

**Remarks prepared
for
Ronald Medford, Deputy Administrator
National Highway Traffic Safety Administration
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Safety Requirements for Lighter Cars
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I am looking forward to our discussion today, and I hope it is but one of many information exchanges on this important subject. Road safety is a complex problem that requires a variety of integrated strategies. I believe this is critical.

In the United States, the National Highway Traffic Safety Administration –or NHTSA – is the government Agency responsible for improving safety on our

roadways. We are part of the U.S. Department of Transportation, and safety is our Department's top priority.

NHTSA also sets the fuel economy standards for the United States. Our standards help reduce transportation-sector fuel consumption, thereby contributing to energy conservation, energy security, and greenhouse gas emission reductions.

So how do we improve fuel economy without sacrificing safety? In the United States, when we set fuel economy standards, we provide manufacturers with

the flexibility to choose whatever technologies or innovations they want, including mass reduction.

But, we set standards by modeling vehicle technology effectiveness and cost to decide on the stringency of the standards. We can only set standards in 5-year periods.

We examine technological feasibility and the economic practicability of the standards we set.

In the recent fuel economy rule, issued on April 1st of this year for model years 2012-2016, we evaluated nearly 40 different technologies. We looked at solutions ranging from engine valve timing to gasoline direct injection to hybrids. But also, as part of this analysis, we specifically evaluated potential safety risks that may

result from making vehicles lighter. This information is used as a part of our economic costs assessment for implementing these regulations.

There are many different ways to improve fuel economy that reduce vehicle weight, such as downsizing or turbo-charging the engine, substituting higher-strength, low-weight materials, or even just completely redesigning the vehicle. Vehicle manufacturers are great innovators, and NHTSA believes that vehicles can be made lighter safely through careful engineering.

But how do we know that there has been careful thought and evaluation to the approaches that

manufacturers will use to reduce mass and not sacrifice some level of safety? How do we evaluate whether safety has been sacrificed?

It should not be by simply evaluating whether vehicles meet our Federal Motor Vehicle Safety Standards – that is a given. They must do that. It should not be simply that they perform well in our 5-Star Safety Ratings (NCAP tests) or in the Insurance Institute for Highway Safety tests. Those are all very important criteria for evaluating safety performance, but they only part of the safety picture. Remember, manufacturers' safety designs currently exceed Federal standards and many perform very well in other tests that are used to provide

safety ratings. Vehicles are designed to do well in these tests.

Another important piece of our safety analysis is the estimate of changes in the number of societal fatalities due to vehicle mass reduction. This is where the analysis becomes more complex.

The critical question we want to answer is: What will the effect of future, lighter vehicles be to the fatality rate on our roadways? We cannot really answer that without knowing what the future fleet will look like.

We have technology on our side, too, though. We can try to figure out how a future lighter car will perform through simulation and prototype testing. We can also figure out how vehicles perform in all types of crashes by using real world crash data from the current fleet of vehicles.

We believe that if we look at the near-past, the vehicles will be not too different from the vehicles in the near future. So we use analysis of recent crash data as a proxy for how the future lighter vehicles will behave in real world crashes, and combine that with the models that simulate crash tests of vehicles designed with lighter weight materials.

Given the on-road fleet and road infrastructure in the United States, for example, we believe that the smartest way to reduce fuel consumption and CO₂ emissions, and minimize the increase in fatalities through down-weighting is to reduce the weight of the largest light-duty vehicles.

This tactic has the advantage of reducing the weight disparity of the vehicles on the road over time.

Reducing the weight disparity decreases risk to people in smaller vehicles, yet adds relatively little risk for the people in the larger, but lighter vehicles.

Of course, NHTSA's footprint-based standards require manufacturers to make improvements to all of their

vehicles and not just the largest ones. So the mass reduction for internal combustion engine vehicles is a critical part of any manufacturer's strategy, as there will be ever-increasing demands for substantially improved fuel economy. This, of course, will also help drive what this conference is all about, more innovation in international vehicles, ever-increasing electrification of our fleet, as well as other alternative fuels.

Each country has different traffic safety risks, different fleet characteristics, and different roadway infrastructure. The risk reduction approaches vary greatly due to the unique circumstances of each country. We hope that the lessons we've learned about how important it is to create a regulatory structure for

fuel economy and greenhouse gas reduction that does not allow or encourage mass reductions that make significant safety trade-offs.

The question about how emerging economies deal with safety as the demand for first-time car owners rises is an important one. Here you must balance the larger safety question about the cost of buying a car and how big of a barrier that is. What is the difference in the safety of citizens that drive scooters or motorcycles to those that drive a car that does not meet the same safety standards as those in the developed countries? This is an issue that requires careful analysis and thought.

But it is probably not practical to move immediately from a non-motorized society to a state of the art safety system. Thank you.

I look forward to our question and answer session later today.