November 2010

NHTSA Vehicle Safety
Rulemaking and Research Priority Plan
2010-2013

I. INTRODUCTION

The National Highway Traffic Safety Administration's mission is to "save lives, prevent injuries, and reduce economic costs due to road traffic crashes." One of the most important ways in which the agency carries out its safety mandate is to issue Federal Motor Vehicle Safety Standards (FMVSS). Through these rules, NHTSA strives to reduce the number of crashes and to minimize the consequences of those crashes that do occur. This NHTSA Vehicle Safety Priority Plan describes the projects the agency plans to work on in the rulemaking and research areas for calendar years 2010 to 2013. This is not an exhaustive list. Only programs and projects that are priorities or will take significant agency resources are listed. Furthermore, NHTSA's enforcement, data collection, and analysis programs -- vital elements in achieving NHTSA's goals -- have their own set of priorities that are not listed here. Each of these programs supports NHTSA's rulemaking and research priorities by providing necessary safety data, economic analysis, expertise on test procedures, and technical issues gleaned from enforcement experience.

This plan is an internal management tool as well as a means to communicate to the public NHTSA's highest priorities to meet the Nation's motor vehicle safety challenges. Among them are programs and projects involving rollover crashes, children (both inside as well as just near vehicles), motorcoaches and fuel economy that must meet Congressional mandates or Secretarial commitments. Since these are expected to consume a significant portion of the agency's rulemaking resources, they affect the schedules of the agency's other priorities listed in this plan. This plan lists the programs and projects the agency anticipates working on even though there may not be a rulemaking planned to be issued by 2013, and in several cases, the agency doesn't anticipate that the research will be done by the end of 2013. Thus, in some cases the next step would be an agency decision in 2013 or 2014. NHTSA is also currently in the process of developing a longer-term motor vehicle safety strategic plan that would encompass the period 2014 to 2020.

II. BACKGROUND

Motor vehicle crashes killed more than 33,000 people and injured over 2.2 million others in 2009. In addition to the terrible personal toll, these crashes make a huge economic

impact on our society with an estimated annual cost of $230 billion,[1] an average of $750 for every person in the United States.

Motor vehicle crashes can be viewed through several different perspectives:

- Vehicle type;
- Crashworthiness;
- Crash avoidance;
- Crash partners;
- Body region injured; and
- Societal costs.

Figure 1 and Table 1 look at fatalities by vehicle type. Passenger vehicles still account for the majority of fatalities (68% or 25,351 fatalities), but also account for about 90 percent of the vehicle miles traveled (VMT).

Figure 1: Fatalities by Vehicle Type, 2009

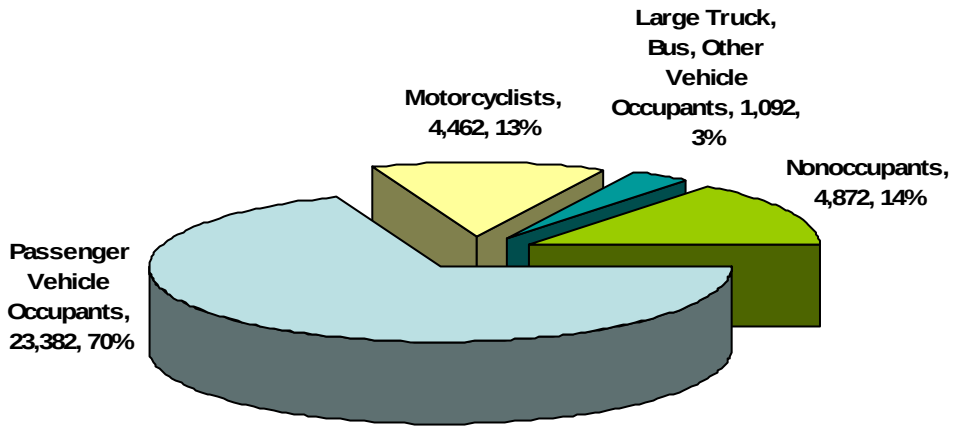


Table 1: 2009 U.S. Fatalities by Person Type

	Fatalities
Total Fatalities	**33,808**
Passenger Vehicle Occupants	23,382
Motorcyclists	4,462
Large Truck, Bus, Other Vehicle Occupants	1,092
Nonoccupants	4,872
Pedestrian	*4,092*
Pedalcyclists	*630*

[1] These estimates are in year 2000 dollars.

From the crashworthiness perspective, NHTSA looks at occupant fatalities or crash types by what part of the vehicle was struck first. Typically for passenger vehicles the initial impact point in fatal crashes would be frontal in 55 percent of fatalities, side impacts in 26 percent, non-collisions (which include rollovers) in 7 percent, rear impacts in 5 percent, and other or unknown locations in 6 percent. However, rollovers can be examined as the initial impact, or as any event in the crash. If rollovers are examined as any event in the crash, almost 9,000 rollovers occur per year in fatal crashes, or about 20 percent of the vehicle total.

From the crash avoidance perspective, NHTSA looks at types of crashes that might be mitigated by new technologies. Based on the General Estimates System (GES) and the Fatality Analysis Reporting System (FARS), four types of crashes total 85 percent of all crashes. These include Run-Off-Road (23%), Rear-End (28%), Lane Change (9%), and Crossing Path (25%). Those same four types of crashes also equal 75 percent of all road fatalities. These include Run-Off-Road (41%), Rear-End (5%), Lane Change (4%), and Crossing Path (14%).

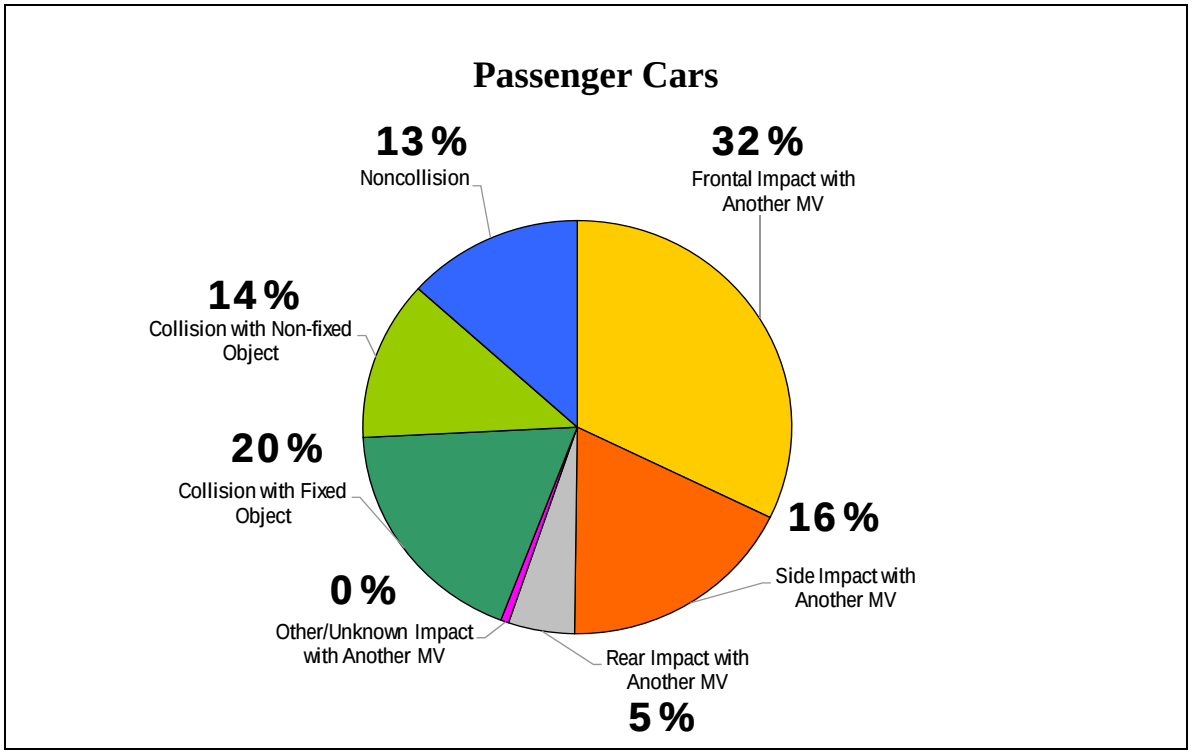
The fourth perspective of looking at fatal motor vehicle crashes is crash type with respect to what the vehicle impacted, if anything, as the most harmful event (see Figure 2). For both passenger cars and light trucks in 2009, frontal crashes with other motor vehicles account for the highest percentage of vehicles involved in fatal crashes, 32 percent and 36 percent respectively. For passenger cars in fatal crashes, side impacts with other motor vehicles account for 16 percent, and collision with fixed objects accounts for 20 percent of vehicles in fatal crashes. In fatal crashes involving light trucks, non-collisions (which include rollovers) remain an issue, accounting for 23 percent of vehicles involved.

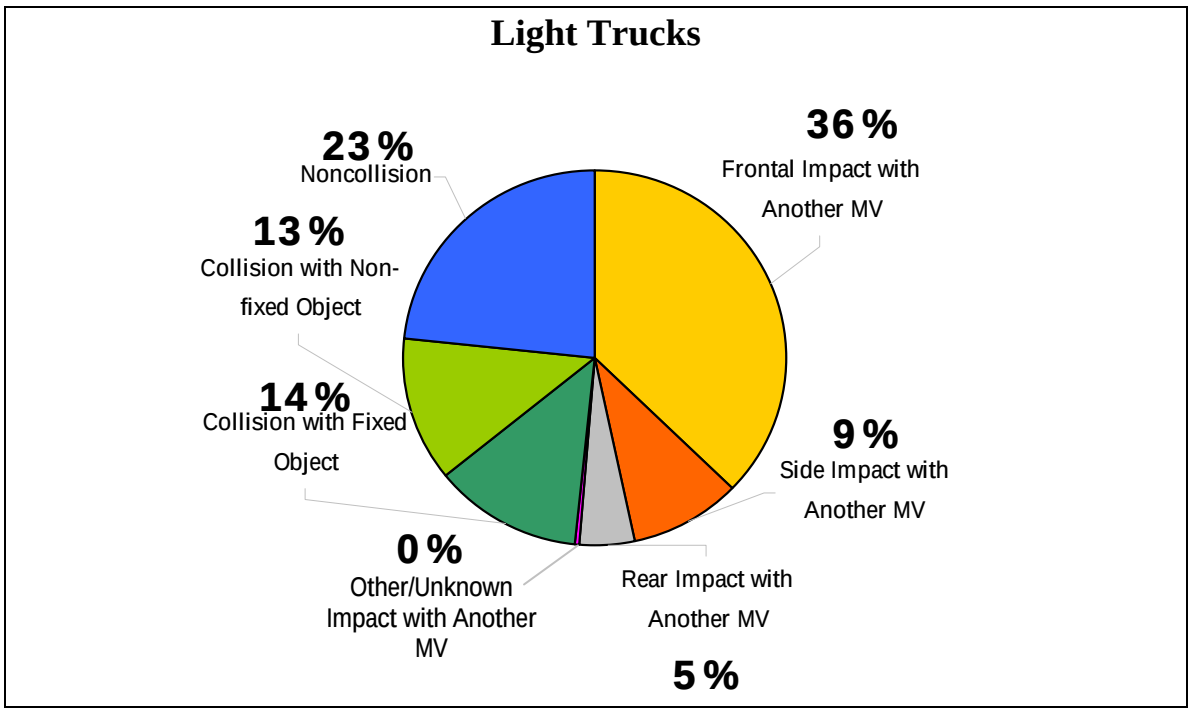
Electronic Stability Control (ESC) is changing the fatal crash picture as more and more new vehicles come equipped with ESC and the on-road fleet of ESC increases. ESC is dramatically reducing the number of run-off-road crashes and rollovers. NHTSA is performing a follow-up evaluation of ESC and is already assuming reductions in relevant target populations when new safety standards are being analyzed.

A fifth and a sixth perspective are those of body region injured and societal costs. Brain injuries and ankle and knee injuries that have long-term disability associated with them have very high societal costs.

NHTSA looks at crashes from all these different perspectives in determining the priorities for the agency. Countermeasures affect different types of crashes in different ways and have to be examined individually and compared to the applicable target population.

Figure 2: Vehicles Involved in Fatal Crashes by Most Harmful Event, 2009





Priority Programs and Projects
Programs and projects that warrant priority consideration fall into the following four categories: (1) large safety benefits; (2) vulnerable populations; (3) high-occupancy vehicles; and, (4) other considerations

Programs and projects that are in Category 1, large benefits, have the potential for large safety benefits based upon factors such as:

- The size of the target population;
- The effectiveness of countermeasures and their potential to save lives and prevent injuries;
- The availability and practicability of these countermeasures; and
- The potential that countermeasures could be developed in the future that could be reasonably effective against a large target population.

It should be noted that some projects require additional research before specific countermeasures and their benefits can be identified and therefore the priority designation is based on the agency's judgment of potential safety impacts.

Programs and projects in Category 2, vulnerable populations, affect children, older people, the vision-impaired, or other populations that are considered vulnerable.

Category 3, high-occupancy vehicles, involves buses or motorcoaches and other high-occupancy vehicles.

Category 4, other considerations, includes priority projects that may not be captured in the other categories, but either reduce the impact of motor vehicles on energy security or address other specific items.

Other Significant Programs and Projects
This plan also includes a comprehensive list of other significant programs and projects that the agency believes it will work on in the 2010-2013 timeframe. This area is fluid, because the agency receives petitions that require action, Congress may request that the agency address other areas, the Administration may set additional and/or different priorities, or some event may influence NHTSA's priority agenda.

Some programs and projects described in the plan require additional research before any rulemaking action can be taken. These programs may not be priorities now because NHTSA is not confident that an effective countermeasure can be found. However, with research going on, there is the possibility that countermeasures may be discovered that have significant death and injury reduction benefits.

Dates Provided
Programs and projects that are in the research stage are noted with milestones indicated when NHTSA plans to decide whether and how to proceed. In general, this is an agency decision whether the program or project is ready to move from the research stage and into the rulemaking stage, or whether the program or project needs more research. (Dates are given in calendar years, not fiscal years.)

For projects that NHTSA believes will be in the rulemaking stage, the agency has indicated dates when it anticipates issuing a Notice of Proposed Rulemaking (NPRM) or a Final Rule. Those dates are subject to change for a variety of reasons, such as complications encountered in the research phase, or new priority activities interrupt a project's progress, etc.

Program Areas

The projects have been divided into the following program areas:
light-vehicle crash avoidance and mitigation advanced technologies, motorcycles, rollovers, front-impact occupant protection, side-impact occupant protection, rear-seat occupant protection, children, older people, global technical regulations (international harmonization), heavy vehicles, CAFE, and others (a catchall category for projects that don't fit in the listed program areas).

Crash avoidance projects and programs are listed first because their focus is on the first opportunity to save lives and reduce injuries by preventing crashes in the first place. In addition they serve to reduce property damage and traffic congestion that are the inevitable result of most crashes.

III. PRIORITY PROJECTS BY PROGRAM AREA

LIGHT-VEHICLE CRASH AVOIDANCE AND MITIGATION - ADVANCED TECHNOLOGIES

Forward Collision Avoidance and Mitigation

Description: Develop performance criteria and objective tests to support the identification of effective advanced safety technologies that provide a warning of an impending forward collision and/or automatically brake/slow the vehicle. NHTSA has developed a forward crash warning test for New Car Assessment Program (NCAP) purposes that will appear in NCAP data on a warning system in model year 2011 vehicles The agency will decide whether to require forward collision warning and/or automatic crash-imminent braking.

Priority Category: Large Benefit

Next Milestone: Agency decision in 2011

Vehicle Communications

Description: Advanced technologies that utilize vehicle-based sensors have been demonstrated to be effective at helping drivers avoid crashes. Vehicle-to-vehicle (V2V) communications can improve the effectiveness and availability of these safety systems. Communications can also enable numerous other safety applications, such as speed management and intersection collision avoidance. Human factors research to examine the interaction between driver, vehicle, and the environment is underway. Vehicle-to-infrastructure (V2I) work is also being considered. The agency will assess the research data, technologies and potential countermeasures and decide on next steps.

Priority Category: Large Benefit

Next Milestone: Agency decision in 2013

Distraction

Description: Driver distraction presents a significant and complex problem in highway safety. The Agency published a comprehensive distraction plan in April 2010. This plan frames the issue, discusses safety consequences, presents Agency goals, and lays out upcoming research initiatives that include both technological and behavioral approaches. The Strategic Highway Research Plan II (SHRP2) initiative will provide data on distraction.

Priority Category: Large Benefit

Next Milestone: Publish guidelines for visual manual distraction in 2011

Vehicle Based Alcohol Detection
Description: NHTSA entered into a 5-year cooperative agreement with the Automotive Coalition for Traffic Safety (ACTS) in early 2008 aimed at developing alcohol detection technologies to reduce drunk driving that could have widespread deployment and are non-invasive, reliable, accurate, and precise. To achieve this goal the project aims to: (1) assess the current state of alcohol detection devices, and (2) support the development and testing of prototypes and subsequent hardware that may be installed in vehicles. The prototypes would then undergo extensive laboratory and field testing. The agency will assess the research data, technologies and potential countermeasures and decide on next steps.

Priority Category: Large Benefit

Next Milestone: Agency decision in 2012

ROLLOVERS

Ejection Mitigation
Description: This proposed standard would reduce the partial and total ejection of vehicle occupants through side windows in crashes, particularly rollover crashes. The NPRM was issued December 2, 2009.

Congressional Requirements: The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) Act requires a final rule establishing performance standards to reduce complete and partial ejections of vehicle occupants from outboard seating positions by October 1, 2009. A subsequent letter to Congress from the DOT revised the final rule date to be January 31, 2011.

Priority Category: Large Benefit

Next Milestone: Final Rule: 2011

CHILDREN

Child Restraints in Side Impacts
Description: Propose test procedures in FMVSS No. 213 to assess child restraint performance in near-side impacts. Amend Part 572 to add the Q3 dummy, the 3 year old version of the Q-series of child dummies and the first developed by the International Child Dummy Working Group. Included in this program is an evaluation of the injury-causing potential of vehicle side interior surfaces. The agency will decide whether to initiate rulemaking to amend Part 572 and FMVSS No. 213.

Priority Category: Vulnerable Population

Next Milestone: Agency decision in 2010

New Car Assessment Program Vehicle-Child Restraint System (CRS) Fit Program
Description: A consumer service program that provides vehicle-CRS "fit" recommendations on www.safercar.gov by encouraging vehicle manufacturers to voluntarily recommend child restraint models that "fit" in each vehicle.

Priority Category: Vulnerable Population

Next Milestone:
Request for comments: 2010
Final Notice: 2012

Rear Visibility of Vehicles
Description: A backover crash involving a light vehicle at low speed is tragic, with a small child often being the victim. The agency has conducted research on a variety of rear-visibility technologies to mitigate these types of crashes. NHTSA published an Advanced Notice of Proposed Rulemaking (ANPRM) on rear visibility on March 4, 2009.

Congressional Requirements: The Cameron Gulbransen Kids Transportation Safety Act of 2007

Priority Category: Vulnerable Population

Next Milestone:
NPRM: 2010
Final Rule: 2011 (per statute 2/28/2011)

Power Windows
Description: A rulemaking to consider requiring power windows on motor vehicles to automatically reverse direction when closing when such power windows detect an obstruction to prevent children and others from being trapped, injured, or killed. An NPRM was issued September 1, 2009.

Congressional Requirements: The Cameron Gulbransen Kids Transportation Safety Act of 2007

Priority Category: Vulnerable Population

Next Milestone: Final Rule: 2011 (per statute, as revised by Letter to Congress, 3/1/2011)

HEAVY VEHICLES[2]

Truck Tractor and Motorcoach Stability Control

Description: Develop test procedures for a standard on electronic stability control for truck tractors and motorcoaches. The stability control system is aimed at addressing rollover and loss of control crashes.

Priority Category: Large Benefit

Next Milestone: NPRM: 2011

Medium Truck and Bus Stability Control

Description: Develop test procedures for a standard on electronic stability control (ESC) for medium trucks, buses, and all other vehicles over 10,000 pounds GVWR not covered in the truck tractors and motorcoaches rule. The agency will decide whether to require ESC on such vehicles.

Priority Category: Large Benefit

Next Milestone: Agency decision in 2014

Heavy-Vehicle Forward Collision Avoidance and Mitigation

Description: Develop performance criteria and objective tests to support the identification of effective advanced safety technologies that provide warning of an impending forward collision and/or automatically brake/slow the vehicle. The agency will assess the research data, technologies and potential countermeasures and decide on next steps.

Priority Category: Large Benefit

Next Milestone: Agency decision in 2013

Motorcoach Lap/Shoulder Belts

Description: NPRM issued August 18, 2010, proposed requiring lap/shoulder belts for motorcoaches. This action supports the DOT Motorcoach Safety Action Plan (HS 811 177) and related NTSB recommendations.

Priority Category: High-Occupancy Vehicle

Next Milestone: Final Rule: 2012

[2] "Heavy vehicles" include most vehicles over 10,000 pounds GVWR, including truck tractors, single-unit trucks, buses, motorcoaches, etc.

Motorcoach Fire Safety
Description: Consider upgrading the fire standards that apply to motorcoaches. This action supports the DOT Motorcoach Safety Action Plan (HS 811 177) and related NTSB recommendations. The agency will decide whether to initiate rulemaking to upgrade the fire standards that apply to motorcoaches.

Priority Category: High-Occupancy Vehicle

Next Milestone: Agency decision in 2011

Motorcoach Emergency Evacuation
Description: Consider upgrading the motorcoach evacuation standards. This action supports the DOT Motorcoach Safety Action Plan (HS 811 177) and related NTSB recommendations. The agency will decide whether to initiate rulemaking to upgrade the motorcoach evacuation standards

Priority Category: High-Occupancy Vehicle

Next Milestone: Agency decision in 2010

Motorcoach Structural Integrity
Description: Propose a new motorcoach structural integrity test. Under consideration are performance standards to require maintenance of occupant survival space, emergency exits to remain closed, seats & luggage racks to remain anchored and far-side glazing to remain in place. This action supports the DOT Motorcoach Safety Action Plan (HS 811 177) and related NTSB recommendations.

Priority Category: High-Occupancy Vehicle

Next Milestone: NPRM: 2011

FUEL ECONOMY

Passenger Car and Light-Truck Fuel Economy Standards (Corporate Average Fuel Economy, or CAFE standards)

Description: The Environmental Protection Agency and the Department of Transportation completed a joint rulemaking for MY 2012-2016 passenger cars and light trucks on March 31, 2010. The next action is for MY 2017-2025 passenger cars and light trucks.

Congressional Requirements: Energy Independence and Security Act (EISA)

Priority Category: Energy Security Benefits

Next Milestone:	Notice of Intent:	2010	Published 10/13/10
	NPRM:	2011	
	Final Rule:	2012	

Medium/Heavy Work Truck Rules

Description: Fuel economy regulation of medium and heavy work trucks.
EISA requires a Report to Congress by September 2010 and a final rule by 2012. Under consideration are rules for trucks produced in 2014-2016.

Congressional Requirements: Energy Independence and Security Act

Priority Category: Energy Security Benefits

Next Milestone:	NPRM:	2010
	Final Rule:	2011

Fuel Economy/Greenhouse Gas Labeling Rule

Description: EISA mandates NHTSA to develop a labeling system for new automobiles with information on fuel economy, greenhouse gas (GHG) emissions, and other emissions. EPA and NHTSA are combining efforts to create a rating system.

Congressional Requirements: Energy Independence and Security Act

Priority Category: Energy Security Benefits

Next Milestone:	NPRM:	2010	Published 9/23/10
	Final Rule:	2011	(per statute 6/19/11)

Consumer Education Campaign and Alternative Fuel Labeling
Description: EISA mandates NHTSA to develop a fuel economy education program. This entails: 1) Label vehicles with a permanent and prominent display of automobiles capable of operating on alternative fuels. 2) Require owner's manual for vehicles capable of operating on alternative fuels to include information describing capability and benefits of using alternative fuels (e.g., renewable nature and environmental benefits). 3) Improve consumer understanding of automobile performance with regard to fuel economy and greenhouse gas and other emissions. 4) Inform consumers of the benefits of using alternative fuel in automobiles. 5) Identify locations of stations with alternative fuel capacity. 6) Establish a consumer education campaign on fuel savings that would be recognized from the purchase of vehicles equipped with thermal management technologies, including energy efficient air conditioning systems and glass. 7) Require a label to be attached to the fuel compartment of vehicles capable of operating on alternative fuels, with the form of alternative fuel stated on the label.

Congressional Requirements: Energy Independence and Security Act

Priority Category: Energy Security Benefits

Next Milestone: NPRM: 2011

OTHER
Alternative Fuel Systems
Hydrogen
Description: NHTSA's approach is to develop foundational research that will be necessary to determine future requirements, such as research on performance of high-pressure cylinders in fires, localized flame impingement on cylinders, electrical integrity of high-voltage fuel cell propulsion systems, and developing criteria for post-crash hydrogen leakage. The agency will assess the research data and decide on next steps.

Priority Category: Environmental Benefits/Safety Concerns

Next Milestone: Agency decision in 2012

CNG
Description: Research is required to assess the causes of high pressured cylinder ruptures on aging CNG vehicles which have occurred during refueling and in vehicle-related fires. NHTSA is working with the Department of Energy and the Clean Vehicle Education Foundation to obtain used cylinders of the types that have failed for evaluation. The goal is to improve safety codes and standards to prevent these failure modes in future cylinder designs. The agency will assess the research data and decide on next steps.

Priority Category: Environmental Benefits/Safety Concerns

Next Milestone: Agency decision in 2013

Batteries
Description: NHTSA will research the potential safety risks posed by battery storage devices through cooperative agreements with vehicle OEM's and/or battery manufacturers. The agency will assess the research data and decide on next steps.

Priority Category: Environmental Benefits/Safety Concerns

Next Milestone: Agency decision in 2012

IV. OTHER SIGNIFICANT PROJECTS BY PROGRAM AREA

LIGHT-VEHICLE CRASH AVOIDANCE AND MITIGATION - ADVANCED TECHNOLOGIES

Lane Departure Prevention
Description: Develop performance criteria and objective tests to support identification of effective advanced safety technologies that provide a warning of an imminent lane departure and/or of vehicles that keep drivers in their lanes. NHTSA has developed a test for NCAP purposes that will appear in NCAP data on a warning system in vehicle model year 2011. The agency will decide whether to require lane departure warning and/or automatic lane-keeping.

Next Milestone: Agency decision in 2011

Blind Spot Detection
Description: Examine the potential of sensors and mirrors to detect vehicles in blind spots to assist in lane changing. The agency will assess the research data, technologies and potential countermeasures and decide on next steps.

Next Milestone: Agency decision in 2013

Quieter Cars
Description: Examine the issue of blind pedestrians and others not being able to hear electric vehicles or other quiet vehicles. The agency issued a research plan on this project, "Quieter Cars and the Safety of Blind Pedestrians, A Research Plan," in April 2009. Develop a test procedure and sound requirements. The agency will assess the research data, technologies and potential countermeasures and decide on next steps.

Next Milestones: Agency decision in 2011

Pedestrian Detection
Description: Determine ability of sensor systems to detect a pedestrian and then reduce vehicle speed. The agency will assess the research data, technologies and potential countermeasures and decide on next steps.

Next Milestone: Agency decision in 2013

MOTORCYCLES

Motorcycle Helmet Labeling
Description: Amend labeling of motorcycle helmets to reduce sale and use of novelty helmets. The agency issued an NPRM in October 2008.

Next Milestone: Final Rule: 2011

ROLLOVERS

Restraint Effectiveness in Rollovers
Description: Develop test procedures to evaluate occupant restraint performance in rollover crashes. This program will develop test procedures, evaluate countermeasures such as pretensioners, integrated seat belts, 4-point belts, and air belts, and estimate potential safety benefits. The agency will decide whether to initiate rulemaking to improve restraint effectiveness in rollovers.

Next Milestone: Agency decision in 2011

Dynamic Rollover Test Research
Description: Determine feasibility of a dynamic rollover test. The agency will assess the research data and decide on next steps.

Next Milestone: Agency decision in 2014

FRONT IMPACT OCCUPANT PROTECTION

Seat Belt Reminder Systems

Description: Seat Belt Reminder Systems tell drivers and front-right passengers they have not buckled up. Many different systems are currently being provided in new cars, but NHTSA does not have a standard requiring them. This project is designed to develop performance requirements for seat belt reminder systems to improve seat belt usage. The agency will decide whether to initiate rulemaking to improve seat belt usage.

Next Milestone: Agency decision in 2011

Small Overlap/Oblique Frontal Crashes

Description: Analysis of frontal-crash fatalities for those belted with air bags shows offset and oblique crashes as the second largest group of fatalities after those of extreme severity. NHTSA will develop test procedures for these crashes and examine the potential for reducing fatalities and injuries. The agency will decide whether to initiate rulemaking to address these types of crashes.

Next Milestone: Agency decision in 2011

Pre-Collision Air Bag/Safety System Activation

Description: Develop test procedures to evaluate restraint systems and estimate benefits for prototype systems that use pre-crash information to pre-arm air bags or other safety systems. The agency will assess the research data, technologies and potential countermeasures and decide on next steps.

Next Milestone: Agency decision in 2011

Next Generation NCAP

Description: Conduct real-world analysis of frontal, side, and rollover crashes, crash frequency, injury severity, and demographics (e.g., age, gender, size) to develop a more representative crash scenario to address Abbreviated Injury Scale (AIS) 3+ injuries. Develop crash test procedures and a more sensitive and biofidelic crash test dummy at low speeds. Develop an updated rollover risk model using crash data from recent MY vehicles equipped with electronic stability control. Conduct real-world crash data analyses to identify additional beneficial advanced technologies for the NCAP program beyond ESC, LDW, and FCW systems. Subsequently develop relevant advanced technology test procedures. The agency will make multiple decisions whether to include additional advanced technologies in the NCAP program.

Next Milestone: Multiple decisions from 2010 through 2012

REAR-SEAT OCCUPANT PROTECTION

Low Delta V Restraint Protection

Description: Evaluation of air belt or other technologies suitable for improving thoracic protection to older persons in low-speed crashes. The agency will assess the research data, technologies and potential countermeasures and decide on next steps.

Next Milestone: Agency decision in 2014

SIDE-IMPACT OCCUPANT PROTECTION

Side Impact Dummies – Adults

Description: Research the 5th percentile female and 50th percentile male world side-impact dummies (WorldSID) and prepare for federalization. The agency will decide whether to initiate rulemaking to federalize each or either of the dummies.

Next Milestone: Agency decisions in 2011

CHILDREN

Improve Frontal Protection for Children - Booster Seats

Description: Add into FMVSS 213 "Child Restraint Systems" requirements for booster seats for older children, and add a 10-year-old crash test dummy to Part 572.

Next Milestone: SNPRM: 2010

Improve Frontal Protection for Children -– Lower Anchors and Tethers for Children (LATCH)

Description: Address issues related to using LATCH in the center rear seat, tether anchorage locations, weight limit differences between child safety seats and tether anchorages, and labeling of anchorage locations. The agency will decide whether to initiate rulemaking to address LATCH-related issues.

Next Milestone: Agency decision in 2011

Improve Frontal Protection for Children – Test Requirements

Description: Examine how well the test parameters of the FMVSS 213 sled test replicate the real world, including crash pulse, test velocity, excursion limits, the test seat, adding a lap/shoulder belt, etc. The agency will assess the research data, existing requirements and potential countermeasures and decide on next steps.

Next Milestone: Agency decision in 2013

OLDER PERSONS

Older Occupant Protection

Description: Data collection/analysis of crashes with older occupants to direct regulatory programs in frontal and side impacts.

Next Milestone: Develop an agency plan in 2011

GLOBAL TECHNICAL REGULATIONS

Pedestrian

Description: Based on global technical regulations (GTR), NHTSA would propose regulations affecting the hood and bumper areas of light vehicles to reduce injuries and fatalities to struck pedestrians. The pedestrian dummy leg, if proposed, would be added to Part 572.

Next Milestone: NPRM: 2011

Head Restraints

Description: Based on the GTR discussion, amend head restraint requirements.

Next Milestone: NPRM: 2011

Head Restraints – Phase 2

Description: Examine biofidelic rear-impact dummy (BIORID) and other rear impact dummies. The agency will assess the research data, dummy performance and potential countermeasures and decide on next steps.

Next Milestone: Agency decision in 2013

HEAVY VEHICLES

Heavy-Vehicle Electronic Data Recorders

Description: Develop performance requirements for heavy-vehicle electronic data recorders (EDRs). The agency will decide whether to initiate rulemaking to require EDRs in newly manufactured heavy vehicles.

Next Milestone: Agency decision in 2010

Heavy-Vehicle Truck Tires
Description: Upgrade the endurance test in FMVSS 119 "New Pneumatic Tires for Vehicles Other Than Passenger Cars" and add a new high-speed test for heavy-vehicle tires.

Next Milestone: NPRM: 2010 Published 9/28/10
Agency consideration of NPRM comments: 2011

Heavy-Vehicle Speed Limiters
Description: In response to an American Trucking Association petition, propose speed limiters for heavy vehicles.

Next Milestone: NPRM: 2012

Truck Underride Guards
Description: Analysis of frontal fatalities for those with air bags and wearing seat belts showed truck underride as the third largest group of fatalities behind extreme severity crashes and corner/oblique impacts. Evaluation shows more severe intrusion in offset crashes. The agency will decide whether to initiate rulemaking to upgrade underride guard strength in offset crashes into the corners of trailers.

Next Milestone: Agency decision in 2013

OTHER
Biomechanics Program
Description: The biomechanics program develops injury assessment methods including advanced anthropometric test device (ATD) research and associated injury criteria. The agency will assess the research data, dummy performance and potential countermeasures and make multiple decisions on next steps. Priority programs and timelines are:

Next milestone:	Publish biomechanics plan in 2010
Rotational brain criteria	Agency decision 2011
Multi-point chest criteria	Agency decision 2011
THOR 50th percentile dummy	Agency decision 2011
THOR 5th percentile dummy	Agency decision 2013
Advanced 3-, 6-, 10-year-old child dummies	Agency decision 2014/2015

Advanced Automatic Collision Notification (AACN)
Description: AACN provides early contact with emergency personnel and GPS position when a severe crash occurs. Examine potential benefits and triage capabilities of AACN and EMS connection to get those seriously injured to a Level 1 trauma hospital. The agency will decide whether to initiate rulemaking to require AACN.

Next Milestone: Agency decision in 2011

Lighting Standard
Description: Develop a performance-based standard for FMVSS No. 108 "Lamps, Reflective Devices, and Associated Equipment." The agency will decide whether to initiate rulemaking to upgrade FMVSS No. 108 to a performance-based standard.

Next Milestone: Agency decision in 2012

Tire Aging
Description: Require an oven-aging test for tires prior to running them through an endurance test. This could help reduce tread separations that occur in hot weather States. The agency will decide whether to initiate rulemaking to require an oven-aging test.

Next Milestone: Agency decision in 2012

Light Vehicle EDR Requirement
Description: Expand the availability and future utility of EDR data captured in light vehicles. The agency will develop a rulemaking proposal to require EDRs on light vehicles to which Part 563 applies and an advance proposal for future enhancements to their capabilities and applicability.

Next Milestone: NPRM: 2011
ANPRM: 2011

Upgrade Accelerator Control Standard (FMVSS 124) - Vehicle Stopping Distance and Brake Override
Description: Require all vehicles be equipped with a technology that would allow a vehicle to come to a full stop with normal braking pressure when the throttle is open. Require that redundancies be built into electronic throttle control systems to enable a driver to maintain control even if there is a failure in the system.

Next Milestone: NPRM: 2011

Keyless Ignition Systems Standard
Description: Require that passenger vehicles with keyless ignitions systems have consistent means to allow for a driver to stop or slow a vehicle during an emergency. Upgrade FMVSS 114.

Next Milestone: NPRM: 2011

Pedal Placement
Description: Examine pedal placement and spacing and examine minimum clearances for foot pedals with respect to other pedals, the vehicle, floor, and any other potential obstructions. Consider both pedal entrapment and driver pedal misapplication in response to related NTSB recommendations. The agency will assess the research data and potential countermeasures and decide on next steps.

Next Milestone: Agency decision in 2013

V. CROSSWALK BETWEEN 2009-2011 RULEMAKING AND RESEARCH PRIORITY PLAN OF OCTOBER 2009 AND THIS PLAN

This section provides a comparison to the October 2009 plan, a project by project progress review, and a short description of what priority actions have occurred in the last year.

Comparison to the October 2009 Plan
The following bullets provide a summary comparison of the October 2009 published 2009-2011 plan and this 2010-2013 plan. The plan is a dynamic document that changes as new issues or circumstances arise. These tables were updated in early November 2010. Tables 2 and 3 at the end of this section provide a project by project short description of what has occurred over the past year, the NPRMs and Final Rules issued, the decisions made, and the differences in the plans.

- There were 56 projects in the 2009-2011 plan and there are 56 projects in the 2010-2013 plan. Combining the two plans, there were 66 separate actions.

- Of the 56 projects in the 2009-2011 plan, 25 were priority projects and 31 were other significant projects. Of the 56 projects in the 2010-2013 plan, there are 23 priority projects and 33 other significant projects.

- Of the 25 priority projects in the 2009-2011 plan, the schedule for 1 was moved forward, 2 were completed with final rules, 1 had a final rule issued but more work is continuing, 8 project deadlines were met (typically issuing an NPRM), progress has been made on an additional 9 projects and they are still on schedule, and 4 projects are behind the original schedule.

- There were 3 new priority projects added for the 2010-2013 plan.

- Of the 31 “other significant projects” in the 2009-2011 plan, 1 was moved forward, 1 was completed with a final rule, a decision was made on 3 projects, progress has been made on 10 projects and they are still on schedule, 13 are behind schedule, and 3 were dropped from the plan because we now decided they did not reach a priority level of being an “other significant project”.

- 7 new “other significant projects” were added for the 2010-2013 plan.

In summary, in the last year the agency completed more projects and made more progress on its priority list (21 of 25 priority projects were completed or are on schedule), than on the “other significant projects” list (progress made on 15 of 31 projects).

Several abbreviations are used for Tables 2 and 3, to manage the width of the tables.

These are:
AD - Next agency decision
FR – Final Rule
Guide – Guidelines for visual manual distraction
HV – Heavy Vehicle
NI – Not included in the plan
Notice – A non-rulemaking notice, concerning issues like NCAP, consumer education, or a notice of intent.
NPRM – Notice of Proposed Rulemaking
RFC – Request for Comment
TBD – To be determined

Under the “Progress?” column, the abbreviations are:
+ Completed the action or completed the first milestone on time
+/- Completed an action but are behind the original schedule for the next action
- Behind original schedule
AS Ahead of Schedule
Drop Taken off the priority list
OS On Schedule, progress has been made and we remain on schedule

Table 2
Priority Projects
Comparison between the 2009-2011 Plan (October 2009) and this Plan for 2010-2013

Priority Projects	2009-2011 Plan	2010-2013 Plan	Progress?	Discussion of Changes
Forward Collision Warning	AD 2011	AD 2011	OS	
Lane Departure Prevention	AD 2011	AD 2011	OS	Moved out of Priority Projects to Other Significant Projects
Vehicle Communications	AD 2013	AD 2013	OS	
Distraction	Plan 2010	Guide 2011	+	Plan published April 2010
Alcohol Initiative	AD 2012	AD 2012	OS	
Ejection Mitigation	NPRM 2009 FR 2011	FR 2011	+	NPRM published 12/2/2009
Child Restraints in Side Impact	AD 2010	AD 2010	OS	
NCAP Fit Program	Notice 2010	RFC 2010 Notice 2012	OS	
Rear Visibility	NPRM 2009	NPRM 2010 FR 2011	-	ANPRM published 3/4/2009
Power Windows	NPRM 2009 FR 2010	FR 2011	+/-	NPRM Issued 9/1/2009; FR date changed via Letter to Congress
Brake Transmission Shift Interlock	NPRM 2009 FR 2010	NI	+	Completed, NPRM issued 8/25/2009 FR issued 3/31/2010
HV Truck Tractor Stability Control	NPRM 2010	NPRM 2011	-	Additional coordination required
Medium Truck and Bus Stability Control	NI	AD 2014	Add	Added to Plan
HV Forward Collision Avoidance	AD 2011	AD 2013	-	Resources reallocated to medium truck and bus stability control
Motorcoach Lap/Shoulder Belts	NPRM 2009 FR 2010	FR 2012	+/-	NPRM issued 8/18/10, required additional coordination
Motorcoach Fire Safety	AD 2011	AD 2011	OS	
Motorcoach Evacuation	AD 2010	AD 2010	OS	
Motorcoach Structural Integrity	AD 2009	NPRM 2011	+	Previously named Motorcoach Roof Strength; Decision to proceed with rulemaking
Fuel Economy MY 2012-16 light vehicle CAFE	FR 2010	NI	+	Completed, FR issued 3/31/2010
Fuel Economy MY 2017-25 light vehicle CAFE	NI	Notice 2010 NPRM 2011 FR 2012	Add OS	Added to Plan; NOI published 10/13/10

Fuel Economy Medium/Heavy Truck	AD 2011	NPRM 2010 FR 2011	AS	
CAFE/Greenhouse Gas Labeling Rule	NPRM 2010	NPRM 2010 FR 2011	+	NPRM published 9/23/10
Fuel Economy Consumer Education	NPRM 2010	NPRM 2011	-	Additional coordination required
Fuel Tank Labeling Program	NPRM 2010		OS	Combined with consumer education
Consumer Tire Rating Program	NPRM 2009	NI	+/-	NPRM issued 6/22/2009 FR issued 3/30/2010, but more work to do on label, date uncertain
Hydrogen	TBD	AD 2012	OS	
CNG	NI	AD 2013	Add	Added to Plan
Batteries	AD 2011	AD 2012	-	Research ongoing

Table 3
Other Significant Projects
Comparison between the 2009-2011 Plan (October 2009) and this Plan for 2010-2013

Other Significant Projects	2009-2011 Plan	2010-2013 Plan	Progress?	Discussion of Changes
Blind Spot Detection	AD 2013	AD 2013	OS	
Quieter Cars	AD 2010	AD 2011	-	More complicated than originally thought
Pedestrian Detection	NI	AD 2013	Add	Added to plan
Motorcycle Helmet Labeling	FR 2010	FR 2011	-	More complicated than originally thought
Motorcycle Braking - ABS	AD 2010	NI	+	Decision to evaluate with more data later
Restraint Effectiveness in Rollovers	AD 2010	AD 2011	-	Rollover test procedure difficult to define
Dynamic Rollover	NI	AD 2014	Add	Added to plan
Seat Belt Reminder System	AD 2011	AD 2011	OS	
Oblique/Low Offset Frontal	AD 2011	AD 2011	OS	
Compatibility	AD 2010	NI	+	Decision to remove from plan
Pre-Collision Air Bag/Safety System Activation	AD 2010	AD 2011	-	Moved back due to other priorities
Next Generation NCAP	AD 2010-12	AD 2010-12	OS	
Monroney Label NCAP	NPRM 2009	NI	Drop	Taken off plan, not a priority
Rear Seat Low Delta V	AD 2012	AD 2014	-	Delayed due to other priorities
Side Impact Dummies – Adults	AD 2011	AD 2011	OS	

Children - Booster Seats	SNPRM 2009	SNPRM 2010	-	Staffing constraints forces delay
Children – LATCH	AD 2011	AD 2011	OS	
Children – 213 Test Requirements	AD 2010	AD 2013	-	Staffing constraints forces delay
Older Occupant Protection	AD 2010	Plan 2011	+	Agency decision to develop a plan
Pedestrian GTR	NPRM 2010	NPRM 2011	-	Dummy leg issues
Motorcycle Brakes - GTR	FR 2010	NI	Drop	Taken off plan, not a priority
Glazing – GTR	NPRM 2009	NI	Drop	Taken off plan, not a priority
Head Restraints - GTR	NPRM 2010	NPRM 2011	-	Moved back due to other priorities
Head Restraints – Phase 2	AD 2013	AD 2013	OS	
HV Stopping Distance	FR 2009	NI	+	Completed – FR issued 7/27/09
HV Electronic Data Recorder	AD 2010	AD 2010	OS	
HV Truck Tires	NPRM 2009	NPRM 2010 AD 2011	-	NPRM published 9/28/10
HV Speed Limiters	NI	NPRM 2012	Add	Decision to respond to petition with NPRM
HV Truck Underride Guards	NI	AD 2013	Add	Added to Plan, Evaluation shows problem in offset crashes
Biomechanics Program	AD 2011-15	Plan 2010	OS	Publish biomechanics plan first
Advanced Automatic Collision Notification	AD 2010	AD 2011	-	Requires further study
Lighting Standard	AD 2012	AD 2012	OS	
Rear Turn Signals	AD 2009	NI	-	Taken off plan due to staffing constraints
Tire Aging	AD 2010	AD 2012	-	Issue raised whether tires that meet new FMVSS 139 need tire aging test
Light Vehicle EDR	AD 2012	NPRM 2011 ANPRM 2011	AS	Decision to move forward with NPRM and ANPRM
Brake Override and update FMVSS 124	NI	NPRM 2011	Add	Added to plan
Keyless Ignition Systems	NI	NPRM 2011	Add	Added to plan
Pedal Placement	NI	AD 2013	Add	Added to plan