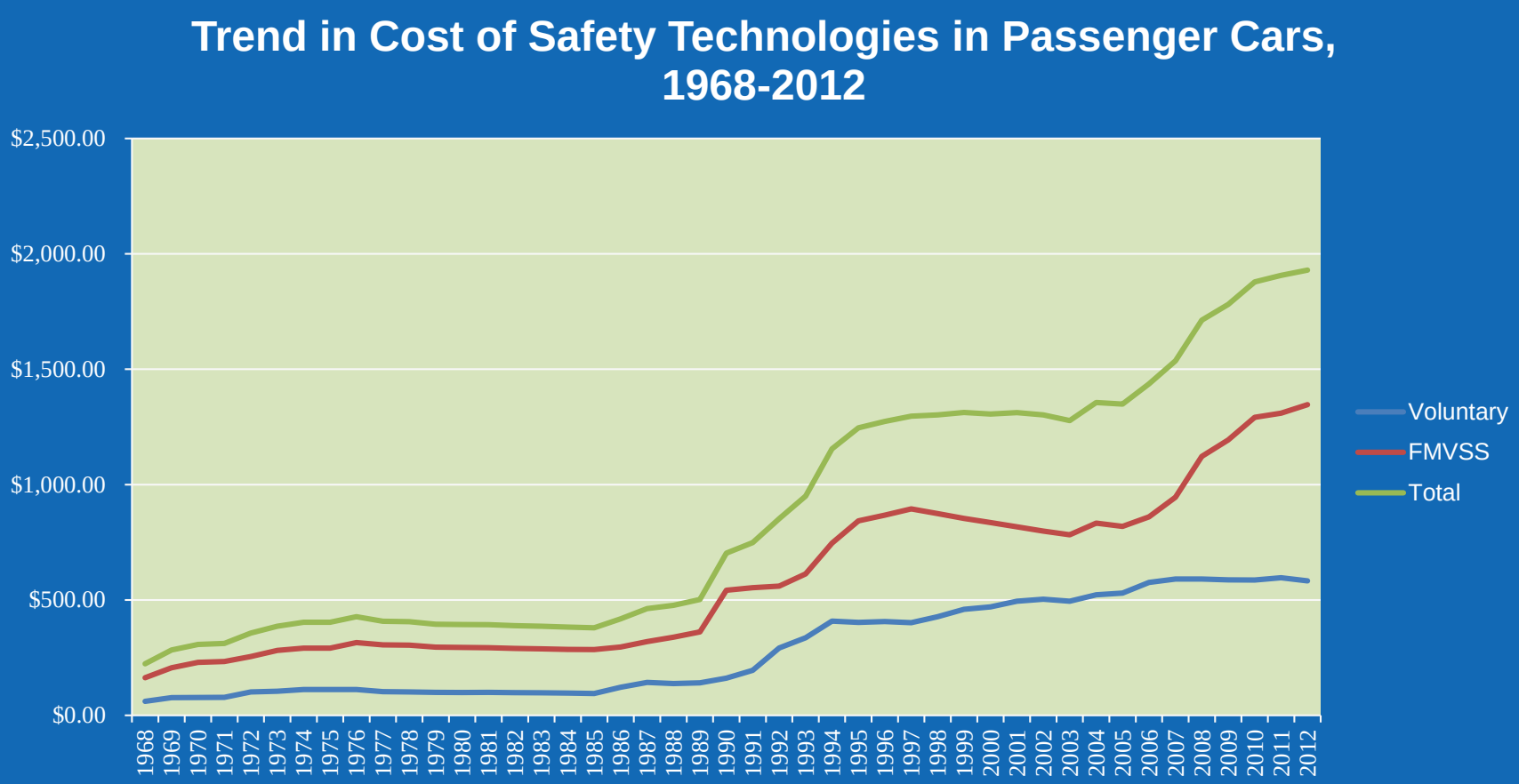
7 Technologies Dominate Costs – Passenger Cars

	Passenger Cars			
	Total	Voluntary	FMVSS	%FMVSS
Antilock Braking	$387	$298	$89	23%
ESC	$103	$21	$82	80%
Frontal Air Bags	$337	$0	$337	100%
Side A/B, Window Curtains	$270	$54	$216	80%
Seat Belts	$180	$82	$98	54%
TPMS	$166	$4	$162	98%
Dynamic Side Impact Test	$125	$0	$125	100%
Subtotal	*$1,568*	*$459*	*$1,109*	*71%*
Other	$361	$124	$238	66%
Total	*$1,929*	*$583*	*$1,347*	*70%*
% from 7 most costly tech.	81%	79%	82%	

7 Technologies Dominate Costs – Light Trucks

	Light Trucks			
	Total	Voluntary	FMVSS	%FMVSS
Antilock Braking	$387	$366	$21	5%
ESC	$103	$51	$52	50%
Frontal Air Bags	$337	$0	$337	100%
Side A/B, Window Curtains	$249	$37	$212	85%
Seat Belts	$199	$113	$86	43%
TPMS	$166	$1	$165	99%
Dynamic Side Impact Test	0	$0	$0	NA
Subtotal	*$1,441*	*$568*	*$873*	*61%*
Other	$367	$165	$201	55%
Total	*$1,808*	*$733*	*$1,074*	*59%*
% from 7 most costly tech.	80%	77%	81%	

Costs Over Time, Passenger Cars



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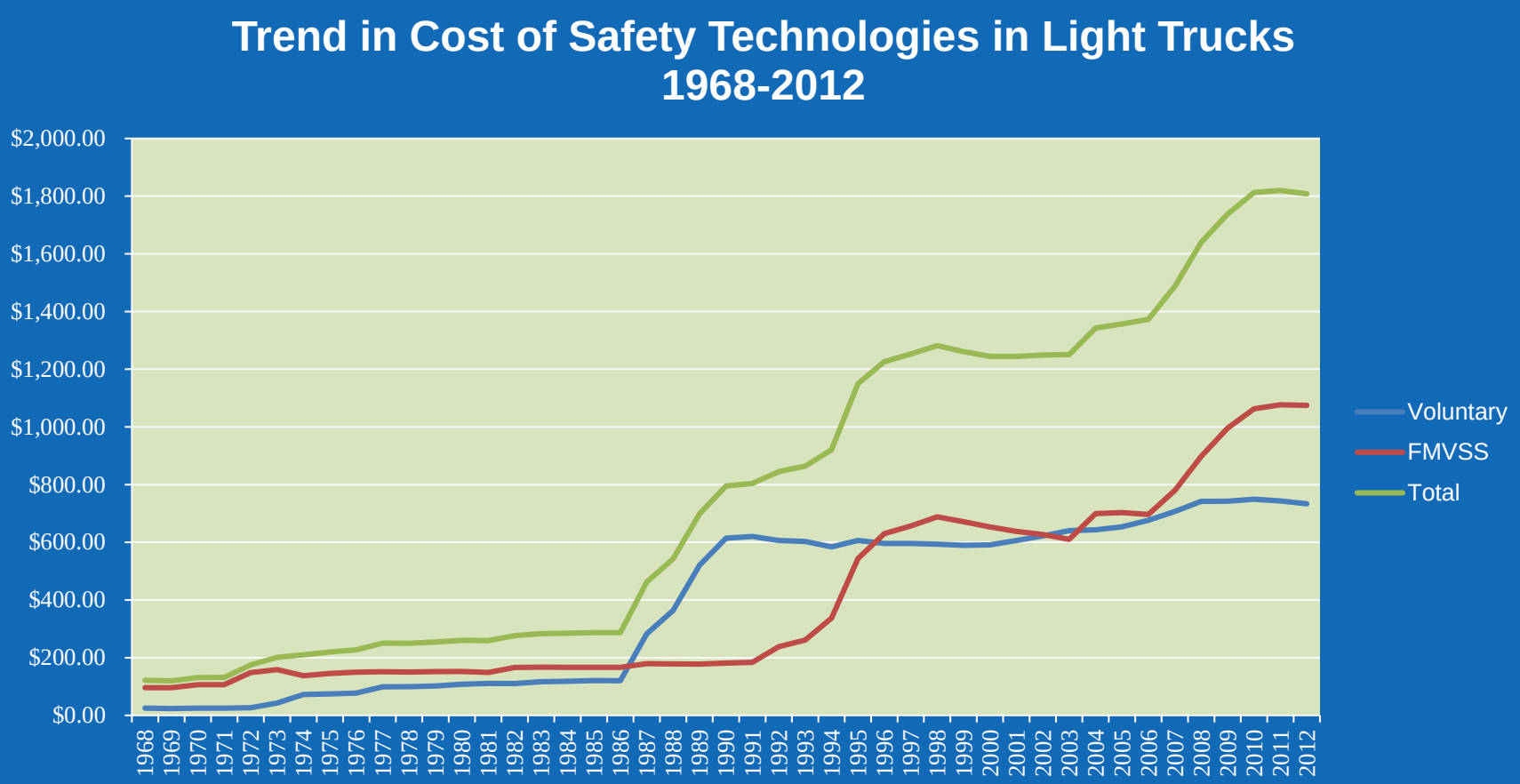
Costs over time, Light Trucks



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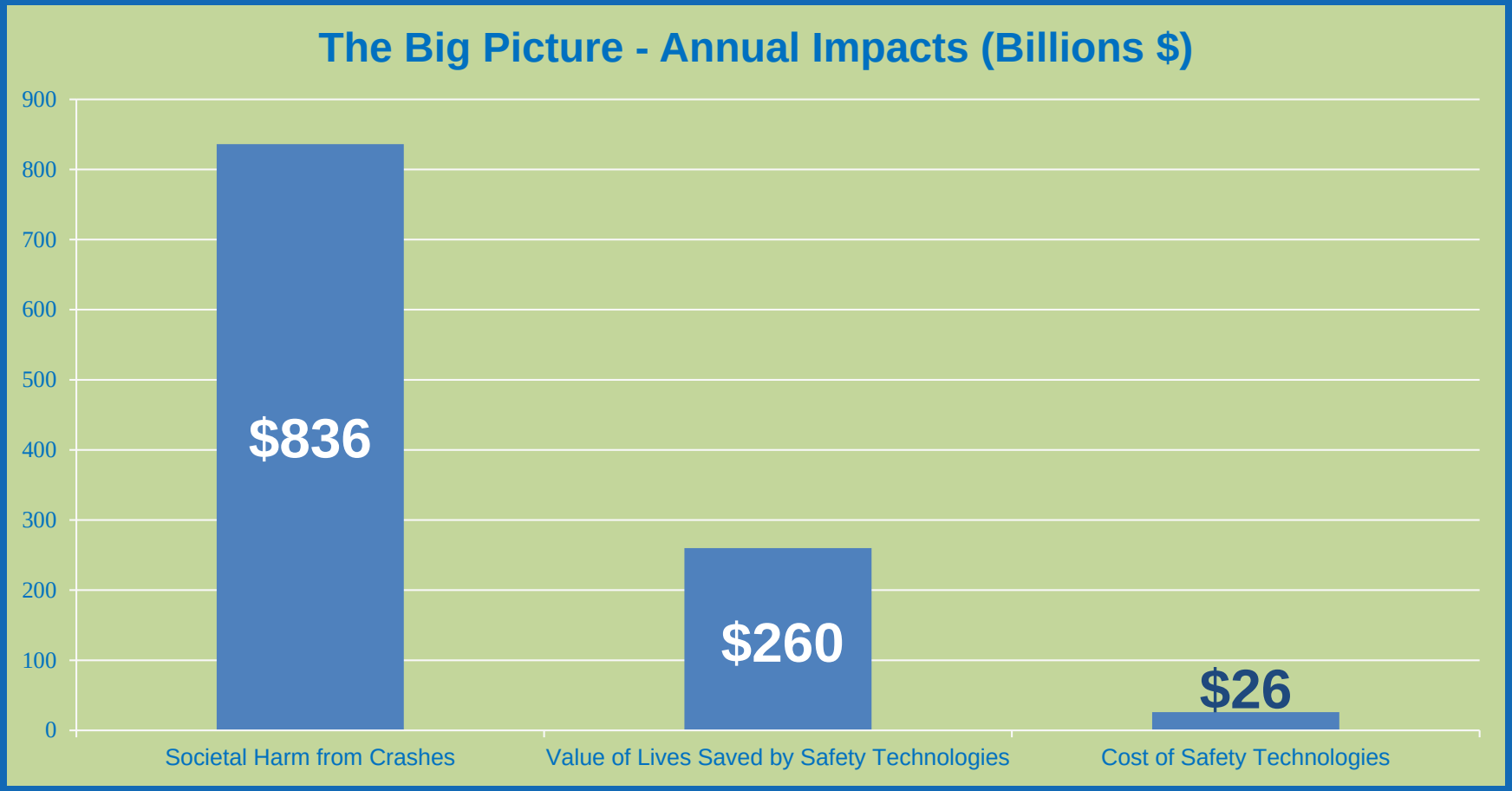
The Big Picture



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The Study

- Cost and Weight Added by The Federal Motor Vehicle Safety Standards for MY 1968-2012 Passenger Cars, DOT HS 812 354 November 2017, by James F. Simons

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THANK YOU