

Automaker Survey Confirms: Aluminum Use at All-Time High and Set for Significant Increase

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on behalf of

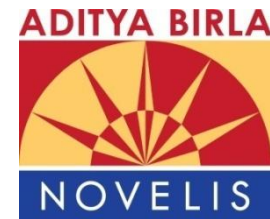
The Aluminum Association

Aluminum Transportation Group (ATG)

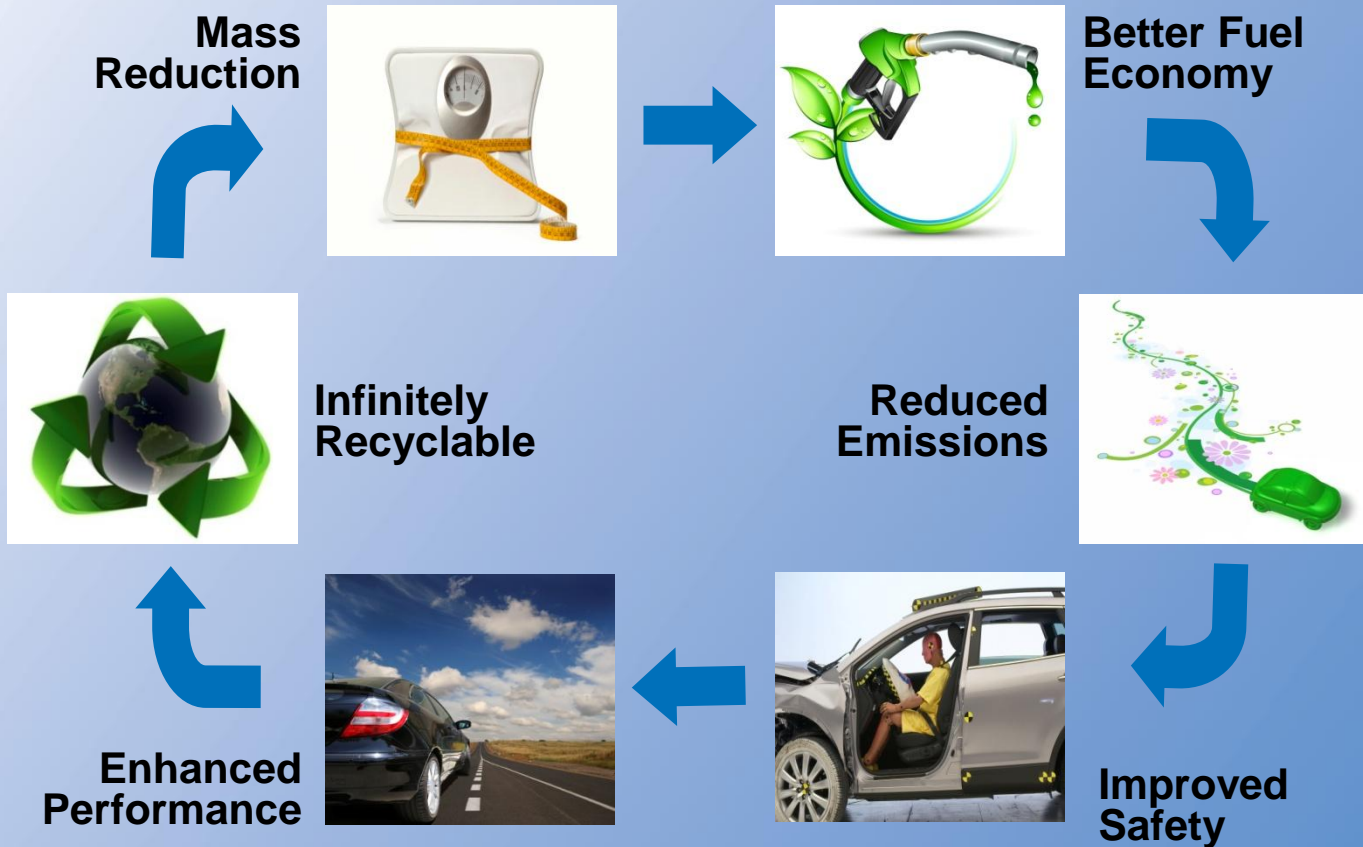
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Defining Who We Are

The Aluminum Association's Aluminum Transportation Group (ATG)



Aluminum Builds a Better Vehicle



Vehicle Make-Up Is Changing

- Two main factors leading automakers to rethink vehicle design
 - Consumer demand and desire for increased fuel efficiency coupled with a need to continuously improve safety, function and comfort
 - New, stringent fuel economy standards



Survey of North American Automakers by Ducker Worldwide

Primary Objective

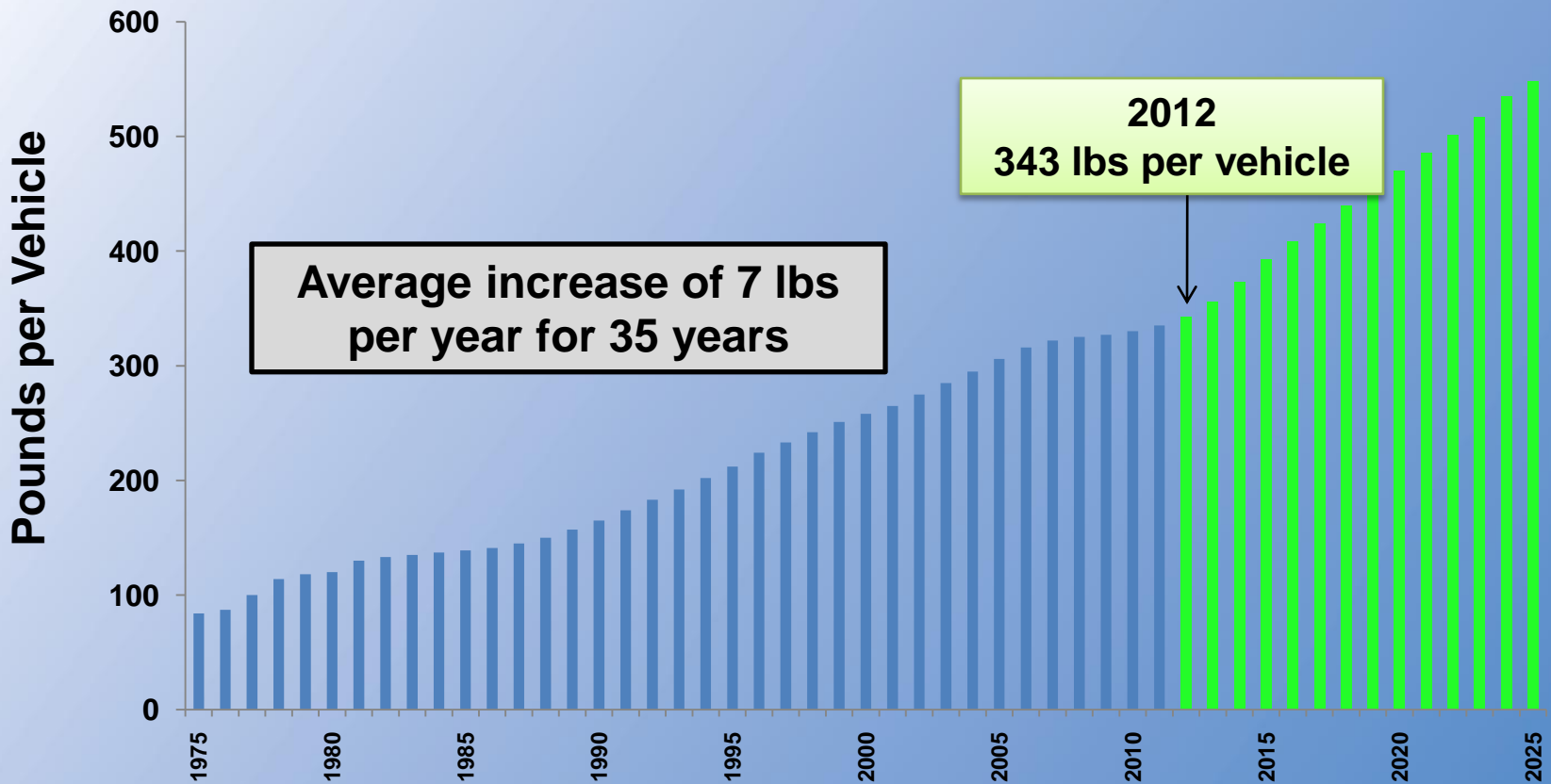
Accurate estimate of 2012 North American light vehicle aluminum content

Secondary Objective

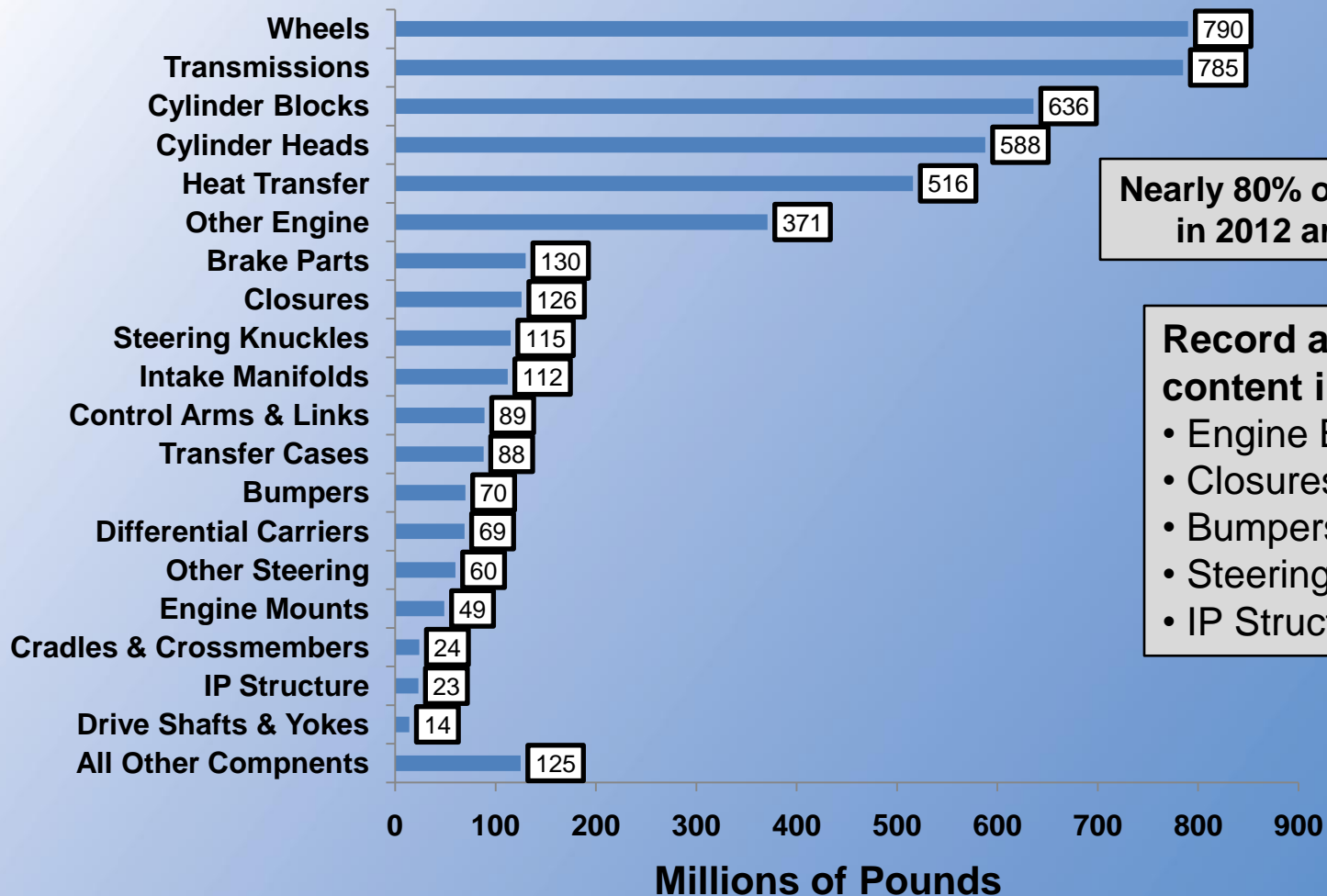
Estimate “most likely” material mix through 2025

40 Years of Uninterrupted Growth

Aluminum Content – Pounds Per Vehicle



Aluminum Content in 2012

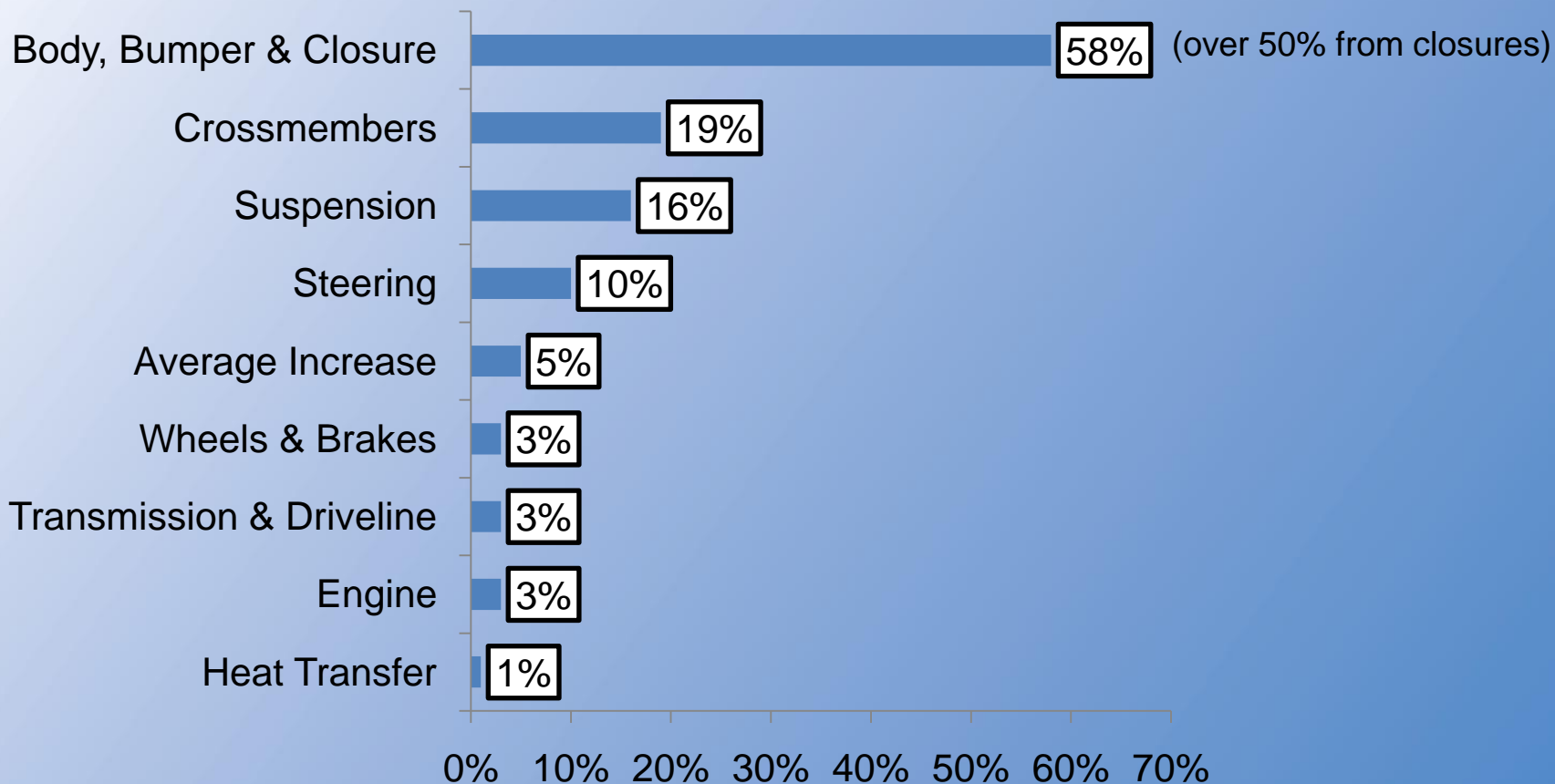


Nearly 80% of engine blocks in 2012 are aluminum

Record aluminum content in 2012:

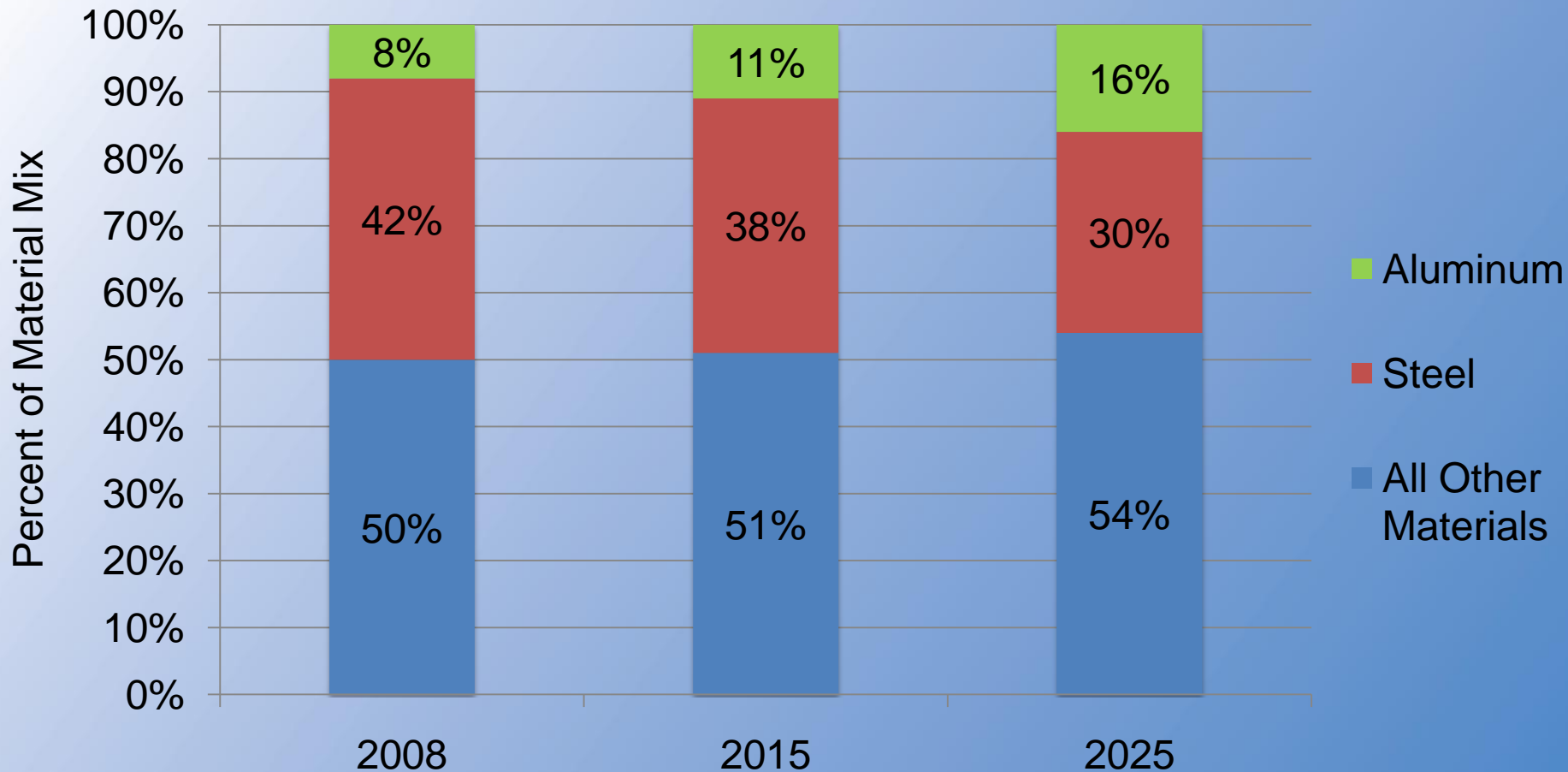
- Engine Blocks
- Closures
- Bumpers
- Steering Knuckles
- IP Structures

2009-2012 Aluminum Content Growth



Total Pounds
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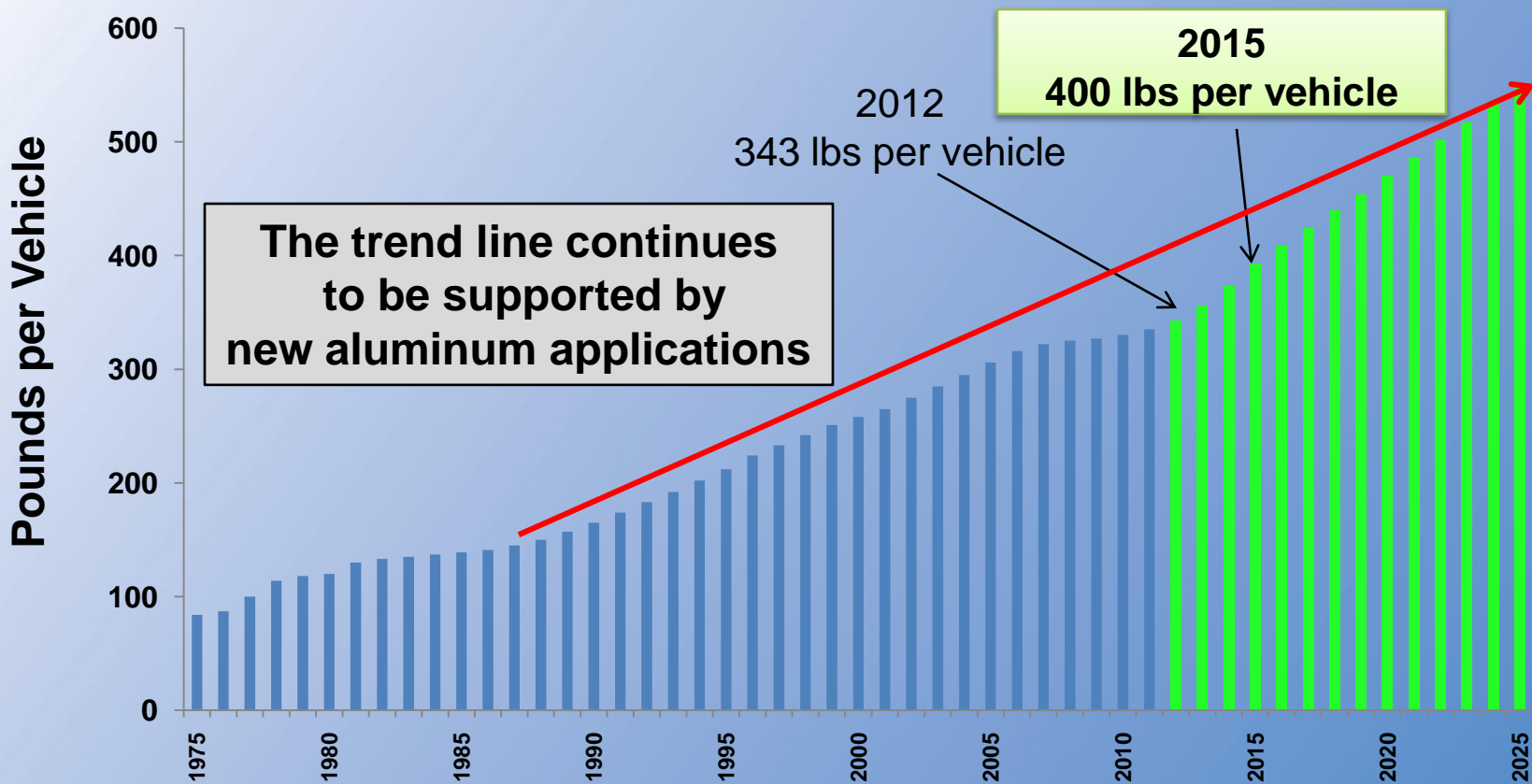
Aluminum Share Expected to Double



Aluminum Forecast

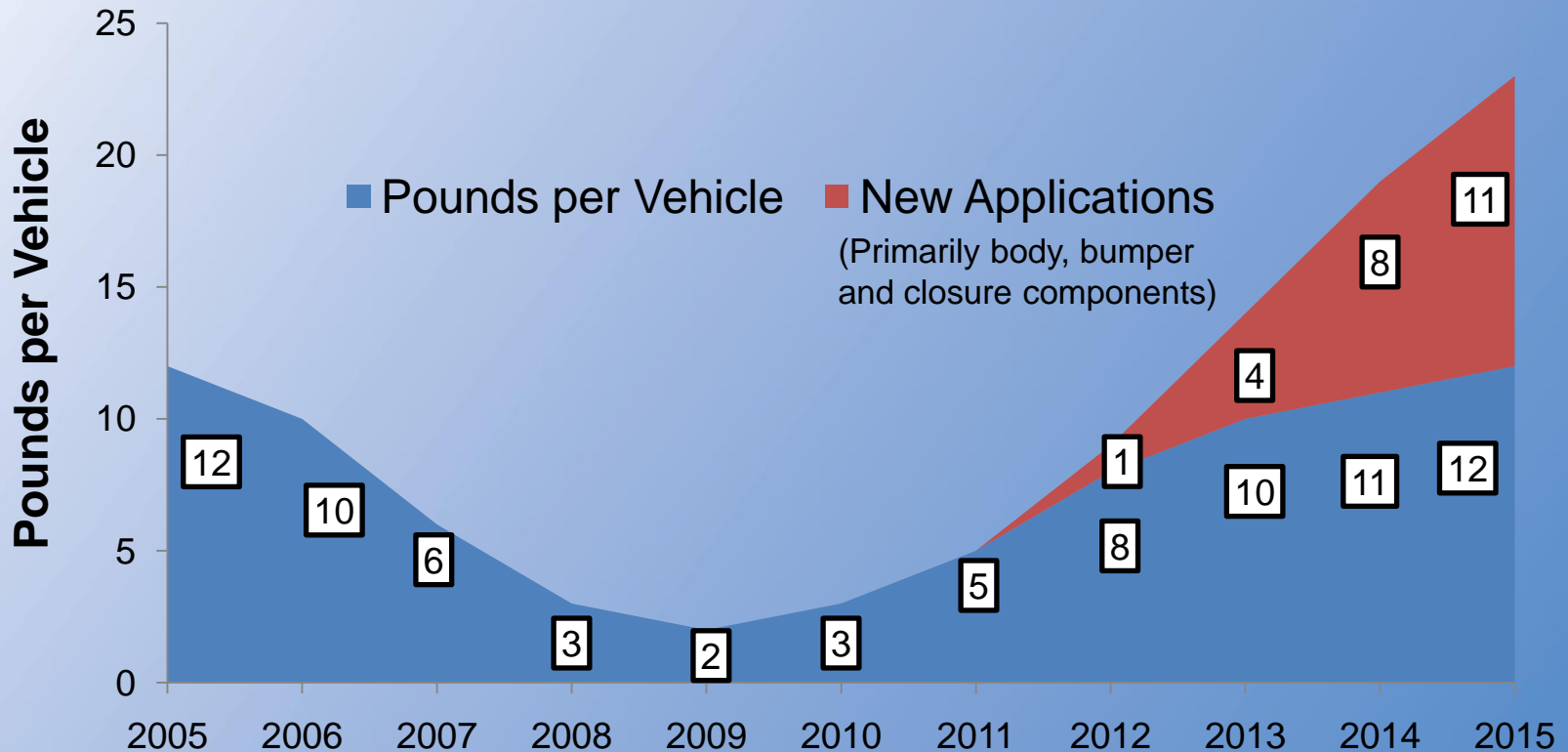
**Growth Projected to Reach
400 Pounds Per Vehicle by 2015/2016**

Aluminum Content – Pounds Per Vehicle



New Applications Required to Achieve 2015/2016 Growth Scenario

North American Light Vehicle Aluminum Content Increases



Average Net Cost of Direct and Indirect Weight Reduction

Increased use of aluminum necessary and cost effective in achieving 400 lb weight reduction by 2025

Average Cost of Direct Weight Savings

Cost	Dollar/Pound Saved
Primary	\$2.00
Secondary	(\$1.82)
Net Cost	\$0.18

Ducker Survey Conclusions

- Consumer demand and fuel economy regulations are driving a dramatic increase in aluminum usage
 - Weight savings from aluminum and AHSS for body parts
- Automakers working hard to improve fuel economy and maintain or improve size, function, safety and comfort
- Weight reduction with aluminum is a cost effective part of the solution

Ducker Survey Conclusions

- By 2025, the average vehicle will get lighter by 400 lbs.
 - Aluminum and AHSS
 - Aluminum
 - Sheet , extrusions
 - Closures, body-in-white, bumper, and suspension components
- Aluminum will grow to 16% of curb weight
 - 343 pounds in 2012
 - 550 pounds in 2025
 - Increase of 207 lbs. in 13 years
 - Industry added 200 lbs. per vehicle from 1990 to 2010
- This is a conservative forecast

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Thank You

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