

Corporate Average Fuel Economy Rulemaking

National Highway Traffic Safety
Administration





CAFE History

- NHTSA regulating CAFE under the guidance provided by Congress in the Energy Policy and Conservation Act (EPCA)
 - 1975: Added Title V (Improving Automotive Efficiency) to Motor Vehicle Information and Cost Savings Act in response to '73-'74 Oil Embargo
 - Established CAFE standards for cars and light trucks
 - doubled CAFE for cars by 1985 to 27.5 mpg
 - did not specify fuel economy number for light trucks



Piece of History



In 1975, there were almost 18 million pick-up trucks on the road, making up 15% of the passenger vehicles.



CAFE Standards Development

- Standards had to be set at “maximum feasible” level for each model year by taking into consideration:
 - Technological feasibility
 - Economic practicability
 - Effect of other standards on fuel economy
 - Need of the nation to conserve energy
- NHTSA must also consider impact of CAFE standards on safety



CAFE Changes

- In 2002, a NAS study of the CAFE program recommended:
 - Attribute-based system
 - Credit trading
- In 2006, NHTSA issued an attribute-based system for light trucks (2008 – 2011)
- December 19, 2007, the President signed the Energy Independence and Security Act



Energy Independence and Security Act (EISA)

- Requires DOT to issue car and truck standards beginning in 2011 at maximum feasible level for each year
- Requires that the combined car and light truck fleet performance reach at least 35 mpg by 2020 model year
- Limits any DOT rule to no more than 5 model years
 - NHTSA has proposed standards for 2011-2015 model years



EISA (Cont'd)

- Requires standards be set based on a vehicle attribute or attributes
- Gives express authority to establish a program so manufacturers can trade fuel economy credits among themselves and can transfer credits between their car and light truck fleets



EISA (Cont'd)

- The National Academies of Sciences to write a report:
 - Assess technologies to improve fuel economy of medium, heavy-duty, and work trucks --
(1 year after NHTSA contract)
 - Update the assessment of technologies and their costs and effectiveness for all categories of vehicles --
(every 5 years)



EISA (Cont'd)

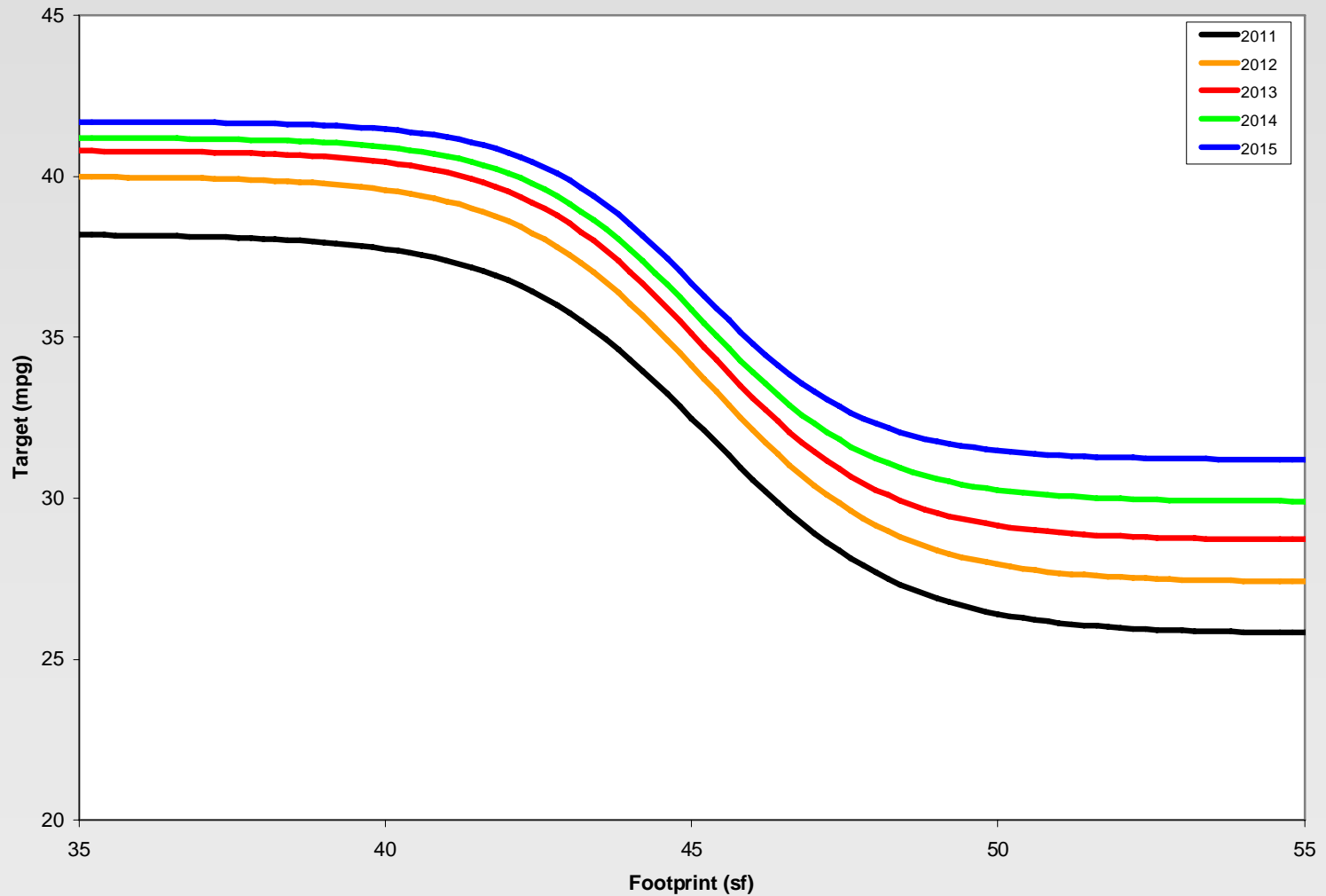
- Additional Requirements--NHTSA:
 - Conduct a study to develop recommendations regarding the setting of standards for medium and heavy duty vehicles and work trucks (1 year after the NAS study)
 - Promulgate regulations for medium and heavy duty vehicles and work trucks (within 2 years after the NHTSA study)
 - Develop and label automobile fuel economy and greenhouse gas emission ratings
 - Label automobiles about capability of operating on alternative fuel
 - Implement educational program about alternative fuels and how to maximize fuel savings
 - Establish national tire fuel efficiency rating system for replacement tires (December 2009)



NHTSA's Proposal

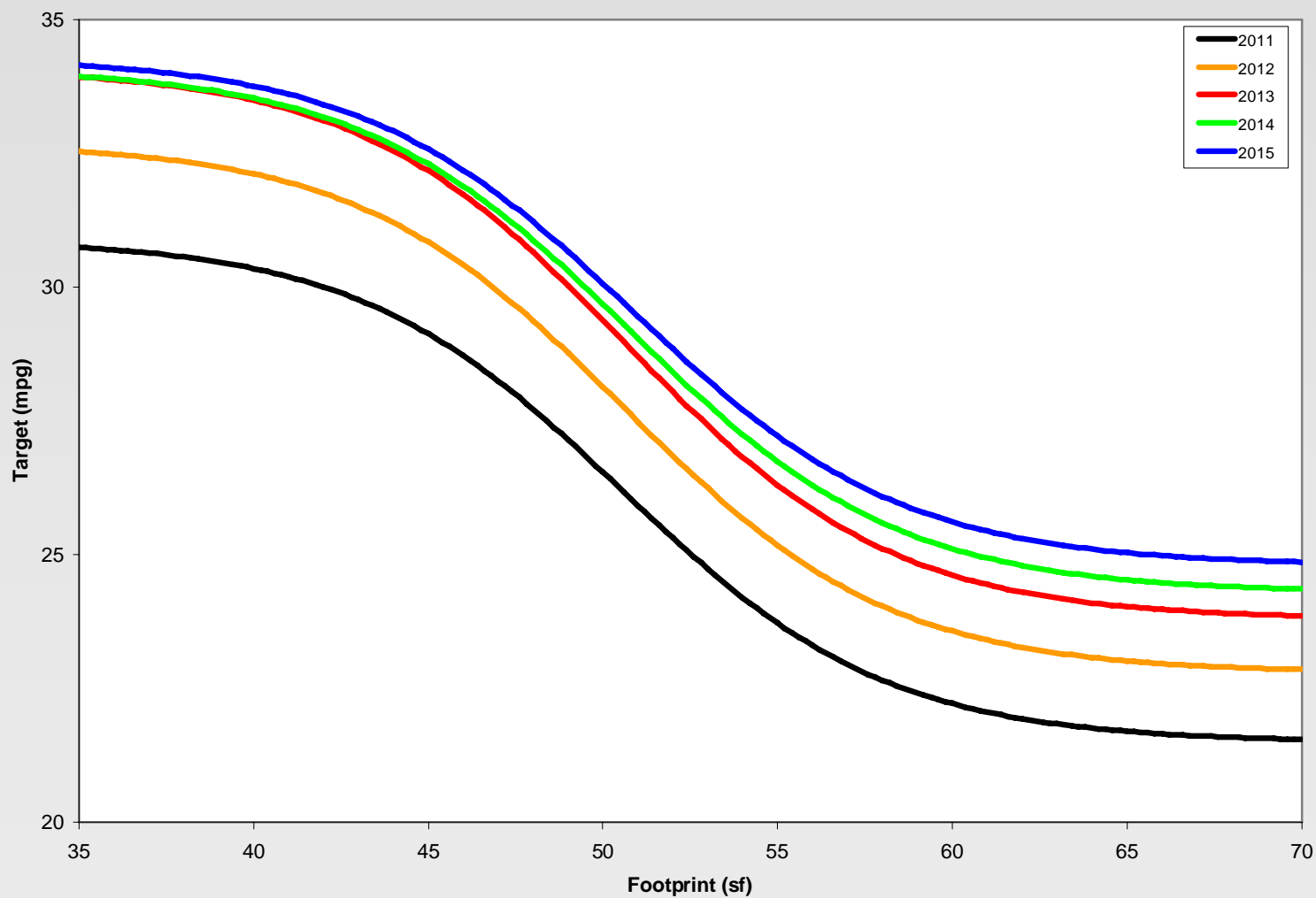
- Use model developed by the Volpe Center in Cambridge MA. Same model used by agency to develop reformed truck standards in 2006
 - Manufacturers product plans
 - Updated list of technologies and associated costs and benefits
 - Updated economic, energy and environmental assumptions
- Add technologies to all the vehicles of the seven largest manufacturers until the marginal cost of the technology is just equal to the marginal benefits (energy and environmental benefits)

Passenger Car Standards





Light Truck Standards





Proposed Levels

MY	Car mpg	Light Truck mpg	Combined mpg
2010 (BASE)	27.5	23.5	25.3
2011	31.2	25.0	27.8
2012	32.8	26.4	29.2
2013	34.0	27.8	30.5
2014	34.8	28.2	31.0
2015	35.7	28.6	31.6
Average Annual Increase			4.5%



Observations

- The 4.5% rate of increase for 2011-2015 standards substantially exceeds the 3.3 % average annual increase that would be required to meet the 35 mpg level of EISA
 - Only need 2.1% average annual increase for combined fleet from 2016 onward to reach the required level of 35 mpg by 2020
- Proposal delivers significant benefits
 - Would save 54.7 billion gallons of fuel over the lifetime of these vehicles
 - For comparison, the 2008-2011 light truck rule saved 7.8 billion gallons of fuel over the lifetime of the vehicles
 - Would reduce vehicle CO₂ emissions by 521 million metric tons over the lifetime of the vehicles
- Costs are also significant - \$46.75 Billion
- The proposed levels are extremely cost-beneficial

Estimated Costs and Benefits Passenger Cars (\$millions)



	Model Years					Total
	2011	2012	2013	2014	2015	2011-15
Benefits	2,596	4,933	6,148	7,889	9,420	30,986
Costs	1,884	2,373	2,879	3,798	4,862	15,796
Net Benefits	712	2,560	3,269	4,091	4,558	15,190
Average Car Cost	\$276	\$334	\$404	\$512	\$649	

Estimated Costs and Benefits Light Trucks (\$millions)



	Model Years					Total
	2011	2012	2013	2014	2015	2011-15
Benefits	3,909	8,779	13,560	14,915	16,192	57,355
Costs	1,649	4,986	7,394	8,160	8,761	30,949
Net Benefits	2,260	3,793	6,166	6,755	7,431	26,406
Average Truck Cost	\$224	\$617	\$861	\$924	\$979	



EISA Credit Trading

- EISA recognizes the significance of its requirement for a 40% increase in U.S. new vehicle fuel economy by 2020
- Provides significant additional flexibility by adding greater use of credits
- Three significant new provisions for use of credits



EISA Credit Trading (Cont'd)

1. Companies can now carry credits forward for 5 years, instead of the 3 years previously specified
 - Encourages early introduction of technology and gives incentive for over-compliance
2. Companies can now sell their credits to other companies
 - No limit to how much any company can rely on traded credits to raise its CAFE
 - Trading must be set up so as to “preserve total oil savings”
3. Companies can now transfer credits between their car and truck fleets
 - Can only transfer credits earned in 2011 or later years
 - Transfers are capped at 1 mpg for 2011-2013, 1.4 mpg 2014-2017, and 2 mpg for 2018 and beyond



Proposed Credit Trading Program

- DOT is an accountant not a bank – we won't pay interest or make loans
- All manufacturers need to have an account with NHTSA
- Anyone can buy credits
- All trades are worked out between manufacturers and/or other credit holders
- Each credit will be identified by the year in which it was earned, the manufacturer who earned it and the fleet from which it was earned