U.S. Department of Transportation

BUDGET ESTIMATES

FISCAL YEAR 2021

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

SUBMITTED FOR THE USE OF THE COMMITTEES ON APPROPRIATIONS

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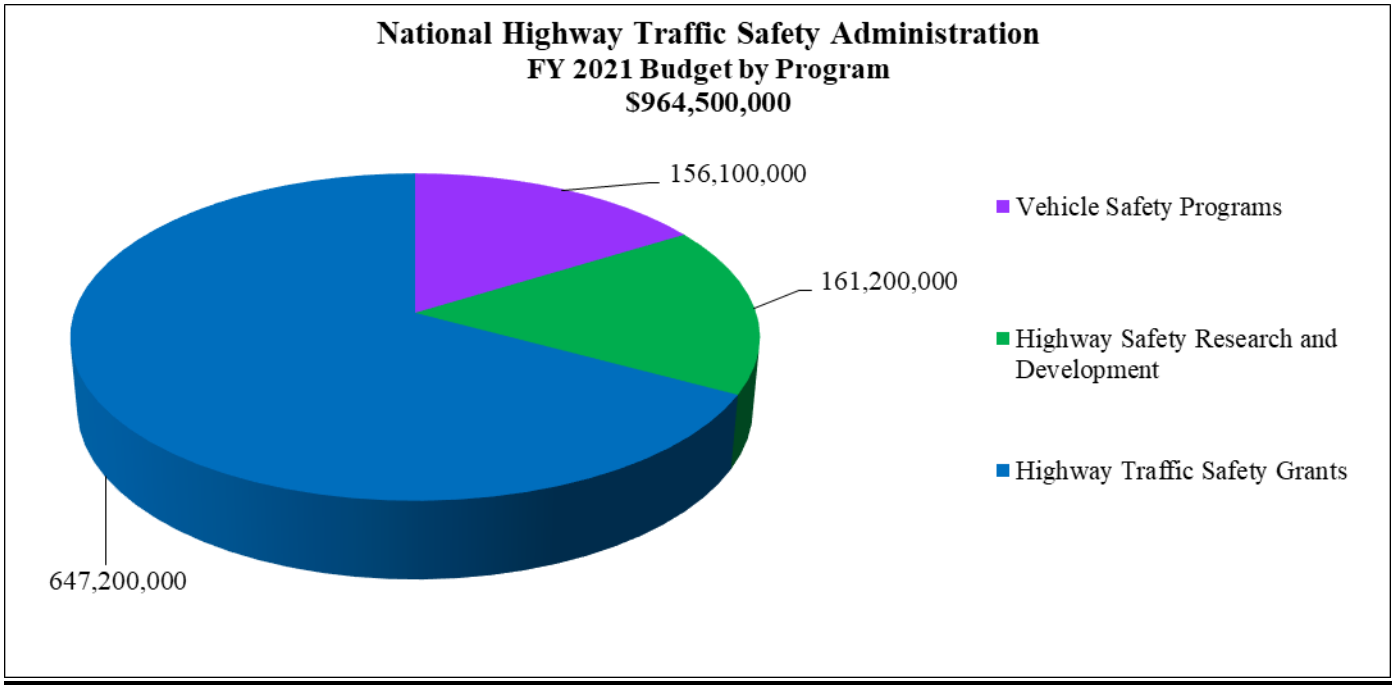
National Highway Traffic Safety Administration
FY 2021 Request

Deputy Administrator's Overview



Every day, Americans take more than one billion trips, by car, bus, train, boat and aircraft. The U.S. Department of Transportation's (DOT) top priority is to help them make these trips safely. The mission of the DOT is to ensure our Nation has the safest, most efficient and modern transportation system in the world, which improves the quality of life for all American people and communities, from rural to urban, and increases the productivity and competitiveness of American workers and businesses.

Safe, reliable and affordable transportation boosts exports, enhances commerce and powers economic growth. It provides Americans access to employment, education, and recreation. It allows for easier travel, wider access to health care, and faster response of first responders during emergencies. Our multimodal transportation system has enabled the United States to become the most vibrant and powerful Nation in history. To improve safety, increase economic growth, and enhance quality of life, DOT is focused on rebuilding and refurbishing America's infrastructure. It partners with State and local governments to address infrastructure needs – from roads and bridges to aviation, rail, transit and pipelines.

This Administration would like to do even more, because while our transportation system has had many successes, it also faces significant challenges. For example, the 2019 Urban Mobility Report found congestion in urban areas cost commuters an estimated $179 billion in wasted fuel and time in 2017. The percentage of vehicle miles traveled on the National Highway System pavement in "good" condition was only 62 percent in 2018. There were 16,764 bridges on the Federal-aid

highway system in poor condition in 2018. The transit maintenance backlog is projected to reach $116 billion by 2034. Many transportation projects, especially larger ones, still take too long to receive an environmental permitting decision, delaying their benefits. While showing recent signs of improvement, far too many fatalities and injuries continue to occur year after year on the Nation's roads, and pedestrian and bicyclist deaths are rising.

With the expiration of the Fixing America's Surface Transportation (FAST Act) in September, the time to take bold action to address these and other challenges is now. Therefore, the Fiscal Year (FY) 2021 President's Budget request includes $810 billion for a 10-year surface transportation reauthorization proposal for the DOT, Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Federal Railroad Administration (FRA), the National Highway Traffic Safety Administration (NHTSA), the Federal Motor Carrier Safety Administration (FMCSA), and the Pipeline and Hazardous Materials Safety Administration (PHMSA) hazardous materials programs. The reauthorization would run from fiscal year 2021 through 2030—providing predictable funding levels for an entire decade.

In the coming months, the Administration will submit a comprehensive surface transportation reauthorization proposal to the Congress for consideration. The FY 2021 Budget includes an additional $190 billion for other infrastructure improvements, including bridges, freight bottlenecks and landside port infrastructure. It will also provide first responders with near real-time emergency response information.

This proposal will build upon the success of the FAST Act. Over the 10-year period, the 2021 Budget proposes an eight percent increase for highway and transit formula programs from the last year of the FAST Act. The Budget also provides for a 3.8 percent increase to NHTSA and FMCSA from the last year of the FAST Act. Similar to the FAST Act, the proposal also authorizes General Fund programs for NHTSA, FTA, FRA, PHMSA and OST. This unprecedented 10-year authorization will provide long-term stable and predictable investment that will help ensure that America has a safer, more reliable, and more efficient transportation system.

The Budget provides historic levels of funding to make our highways, bridges, tunnels, transit and rail systems the best in the world. This long-term funding commitment provides certainty to our State, local, and private partners, so that they can effectively plan, finance, and deliver vital projects. The proposal will build upon the gains of past reauthorizations from program consolidation, simplification, and flexibility, while re-focusing the Federal role on activities that advance National goals. This investment will enable people to travel more safely and efficiently, and support continued economic growth.

Improving Transportation Safety: Traffic fatalities have declined 32 percent since 1972. That's remarkable, especially considering that there has been a 153 percent increase in vehicle miles travelled. In fact, the fatality rate in 1972 was nearly four times higher than it is today. This reduction in fatalities is attributable in part to improvements in roadway and vehicle designs. It is estimated that projects implemented using Highway Safety Improvement Program funds save 600

lives every year. The Administration's proposed bill will help further reduce those fatalities, ensuring more Americans make it home safely.

Transportation safety and accessibility is improved by modernizing, expanding eligibility for, and standardizing existing successful programs. For example, updating the Highway Safety Improvement Program to include additional proven strategies for improving safety, modernizing the Railway-Highway Crossing Program to reflect changing technologies and to offer greater flexibility for States to enhance safety, and by ensuring that the safety practices of public transportation systems are considered for FTA-funded projects.

Building Infrastructure More Efficiently: Extensive project review times are preventing projects from being completed in a timely fashion. Reducing the environmental review and permitting timeline will reduce project costs, and help avoid delays to needed projects. These reforms will improve the efficiency and transparency of the environmental review process while protecting critical environmental resources.

DOT is helping projects get started and completed more easily with a cohesive set of reforms to the environmental review and permitting process that will reduce regulatory burdens, increase government efficiency and empower State and localities. These reforms will protect the environment while delivering projects in a less costly and more timely manner by reducing duplication in Federal responsibilities, codifying aspects of One Federal Decision, and delegating more responsibility to State and local partners. In addition, the proposal includes resiliency provisions to codify efforts within current programs.

***Reducing Regulatory Burdens and Increasing Government Efficiency*:** Improvement of regulations is a continuous focus for the Department. There should be no more regulations than necessary, and those regulations should be straightforward, clear, and designed to achieve their objective and minimize burdens.

This legislative proposal will advance the work to update or reduce outdated, duplicative, and unnecessarily burdensome regulations that do not enhance safety. In addition, the legislation will reduce administrative burdens on grantees by consolidating grant programs at both NHTSA and FTA. These commonsense updates will save, respectively, hundreds of millions of dollars a year that can be better spent on creating new jobs, training and safety.

***Investing in Both Urban and Rural America*:** The disparity in resources has safety and economic ramifications. Rural America comprises nearly 70 percent of roadways and those roads carry 47 percent of America's truck traffic. Though only 20 percent of Americans reside in rural areas, 46 percent of traffic fatalities occur on rural roads. The state of infrastructure in rural regions impacts the residents, travelers—44 percent of whom are urban dwellers—and regional and interstate commerce.

This legislation will ensure that communities Nationwide are supported by DOT program enhancements; refinements to passenger rail programs to enhance transparency and project

development and delivery; and authorizing BUILD and INFRA Transportation grants, ensuring equity between rural and urban America.

Empowering State and Local Authorities: States and localities are best equipped to understand the infrastructure needs of their communities. The Federal Government should provide support and incentives for communities to achieve their local needs. DOT's surface transportation reauthorization proposal has been developed after listening to and working with our State and local partners to ensure that the Federal role is one of help, not hindrance. The proposal will right-size the Federal role in areas where States and localities can make more tailored and efficient decisions, and provide our State and local partners with funding certainty and programmatic continuity over the long-term.

States would be empowered to make more tailored and efficient decisions with NHTSA and FMCSA safety incentive and grant funding to address their local safety needs, including allowing States additional transfer authorities to focus on drug-impaired driving. In addition, the legislation reduces the Federal involvement in outdoor advertising leaving more of the decision making to the States.

***Taking Care of What You Have*:** Underinvestment in transportation has led to a backlog of needs throughout the transportation system. DOT will help restore and modernize existing infrastructure by focusing on State of Good Repair needs in public transportation, transforming the National passenger rail network to provide better transportation options to rural and urban areas, and enhancing PHMSA's hazardous materials inspection and investigation activities.

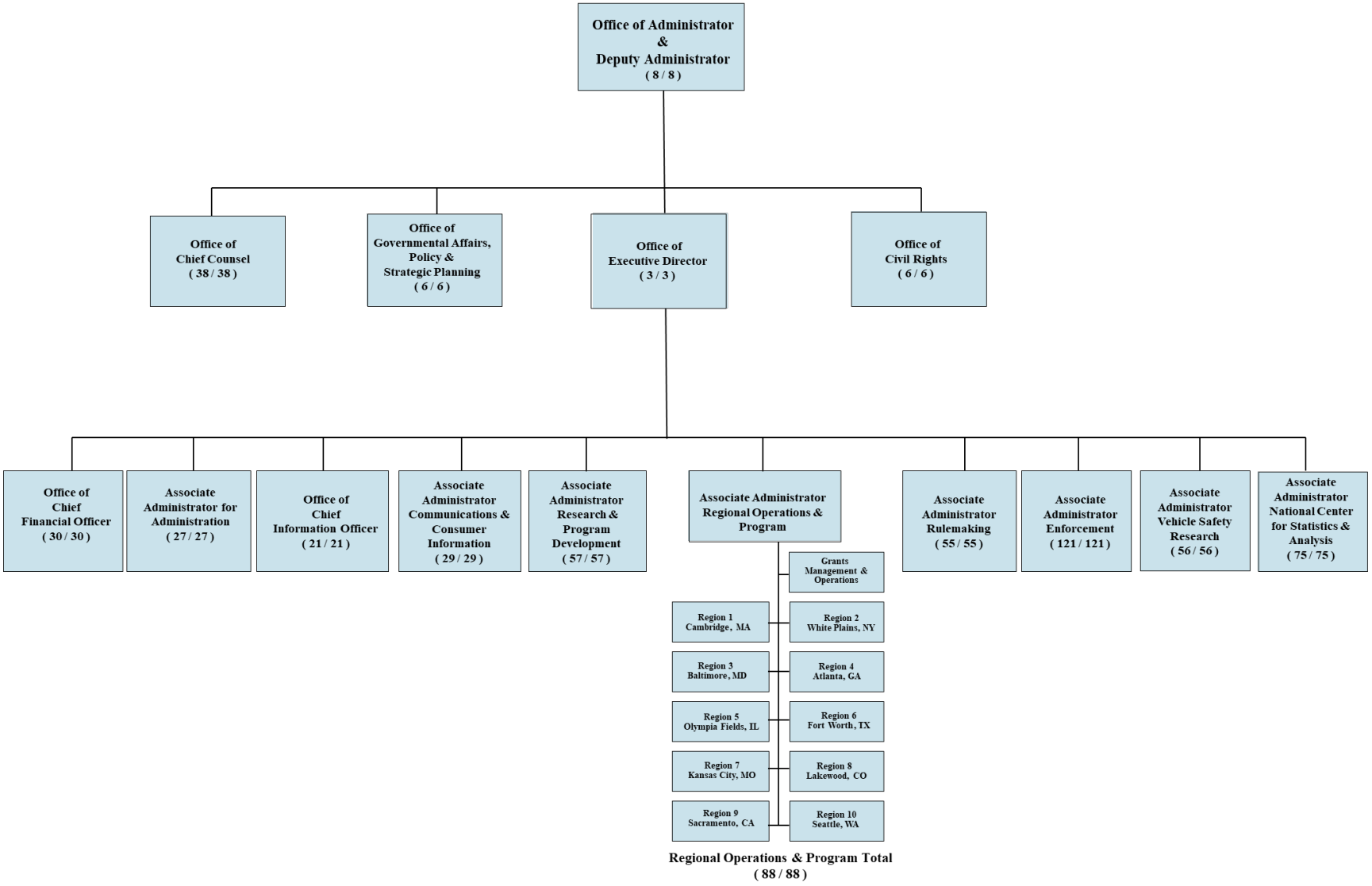
***Preparing for the Future*:** We have entered an historic period of transportation innovation that promises to boost economic growth and improve quality of life for all Americans. These innovations are occurring in all modes of transportation, including roads, rail, maritime, and aerospace. The Department is helping to chart a course for the safe integration of these innovations into our National transportation network.

The legislation includes provisions DOT supported in key automated vehicle bills proposed in Congress. In addition, the proposal would enhance PHMSA's ability to partner with its stakeholders and leverage automated vehicle technologies and other innovations with potential to improve hazardous materials transportation safety.

By incentivizing new investment in infrastructure, eliminating overly burdensome regulations, and encouraging innovation, the Department is helping to improve our quality of life and build a brighter future for all Americans.

By incentivizing new investment in infrastructure, eliminating overly burdensome regulations, and encouraging innovation, the Department is helping to improve our quality of life and build a brighter future for all Americans.

FY 2020 FTE Estimate
National Highway Traffic Safety Administration
(*Total 620 FTE/620 FTP*)



FY 2021 FTE Estimate
National Highway Traffic Safety Administration
(*Total 618 FTE/618 FTP*)

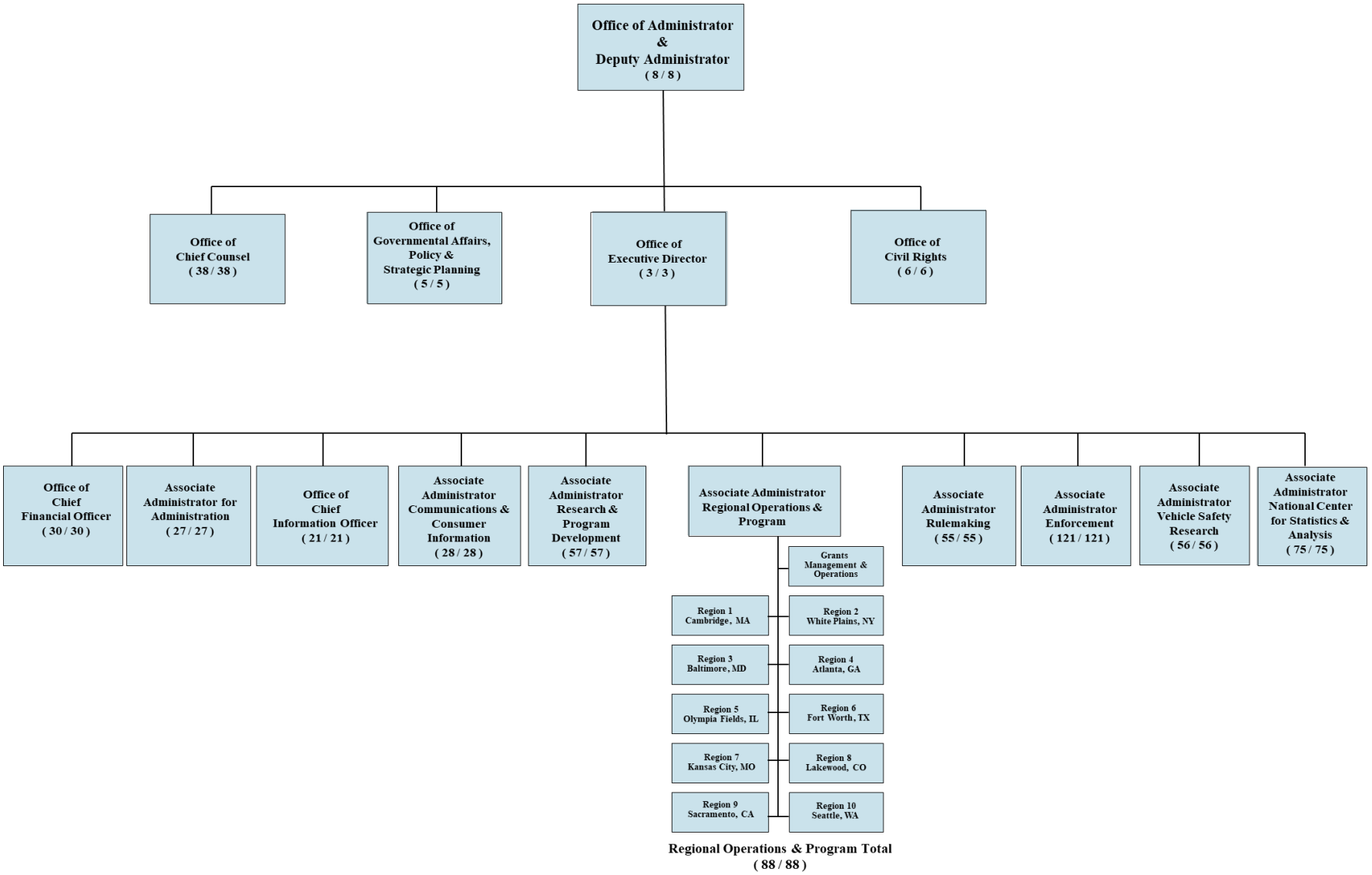


EXHIBIT II-1
FY 2021 BUDGET AUTHORITY
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
($000)

ACCOUNT NAME	M / D	FY 2019 ENACTED	FY 2020 ENACTED	FY 2021 REQUEST
Operations and Research		**$ 356,100**	**$ 366,300**	**$ 317,300**
Vehicle Safety Programs (GF)	**D**	190,000	194,000	156,100
Section 142 - Highway Safety Research & Development (GF)	**D**	14,000	17,000	-
Highway Safety Research & Development (TF)	**M**	152,100	155,300	161,200
Highway Traffic Safety Grants (TF)		**715,232**	**724,274**	**647,200**
Highway Traffic Safety Grants (TF)	**M**	610,208	623,017	647,200
Transfer from Federal Highway Administration (FHWA)[1]		105,024	101,257	-
TOTAL		**$ 1,071,332**	**$ 1,090,574**	**$ 964,500**

Note: Totals may not add due to rounding.

[1.] NHTSA anticipates transfers from FHWA in FY 2021. Amounts to be determined based on State penalty information.

EXHIBIT II-2
FY 2021 TOTAL BUDGETARY RESOURCES BY APPROPRIATION ACCOUNT
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

ACCOUNT NAME	M / D	(A) FY 2019 ENACTED	(B) FY 2020 ENACTED	(C) FY 2021 REQUEST
VEHICLE SAFETY PROGRAMS (GF)	**D**	**$ 190,000**	**$ 194,000**	**$ 156,100**
Rulemaking		25,000	28,000	22,586
Enforcement		33,000	37,000	19,542
Research and Analysis		49,000	48,000	32,805
Administrative Expenses		83,000	81,000	81,167
SECTION 143 - HIGHWAY SAFETY RESEARCH AND DEVELOPMENT (GF	**D**	**$ 14,000**	**$ 17,000**	-
Railhead Media Campaign		7,000	10,000	-
Impaired Driving		7,000	7,000	-
HIGHWAY SAFETY RESEARCH AND DEVELOPMENT (TF)	**M**	**$ 152,100**	**$ 155,300**	**$ 161,200**
Highway Safety Programs		56,631	63,121	
Research and Analysis - NCSA		40,290	42,983	
Administrative Expenses		55,179	49,196	50,596
TOTAL OPERATIONS AND RESEARCH		**$ 356,100**	**$ 366,300**	**$ 317,300**
HIGHWAY TRAFFIC SAFETY GRANTS	**M**			
Formula Grants (Section 402)		270,400	279,800	
High Visibility Enforcement Program (Section 2009)		30,200	30,500	
National Priority Safety Programs (Section 405)		**283,000**	**285,900**	
Occupant Protection Grants		*36,790*	*37,167*	
State Traffic Safety Information System Grants		*41,035*	*41,456*	
Impaired Driving Countermeasures Grants		*148,575*	*150,098*	
Distracted Driving Grants		*24,055*	*24,302*	
Motorcyclist Safety Grants		*4,245*	*4,289*	
State Graduated Driver Licensing Laws		*14,150*	*14,295*	
Non-Motorized Safety Pedestrian/Bikes		*14,150*	*14,295*	
Administrative Expenses		26,608	26,817	30,086
Transfer from Federal Highway Administration (FHWA)[1]		105,024	101,257	
TOTAL HIGHWAY TRAFFIC SAFETY GRANTS (TF)		**$ 715,232**	**$ 724,274**	**$ 647,200**
TOTAL		**$ 1,071,332**	**$ 1,090,574**	**$ 964,500**

Note: Totals may not add due to rounding.

[1.] NHTSA anticipates transfers from FHWA in FY 2021. Amounts to be determined based on State penalty information.

EXHIBIT II-3
FY 2021 BUDGET REQUEST BY DOT STRATEGIC AND ORGANIZATIONAL GOALS
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
Appropriations, Obligation Limitation, and Exempt Obligations
($000)

	Safety	Infrastructure	Innovation	Accountability	Total
VEHICLE SAFETY	$ 137,869	$ -	$ 13,663	$ 4,567	$ 156,100
Vehicle Safety Admin.	$ 73,050		$ 8,117	$ -	$ 81,167
Rulemaking	$ 15,198		$ 3,171	$ 4,217	$ 22,586
Enforcement	$ 19,542		$ -	$ -	$ 19,542
Vehicle Safety R&A	$ 30,079		$ 2,376	$ 350	$ 32,805
HIGHWAY SAFETY R&D	$ 156,902	$ -			$ 161,200
HIGHWAY TRAFFIC SAFETY GRANTS	$ 647,200	$ -			$ 647,200
TOTAL	**$ 941,971**	**$ -**	**$ 13,663**	**$ 8,866**	**$ 964,500**

EXHIBIT II-4
FY 2021 OUTLAYS
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
($000)

		(A)	(B)	(C)
	M / D	FY 2019 ENACTED	FY 2020 ENACTED	FY 2021 REQUEST
Vehicle Safety Programs (GF)	**D**	$ 182,000	$ 160,000	$ 212,000
Highway Safety Research & Development (TF)	**D**	$ 144,000	$ 152,000	$ 155,000
Highway Traffic Safety Grants (TF)	**D**	$ 702,000	$ 771,000	$ 734,000
Next Generation 911 Implementation Grants (GF)	**M**	$ -	$ 48,000	$ 46,000
TOTAL:		**$ 1,028,000**	**$ 1,131,000**	**$ 1,147,000**
[Mandatory]		$ -	$ 48,000	$ 46,000
[Discretionary]		$ 1,028,000	$ 1,083,000	$ 1,101,000

EXHIBIT II-5
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
Appropriations, Obligation Limitations, and Exempt Obligations
($000)
SUMMARY TABLE

			Baseline Changes									
NHTSA SUMMARY	**FY 2019 Enacted**	**FY 2020 Enacted**	**Annualization of Prior Pay Raises**	**Annualization of new FY 2020 FTE**	**FY 2021 Pay Raise**	**Adjustment for Compensable Days (261 days)**	**GSA Rent**	**WCF Increase / Decrease**	**Inflation and other adjustments to base**	**FY 2021 Baseline Estimate**	**Program Increases / Decreases**	**FY 2021 Request**
PERSONNEL RESOURCES (FTE)												
Direct Program FTE	626	620	-	-	-	-	-	-	-	620	(2)	618
Reimbursable FTE	-	-	-	-	-	-	-	-	-	-	-	-
Total Direct and Indirect FTE	626	620	-	-	-	-	-	-	-	620	(2)	618
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES												
Salaries and Benefits (11 & 12)[1]	104,425	110,367	-	-	-	-	-	-	-	110,367	3,138	113,505
Travel (21)	1,563	1,363	-	-	-	-	-	-	14	1,377	-	1,377
Transportation of Things (22)	70	70	-	-	-	-	-	-	-	70	-	70
GSA Rent (23)	8,880	10,799	-	-	-	-	201	-	-	11,000	-	11,000
Rent, Communications & Utilities (23)	4,557	2,136	-	-	-	-	-	-	(86)	2,050	-	2,050
Printing (24)	357	357	-	-	-	-	-	-	-	357	-	357
Other Services (25)	39,648	26,556	-	-	-	-	-	-	1,515	28,071	-	28,071
Supplies (26)	4,261	4,325	-	-	-	-	-	-	43	4,368	-	4,368
Equipment (31)	1,025	1,040	-	-	-	-	-	-	10	1,051	-	1,051
Subtotal, Administrative	**164,787**	**157,013**	**-**	**-**	**-**	**-**	**201**	**-**	**1,497**	**158,711**	**3,138**	**161,849**
VEHICLE SAFETY AND HIGHWAY SAFETY PROGRAMS	**203,921**	**219,104**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**219,104**	**(33,567)**	**185,537**
VS - Rulemaking	25,000	28,000	-	-	-	-	-	-	-	28,000	(5,414)	22,586
VS - Enforcement	33,000	37,000	-	-	-	-	-	-	-	37,000	(17,458)	19,542
VS - Research and Analysis	49,000	48,000	-	-	-	-	-	-	-	48,000	(15,195)	32,805
HS - Highway Safety Programs	56,631	63,121	-	-	-	-	-	-	-			
HS - Research and Analysis	40,290	42,983	-	-	-	-	-	-	-			
SECTION 143	**14,000**	**17,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**			
Railhead Media Campaign	7,000	10,000	-	-	-	-	-	-	-		-	-
Impaired Driving	7,000	7,000	-	-	-	-	-	-	-		-	-
HIGHWAY TRAFFIC SAFETY GRANTS	**583,600**	**596,200**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**596,200**	**20,914**	**617,114**
Formula Grants (Section 402)	270,400	279,800	-	-	-	-	-	-	-			
High Visibility Enforcement (Section 2009)	30,200	30,500	-	-	-	-	-	-	-			
National Priority Safety Programs (Section 405)	**283,000**	**285,900**	-	-	-	-	-	-	-			
Occupant Protection Grants	36,790	37,167	-	-	-	-	-	-	-			
State Traffic Safety Information System Grants	41,035	41,456	-	-	-	-	-	-	-			
Impaired Driving Countermeasures Grants	148,575	150,098	-	-	-	-	-	-	-			
Distracted Driving Grants	24,055	24,302	-	-	-	-	-	-	-			
Motorcyclist Safety Grants	4,245	4,289	-	-	-	-	-	-	-			
State Graduated Driver Licensing Laws	14,150	14,295	-	-	-	-	-	-	-			
Non-Motorized Safety Pedestrian/Bikes	14,150	14,295	-	-	-	-	-	-	-			
Subtotal, Programs	**787,521**	**815,304**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**815,304**	**(12,653)**	**802,651**
WORKING CAPITAL FUND												
Subtotal, Working Capital Fund (non-add)	**[13,768]**	**[24,458]**	**-**	**-**	**-**	**-**	**-**	**[2,834]**	**-**	**[27,292]**		**[27,292]**
GRAND TOTAL	**966,308**	**989,317**	**-**	**-**	**-**	**-**	**201**	**-**	**1,497**	**974,015**	**183,213**	**964,500**

Note: Totals may not add due to rounding.

1/ Consistent with OMB Memoranda M-19-24 dated July 2019, the amount shown above for Salaries and Benefits includes an estimated increase of $976 thousand for awards spending, from $992 thousand in FY 2020 to $1.96 million in FY 2021. This increase is calculated by increasing the FY 2020 base award pay, relative to non-SES salaries, and increasing that percentage by one full percent. These percentages are 1.5% and 2.5% for FY 2020 and 2021, respectively. Additional increases shown on this line are attributable to various Pay Raise and FERS contribution percentage increases for FY 2020 and 2021 as prescribed by OPM and OMB guidance.

EXHIBIT II-5
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
Appropriations, Obligation Limitations, and Exempt Obligations
($000)
OPERATIONS AND RESEARCH
VEHICLE SAFETY PROGRAMS

			Baseline Changes									
Program Category	FY 2019 Enacted	FY 2020 Enacted	Annualization of Prior Pay Raises	Annualization of new FY 2020 FTE	FY 2021 Pay Raise	Adjustment for Compensable Days (261 days)	GSA Rent	WCF Increase / Decrease	Inflation and other adjustments to base	FY 2021 Baseline Estimate	Program Increases / Decreases	FY 2021 Request
PERSONNEL RESOURCES (FTE)												
Direct Program FTE	363	357	-	-	-	-	-	-	-	357	(2)	355
Reimbursable FTE	-	-	-	-	-	-	-	-	-	-	-	-
Total Direct and Indirect FTE	363	357	-	-	-	-	-	-	-	357	(2)	355
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES												
Salaries and Benefits (11 & 12)	60,704	64,422	-	-	-	-	-	-	-	64,422	1,641	66,063
Travel (21)	592	492	-	-	-	-	-	-	5	497	-	497
Transportation of Things (22)	70	70	-	-	-	-	-	-	-	70	-	70
GSA Rent (23)	2,216	6,742	-	-	-	-	104	-	-	6,846	-	6,846
Rent, Communications & Utilities (23)	3,487	1,066	-	-	-	-	-	-	11	1,077	-	1,077
Printing (24)	357	357	-	-	-	-	-	-	-	357	-	357
Other Services (25)	12,418	4,648	-	-	-	-	-	-	(1,625)	3,023	-	3,023
Supplies (26)	2,131	2,163	-	-	-	-			22	2,184	-	2,184
Equipment (31)	1,025	1,040	-	-	-	-	-	-	10	1,051	-	1,051
Subtotal, Administrative	**83,000**	**81,000**	**-**	**-**	**-**	**-**	**104**	**-**	**(1,578)**	**79,526**	**1,641**	**81,167**
PROGRAMS												
Rulemaking	25,000	28,000	-	-	-	-	-	-	-	28,000	(5,414)	22,586
Enforcement	33,000	37,000	-	-	-	-	-	-	-	37,000	(17,458)	19,542
Research and Analysis	49,000	48,000	-	-	-	-	-	-	-	48,000	(15,195)	32,805
Subtotal, Programs	**107,000**	**113,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**113,000**	**(38,067)**	**74,933**
WORKING CAPITAL FUND												
Subtotal, Working Capital Fund (non-add)	**[6,935]**	**[14,390]**	**-**	**-**	**-**	**-**	**-**	**[1,648]**	**-**	**[16,038]**		**[16,038]**
TOTAL, VEHICLE SAFETY PROGRAMS	**190,000**	**194,000**	**-**	**-**	**-**	**-**	**104**	**-**	**(1,578)**	**192,526**	**(36,426)**	**156,100**

Note: Totals may not add due to rounding.

EXHIBIT II-5
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
Appropriations, Obligation Limitations, and Exempt Obligations
($000)
OPERATIONS AND RESEARCH
HIGHWAY SAFETY RESEARCH & DEVELOPMENT

			Baseline Changes									
Program Category	**FY 2019 Enacted**	**FY 2020 Enacted**	**Annualization of Prior Pay Raises**	**Annualization of new FY 2020 FTE**	**FY 2021 Pay Raise**	**Adjustment for Compensable Days (261 days)**	**GSA Rent**	**WCF Increase / Decrease**	**Inflation and other adjustments to base**	**FY 2021 Baseline Estimate**	**Program Increases / Decreases**	**FY 2021 Request**
PERSONNEL RESOURCES (FTE)												
Direct Program FTE	175	175	-	-	-	-	-	-	-	175	-	175
Reimbursable FTE	-	-	-	-	-	-			-	-	-	-
Total Direct and Indirect FTE	175	175	-	-	-	-	-	-	-	175	-	175
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES												
Salaries and Benefits (11 & 12)	30,259	31,521	-	-	-	-	-	-	-	31,521	1,030	32,550
Travel (21)	557	457	-	-	-	-	-	-	5	461	-	461
Transportation of Things (22)	-	-	-	-	-	-	-	-	-	-	-	-
GSA Rent (23)	6,236	2,891	-	-	-	-	67	-	-	2,958	-	2,958
Rent, Communications & Utilities (23)	1,070	1,070	-	-	-	-	-	-	(96)	974	-	974
Printing (24)	-	-	-	-	-	-	-	-	-	-	-	-
Other Services (25)	14,928	11,097	-	-	-	-	-	225	149	11,470	-	11,470
Supplies (26)	2,130	2,162	-	-	-	-	-	-	22	2,184	-	2,184
Equipment (31)	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal, Administrative	**55,179**	**49,196**	**-**	**-**	**-**	**-**	**67**	**225**	**78**	**49,567**	**1,030**	**50,596**
PROGRAMS												
Highway Safety Programs	56,631	63,121	-	-	-	-						
Research and Analysis - NCSA	40,290	42,983	-	-	-	-						
Subtotal, Programs	**96,921**	**106,104**	**-**	**-**	**-**	**-**						
WORKING CAPITAL FUND												
Subtotal, Working Capital Fund (non-add)	**[4,610]**	**[7,635]**	**-**	**-**	**-**	**-**	**-**	**[912]**	**-**	**[8,547]**	**-**	**[8,547]**
TOTAL, HIGHWAY SAFETY RESEARCH & DEVELOPMENT	**152,100**	**155,300**	**-**	**-**	**-**	**-**	**67**	**225**	**78**	**155,670**	**5,530**	**161,200**

Note: Totals may not add due to rounding.

EXHIBIT II-5
SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
Appropriations, Obligation Limitations, and Exempt Obligations
($000)
HIGHWAY TRAFFIC SAFETY GRANTS

			Baseline Changes									
Program Category	**FY 2019 Enacted**	**FY 2020 Enacted**	**Annualization of Prior Pay Raises**	**Annualization of new FY 2020 FTE**	**FY 2021 Pay Raise**	**Adjustment for Compensable Days (261 days)**	**GSA Rent**	**WCF Increase / Decrease**	**Inflation and other adjustments to base**	**FY 2021 Baseline Estimate**	**Program Increases / Decreases**	**FY 2021 Request**
PERSONNEL RESOURCES (FTE)												
Direct Program FTE	88	88	-	-	-	-	-	-	-	88	-	88
Reimbursable FTE	-	-	-	-	-	-	-	-	-	-	-	-
Total Direct and Indirect FTE	88	88	-	-	-	-	-	-	-	88	-	88
FINANCIAL RESOURCES												
ADMINISTRATIVE EXPENSES												
Salaries and Benefits (11 & 12)	13,463	14,424	-	-	-	-	-	-	-	14,424	468	14,892
Travel (21)	415	415	-	-	-	-	-	-	4	419	-	419
Transportation of Things (22)	-	-	-	-	-	-	-	-	-	-	-	-
GSA Rent (23)	428	1,166	-	-	-	-	30	-	-	1,196	-	1,196
Rent, Communications & Utilities (23)	-	-	-	-	-	-	-	-		-	-	-
Printing (24)	-	-	-	-	-	-	-	-	-	-	-	-
Other Services (25)	12,303	10,812	-	-	-	-	-	-	2,767	13,579	-	13,579
Supplies (26)	-	-	-	-	-	-	-	-	-	-	-	-
Equipment (31)	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal, Administrative	**26,608**	**26,817**	**-**	**-**	**-**	**-**	**30**	**-**	**2,771**	**29,618**	**468**	**30,086**
PROGRAMS												
Formula Grants (Section 402)	270,400	279,800	-	-	-	-	-	-	-			
High Visibility Enforcement (Section 2009)	30,200	30,500	-	-	-	-	-	-	-			
National Priority Safety Programs (Section 405)	**283,000**	**285,900**	**-**	**-**	**-**	**-**	**-**	**-**	**-**			
Occupant Protection Grants	36,790	37,167	-	-	-	-	-	-	-			
State Traffic Safety Information System Grants	41,035	41,456	-	-	-	-	-	-	-			
Impaired Driving Countermeasures Grants	148,575	150,098	-	-	-	-	-	-	-			
Distracted Driving Grants	24,055	24,302	-	-	-	-	-	-	-			
Motorcyclist Safety Grants	4,245	4,289	-	-	-	-	-	-	-			
State Graduated Driver Licensing Laws	14,150	14,295	-	-	-	-	-	-	-			
Non-Motorized Safety Pedestrian/Bikes	14,150	14,295	-	-	-	-	-	-	-			
Subtotal, Programs	**583,600**	**596,200**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**596,200**	**20,914**	**617,114**
WORKING CAPITAL FUND												
Subtotal, Working Capital Fund (non-add)	**[2,223]**	**[2,433]**	**-**	**-**	**-**	**-**	**-**	**[274]**	**-**	**[2,707]**	**-**	**[2,707]**
TOTAL, HIGHWAY TRAFFIC SAFETY GRANTS	**610,208**	**623,017**	**-**	**-**	**-**	**-**	**30**	**-**	**2,771**	**625,818**	**21,382**	**647,200**

Note: Totals may not add due to rounding.

EXHIBIT II-6

WORKING CAPITAL FUND
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
($000)

	FY 2019 ENACTED	FY 2020 ENACTED	FY 2021 REQUEST
Vehicle Safety Programs (GF)	$ 6,935	$ 14,390	$ 16,038
Highway Safety Research & Development (TF)	4,610	7,635	8,547
Highway Traffic Safety Grants (TF)	2,223	2,433	2,707
TOTAL	**$ 13,768**	**$ 24,458**	**$ 27,292**

EXHIBIT II-7

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
PERSONNEL RESOURCE - SUMMARY
TOTAL FULL-TIME EQUIVALENTS

	FY 2019 ENACTED	FY 2020 ENACTED	FY 2021 REQUEST
DIRECT FUNDED BY APPROPRIATION			
Operations and Research[1]	**493**	**532**	**530**
Vehicle Safety Programs (GF)	334	357	355
Highway Safety Research and Development (TF)	159	175	175
Highway Traffic Safety Grants (TF)	**83**	**88**	**88**
SUBTOTAL, DIRECT FUNDED	**576**	**620**	**618**
TOTAL FTEs	**576**	**620**	**618**

EXHIBIT II-8

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
RESOURCE SUMMARY - STAFFING
FULL-TIME PERMANENT POSITIONS

	FY 2019 ENACTED	FY 2020 ENACTED	FY 2021 REQUEST
DIRECT FUNDED BY APPROPRIATION			
Operations and Research	**538**	**532**	**530**
Vehicle Safety Programs (GF)	363	357	355
Highway Safety Research and Development (TF)	175	175	175
Highway Traffic Safety Grants (TF)	**88**	**88**	**88**
SUBTOTAL, DIRECT FUNDED	**626**	**620**	**618**
TOTAL POSITIONS	**626**	**620**	**618**

APPROPRIATIONS HISTORY
OPERATIONS AND RESEARCH
VEHICLE SAFETY PROGRAMS
GENERAL FUND

Fiscal Year	Request	Fiscal Year	Enacted
2012	$170,708,723	2012	$140,146,000
2013 [1/]	$188,000,000	2013 [2/]	$140,146,000
2014	$148,343,000	2014	$134,000,000
2015 [3/]	$152,000,000	2015	$130,000,000
2016 [4/]	$179,000,000	2016	$152,800,000
2017 [5/]	$249,800,000	2017	$180,075,000
2018	$152,509,527	2018 [6/]	$189,075,000
2019	$152,427,000	2019 [7/]	$190,000,000
2020	$151,000,000	2020 [8/]	$194,000,000
2021	$156,100,000	2021	-

[1/] In FY 2013, the Budget proposed to move a number of current General Fund programs into the Transportation Trust Fund. Vehicle Safety Research was to be funded from the Trust Fund in 2013 and re-based from the General Fund in 2011 and 2012.

[2/] FY 2013 Levels were reduced to reflect a .02% A-T-B rescission to all funds. In addition, Vehicle Safety General Fund were reduced by an additional .05% for sequestration.

[3/] In FY 2015, the Budget proposed to move a number of current General Fund programs into the Transportation Trust Fund. Vehicle Safety Research was to be funded from the Trust Fund in 2015 and re-based from the General Fund in 2013 and 2014.

[4/] In FY 2016, the Budget proposed to move a number of current General Fund programs into the Transportation Trust Fund. Vehicle Safety Research was to be funded from the Trust Fund in 2016 and re-based from the General Fund in 2014 and 2015.

[5/] In FY 2017, the Budget proposed to move a number of current General Fund programs into the Transportation Trust Fund. Vehicle Safety Research was to be funded from the Trust Fund in 2017 and re-based from the General Fund in 2015 and 2016.

[6/] In addition to the FY 2018 Enacted funding level, Sec. 144 of P.L. 115-141 provided $11.5 million in additional general fund budget authority for 1) activities to reduce highway fatalities from impaired driving ($5 million) and 2) a highway-rail grade crossing safety campaign ($6.5 million).

[7/] In addition to the FY 2019 Enacted funding level, Sec. 143 of P.L. 116-6 provided $14 million in additional general fund budget authority for 1) activities to reduce highway fatalities from impaired driving ($7 million) and 2) a highway-rail grade crossing safety campaign ($7 million).

[8/] In addition to the FY 2019 Enacted funding level, Sec. 143 of P.L. 116-94 provided $17 million in additional general fund budget authority for 1) activities to reduce highway fatalities from impaired driving ($7 million) and 2) a highway-rail grade crossing safety campaign ($10 million).

EXHIBIT II-9

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

APPROPRIATIONS HISTORY
OPERATIONS AND RESEARCH
HIGHWAY SAFETY RESEARCH AND DEVELOPMENT
TRUST FUND - CONTRACT AUTHORITY

Limitation on Obligations & Liquidation of Contract Authority

Fiscal Year	Request	Fiscal Year	Enacted
2012 [1/]	$133,191,276	2012 [1/]	$109,500,000
2013 [1/]	$150,000,000	2013 [2/]	$115,500,000
2014 [1/]	$118,500,000	2014 [1/]	$123,500,000
2015 [1/]	$122,000,000	2015 [1/]	$138,500,000
2016 [1/]	$152,000,000	2016 [1/]	$142,900,000
2017 [1/]	$145,900,000	2017 [1/]	$145,900,000
2018 [1/]	$149,000,000	2018 [1/]	$149,000,000
2019 [1/]	$152,100,000	2019 [1/]	$152,100,000
2020 [1/]	$155,300,000	2020 [1/]	$155,300,000
2021 [1/]	$161,200,000	2021 [1/]	-

[1/] For FY's 2012-2021, National Driver Register is eliminated as a separate account and combined with the Highway Safety Research and Development fund.

[2/] FY 2013 Levels were reduced to reflect a .02% A-T-B rescission to all funds. In addition, Vehicle Safety General Fund were reduced by an additional .05% for sequestration.

EXHIBIT II-9

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

APPROPRIATIONS HISTORY
HIGHWAY TRAFFIC SAFETY GRANTS
TRUST FUND - CONTRACT AUTHORITY

Limitation on Obligations & Liquidation of Contract Authority

Fiscal Year	Request	Fiscal Year	Enacted
2012	$556,100,000	2012	$550,328,000
2013	$643,000,000	2013 [1/]	$554,500,000
2014	$561,500,000	2014	$561,500,000
2015	$577,000,000	2015	$561,500,000
2016	$577,000,000	2016	$573,332,000
2017	$585,372,000	2017	$585,372,000
2018	$597,629,000	2018	$597,629,000
2019	$610,208,000	2019	$610,208,000
2020	$623,017,000	2020	$623,017,000
2021	$647,200,000	2021	-

[1/] FY 2013 Levels were reduced to reflect a .02% A-T-B rescission to all funds. In addition, Vehicle Safety General Fund were reduced by an additional .05% for sequestration.

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

OPERATIONS AND RESEARCH

Contingent upon enactment of multi-year surface transportation authorization legislation, for [For] expenses necessary to discharge the functions of the Secretary, with respect to traffic and highway safety authorized under chapter 301 and part C of subtitle VI of title 49, United States Code, [$194,000,000] $*156,100,000*, of which $40,000,000 shall remain available through September 30, [2021] *2022.*

(Department of Transportation Appropriations Act, 2020.)

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OPERATIONS AND RESEARCH
(LIQUIDATION OF CONTRACT AUTHORIZATION)
(LIMITATION ON OBLIGATIONS)
(HIGHWAY TRUST FUND)

Contingent upon enactment of multi-year surface transportation authorization legislation, [For] *for* payment of obligations incurred in carrying out the provisions of 23 U.S.C. 403, including behavioral research on Automated Driving Systems and Advanced Driver Assistance Systems, and improving consumer responses to safety recalls, section 4011 of the Fixing America's Surface Transportation Act (Public Law 114-94), and chapter 303 of title 49, United States Code, [$155,300,000] *$161,200,000*, to be derived from the Highway Trust Fund (other than the Mass Transit Account) and to remain available until expended: Provided, That none of the funds in this Act shall be available for the planning or execution of programs the total obligations for which, in fiscal year [2020] *2021*, are in excess of [$155,300,000] *$161,200,000*: [Provided further, That of the sums appropriated under this heading- (1) $149,800,000 shall be for programs authorized under 23 U.S.C. 403, including behavioral research on Automated Driving Systems and Advanced Driver Assistance Systems and improving consumer responses to safety recalls, and section 4011 of the Fixing America's Surface Transportation Act (Public Law 114-94); and (2) $5,500,000 shall be for the National Driver Register authorized under chapter 303 of title 49, United States Code:] *Provided further*, That within the [$155,300,000] *$161,200,000* obligation limitation for operations and research, $20,000,000 shall remain available until September 30, [2021] *2022*, and shall be in addition to the amount of any limitation imposed on obligations for future years: Provided further, That amounts for behavioral research on Automated Driving Systems and Advanced Driver Assistance Systems and improving consumer responses to safety recalls are in addition to any other funds provided for those purposes for fiscal year [2020] 2021 in this Act.

(Department of Transportation Appropriations Act, 2020.)

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
HIGHWAY TRAFFIC SAFETY GRANTS
(LIQUIDATION OF CONTRACT AUTHORIZATION)
(LIMITATION ON OBLIGATIONS)
(HIGHWAY TRUST FUND)

Contingent upon enactment of multi-year surface transportation authorization legislation, [For] *for* payment of obligations incurred in carrying out provisions of 23 U.S.C. 402, 404, and 405, and [section 4001(a)(6) of the Fixing America's Surface Transportation Act] *grant administrative expenses under chapter 4 of title 23, United States Code*, to remain available until expended, [$623,017,000] *$647,200,000*, to be derived from the Highway Trust Fund (other than the Mass Transit Account): Provided, That none of the funds in this Act shall be available for the planning or execution of programs for which the total obligations in fiscal year [2020] *2021* are in excess of [$623,017,000] *$647,200,000* for programs authorized under 23 U.S.C. 402, 404, and 405, and [section 4001(a)(6) of the Fixing America's Surface Transportation Act] *grant administrative expenses under chapter 4 of title 23, United States Code:* [Provided further, That of the sums appropriated under this heading- (1) $279,800,000 shall be for "Highway Safety Programs" under 23 U.S.C. 402; (2) $285,900,000 shall be for "National Priority Safety Programs" under 23 U.S.C. 405; (3) $30,500,000 shall be for the "High Visibility Enforcement Program" under 23 U.S.C. 404; and (4) $26,817,000 shall be for "Administrative Expenses" under section 4001(a)(6) of the Fixing America's Surface Transportation Act:] Provided further, That none of these funds shall be used for construction, rehabilitation, or remodeling costs, or for office furnishings and fixtures for State, local or private buildings or structures: Provided further, That not to exceed $500,000 of the funds made available [for "National Priority Safety Programs"] under 23 U.S.C. 405 [for "Impaired Driving Countermeasures" (as described in subsection (d) of that section)] shall be available for technical assistance to the States: [Provided further, That with respect to the "Transfers" provision under 23 U.S.C. 405(a)(8), any amounts transferred to increase the amounts made available under section 402 shall include the obligation authority for such amounts: Provided further, That the Administrator shall notify the House and Senate Committees on Appropriations of any exercise of the authority granted under the previous proviso or under 23 U.S.C. 405(a)(8) within 5 days.]

(Department of Transportation Appropriations Act, 2020.)

ADMINISTRATIVE PROVISIONS—NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

Sec. 140 An additional $130,000 shall be made available to the National Highway Traffic Safety Administration, out of the amount limited for section 402 of title 23, United States Code, to pay for travel and related expenses for State management reviews and to pay for core competency development training and related expenses for highway safety staff.

Sec. 141 The limitations on obligations for the programs of the National Highway Traffic Safety Administration set in this Act shall not apply to obligations for which obligation authority was made available in previous public laws but only to the extent that the obligation authority has not lapsed or been used.

[Sec 142 In addition to the amounts made available under the heading, "Operations and Research (Liquidation of Contract Authorization) (Limitation on Obligations) (Highway Trust Fund)" for carrying out the provisions of section 403 of title 23, United States Code, $17,000,000, to remain available until September 30, 2021, shall be made available to the National Highway Traffic Safety Administration from the general fund: Provided, That of the sums provided under this provision –

(1) not to exceed $7,000,000 shall be available to provide funding for grants, pilot program activities, and innovative solutions to reduce impaired-driving fatalities in collaboration with eligible entities under section 403 of title 23, United States Code; and

(2) not to exceed $10,000,000 shall be available to continue a high visibility enforcement paid-media campaign regarding highway-rail grade crossing safety in collaboration with the Federal Railroad Administration.]

Sec [143]*142* None of the funds in this Act or any other Act shall be used to enforce the requirements of 23 U.S.C. 405(a)(9).

(Department of Transportation Appropriations Act, 2020.)

EXHIBIT III-1

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OPERATIONS AND RESEARCH
VEHICLE SAFETY PROGRAMS
Summary by Program Activity
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

	FY 2019 ENACTED	FY 2020 ENACTED	FY 2021 REQUEST
Rulemaking	$ 25,000	$ 28,000	$ 22,586
Enforcement	33,000	37,000	19,542
Research and Analysis	49,000	48,000	32,805
Administrative Expenses	83,000	81,000	81,167
TOTAL, VEHICLE SAFETY (GF)	**$ 190,000**	**$ 194,000**	**$ 156,100**
FTEs:			
Direct Funded	334	357	355

Note: Totals may not add due to rounding.

EXHIBIT III - 1a

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SUMMARY ANALYSIS OF CHANGE FROM FY 2020 TO FY 2021
Appropriations, Obligation Limitations, and Exempt Obligations

OPERATIONS AND RESEARCH
VEHICLE SAFETY PROGRAMS
($000)

ITEM	Change from FY 2020 to FY 2021 $000	Change from FY 2020 to FY 2021 FTE
FY 2020 President's Budget	**194,000**	**355**
Adjustments to Base		
Annualization of FY 2020 FTE	-	
Annualization of Prior Pay Raise(s)	-	
FY 2021 Pay Raise	-	
GSA Rent	104	
Working Capital Fund	(1,519)	
Inflation and other adjustments	(59)	
Subtotal, Adjustment to Base	**(1,474)**	**-**
Program Increases/Decreases	**(36,426)**	**-**
FY 2021 REQUEST	**156,100**	**355**

Note: Totals may not add due to rounding.

VEHICLE SAFETY
OPERATIONS AND RESEARCH – GENERAL FUND (GF)

Program and Performance Statement

The FY 2021 budget request includes $156.10 million for Vehicle Safety activities to reduce roadway fatalities, prevent injuries, improve fuel economy, and significantly reduce the societal costs related to unsafe motor vehicles and motor vehicle equipment. These objectives are met through:

- The issuance and enforcement of Federal Motor Vehicle Safety Standards (FMVSS);
- Dissemination of consumer information;
- Research involving electronics, Advanced Driver Assistance Systems (ADAS) – crash avoidance and mitigation technologies, crashworthiness, and alternative fuel vehicle safety;
- Advanced testing of emergent technologies, including Automated Driving Systems (ADS) – Society of Automotive Engineers (SAE) International Driving Automation Levels 3, 4, and 5; conditional, high, and full automation, respectively; and
- Development, issuance, and enforcement of U.S. fuel economy and efficiency standards.

Vehicle Safety
FY 2021 Request
$156,100,000

($000)			
Program	**FY 2019 Enacted**	**FY 2020 Enacted**	**FY 2021 Request**
Rulemaking	$25,000	$28,000	$22,586
Enforcement	$33,000	$37,000	$19,542
Research and Analysis	$49,000	$48,000	$32,805
Vehicle Safety Administrative Expenses	$83,000	$81,000	$81,167
Account Total	**$190,000**	**$194,000**	**$156,100**

Vehicle Safety Research and Analysis
$32,805,000

The Vehicle Safety Research and Analysis programs support the Department's efforts to improve motor vehicle and motor vehicle equipment safety by strengthening Agency knowledge and expertise, developing test procedures to assess the safety impact and risks of new technologies, and developing countermeasures to vehicle safety issues. Major research areas include driving automation; advanced vehicle safety technologies; and crash survivability.

NHTSA's research efforts also address new technologies in the areas of crash avoidance and heavy vehicles, and they improve NHTSA's ability to evaluate vehicles for research purposes and for potential defects. By continuing to support current projects and initiate new projects, the Agency will be able to accelerate the safe deployment of advanced technologies, and to support Agency decisions in several areas including heavy vehicle crash avoidance systems, new occupant protection standards for adults and children, and the completion of Congressional mandates.

Requested funding will support research into vehicle-based options to address distracted driving and alcohol involvement in crashes; measures the reliability and security of complex safety-critical electronic control systems; assesses the cybersecurity of vehicles; and assesses new and emerging technologies that can help drivers avoid crashes. Requested funding will also support the development and demonstrated application of new physical and virtual test tools for assessing the crashworthiness of future vehicles including, those with non-standard seating arrangements.

The request will also support NHTSA's efforts to develop enhanced computer modeling tools for emerging technologies in the driving automation area, as well as other safety systems and technology innovations. It will also support safety evaluation of wireless charging technology; and the Agency's other cross-cutting initiatives. NHTSA will also undertake further activities to enhance and expand testing capability of advanced technologies at the Vehicle Research and Test Center (VRTC) in East Liberty, Ohio. The FY 2021 budget requests $7.00 million for Automated Driving Systems (ADS) and $6.30 million for Advanced Driver Assistance Systems (ADAS) from the Vehicle Safety account, and $3.00 million for ADS and $2.00 million for ADAS from the Highway Safety Research and Development account. Both programs advance NHTSA's research into enabling the safe development and deployment of both ADAS and ADS technologies, including vehicles that are envisioned to exclude manual driving controls.

NHTSA's crash data collection efforts administered by the Agency's National Center for Statistics and Analysis (NCSA) are funded from both Vehicle Safety and Highway Safety Research and Development accounts. As such, the FY 2021 budget request includes $500 thousand in Vehicle Safety funding to complement the $37.86 million provided in Highway Safety Research and Development funding for crash data collection. This funding support NCSA's overall crash data collection efforts. Quality data acquired through this program is critical to NHTSA programs and policies, providing the empirical information necessary for saving lives and reducing economic costs.

Rulemaking Programs
$22,586,000

The Vehicle Safety Rulemaking programs advance the Department's goals for safety, accountability, and innovation and deregulatory efforts. The requested funding will allow NHTSA to continue its efforts in providing consumers with safety information in the key safety areas of crashworthiness and crash avoidance, and disseminating the 5-star Safety Rating information as part of the New Car Assessment Program (NCAP). It will also enable NHTSA's NCAP to test and rate a substantial percentage of all new cars and light-trucks sold nationally. The Rulemaking program will continue its work on motor vehicle fuel economy standards and supports the adoption of United States safety standards internationally. International collaboration helps leverage the Agency's resources through the shared exchange of research and data. Finally, the requested funding will allow NHTSA to update standards as appropriate to keep pace with rapid technological advancements and to ensure the Agency retains its ability to effectively protect the safety of all road users.

Enforcement Programs
$19,542,000

The Vehicle Safety Enforcement programs support the Department's emphasis on safety. This is accomplished by investigating safety-related defects in motor vehicles and motor vehicle equipment; ensuring that manufacturers conduct recalls to remedy unsafe motor vehicles and equipment; ensuring industry compliance with motor vehicle safety standards; enforcing the Federal odometer law; and encouraging enforcement of State odometer laws. The Enforcement program is working to enhance NHTSA's current system for notification of open recalls to include text messaging, as well as promoting greater awareness of recalls and the defect identification process through use of outreach efforts that have been effective in the Takata airbag inflator recall campaign. Efforts continue to modernize the Enforcement Office's Artemis data repository and system of records. When completed, this new cloud-based system will allow for more effective and efficient data management and analysis for all users helping process recalls faster, and speeding pre-investigative activities to spot potential defects.

Requested funding will also support enforcement initiatives by:

- Enhancing safety through oversight of new entrant manufacturers;
- Improving the collection, storage, analysis, and dissemination of defect and compliance data; and
- Continuing Corporate Average Fuel Economy (CAFE)-related enforcement and compliance activities, including enforcement for standards that will be established through the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for model year 2021-2026 vehicles, and related civil penalty collections.

Funding will enable Enforcement programs to address concerns with the effectiveness, reliability, interoperability, privacy and security of electronic control systems being introduced into the vehicle fleet with increasing frequency. The funding will help identify potential safety defects and ensure remedies are effective, implemented promptly, and are properly informed to the public. Finally, the

requested funding level will enable the Office of Defects Investigation (ODI) to implement enhanced pre-investigative and investigative processes necessary in an era of advanced vehicle technology innovation.

Detailed Justification for Vehicle Safety Research and Analysis Programs

FY 2021 – RESEARCH AND ANALYSIS – SUB-PROGRAM REQUEST

($000)			
Research and Analysis Program Activity	**FY 2019 Enacted**	**FY 2020 Enacted**	**FY 2021 Request**
Crashworthiness	$13,110	$13,110	$13,447
Safety Systems	*$4,874*	*$4,874*	*$5,210*
Biomechanics	*$8,237*	*$8,236*	*$8,237*
Advanced Safety Technologies	$9,216	$5,351	$7,216
Heavy Vehicles Safety Technologies	*$915*	*$500*	*$915*
Advanced Driver Assistance Systems(ADAS)	*$8,301*	*$4,851*	*$6,301*
Alternative Fuels Vehicle Safety	$674	$674	$674
Vehicle Electronics and Cybersecurity	$25,000	$27,865	$3,469
Automated Driving Systems (ADS)[2]	$0	$0	$7,000
Vehicle Test Center - Ohio	$500	$500	$500
Crash Data Collection	$500	$500	$500
Research and Analysis Total	**$49,000**	**$48,000**	**$32,805**

In FY 2021, NHTSA requests $32.81 million for Vehicle Safety Research and Analysis activities which will allow NHTSA to build upon the critical research accomplished in FY 2019 and planned for FY 2020 that is necessary to support Agency decisions. These activities aim to enhance the safety and security of automotive electronic control systems while supporting the safe adoption of vehicle automation technologies. This funding level will enable the Vehicle Safety Research and Analysis programs to keep pace with modern technologies and address any potential safety issues.

VEHICLE SAFETY RESEARCH AND ANALYSIS
Crashworthiness

($000)		
Program Activity	**FY 2020 ENACTED**	**FY 2021 REQUEST**
Crashworthiness	**$13,110**	**$13,447**
Safety Systems	*$4,874*	*$5,210*
Biomechanics	*$8,236*	*$8,237*

What is this program and what does this funding level support?

Crashworthiness research focuses on vehicle safety countermeasures to reduce the number of fatal and serious injuries that occur from motor vehicle crashes in the United States each year. This research program is responsible for developing and upgrading test procedures for the evaluation of motor vehicle safety, and developing the test devices (e.g., crash test dummies and human body computer models), and appropriate injury metrics. Crashworthiness research encompasses new and improved vehicle design, biomechanics and injury causation, field data collection and analysis of serious injury cases, safety countermeasures, and vehicle equipment to enhance occupant safety. The Crashworthiness research program conducts real-world data collection and analysis together with experimental- and computer modelling-based research. The program directly supports the Department's safety strategic goal of reducing transportation-related fatalities and serious injuries across the transportation system.

In FY 2021, NHTSA requests $13.45 million for Crashworthiness research to support the Safety Systems and Biomechanics programs. Safety Systems will support research to evaluate new test dummies and injury metrics in current and future crash conditions, develop or revise test procedures, and assess the effectiveness of occupant protections systems. Biomechanics will fund research to develop tools (crash test dummies, mathematical models) and injury metrics that can be applied towards the assessment of advanced vehicle safety countermeasures.

Specifically, the funding requested in FY 2021 will allow NHTSA to:

- Complete technical documentation for three advanced crash test dummies that may be used for consumer rating programs, regulatory applications and/or general industry utilization: (1) small adult female frontal dummy, known as the Test Device for Human Occupant Restraint (THOR) 5th percentile; (2) small adult female side impact dummy, known as the Worldwide Harmonized Side Impact Dummy (WorldSID) 5th percentile; (3) Large Omni-directional Child (LODC) 10-year-old dummy;
- Conduct research and testing with the THOR 5th percentile female dummy to evaluate its sensitivity to changes in crash type and restraint configurations;
- Conduct research and testing with the THOR 5th female and LODC 10-year-old child dummies

to assess rear seat restraint performance, including booster seats;
- Conduct research and testing with the BioRID dummy to assess seat back strength and headrest performance in rear impact crashes;
- Continue to support a collaborative Government and industry effort focused on the development, evaluation, and application of human body models for use by the Agency and public in promoting the development of advanced countermeasures for reducing injuries/fatalities resulting from motor vehicle crashes. This includes the continuous improvement and demonstrated application of child, small female, and average/large male models;
- Continue to conduct research to develop head/brain and thorax injury criteria specific to the protection of older occupants;
- Continue to collect real-world motor vehicle crash occupant-based injury data, known as the Crash Injury Research and Engineering Network (CIREN). CIREN compliments data collection efforts by NHTSA's National Center for Statistics and Analysis (NCSA) by extending common data collection protocols to include an emphasis on medical data collection and expert engineering analysis of the crash, vehicle, and occupant factors associated with serious injuries. The current data collection efforts include an emphasis on collecting serious injury cases for pedestrians and occupants involved in crashes that will be of increasing relevance for the potential alternative seating arrangements that may be present in vehicles with Automated Driving Systems (automation levels 4-5);
- Continue to evaluate opportunities to improve occupant safety through improved integration between vehicle advanced safety technologies and restraint control systems; and
- Continue to study how new, lightweight materials and joining techniques can be used to improve fuel economy, vehicle crash compatibility, and occupant crash safety.

What benefits will be provided to the American public through this request and why is this program necessary?

The Crashworthiness program supports the Department's strategic goals of safety and innovation using several strategies, which include data risk identification, collaboration, leadership, performance, coordination, research, and technology integration. The outcomes provide information to support Agency decisions on actions aimed at reducing the number of fatal and serious injuries to occupants in motor vehicles that occur in the United States each year from crashes. The knowledge, tools, test procedures, and injury metrics resulting from this research program can be used by industry and the vehicle safety community to provide maximum safety with minimal or no cost to the American public.

The Biomechanics research program at NHTSA has long maintained a leadership role in the development of test tools (e.g., crash test dummies) and injury metrics used to ensure optimal crashworthiness of vehicles. The Safety Systems research program is responsible for evaluating new crash safety concerns and for developing safety concepts, test procedures, and performance measures. Safety Systems research examines existing designs, new and improved vehicle designs, safety countermeasures, and equipment to enhance safety for all occupants in the event of a crash.

In FY 2021, NHTSA will continue to collaborate with industry and academia in supporting research that benefits the public by promoting the development of advanced tools and knowledge for

applications that aim to reduce injuries/fatalities resulting from motor vehicle crashes. Below are some expected public benefits that will result from the FY 2021 budget request:

- Public release of CIREN dataset of detailed injury and medical data associated with seriously injured motor vehicle crash occupants. Roughly 200 expert-reviewed cases are added to the public dataset and provide an early insight into the types and causes of injuries that continue to occur in new vehicles as a result of motor vehicle crashes;
- Continued release of CIREN pedestrian injury data to provide the public with improved knowledge regarding the patterns and causes of injuries to pedestrians struck by motor vehicles;
- Continued public release of technical documentation for the advanced THOR and WorldSID 5th percentile female crash test dummies, and the advanced 10-year-old LODC crash test dummy that can be applied toward Agency and public/industry crash safety programs aiming to reduce the number of injuries and fatalities on U.S. roadways;
- Continued refinement, evaluation, demonstrated application, and public release of mathematical models such as detailed human body models, body region specific injury models, and dummy-based models along with test data and reports demonstrating model fidelity; and
- Public release of test results through NHTSA's Biomechanics, Crash Test, and Component databases, which include over 20,000 NHTSA-funded or acquired tests. These results are used by the Agency, academia, industry, safety advocate and research groups, and the public for a variety purposes, including vehicle performance and injury assessment, test procedure and injury and criteria development, and consumer information.

VEHICLE SAFETY RESEARCH AND ANALYSIS
Advanced Safety Technologies[1]

($000)		
Program Activity	**FY 2020 ENACTED**	**FY 2021 REQUEST**
Advanced Safety Technologies	**$5,351**	**$7,216**
Heavy Vehicle Safety Technologies	*$500*	*$915*
Advanced Driver Assistance Systems (ADAS)	*$4,851*	*$6,301*

What is this program and what does this funding level support?

Advanced Safety Technologies research focuses on motor vehicle technologies and systems that assist drivers in avoiding crashes of passenger vehicles, large trucks, and buses. This safety research program addresses technologies targeted to improve the safety of motorcyclists and pedestrians, and researches the potential role and impacts of connectivity in vehicle safety.

Roadway safety continues to be a major public health and economic challenge in the United States. Despite decades of progress, an unacceptable number of fatalities and serious injuries continue to occur on U.S. roadways. Furthermore, traffic fatalities cause significant societal harm and economic cost. Statistics show that most of these crashes are preventable; and advanced driver assistance systems (ADAS) have the potential to provide an additional safety margin by helping drivers avoid crashes or significantly mitigating crash severity.

While advances in Automated Driving Systems[2] (ADS) that perform all aspects of the driving task continue to progress, almost all current crashes that occur on our roadways still involve human drivers controlling the vehicles. An increasing portion of new vehicles feature advanced safety technologies that help drivers with crash avoidance when they find themselves in difficult and risky circumstances. This program area focuses on the safe development, evaluation, and deployment of ADAS technologies that respond to specific crash imminent situations (i.e., SAE International Level 0), as well as driving automation systems that enable partial driving automation but still require full driver engagement (SAE International Driving Automation Levels 1 and 2). Examples of systems in SAE Driving Automation International Levels 0, 1, and 2 include automatic emergency braking, blind spot intervention, lane keeping assist, pedestrian crash avoidance, rear-cross traffic alert and adaptive cruise control, as well as the combinations of such systems to enable

[1] Advanced Safety Technologies is comprised of the "Heavy Vehicle Safety Technologies" and "Advanced Driver Assistance Systems" activity areas, which were listed as separate program activities – "Heavy Vehicles" and "Crash Avoidance" - in budget justifications prior to FY 2020.

[2] Automated Driving Systems (ADS) is a major area of emphasis for NHTSA and covered under the ADS research program area.

features such as traffic-jam assist, cross-traffic alert, parking-assist and "highway chauffeur"[3] systems.

The automotive industry has made significant progress in the development of advanced technologies intended to prevent and/or mitigate roadway crashes. Today's crash avoidance systems rely on sensors such as radar, Light Detection and Ranging (LIDAR), video, ultrasonic, and others to detect objects within the vehicle's operational environment. Sophisticated computing and software functions apply the sensing inputs to assess the likelihood of potential collisions with other vehicles, pedestrians, or other objects and warns the driver to take appropriate action. More advanced systems may also automatically apply the vehicle's brakes or provide steering inputs to help avoid or mitigate the crash if the driver's actions (in response to an alert) are delayed or insufficient.

The effectiveness of advanced safety technologies often relies on the performance of the (human) driver as they interact with the system—ranging from simply whether (or not) they engage a system (i.e., controls), or how warnings are assimilated (i.e., driver-vehicle interface). Similarly, more advanced driving automation systems (that are anything short of "fully automated") also rely on the driver's ability to properly understand the capabilities, constraints, performance boundaries and control settings of driving automation—including the circumstances, timeliness, and way the human driver takes-over or "partners" with the systems to complete the driving task.

This program is focused on safety systems and innovations that directly map to crashes involving light and heavy vehicles. Recent examples include new braking technologies (automatic emergency braking to reduce rear end collisions), as well as important contributions for stability control systems estimated to prevent a significant number of both light and heavy vehicle crashes. The program will continue to focus on emerging innovative safety systems that show potential to address real world crashes, and improve vehicle safety performance including those that detect and react to vulnerable road users, such as pedestrians, bicyclists, and motorcyclists. Emerging innovative technologies in this area include active safety systems such as: cross traffic alert systems that have potential to address some types of intersection crashes; blind spot intervention systems that automatically apply steering or braking to assist drivers with avoiding lane change/merge collisions; opposite direction (head on) collision avoidance systems; and Traffic Jam Assist (TJA) systems that provide steering and speed control assistance to a driver during low speed, stop-and-go driving circumstances.

Additional technology innovations include in-vehicle systems that interact with drivers via novel human-machine interface (HMI) designs, as well as technologies for side and rear visibility enhancement for drivers (e.g., camera-based technologies). As sensor and software capabilities have matured, the market is evolving with increasing proliferation of systems featuring partial driving automation systems that could be classified at SAE International Driving Automation Level 2, which provide both lateral and longitudinal vehicle motion control with the driver expected to be fully and continually engaged in the driving task while the system is engaged. Further research insights are needed in the ways drivers interact with SAE International Level 2

[3] This refers to systems that combine adaptive cruise control with lane centering support to allow for partial automation for highway driving while still requiring the full (or continuous) involvement of the driver.

driving automation systems and the utility and performance of different attention management approaches as they pertain to roadway safety.

The Heavy Vehicle Safety Technologies program is focused on safety systems and innovations that directly map to crashes involving heavy vehicles on U.S. roadways. By continuing to focus on emerging innovative safety systems on heavy vehicle platforms that show potential to address real world crashes, the goal is to improve the safety performance of heavy vehicles. Research in this program area will focus on the special considerations associated with, and benefits stemming from, the application of ADAS technologies in heavy vehicles.

In FY 2021, NHTSA requests $7.22 million for Advanced Safety Technologies research to support the ADAS and Heavy Vehicle Safety Technologies programs. For the ADAS program, passenger vehicles and light trucks, will be the primary focus. In the Heavy Vehicle Safety Technologies program, the focus will be on tractor-trailer vehicles, single unit trucks, and buses.

The requested funding will support the safe testing and deployment of innovative safety systems and technologies in the following areas:

ADAS Innovation and Deployment - Reduces unnecessary barriers and allows for optimizing conditions to safely deploy emerging ADAS. This work will include evaluating Federal Motor Vehicle Safety Standards (FMVSS) compliance issues stemming from the implementation of novel design features or functional aspects of these systems that may hinder implementation. For example, new developments in lighting systems, camera-based mirrors and heavy-vehicle braking systems may necessitate adaptation of existing FMVSS to facilitate a pathway for compliance without compromising the safety performance set in the regulations. Research in this area will help facilitate such innovations while maintaining or advancing safety.

Safety Performance Assessment of Advanced Driver Assistance System Technologies - This work will include the safety performance assessment of ADAS technologies (SAE International Driving Automation Levels 0, 1, and 2) deployed in new production motor vehicles including light and heavy vehicles, buses and motorcycles. The assessment will include safety performance evaluations through computer simulations, closed-course testing and naturalistic roadway evaluations. Research includes development of objective test procedures that may be leveraged by industry stakeholders to better compare and contrast performance of alternative system designs thereby accelerating innovation and deployment.

ADAS HMI - Advanced vehicle technologies that support the driver have a range of interaction points when information is communicated to the driver and responses are expected. Head-up displays, gesture-based inputs, and augmented reality displays are some examples of emerging HMI technologies that are making their way into vehicles and are part of NHTSA's research program.

Safety Technologies Leveraging Connectivity - The research will include working with automotive industry stakeholders to identify and understand future safety applications that leverage connectivity and support advancements in driving automation applications. Such research will help identify facts and data associated with spectrum needs, communication protocols, and other standards that would support improvements in safety outcomes through interoperability among technologies.

Driver Adaptation to ADAS - When examining the cooperation between drivers/users and vehicles/systems, it is critical to measure behavioral changes that could occur beyond reactions to HMI, such as the choices drivers make for trip planning, and the strategies they employ when driving. Behavioral adaptations represent a significant point of uncertainty about the effectiveness of ADAS systems and sometimes undermines efforts to address a safety issue using technology.
Driver readiness - Research into how drivers may react to indications, warnings, or requests from the vehicle, be it navigation instructions, crash warnings, or take-over requests from partial driving automation systems. Driver readiness covers a broad range of issues, from inattention and impairment, decision-making, training, driver/user monitoring, and driver engagement.

What benefits will be provided to the American public through this request and why is this program necessary?

The light vehicle ADAS research program is engaged in a body of research for vehicle technologies that supports safer drivers by presenting them with safety warnings when needed, providing active assistance through automatic interventions in crash imminent situations, and discouraging unsafe driving behaviors such as distracted and alcohol-impaired driving through technological solutions. Research also focuses on technologies that enhance the safety of vulnerable and at risk populations such as teen drivers, older drivers, pedestrians, bicyclists, and motorcyclists. NHTSA's research in advanced driver assistance systems will continue to focus on identifying emerging safety technologies; partnering with industry to develop more efficient and comprehensive assessment methods for safety performance and enhancing our understanding of HMI issues, as well as long-term safety impacts of these advanced technologies.

The outcome of this work will be research findings related to critical aspects of advanced driver assistance systems such as effective HMI design, system operation characteristics to support driver needs and maximize safety, estimated safety benefits, and performance-based test procedures. These and other outputs from this program will help automotive manufacturers, suppliers, and other industry entities to improve their products through more accurate and efficient product evaluations such that societal safety benefits can be enhanced. Furthermore, the field testing of new ADAS by NHTSA and industry partners will provide insights for further product refinements, as well as for developing programs to promote voluntary adoption of crash avoidance systems and enhance competitiveness among vehicle manufacturers and other industry entities offering high value and high-performance systems.

The Heavy Vehicle Safety Technologies program is focused on safety systems and innovations that directly map to crashes involving heavy vehicles on US roadways. By continuing to focus on emerging innovative safety systems on heavy vehicle platforms that show potential to address real world crashes, the safety performance of heavy vehicles - with respect to frequent and severe crashes - may be significantly improved.

VEHICLE SAFETY RESEARCH AND ANALYSIS
Alternative Fuels Vehicle Safety

($000)		
Program Activity	**FY 2020 ENACTED**	**FY 2021 REQUEST**
Alternative Fuel Vehicle Safety	$674	$674

What is this program and what does this funding level support?

NHTSA is gathering information from all sources regarding the safety of emerging transportation fuels including battery, stored gas, and fuel cell technologies. This advanced knowledge is helping to direct the research projects, refine safety assessments, and develop performance tests. NHTSA is partnering with industry and other federal agencies to develop appropriate safety performance considerations for these alternative fuel vehicles.

In FY 2021, NHTSA requests $674 thousand for the Alternative Fuel Vehicle Safety research program. With this funding, this program will focus on safety of vehicle interfaces for wireless charging applications for fleet and personal use. NHTSA will also coordinate with the Department of Energy (DOE) research to understand the safety of solid state battery systems and begin consideration of the need for performance testing. These technologies should all involve research between the DOE national laboratories, the automotive Original Equipment Manufacturers (OEM) and their suppliers. The planned research would apply past research on charging safety to wireless methods and consider both commercial and residential applications

What benefits will be provided to the American public through this request and why is this program necessary?

NHTSA has worked closely with the Department of Energy (DOE) to understand safety concerns for emerging alternative fuel vehicles. In the past, this collaboration has allowed NHTSA to develop and assess charging safety tests for a range of electric vehicle types and charging systems. Wireless battery charging systems currently exist for a small number of large capacity lithium ion battery systems. NHTSA's research will develop best practices for the safe use and operation of these systems prior to wider deployment. This research should document safety risks and provide confidence that the current commercial grade systems can be made suitable for routine consumer use and support the safe introduction of these vehicles and their charging systems.

VEHICLE SAFETY RESEARCH AND ANALYSIS
Vehicle Electronics and Cybersecurity[4]

($000)		
Program Activity	**FY 2020 ENACTED**	**FY 2021 REQUEST**
Vehicle Electronics and Cybersecurity	$27,865	$3,469

What is this program and what does this funding level support?

The evolution of automotive technology has included the expanded use of electronic systems, software, and connectivity, starting in the late 1970s. The pace of this technological evolution has increased significantly over the past decade leading to modern vehicles becoming one of the most complex computerized consumer products. Enhanced connectivity and continued innovations along the full spectrum of Advanced Safety Technologies introduces substantial benefits to highway transportation safety, mobility, and efficiency.

However, with the increasing proliferation of electronics software, and connectivity, vehicles are exposed to additional failure modes, vulnerabilities, and threats that could jeopardize benefits while introducing new safety risks. Connectivity and automation raise the cybersecurity stakes, and without proactive measures taken across the vehicle lifecycle, risks could rise accordingly. Methodical identification of potential issues and proactive management of increased connectivity, software, and complexity are essential to designing vehicle architectures that will respond safely even when there are electronic system failures, software errors, or cybersecurity vulnerabilities.

The Vehicle Electronics and Cybersecurity research program broadly covers two major research areas: Electronics functional safety and Vehicle Cybersecurity. Electronics functional safety is an important part of overall systems safety that deals with safety risk management associated with potential failures in sensors, components, systems, and software implementation, as well as operator errors and environmental changes. Vehicle Cybersecurity research deals with the safety risk management associated with intentional manipulation of software hardware, sensors, and associated communication networks on-board the vehicle. While the need for functional safety and cybersecurity both originate from the same systems, risk assessment, risk mitigation, and effective means of life-cycle risk management differ across these two safety domains.

The goal of the Vehicle Electronics and Cybersecurity research program area is to support the safety assurance of vehicle electronics, software, and related control systems such that they do not pose public acceptance barriers for proven safety technologies and driving automation systems. The program seeks to support the improvements in the cybersecurity posture of motor vehicles, and understand and promote contemporary methods in software development, testing practices, and requirements management as they pertain to robust management of underlying hazards and risks

[4] In prior years, this program activity was referenced as "Vehicle Electronics and Emerging Technologies."

across the vehicle life-cycle. These activities include close collaboration with industry to promote a strong risk management culture and associated organizational and systems engineering processes.

In FY 2021, NHTSA requests $3.47 million for the Vehicle Electronics and Cybersecurity program to pursue research in the following areas:

Vehicle Electronics Functional Safety

Functional Safety of Driving Automation Systems – Expanded examination of the of evolving industry process standards (such as ISO 26262) in functional and system safety, and hazard analyses techniques for the electronic systems and software of various types of driving automation systems.

Safety of Intended Functionality (SOTIF) – Examination and application of industry standards (such as ISO 21448) for assessing reliability, safety and potential unintended consequences associated with advanced electronic control systems, software, and electro-mechanical systems due to miss-use and/or misapplication of the systems beyond their intended functionality and operating domain.

Software Assurance Approaches – Explore contemporary methods in automated tools and approaches in software development, testing, and deployment, such as formal methods, and their potential applicability to automotive applications.

Vehicle Cybersecurity

Continued Research to Advance NIST Cybersecurity Framework Application in Automotive Domain – Research to support the automotive industry's adoption and implementation of the National Institute of Standards and Technology (NIST) Cybersecurity Framework across their organizations and products. This will include targeted research on how the auto industry addresses the full life-cycle of cyber risks including identifying, protecting, detecting, responding, and recovering from cyber threats. Research will particularly focus on development and support for potential industry self-reporting and monitoring activities.

Research to Develop Cybersecurity Assessment and Testing Methods – This research will focus on exploring the development of objective cyber risk evaluation methods that may be applied to a motor vehicle and its associated information-sharing eco-systems (e.g., telematic services, repair and warranty activities, connectivity (cellular) providers, etc.). The research is targeted at leveraging cyber assessment activities from other industries and adapting them as appropriate for the automotive sector. Development of potential test methods and metrics are also within research interests.

Research to Enhance Cybersecurity Readiness – This research will explore and support industry and NHTSA's ability to continually improve and assess organizational readiness to respond to potentially critical and large scale cyber incidents. This would include exercises engaging industry stakeholders, all relevant departmental organizations, and other Government agencies to practice and refine internal processes. This activity will include additional investments in NHTSA's applied cybersecurity capabilities to maintain technical expertise, assess emerging issues independently and expeditiously, and facilitate informed decision-making related to cyber incidents.

Collaborative Research – Collaborate and leverage research with key stakeholders, the automotive industry, standards setting organizations, and Government agencies to include: Automotive Information Sharing and Analysis Center (Auto-ISAC), Original Equipment Manufacturers (OEM), Department of Homeland Security (DHS), National Institute of Standards and Technology (NIST), Department of Defense (DOD), SAE International, and National Aeronautics and Space Administration (NASA).

What benefits will be provided to the American public through this request and why is this program necessary?

As motor vehicles have become more software and electronic controls intensive, safety defects and cyber vulnerabilities related to vehicle software have gradually increased over the past years. While no crashes or fatalities have been directly attributed to a vehicle cybersecurity incident, the potential for large scale cyberattacks on vehicles has been demonstrated, and as such, this risk demands pre-emptive and proactive attention. Further, cyber vulnerabilities may well influence public confidence in our Nation's transportation system and could create a roadblock for the adoption of proven safety technologies. Successful cyberattacks on automotive computer systems and their associated networks may not only lead to the loss of information and data, but may also adversely impact vehicle control systems such as steering, braking, and throttle, resulting in crashes, injuries, and potentially - fatalities. Therefore, electronic systems' safety and cybersecurity will pay an important role in public acceptance of emerging technologies, such as driving automation technologies, that have the potential to significantly reduce and ultimately eliminate motor vehicle crashes.

VEHICLE SAFETY RESEARCH AND ANALYSIS
Automated Driving Systems

($000)		
Program Activity	**FY 2020 ENACTED**	**FY 2021 REQUEST**
Automated Driving Systems (ADS)	$0	$7,000

What Is This Program and What Does This Funding Level Support?

Advanced Driver Assistance Systems (ADAS) such as automatic emergency braking (AEB), Lane Keeping Assist (LKA), Blind Spot Intervention (BSI) and several others continue to hold significant potential for improving motor vehicle safety, and NHTSA's research in this domain (described earlier in this document under the Advanced Safety Technologies program area) will support advancements in ADAS technologies. However, in the highway transportation sector, where approximately nine out of ten roadway crashes are related to human behaviors, Automated Driving Systems (ADS) hold the potential for substantially more safety benefits while also delivering enhanced mobility and improved transportation system efficiency. Hence, ADS (i.e., SAE International Driving Automation Levels 3, 4 and 5) is a major area of research emphasis for NHTSA.

In FY 2021, NHTSA requests $7.00 million for the ADS research program within the Vehicle Safety account and $3.00 million to fund the behavioral and human factors research activities related to ADS from the Highway Safety Research and Development account. This research area supports the safe testing and future deployment of ADS technologies, and will include:

Continued Research to Support Decisions on the Removal of Potential Barriers for ADS Vehicles
With ADS, vehicle manufacturers are presented with opportunities to re-imagine and redesign new vehicle platforms without conventional driver controls including a steering wheel, accelerator pedal, or brake pedal—and with very unconventional seating arrangements that effectively make the notion of a "driver seat" or "passenger seat" obsolete. However, many Federal Motor Vehicle Safety Standards (FMVSS) were developed assuming a human driver would be operating the vehicle from a conventional driver seat position. As such, test procedures and compliance language were developed with this assumption in mind. The language in the FMVSS standards and associated compliance test procedures needs to be adapted (or translated) so that ADS vehicles have a pathway for demonstrating compliance with the safety intent of the FMVSS standards even without conventional controls or seating positions. Such language and test procedure translations of the FMVSS standards are a priority for NHTSA so that existing regulations to not impede ADS vehicles emerging in the marketplace while still ensuring they meet all underlying safety performance standards.

NHTSA will complete its initial research reviewing the full range of its FMVSS in FY 2020 including proposing "translations" for FMVSS standards that will facilitate a compliance path for advanced ADS vehicles that lack conventional controls and incorporate novel seating positions.

Research on alternative test procedures for those standards that would normally require a test driver (or a robotic apparatus affixed to conventional controls) to complete the maneuver will be initiated in FY 2020 and will continue in FY 2021.

Additionally, the Agency anticipates emerging new ADS concepts will necessitate additional research in support of innovative compliance approaches. The objective of this research is to gather data and evidence that could support decisions about potential adaptation and/or translation of regulations to address compliance barriers while ensuring safe operation of vehicles with ADS. NHTSA will also support the review of research, design, and test data submitted as part of exemption petitions submitted by Original Equipment Manufacturers (OEM); survey other research findings relevant to the case; conduct research activities to confirm or augment available data; and identify a means to categorize and streamline exemption requests.

Research on System Safety Performance of ADS Vehicles

In conjunction with the industry and standards setting organizations, this research will explore methods, metrics, and tools for assessing the safety performance on ADS equipped vehicles. Research will explore multiple assessment methods including: modeling and simulation; closed course testing; and on-road naturalistic testing. The research will also include working with other industry standards organizations in developing a common "language" for describing ADS test scenarios. Additional research will focus on evaluating the application of leading-edge analytical methods that would utilize operational data (or results) from various testing venues to develop safety performance metrics.

Crashworthiness of ADS Vehicles

Vehicles with ADS may incorporate novel occupant compartment designs and seating conditions. Side- and rear-facing seat positions are common for transit buses and may be considered for smaller, higher-speed ADS equipped vehicles. Changes in occupant seating and restraint systems will affect the injury mechanisms and risk factors. By FY 2021, initial research will be completed to enhance existing Human Body Models (HBM) and anthropomorphic test devices (ATD) to support the safety evaluation for the range of seating conditions anticipated for new ADS designs, including research on human response and injury metrics for various alternative seating and crash conditions. In FY 2021, research will continue to further refine these tools. Also, these enhanced engineering tools will be used to create objective and reproducible test procedures and to evaluate new vehicle designs and countermeasures, with the goal of demonstrating feasibility of occupant protection for new ADS seating configurations. The Agency will also continue to develop best practices for safe interaction of non-occupied ADS with existing vehicles, roadside hardware, pedestrians, cyclists, and motorcyclists.

Driver Engagement in ADS

A driver's readiness to resume control when an ADS issues a request to intervene is critical to safety. Vehicles that are designed to be operable by both a driver and an ADS in certain circumstances may need to transfer control to the driver. Making sure that the driver is attentive to the roadway situation is important to safe and timely transfer of controls. NHTSA will explore driver engagement strategies such as applying sufficient force to the steering wheel, or simply looking at the roadway ahead, and others that have been studied in other fields such as rail, aviation, and space operations. Driver engagement with the ADS is influenced by several issues, including

the human-machine interface (HMI), the driver's experience and training with the system, and other situation-specific factors that affect behavioral responses. Near-term issues with driver engagement are predominantly behavioral; therefore, behavioral research efforts will be funded under the Highway Safety Research and Development account.

Accessibility Considerations in ADS Vehicles

ADS vehicles may provide mobility options not previously afforded to people with disabilities, regardless of cognitive, physical, or even the degree of condition. Vehicles with ADS that are accessible to persons with disabilities will be expected to provide information through appropriate modes to interact with the occupants. The range of relevant interactions includes helping the individual to identify the vehicle's precise location for boarding of the vehicle and facilitating communication of the desired destination, as appropriate. Research will continue to explore the information needs of persons with disabilities and how these needs could be implemented effectively within HMI.

Collaborative Research

Collaborate and leverage research with key stakeholders, the automotive industry, standards setting organizations, and Government agencies to include: OEM, automotive suppliers, ADS technology companies, National Institute of Standards and Technology (NIST), SAE International, and other USDOT modes.

What Benefits Will Be Provided to the American Public Through This Request and Why is this Program Necessary?

Due to proactive Government involvement, public-private collaborative research investments, and innovative leadership inherent to the American culture, the U.S. established an early worldwide leadership in ADS development. Supporting this competitive landscape, NHTSA is focusing research on key topics to advance the safe testing and deployment of ADS vehicles that do not require a human driver to operate the vehicle. Preliminary research indicates that if deployed responsibly, there are significant safety benefits associated with ADS. Further, ADS equipped vehicles offer access to mobility to the previously underserved community of individuals unable to acquire a driver's license including the elderly and people with disabilities, both cognitive and physical. It is envisioned that the ingenuity and innovation accompanying ADS technologies will be harnessed to provide safe transportation options for all the traveling public. The FY 2021 budget request enables research efforts that are supportive of Agency decisions, with respect to updates to FMVSS and associated test procedures, to accommodate non-standard vehicle design concepts. Research will also be sponsored and conducted that proactively mitigates public perception concerns through improved transparency, development of objective safety performance evaluation methods, and a data-driven approach to safety assessments of this new promising technology.

VEHICLE SAFETY RESEARCH AND ANALYSIS
Vehicle Research and Test Center

($000)		
Program Activity	**FY 2020 ENACTED**	**FY 2021 REQUEST**
Vehicle Research and Test Center - Ohio	$500	$500

What is this program and what does this funding level support?

The Vehicle Research and Test Center (VRTC) is NHTSA's in-house research, development, test, and evaluation laboratory located in East Liberty, Ohio. Research and testing activities conducted at the VRTC support Agency decisions and actions with respect to new vehicle systems and issues; Agency consumer information programs; test dummy development; injury criteria development; advanced research into cutting edge technologies; and safety issues that require quick reaction, including defect investigations. The full range of testing and research capabilities available to NHTSA at VRTC allows the Agency to maximize its testing capabilities to more rapidly study emerging safety issues and more quickly provide benefits to the American public.

In FY 2021, the Vehicle Research and Test Center plans to support a broad range of critical safety areas including:

- Crash avoidance research (light and heavy vehicles), including support for adapting existing Agency safety tests and research of new emerging advanced driver assistance technologies;
- Crashworthiness research, including support for adapting existing Agency tests and test procedures as well as research on new occupant protection topics to enable deployment of innovative new technologies;
- Biomechanics research including adapting and upgrading existing tools (crash test dummies) for compatibility with new technologies such as Automated Driving Systems (ADS);
- Lab and in-field support for safety defects investigations; and
- Research into complex areas such as ADS and cybersecurity to support development of safety approaches, methods, and tests.

Research in these areas directly support the Department's goal to reduce transportation related fatalities and serious injuries across the transportation system. This aligns with NHTSA's mission and both the Department and Agency goals of the deployment of new and innovative technologies.

In FY 2021, NHTSA requests $500 thousand for the VRTC research program. The requested funding will be used to procure equipment, such as data acquisition and analysis tools, to support VRTC research and defects analysis programs. Having the necessary equipment to conduct research supportive of Departmental and NHTSA priorities (e.g., ADS, cybersecurity, advanced vehicle technologies, etc.) will be critical to support Agency actions to improve safety on our Nation's roadways. With new sophisticated and emerging technologies, such as vehicle automation,

NHTSA needs to maintain a well-equipped and dedicated center to test, monitor, and investigate these and other emerging safety issues.

What benefits will be provided to the American public through this request and why is this program necessary?

The expertise and technical capability of NHTSA's VRTC has been well demonstrated for over 40 years. Numerous high-profile programs have been successfully completed by VRTC in an expeditious and thorough manner. However, NHTSA has recognized the need to enhance the capabilities at VRTC for testing and analyzing emergent safety issues. Providing the capability of testing emergent technologies is necessary to maintain pace with the rapid advances in vehicle technologies and electronics and the resulting new safety issues. While enhancement of research capability in several areas has been identified, the most near-term critical areas are in ADS, cybersecurity, and defects analysis. Enhancement of capabilities for performing safety related research, testing, and analysis is critical. The FY 2021 budget request enables VRTC to maintain and update the equipment and state-of-the-art facilities necessary to assess and investigate the rapid emergence of advanced automotive safety technologies, and to assure the highest level of automotive safety for the American public.

VEHICLE SAFETY RESEARCH AND ANALYSIS
Crash Data Collection

($000)		
Program Activity	**FY 2020 ENACTED**	**FY 2021 REQUEST**
Crash Data Collection (Includes FARS, CRSS, CISS, SDT, SCI)	$500	$500

Note: Crash Data Collection is partially funded from the Vehicle Safety account, but most funding for this program activity is provided for under the Highway Safety Research and Development account.

What is this program and what does this funding level support?

The Crash Data Collection Program provides the quality data that underpins essential traffic safety behavioral and vehicle safety programs and policies. The Crash Data Collection program includes both State crash report-based systems (Fatality Analysis Reporting System, Crash Report Sampling System, Non-Traffic Surveillance and State Data Transfer) and crash investigation-based systems (Crash Investigation Sampling System and Special Crash Investigations).

In FY 2021, NHTSA requests $500 thousand for Crash Data Collection activities funded from the Vehicle Safety account. The crash data collection systems comprise both police-reported motor vehicle crash data reports collected by States and NHTSA-directed investigations of crashes representative of all traffic crashes. Police-reported crashes from State record-based systems are recoded into a uniform format to provide counts and trends. NHTSA-directed crash investigations provide the detailed data required for countermeasure development and evaluation. A sample-based approach provides nationally representative data at a small fraction of the cost to investigate or collect and manually recode the millions of police-reported crashes. Each data collection system is described in detail in the Crash Data Collections section under the Highway Safety Research and Development account.

What benefits will be provided to the American public through this request and why is this program necessary?

Funding at this level, in conjunction with funding requested within the Highway Safety Research and Development account, will allow the Agency to maintain its core program. Accurate, accessible, timely, and standardized data allow decision makers to identify the primary factors related to the source of crashes and their outcomes, develop and evaluate effective safety countermeasures, support traffic safety operations, measure progress in reducing crashes and their severity, design effective vehicle safety regulations, and target safety funding.

With relevant and timely data, NHTSA can make informed policy, program, and regulatory decisions that will lead to improved motor vehicle safety. With quality data in usable formats, functional data can be used to identify emerging trends and serious safety problems. With quality data, the effectiveness of programs standards and progress in meeting safety targets can be accurately measured. Better data leads to safer roads and safer vehicles.

Detailed Justification for Vehicle Safety Rulemaking Programs

FY 2021 – RULEMAKING – SUB-PROGRAM REQUEST

($000)			
Rulemaking Program Activity	**FY 2019 Enacted**	**FY 2020 Enacted**	**FY 2021 Request**
Safety Standards Support	$1,555	$4,000	$2,041
New Car Assessment Program	$16,000	$12,000	$8,100
Fuel Economy Program	$7,445	$12,000	$12,445
Rulemaking Total	**$25,000**	**$28,000**	**$22,586**

The Rulemaking programs support the Department's efforts to improve safety, while reducing regulatory costs and burdens by developing, reforming, or updating the Federal Motor Vehicle Safety Standards (FMVSS) and other regulations in the key areas of crash avoidance, crashworthiness, post-crash safety, consumer information, and fuel economy.

In FY 2021, NHTSA requests $22.59 million for the Office of Rulemaking. The Safety Standards Support program supports the Office of Rulemaking's regulatory, technical, and administrative operations. Motor vehicle technology continues to become increasingly complex and the Agency's knowledge and expertise must continue to evolve to inform policy decisions. The New Car Assessment Program (NCAP) informs consumers of the safety performance and technologies of new vehicles. The Fuel Economy program allows NHTSA to conduct new rulemakings for fuel economy standards for future years and to support related compliance activities. The Fuel Economy program budget request includes $5.00 million to be used for research and analysis for the CAFE rulemaking to establish medium- and heavy-duty vehicle fuel economy standards.

The requested funding will also enable NHTSA to maintain its core programs and advance key safety initiatives to include:

- Reviewing the regulatory portfolio to identify and amend unnecessary regulations;
- Identifying opportunities to safely address unnecessary regulations and control regulatory costs;
- Updating capabilities for advances in safety technology that reduce fatalities and injuries and increase efficiencies;
- Continuing progress on mandated regulations, such as those that enhance motor coach and child passenger safety from the Moving Ahead for Progress in the 21st Century Act (MAP-21) (P.L. 112-141) and tire safety in the Fixing America's Surface Transportation (FAST) Act (P.L. 114-94); and
- Continuing to conduct analytical work to support fuel economy rulemaking for future years.

RULEMAKING
Safety Standards Support

($000)		
Program Activity	**FY 2020 ENACTED**	**FY 2021 REQUEST**
Safety Standards Support	$4,000	$2,041

What is this program and what does this funding level support?

The Safety Standards Support program promotes the Department's priorities for safety, accountability, and innovation through regulatory, deregulatory, technical, and administrative operations. The requested resources will fund programmatic expenses including Federal Register publication costs and systems management. It will also support NHTSA's rulemaking portfolio public dockets, and technical assistance to assess, develop, and revise Federal Motor Vehicle Safety Standards (FMVSS) and other regulations in the key areas of crash avoidance, crashworthiness, post-crash, consumer information, and fuel economy. This support includes test method developments to update existing standards or promulgate new ones, determination of injury reduction benefits, and product testing to establish baseline performance. This program also promotes adoption of the United States FMVSS internationally, and it will continue to support Congressional mandates associated with the Moving Ahead for Progress in the 21st Century (MAP-21) Act and the Fixing America's Surface Transportation (FAST) Act, among others. Funding may also support additional testing in response to public comments on proposed rules or to address petitions for reconsideration.

In FY 2021, NHTSA requests $2.04 million for the Safety Standards Support program. Motor vehicle technology continues to become increasingly complex and the Agency's knowledge and expertise must continue to evolve to inform policy decisions. The requested funding will allow NHTSA to update standards as appropriate to keep pace with rapid technological advancements and to ensure the Agency retains its ability to effectively protect the safety of all road users.

The request will support work on advanced technology and Automated Driving Systems (ADS). It will also support NHTSA's continued efforts on Congressionally mandated regulations, such as those to enhance motor coach and child passenger safety authorized by MAP-21 or minimum performance standards for tire wet traction as prescribed by the FAST Act. These activities include:

- Evaluating new vehicles equipped with certain automated driving systems technology to determine the appropriate performance testing criteria;
- Identifying existing regulatory barriers that may block the introduction and certification of ADS, particularly those that are not equipped with controls for a human driver;
- Continuing work toward improving motor coach and heavy truck vehicle safety under MAP-21;
- Advancing work on child safety rulemakings to upgrade frontal impact protection and improve the usability of child restraint anchorage systems under MAP-21;

- Continuing to support safety standards development for alternative fuel vehicles, including electric, hydrogen, propane, and natural gas-powered light and heavy-duty vehicles; and
- Continuing to support consumer information and theft prevention standards.

What benefits will be provided to the American public through this request and why is this program necessary?

With 37,133 fatalities due to motor vehicle crashes in 2017, there is much work to be done to improve vehicle safety.[5] Motor vehicle safety has improved over the years due to improved vehicle designs, many of which were a result of FMVSS domestic rulemaking, and international engagement to encourage harmonization with the FMVSS. The public will be served by having vehicles that meet or exceed a minimum level of safety performance, as evidenced by people avoiding injuries and surviving crashes, which may have been un-survivable in the past, or the avoidance of crashes that would otherwise be inevitable. The funding is requested to ensure safety, update and maintain relevance of existing standards, enable new technologies, and identify and eliminate unnecessary regulations.

[5] 2017 Fatal Motor Vehicle Crashes: Overview DOT HS 812 603

RULEMAKING
New Car Assessment Program

($000)		
Program Activity	**FY 2020 ENACTED**	**FY 2021 REQUEST**
New Car Assessment Program (NCAP)	$12,000	$8,100

What is this program and what does this funding level support?

The New Car Assessment Program (NCAP) informs consumers about the relative safety performances of new vehicles. Based on a series of NHTSA-directed crash tests and advanced crash avoidance technology performance evaluations on new vehicles, NCAP rates the performance of new passenger cars and light trucks. Specifically, NCAP informs consumers using a 5-Star Safety Ratings system for new vehicles based on frontal and side impact crash tests, as well as rollover resistance tests. Child safety seats are similarly rated for their ease of use. Certain advanced crash avoidance technologies that are equipped in new vehicles are also identified for consumers (not part of the 5-star Safety Rating system) if they pass NCAP's performance specifications. Vehicle safety ratings, advanced technology identification, child safety seat ease of use ratings, child safety-related information, and other consumer information related to vehicle safety are provided on the Agency's website (www.nhtsa.gov). Vehicle safety ratings from crash and rollover resistance tests (not recommendations of certain advanced crash avoidance technologies) are also provided at the point of sale on the window sticker (also known as the Monroney label) that is applied to new vehicles.

A key performance measure for NHTSA is the percentage of new vehicles rated by NCAP for a given model year vehicle fleet. In FY 2021, NHTSA anticipates testing and rating a substantial percentage of new model year vehicle fleet combined with a portion of the new models that are carryovers from prior years (based on available projected sales volume).

In FY 2021, NHTSA requests $8.10 million for NCAP to support vehicle procurement, testing, oversight, and execution of the numerous operations of the NCAP program, as well as the dissemination of vehicle safety information to the American public. More specifically, the requested funding will support:

- Crash testing of new vehicles to provide safety ratings information as part of the 5-Star Safety Ratings system on a substantial percentage of the new vehicle fleet;
- Testing of new vehicles to assess rollover-risk propensity as part of the 5-Star Safety Ratings system;
- Performance testing of new vehicles equipped with certain advanced crash avoidance technology systems and identifying those that meet NCAP's performance testing criteria;
- Continuing efforts to make crash avoidance information available to the public on the window sticker of new vehicles at the point of sale (the Monroney labels);
- Analysis of Automated Driving Systems (ADS) to better understand the safety performance of

systems being sold in the U.S.;

- Consumer-friendly focused approach to enhance the dissemination of vehicle safety information to the public that includes simpler language, safety data customization and classification, and better data search functionality;
- Outreach and education campaigns to not only continually promote the program's 5-Star Safety Ratings system but also to increase consumer awareness and understanding of vehicle safety, especially the safety potential of advanced crash avoidance technologies;
- Development of the database for vehicle safety information submission and dissemination;
- Ease of use assessments for child safety seats, with ratings posted on www.nhtsa.gov and in NHTSA publications;
- Side air bag testing to protect out-of-position occupants; and
- Promotion of up-to-date information about dangers to children in and around vehicles, and other vehicle safety information such as 15-passenger van and tire safety.

What benefits will be provided to the American public through this request and why is this program necessary?

Consumers consider safety to be an influential factor when making vehicle purchasing decisions. NCAP provides a reliable, transparent, and unbiased assessment of the safety performance of passenger cars and light trucks sold in America. More specifically, NCAP provides vehicle safety information including performance evaluations on advanced crash avoidance technologies. NCAP information, including safety ratings, are disseminated to the public via NHTSA's website and other consumer information outlets. Currently, only safety ratings obtained from crash tests are displayed on window stickers of new vehicles at the point of sale. NHTSA is working to fulfill its Congressional mandate to identify and communicate appropriate crash avoidance technologies on window stickers

The FY 2021 budget request enables NHTSA to continually provide meaningful vehicle safety information to consumers, including technology innovations in vehicle safety, and consumer education on the safety potential of advanced crash avoidance technologies. Efforts on advanced safety systems that involve vehicle automation will be ongoing for possible consideration in NCAP. Furthermore, the funding will allow the Agency to test and rate a substantial percentage of the vehicle fleet sold in the United States.

RULEMAKING
Fuel Economy Program

($000)		
Program Activity	**FY 2020 ENACTED**	**FY 2021 REQUEST**
Fuel Economy Program (CAFE)	$12,000	$12,445

What Is This Program and Why Is It Necessary?

The Department of Transportation has been setting Corporate Average Fuel Economy (CAFE) standards since the late 1970s under the guidance of the Energy Policy and Conservation Act of 1975 (EPCA), which mandated the doubling of fuel economy of light duty vehicles in 10 years. CAFE standards are intended to reduce energy consumption by increasing the fuel economy of cars and light-trucks. In 2007, Congress enacted the Energy Independence and Security Act (EISA), which amended EPCA. For model years 2021 through 2030, EISA requires CAFE standards be set at the maximum feasible level in each model year, while considering technological feasibility, economic practicability, the effect of other motor vehicle standards of the Government on fuel economy, and the need of the United States to conserve energy. In addition, EISA authorizes and directs the Department to issue standards for medium and heavy-duty vehicles. For rulemaking activities to establish average fuel economy standards under chapter 329 of title 49, United States Code, the Secretary of Transportation retains primary and final decision-making authority.

In FY 2021, NHTSA requests $12.45 million for the Fuel Economy program. The requested funding will provide support for future rulemaking programs, including the establishment of the next phase of passenger car and light-duty truck CAFE standards, which will build on the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for model year 2021-2026 vehicles, and the next phase of medium- and heavy-duty vehicle fuel efficiency standards. The Agency will continue to improve fuel economy programs and conduct new assessments of technology effectiveness, cost, and capability of industry to implement new technologies for both the light-duty and medium- and heavy-duty vehicles. NHTSA will also conduct assessments of the factors considered and approaches used to estimate feasibility and impacts of potential standards. Requested funding will also be used to cover part of the publication cost for rulemaking documents.

The budget request also supports the CAFE Management Suite, which standardizes the method to receive compliance data from the Environmental Protection Agency (EPA) and manufacturers. The Management Suite makes the data easily accessible to NHTSA's fuel economy rulemaking and compliance programs, with certain data also available on a web page to the public.

NHTSA's budget request includes $5.00 million to carry out aspects of the fuel economy programs previously administered by EPA. These funds would support research and analysis for rulemaking to establish medium- and heavy-duty vehicle fuel efficiency standards while concurrently establishing separate light-duty vehicle CAFE standards. Medium- and heavy-duty vehicles are highly diverse in their designs and missions. To help ensure fuel efficiency standards achieve real

world improvements, there are unique standards and regulations for each of the five segments: tractors, trailers, heavy-duty pickup trucks and vans, vocational vehicles, and the engines in tractors and vocational vehicles. Rulemaking requires in-depth assessment and independent rulemaking analysis for each segment. For past rulemaking, NHTSA did not have sufficient staff or budget to conduct the necessary assessments and analysis for rulemaking efforts, and the Agency leveraged significant support from EPA.

The next phase of medium- and heavy-duty vehicle fuel efficiency rulemaking, and light-duty CAFE standards will include research, analysis, and stakeholder outreach. The FY 2021 budget request supports funding for the following research efforts:

- Effectiveness of current and future technologies and combinations of technologies to improve the fuel efficiency of each of the five vehicle segments, and to identify barriers to deployment of the technologies. The research would include both testing and simulation modeling;
- Costs of implementing fuel efficiency improving technologies, including incremental retail prices and life cycle cost elements, for each of the five segments;
- Characterization of the technologies present on the baseline fleet, how vehicles are operated, how travel costs impact vehicle miles traveled, and/or other studies, depending on an assessment of the most critical data needs at the time the research is initiated;
- Assessments and analyses of technical support for research contracts, and prepare policy briefing materials, and for support to represent NHTSA in meetings with stakeholders (for reference, over 400 meetings were held with stakeholders to inform the 2016 rulemaking); and
- Contributions to the Department of Transportation (DOT) Volpe Center to analyze the following segments: to develop models and tools to assess the lowest cost manufacturers could use to comply with potential standards, to acquire and assess information and data, to prepare inputs for the analyses, and to conduct assessments and analyses of the outputs of the analyses.

What benefits will be provided to the American public through this request and why is this program necessary?

NHTSA fulfills the Department's mission under the Energy Policy and Conservation Act of 1975 and Energy Independence and Security Act of 2007, directing the Department of Transportation to set passenger car, light-truck, and medium-duty passenger vehicle CAFE standards and medium- and heavy-duty vehicle fuel efficiency standards.

The CAFE and medium- and heavy-duty fuel efficiency programs play a key role in the Nation's energy policy, and they address energy independence and energy security and have highly significant economic impacts. The CAFE program also impacts highway safety. The SAFE Vehicles Rule proposal for model years 2021-2026, for example, projects the proposed standards would reduce societal costs by $500 billion and significantly reduce crash fatalities over the lifetimes of vehicles built through model year 2029. The funding will provide NHTSA with resources to ensure that the analysis for future CAFE standards and work on medium- and heavy-duty vehicle fuel efficiency standards will continue to be based on sound science and empirical evidence.

Detailed Justification for Vehicle Safety Enforcement Programs

FY 2021 – ENFORCEMENT - SUB-PROGRAM REQUEST

($000)			
Enforcement Program Activity	**FY 2019 Enacted**	**FY 2020 Enacted**	**FY 2021 Request**
Vehicle Safety Compliance	$10,303	$8,826	$7,755
Defects Investigation[1]	$22,548	$28,000	$11,612
Odometer Fraud	$149	$174	$175
Enforcement Total	**$33,000**	**$37,000**	**$19,542**

NHTSA's Enforcement program activities support the Department's safety priorities by ensuring industry compliance with motor vehicle safety standards; investigating safety-related defects in motor vehicles and motor vehicle equipment; enforcing the Federal odometer law; encouraging enforcement of State odometer law; and ensuring that manufacturers conduct recalls to remove unsafe motor vehicles and equipment from the Nation's highways. The FY 2021 budget requests $19.54 million to support enforcement work in the following areas:

- Completing critical vehicle crash avoidance and crashworthiness compliance testing, including developing new test procedures and testing for compliance with new safety regulations issued in response to Moving Ahead for Progress in the 21st Century (MAP-21) Act and continued in the Fixing America's Surface Transportation (FAST) Act;
- Completing critical compliance testing of regulated equipment, including items such as child restraints, motorcycle helmets, tires, seat belts, and brake hoses;
- Continuing outreach to foreign vehicle and equipment manufacturers, and focused enforcement of imported motor vehicle equipment;
- Maintaining a dedicated source of training for the Office of Defects Investigation (ODI) investigators and data analysts to better identify potential defects;
- Providing contract support for additional field investigations;
- Continuing to support the Corporate Average Fuel Economy (CAFE) and Medium/Heavy duty Fuel Consumption (FC) enforcement activities, including enforcement for standards that will be established through Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for model year 2021-2026 vehicles;
- Continuing to target odometer fraud that often masks the actual condition of used vehicles;
- Continuing to maintain an Automated Driving Systems (ADS) database that will allow multiple program offices access to information through the collection and analysis of imported and domestic vehicle information (creating the ability to identify safety problems and trends); and
- Developing processes for defects investigations of vehicles equipped with ADS to effectively meet growing challenges to identify safety defects.

ENFORCEMENT
Vehicle Safety Compliance

($000)		
Program Activity	**FY 2020 ENACTED**	**FY 2021 REQUEST**
Vehicle Safety Compliance	$8,826	$7,755

What is this program and what does this funding level support?

The Office of Vehicle Safety Compliance program (OVSC) contributes directly to NHTSA's mission to save lives, prevent injuries, and reduce economic costs due to road traffic crashes, by conducting investigations through ongoing testing, inspections, analysis, and cooperation with other Government entities, namely U.S. Customs and Border Protection (CBP).[6] These investigations uncover violations of the Safety Act[7] by identifying motor vehicles and motor vehicle equipment (e.g., tires, child restraints, motorcycle helmets, etc.) that do not meet applicable Federal Motor Vehicle Safety Standards (FMVSS) and other regulations, and cannot be lawfully imported or sold in the United States. Failure of motor vehicles and items of motor vehicle equipment to comply with FMVSS can lead to fatalities, injuries, and property damage. When a noncompliance is confirmed, OVSC helps ensure that the manufacturer or importer recalls the vehicle or equipment item and provides an adequate remedy for the noncompliance.

OVSC is also responsible for administering various NHTSA regulations. OVSC registers importers of nonconforming vehicles and reviews conformity data those importers submit on the vehicles they import. OVSC processes import eligibility petitions submitted by registered importers and requests for permission to temporarily import nonconforming vehicles for research or demonstration purposes. OVSC also operates and maintains a tire test facility in San Angelo, Texas, which is utilized both by NHTSA and commercial entities to collect data necessary to publish consumer information related to tires. OVSC enforces the Corporate Average Fuel Economy (CAFE) and Fuel Consumption (FC) regulations by ensuring proper vehicle classification, collecting civil penalties, tracking available credits, and monitoring the transfer and trading of credits.

The funding also supports OVSC information portal and modernized databases and the Motor Vehicle Importation Information (MVII) system. OVSC provides manufacturer, modifier, and testing databases to the public through the NHTSA web site www.nhtsa.gov. The MVII is a tracking system that provides the ability to record and report on basic identifying information related to imports such as registered importers, petitions, compliance periods, official correspondence, and applicable fees.

[6] In 2018, NHTSA responded to approximately 691 port inquiries.
[7] National Traffic and Motor Vehicle Safety Act of 1966.

NHTSA's funding for this program will allow OVSC to develop objective and repeatable test procedures and maintain contracts with test facilities to complete critical testing of new motor vehicles for compliance with crash avoidance and crashworthiness standards; to complete critical testing of motor vehicle equipment; to provide consumer information related to tires; to process applications related to the importation of Canadian and gray market vehicles; and to enforce CAFE and FC regulations for passenger vehicles, light-trucks, and medium/heavy commercial vehicles. The OVSC will also continue to work with the U.S. Customs and Border Protection (CBP) to help prevent noncompliant and/or defective motor vehicles and equipment from entering the United States as part of the statutory requirements of Moving Ahead for Progress in the 21st Century Act (MAP-21) (P.L. 112-141) and the Fixing America's Surface Transportation (FAST) Act (P.L. 114-94).

In FY 2021, NHTSA requests $7.76 million for the Vehicle Safety Compliance program. The requested funding will allow NHTSA to accomplish the following objectives:

- Complete critical vehicle crash avoidance and crashworthiness compliance testing;
- Complete critical compliance testing of regulated equipment, including items such as child seats, motorcycle helmets, tires, seat belts, and brake hoses;
- Maintain contracts with independent test facilities for performing compliance testing;
- Continue outreach to foreign vehicle and equipment manufacturers and focused enforcement of imported motor vehicle equipment;
- Continue to monitor new entrants into motor vehicle and equipment manufacturing both inside and outside the United States for compliance with the Federal Motor Vehicle Safety Standards (FMVSS);
- Continue enforcement of existing CAFE and FC standards and regulations;
- Maintain NHTSA's existing tire safety facility to include repairs and improvements to buildings, grounds, and test track areas;
- Continue operations and maintenance of the Vehicle Safety Compliance web portal and databases and the MVII system including hosting, software and contract labor costs; and
- Continue support of NHTSA's efforts towards the introduction, regulation, and testing of Automated Driving Systems.

What benefits will be provided to the American public through this request and why is this program necessary?

The OVSC is essential to enforce compliance with minimum safety standards for motor vehicles and motor vehicle equipment which prevent fatalities, injuries, and property damage. NHTSA estimates that 613,501 lives have been saved from 1960 through 2012 because of vehicle safety technologies associated with the Federal Motor Vehicle Safety Standards.[8] In the absence of an active enforcement program, the markets would likely be flooded with noncompliant vehicles and equipment, creating enormous safety risks for consumers and increased costs for U.S. households.

[8] Kahane, C.J. (2015, January). *Lives saved by vehicle safety technologies and associated Federal Motor Vehicle Safety Standards, 1960 to 2012 – Passenger cars and LTVs – With reviews of 26 FMVSS and the effectiveness of their associated safety technologies in reducing fatalities, injuries, and crashes.* (Report No. DOT HS 812 069). Washington, DC: National highway Traffic Safety Administration.

OVSC develops and implements performance tests to help ensure the motor vehicle and motor vehicle equipment industry's compliance with the FMVSS, thus saving thousands of lives in recent years through crash protection and crash avoidance. Consumers have benefited greatly from the industry's generally successful attempts to comply with the FMVSS, which are influenced by OVSC's compliance tests and investigations. These tests and investigations help protect millions of consumers from the risks posed by noncompliant vehicles and items of equipment.

Over the past three years, approximately 528 compliance recalls affecting over 5.08 million motor vehicles or motor vehicle equipment were submitted to NHTSA. OVSC's compliance programs influence manufacturers to submit recalls directly and indirectly. Without the compliance programs in place, the number of noncompliant products used by the public would be substantially greater, and the ability of vehicles and motor vehicle equipment to reduce injuries and fatalities would be diminished.

ENFORCEMENT
Office of Defects Investigation

($000)		
Program Activity	**FY 2020 ENACTED**	**FY 2021 REQUEST**
Defects Investigation	$28,000	$11,612

What is this program and what does this funding level support?

The Office of Defects Investigation (ODI) investigates potential vehicle defects through analysis of trends in data received by many sources, and where appropriate, seeks recalls of vehicles and vehicle equipment that pose an unreasonable risk to safety. From 2014 - 2018, ODI opened over 180 investigations into potential defects. Vehicle and equipment recalls are at historically higher rates over the past three years due to increased ODI oversight and actions taken with and by manufacturers. In 2018, ODI's recall management division processed 1035 vehicle and vehicle equipment recalls resulting in over 35 million units under recall.

NHTSA continues to develop and maintain a comprehensive and sophisticated data warehouse/system, Artemis, to securely store and manage a voluminous amount of Early Warning Reporting (EWR) data submitted by manufacturers, per requirements of the Transportation Recall Enhancement, Accountability, and Documentation (TREAD) Act as well as data from other sources. Under ODI's new processes and organizational structure, screening an average of 70,000 annual complaints from vehicle owners is systematically coupled to review of EWR and other data to determine whether anomalies or trends exist that potentially indicate the presence of a safety-related problem. ODI then applies an objective risk-based approach to determine whether to open a defect investigation. This program enhances safety on our Nation's highways by allowing NHTSA to investigate motor vehicles and items of motor vehicle equipment for possible defect trends and, where appropriate, seek recalls of vehicles and vehicle equipment that pose an unreasonable safety risk. When recalls are issued, this program reviews and manages manufacturers' submissions and ensures that the manufacturer sufficiently and quickly remedy the identified vehicle safety issues.

Safety recalls are a critical tool to NHTSA's mission of reducing the risk of injury or death to the motoring public due to safety defects or failures to comply to minimum safety standards. NHTSA's Recall Management program monitors the field execution of the hundreds of motor vehicle and motor vehicle equipment safety recalls it receives annually. This monitoring includes intake and review of manufacturer reports on the completion rates of their safety recalls.

ODI has five fully staffed investigative divisions processing the data received through the Artemis system as well as other sources. Current funding supports Artemis operations and maintenance on a daily, round-the-clock schedule. ODI's Trends Analysis Division performs advanced data analytics on EWR and other identified data sources to assist in defect pre-investigative processes.

Finally, testing capability (resources and equipment) to analyze vehicles and components for potential safety defects by staff at NHTSA's Vehicle Research and Test Center (VRTC) in Ohio will add to ODI's abilities to assess vehicle defects. With these operations in place for FY 2021, ODI will be able to more effectively screen data, perform data analysis, and carry out investigations that may ultimately lead to vehicle and equipment recalls.

In FY 2021, NHTSA requests $11.61 million for the Office of Defects Investigation program from the Vehicle Safety account. The total funding requested will allow ODI to continue to improve its effectiveness and meet growing challenges to identify safety defects quickly, ensure remedies are implemented promptly, and inform the public of critical information in an effective manner.

More specifically, the FY 2021 budget request supports the continuation of the following activities:

- Enhanced screening of consumer complaints of potential safety-related defects with motor vehicles or motor vehicle equipment, including child safety seats and tires;
- Investigations into allegations of safety-related defects, including recalls where the remedy or the scope of the vehicles included was allegedly inadequate;
- Expanded reviews of manufacturer technical service bulletins and dealer field reports to ensure that consumers receive appropriate notification of safety-related problems;
- Stakeholder outreach efforts to encourage the reporting of safety-related problems in motor vehicles and motor vehicle equipment;
- Resolution of petitions requesting NHTSA to open investigations into alleged safety problems; and
- Expeditious review of all manufacturer input to the Early Warning System to help determine trends and inform investigations.

Furthermore, ODI will ensure adequate contractor resources to support workforce demands and surges; enhance processes for defects investigations of Automated Driving Systems (ADS) to effectively meet growing challenges to identify safety defects; and maintain a collaborative repository for ADS related information that will allow the ability to identify safety problems and trends.

What benefits will be provided to the American public through this request and why is this program necessary?

The requested funding will allow NHTSA to continuously improve the quality of ODI's data screening and investigation processes, increase the vehicle recall completion rates, monitor recalls for adequacy of scope and remedy, continue to respond to Congressional and consumer inquiries, and ensure that all public information related to investigations, recalls, and complaints is current.

Without NHTSA's investigative process, millions of vehicles would likely go uncorrected, thus putting consumers at risk. The ODI public website receives on average 50,000 visitors per day who are using the Agency's "Vehicle Identification Number (VIN) Look-up" tool to see whether their vehicles have open recalls, to search for recalls and investigations, to file complaints, or to conduct research before purchasing a vehicle. Furthermore, the collection of Early Warning Reporting data has encouraged manufacturers to take a closer look at their fleet performance and, in some instances, has led to identification of defects and recalls much earlier in a vehicle's lifecycle.

ENFORCEMENT
Odometer Fraud Investigations

($000)		
Program Activity	**FY 2020 ENACTED**	**FY 2021 REQUEST**
Odometer Fraud Investigations	$174	$175

What is this program and what does this funding level support?

Odometer tampering has evolved into a cybersecurity issue and continues to be a serious crime and consumer fraud issue. Odometer fraud often masks the actual condition of used vehicles, which increases the safety risks associated with their use and hides the need for necessary safety maintenance and repairs. NHTSA's criminal investigators conduct investigations of large-scale odometer fraud schemes and work closely with the Department of Justice's Office of Consumer Protection prosecutors to ensure that worthy cases are effectively prosecuted. NHTSA also works under cooperative agreements with several State agencies to provide notification to owners of vehicles identified during investigations and advise them of the mileage discrepancies and their rights and remedies under the Federal odometer law. NHTSA encourages all State agencies to provide this notification and assists them when necessary.

In FY 2021, NHTSA requests $175 thousand for the Odometer Fraud Investigations (OFI) program. The funding will enable a continuation of cooperative agreements with multiple States, as well as supplement efforts to research the rate of odometer fraud occurrence in older vehicles, electronic odometer security, and e-odometer statements. Cooperative agreements with multiple State enforcement agencies assist our efforts to encourage the start of new odometer fraud activities or enhance existing programs to reduce the occurrence of odometer fraud. Through these cooperative agreements, NHTSA helps deter future odometer law violations, saving consumers millions of dollars in maintenance and repair costs and better enabling purchasers of used vehicles to keep their vehicles safe and roadworthy. The funding will also allow the Office of Odometer Fraud Investigation to maintain and improve its specialized criminal law enforcement equipment to ensure officer safety and efficient investigative practices.

The FY 2021 budget request supports the following:

- Investigations of odometer fraud for criminal prosecution;
- Injunctions against violators;
- Recovery of damages for defrauded consumers;
- Cooperative agreements with multiple State enforcement agencies;
- New and available data regarding the frequency of odometer fraud in older vehicles for which odometer statements are not required at sale or change of ownership;

- Enforcement efforts against vendors of odometer tampering devices, as well as vehicle sellers who use the devices to defraud their customers and place potentially unsafe vehicles on the road; and
- Secure protocols for the use of e-odometer statements.

What benefits will be provided to the American public through this request and why is this program necessary?

Federal and State odometer enforcement personnel are dealing with an increase of odometer fraud related to older vehicles that are currently exempt from written odometer statements at the time of transfer. In addition, odometer tampering devices are being imported, sold on the internet, and used to tamper with certain types and generations of digital odometers with almost no way for detection and conclusion about the extent of damage they may cause to other data recorders on a vehicle. These handheld programming devices are capable of "hacking" into a vehicle's controller area network and manipulating software code related to odometer settings. This type of manipulation could not only deceive consumers, but it could also tap into other vehicle systems that use mileage data in their algorithms and potentially mask safety problems with vehicles. The program's criminal investigators are engaged in multiple interstate odometer fraud investigations involving thousands of vehicles and hundreds of illicit programming devices.

Strong enforcement of the Federal and State odometer laws through prosecutions with stiff sentences appears to be one of the most effective way to address the problem. Since 1984, the odometer fraud investigations have resulted in more than 290 criminal convictions in 36 States with prison sentences ranging from one month to ten years, criminal fines totaling more than $3.00 million, and court ordered restitution totaling more than $19.00 million.

NHTSA
FY 2021 VEHICLE SAFETY PROGRAMS
ADMINISTRATIVE EXPENSES

($000)			
Program Activity	**FY 2019 ENACTED**	**FY 2020 ENACTED**	**FY 2021 REQUEST**
Salaries and Benefits	$60,704	$64,422	$66,063
Travel	$592	$492	$497
Transportation of Things	$70	$70	$70
Rent, Communications & Utilities	$5,703	$7,808	$7,923
Printing	$357	$357	$357
Other Services	$12,418	$4,648	$3,023
Supplies	$2,131	$2,163	$2,184
Equipment	$1,025	$1,040	$1,051
Total Administrative Expenses	**$83,000**	**$81,000**	**$81,167**
FTE	363	357	355

Administrative Expenses

In FY 2021, NHTSA's Vehicle Safety request includes $81.17 million for administrative expenses. Costs include the salaries and benefits for NHTSA employees who directly work on or indirectly provide support to the Vehicle Safety programs together with other normal business expenses such as personnel operations, facilities management, parking management, printing and graphics, mail operation and dockets management operations, building security, utilities and building maintenance, voice, cable and wireless communications, Disability Resource Center, substance abuse awareness and testing, financial services, and procurement and acquisition services.

NHTSA will continue to distribute administrative expenses using a methodology based primarily on direct FTE allocation for the following categories: salaries and benefits; travel; transportation of things, rent, printing, supplies, equipment; and other services. Additionally, NHTSA payments for centralized administrative and support services for the Department's Working Capital Fund (WCF) are estimated at $27.29 million in FY 2021, and the expense is shared between accounts. The estimate assumes IT Shared Services will be brought under the Department's WCF and is subject to change pending final determination of the Agency's contribution.

EXHIBIT III-1

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OPERATIONS AND RESEARCH
HIGHWAY SAFETY RESEARCH & DEVELOPMENT
Summary by Program Activity
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

	FY 2019 ENACTED	FY 2020 ENACTED	FY 2021 REQUEST
Highway Safety Programs	$ 56,631	$ 63,121	
Research and Analysis - NCSA	40,290	42,983	
Administrative Expenses	55,179	49,196	50,596
TOTAL, HIGHWAY SAFETY RESEARCH & DEVELOPMENT (TF)	**$ 152,100**	**$ 155,300**	**$ 161,200**
FTEs:			
Direct Funded	159	175	175

Note: Totals may not add due to rounding.

EXHIBIT III - 1a

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SUMMARY ANALYSIS OF CHANGE FROM FY 2020 TO FY 2021
Appropriations, Obligation Limitations, and Exempt Obligations
OPERATIONS AND RESEARCH

HIGHWAY SAFETY RESEARCH & DEVELOPMENT
($000)

ITEM	Change from FY 2020 to FY 2021 $000	Change from FY 2020 to FY 2021 FTE
FY 2020 President's Budget	**155,300**	**175**
Adjustments to Base		
Annualization of FY 2020 FTE	-	
Annualization of Prior Pay Raise(s)	-	
FY 2021 Pay Raise	-	
GSA Rent	67	
WCF	225	
Inflation and other adjustments	78	
Subtotal, Adjustment to Base	**370**	**-**
Program Increases/Decreases		-
FY 2021 REQUEST	**161,200**	**175**

Note: Totals may not add due to rounding.

HIGHWAY SAFETY RESEARCH AND DEVELOPMENT

OPERATIONS AND RESEARCH – TRUST FUND (TF)

The FY 2021 budget proposal includes $11.5 billion to support a 10-year reauthorization of public transportation programs managed by the National Highway Traffic Safety Administration.

Improving Transportation Safety: NHTSA's proposal, gives State and local partners greater tools to address critical safety issues, while also improving accountability for safety improvements in key areas, including: seat belt use, impaired driving, youth drivers, pedestrian/bicycle safety, and distracted driving. The surface transportation reauthorization proposal also promotes the voluntary sharing of certain safety data.

Along with FMCSA, NHTSA would undertake the first crash causation study in more than fifteen years to better understand the factors of crashed. This study should provide critical insight into how changes in technology, as well as driver behavior, roadway designs, and vehicle safety effect the likelihood of a crash. Better understanding of the factors that lead to crashes can result in initiatives to reduce crashes across the country.

Reducing Regulatory Burdens and Increasing Government Efficiency: The surface transportation reauthorization proposal modernizes and improves the efficiency and effectiveness of federal regulations to reduce burdens and improve the safety of motor vehicle and highway safety. The Act will facilitate the development and adoption of automated driving systems (ADS) while not sacrificing safety or privacy.

Innovation Through Effective Research: The proposal will support highway research programs that address critical knowledge gaps that are not effectively addressed by other research sponsors. These programs will accelerate implementation of technologies and new solutions to meet current and future transportation needs, including those that address safety. These programs will focus on research products that can be transferred to end users and/or made available in the marketplace.

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EXHIBIT III-1

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
HIGHWAY TRAFFIC SAFETY GRANTS
Summary by Program Activity
Appropriations, Obligation Limitations, and Exempt Obligations
($000)

	FY 2019 ENACTED	FY 2020 ENACTED	FY 2021 REQUEST
Formula Grant Program (Section 402)	$ 270,400	$ 279,800	
High Visibility Enforcement (Section 2009)	30,200	30,500	
National Priority Safety Programs (Section 405)	**283,000**	**285,900**	
Occupant Protection Grants	36,790	37,167	
State Traffic Safety Information System Grants	41,035	41,456	
Impaired Driving Countermeasures Grants	148,575	150,098	
Distracted Driving Grants	24,055	24,302	
Motorcyclist Safety Grants	4,245	4,289	
State Graduated Driver Licensing Laws	14,150	14,295	
Non-Motorized Safety Pedestrian/Bikes	14,150	14,295	
Grants Administrative Expenses	26,608	26,817	30,086
TOTAL HIGHWAY TRAFFIC SAFETY GRANTS (TF) [1]	**$ 610,208**	**$ 623,017**	**$ 647,200**
FTEs:			
Direct Funded	83	88	88

Note: Totals may not add due to rounding.

[1.] Total does not include State penalty transfers from FHWA. The FY 2019 transfer amount was $105 million. FY 2020 and FY 2021 amounts are to be determined based on State penalty information.

EXHIBIT III - 1a

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SUMMARY ANALYSIS OF CHANGE FROM FY 2020 TO FY 2021
Appropriations, Obligation Limitations, and Exempt Obligations
HIGHWAY TRAFFIC SAFETY GRANTS
($000)

ITEM	Change from FY 2020 to FY 2021 $000	Change from FY 2020 to FY 2021 FTE
FY 2020 President's Budget	**623,017**	**88**
Adjustments to Base		
Annualization of FY 2020 FTE	-	
Annualization of Prior Pay Raise(s)	-	-
FY 2021 Pay Raise	-	
GSA Rent	30	
WCF	-	
Inflation and other adjustments	2,771	
Subtotal, Adjustment to Base	**2,801**	**-**
Program Increases/Decreases		**-**
FY 2021 REQUEST	**647,200**	**88**

Note: Totals may not add due to rounding.

HIGHWAY TRAFFIC SAFETY GRANTS
TRUST FUND (TF)

The FY 2021 budget proposal includes $11.5 billion to support a 10-year reauthorization of public transportation programs managed by the National Highway Traffic Safety Administration.

Improving Transportation Safety: NHTSA's proposal, gives State and local partners greater tools to address critical safety issues, while also improving accountability for safety improvements in key areas, including: seat belt use, impaired driving, youth drivers, pedestrian/bicycle safety, and distracted driving. The surface transportation reauthorization proposal also promotes the voluntary sharing of certain safety data.

Along with FMCSA, NHTSA would undertake the first crash causation study in more than fifteen years to better understand the factors of crashed. This study should provide critical insight into how changes in technology, as well as driver behavior, roadway designs, and vehicle safety effect the likelihood of a crash. Better understanding of the factors that lead to crashes can result in initiatives to reduce crashes across the country.

Reducing Regulatory Burdens and Increasing Government Efficiency: The surface transportation reauthorization proposal modernizes and improves the efficiency and effectiveness of federal regulations to reduce burdens and improve the safety of motor vehicle and highway safety. The Act will facilitate the development and adoption of automated driving systems (ADS) while not sacrificing safety or privacy.

Innovation Through Effective Research: The proposal will support highway research programs that address critical knowledge gaps that are not effectively addressed by other research sponsors. These programs will accelerate implementation of technologies and new solutions to meet current and future transportation needs, including those that address safety. These programs will focus on research products that can be transferred to end users and/or made available in the marketplace.

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EXHIBIT IV-1
RESEARCH, DEVELOPMENT & TECHNOLOGY
DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
BUDGET AUTHORITY
(In thousands of dollars)

Account Program	Classification (A, B, D, F or T)	FY 2019 ENACTED	FY 2020 ENACTED	FY 2021 REQUEST
Vehicle Safety Programs (GF)		**60,161**	**59,071**	**43,951**
Research and Analysis				
Crashworthiness		**13,110**	**13,110**	**13,447**
Safety Systems	A	4,874	4,874	5,210
Biom `	A	8,237	8,236	8,237
Advanced Safety Technologies		**9,216**	**5,351**	**7,216**
Advanced Driver Assistance Systems	A	8,301	4,851	6,301
Heavy Vehicle Safety Technologies	A	915	500	915
Alternative Fuels Vehicle Safety	A	674	674	674
Vehicle Electronics and Cybersecurity	A	25,000	17,865	3,469
Automated Driving Systems	A	-	10,000	7,000
Vehicle Research and Test Center	F	500	500	500
Administrative Expenses				
Vehicle Safety (VS)		11,661	11,571	11,646
Highway Safety Research & Development (TF)		**16,162**	**18,884**	**18,980**
Highway Safety Programs				
Surface Transportation Reauthorization *Technology Transfer*	A	11,748	14,948	14,948
Administrative Expenses				
Surface Transportation Reauthorization		4,414	3,936	4,032
Subtotal, Applied Research	A	59,748	61,948	46,754
Subtotal, Basic Research	B	-	-	-
Subtotal, Development Research	D	-	-	-
Total Technology Transfer/Deployment	T	-	-	-
Subtotal, Research and Development Facilities	F	500	500	500
Subtotal, Administrative Expenses		16,075	15,507	15,678
Total NHTSA		**76,323**	**77,955**	**62,932**

Note: Totals may not add due to rounding.

RD&T Program Summary

- RD&T Program Name: Office of Vehicle Safety Research Crashworthiness Program

- FY 2021 Funding Request for this Project/Program/Activity: $13,447,000

- Objective: The Crashworthiness program is directed at DOT's priority of "building upon DOT's legacy of safety" and the strategic goal of "improving public health and safety by reducing transportation-related fatalities and injuries for all users [and] working toward no fatalities across all modes of travel." This aligns with NHTSA's mission to "save lives, prevent injuries, and reduce economic costs due to road traffic crashes through education, research, safety standards, and enforcement activity."

  In support of NHTSA's Strategic Goals and Objectives 2016-2020, the Crashworthiness Program conducts testing, research, and crash data collection and analysis to support its safety oversight mission in addressing occupant protection; developing necessary Federal Motor Vehicle Safety Standards (FMVSS), guidance, tools, and procedures; and conducting engineering analysis and testing of possible safety concerns and countermeasures across the full spectrum of prevention, mitigation, and response.

- Brief Description: The Crashworthiness program focuses on vehicle safety countermeasures to reduce the number of fatal and serious injuries that occur from motor vehicle crashes in the United States each year. This research program is responsible for developing and upgrading test procedures for evaluating motor vehicle safety and developing the test devices, such as crash test dummies, and appropriate injury metrics. Crashworthiness research encompasses new and improved vehicle design, biomechanics and injury causation, field data collection and analysis of serious injury cases, safety countermeasures and vehicle equipment to enhance occupant safety.

- Expected Outputs: Complete the development of the test tools for consumer rating programs and general safety testing, as well as industry utilization, along with their associated technical documentation for three advanced crash test dummies. This includes documentation for the World Side Impact Dummy (WorldSID) 5th percentile female, the Large Omnidirectional Child (LODC) 10-year-old dummy, and the THOR 5th percentile female frontal impact dummy. Rear seat safety will be addressed by full vehicle and sled testing using the 5th female THOR and LODC dummies. Using these newly developed dummies and their enhanced injury prediction capabilities will allow better evaluation of restraint performance for rear seat occupants. Detailed human body, dummy-based, and brain injury mathematical models will be made available to the public. Additional data collected under the Crash Injury Research and Engineering Network (CIREN) program will also be released publicly, including initial pedestrian injury data.

- Internal DOT Collaboration Partners: NHTSA reviews and uses Federal Motor Carrier Safety Administration (FMCSA) studies on motorcoach and heavy truck crashes and fires. NHTSA collaborates with the Federal Highway Administration (FHWA) on developing and conducting

crash simulation models. NHTSA works with the Federal Aviation Administration's (FAA) Civil Aerospace Medical Institute on human injury crash tolerance.

- Expected Outputs of Internal DOT Collaboration: NHTSA will continue to collaborate with internal DOT agencies on funding and other research programs and deliverables. The program meets the annual Appropriations Act's requirement to conduct crashworthiness research.

- External Collaboration Partners: Broad-based research, meeting with automotive manufacturers, suppliers, and other industry stakeholders and safety advocates.

- Does this Program/Project/Activity have a Technology Component: Yes

- Is this Program/Project listed in the USDOT Research Hub or TRB Research in Progress (RIP) Database https://rip.trb.org/: Yes

RD&T Program Summary

- RD&T Program Name: Office of Vehicle Safety Research Advanced Safety Technologies Program

- FY 2021 Funding Request for this Project/Program/Activity: $7,216,000

- Objective: The Advanced Safety Technologies program is directed at DOT's priority of "building upon DOT's legacy of safety" and the strategic goal of "improving public health and safety by reducing transportation-related fatalities and injuries for all users [and] working toward no fatalities across all modes of travel." This aligns with NHTSA's mission to "save lives, prevent injuries, and reduce economic costs due to road traffic crashes through education, research, safety standards, and enforcement activity."

  In support of NHTSA's Strategic Goals and Objectives 2016-2020, the Advanced Safety Technologies program conducts testing, research, and crash data analysis to support its safety oversight mission in addressing crash avoidance and driver behavior impacting safety outcomes through technology, developing necessary methods, guidance, tools, and procedures, as well as conducting engineering analysis and testing of possible safety concerns and countermeasures across the full spectrum of prevention, mitigation, and response in crash scenarios.

- Brief Description: U.S. traffic crash fatalities have increased in recent years. In 2017, motor vehicle crashes on U.S. roadways claimed 37,133 lives. This is a 1.8 percent decrease from 2016, but a 4.6% increase from 2015. These statistics support the need for an increased emphasis on advanced safety and driver assistance technologies with significant potential to reduce fatalities and injuries by preventing the crash from occurring, or significantly reducing the severity of crashes by providing timely warnings to the driver to take appropriate action. Such technologies also may support automatic braking or steering interventions to provide additional safety benefits. Further, advanced safety technology systems are precursors, and necessary building blocks, for driving automation systems (Society of Automotive Engineers (SAE) Automation Levels 1-5) which are beginning to appear in vehicle manufacturers' product development plans—and are even emerging in the marketplace today in early forms at the lower levels of automation.

- Expected Outputs: This research program directly supports policy decisions on the part of the Department and Agency on what next steps are needed to facilitate deployment of ADAS systems that are found (through this research program) to perform well, have good driver acceptance, and have significant lifesaving potential. This research also benefits a wide range of stakeholders, including automotive Original Equipment Manufacturers (OEMs) who typically don't do as much research purely focused on determining crash problems addressed, how effective Advanced Driver Assistance Systems are at addressing them, and human factors issues a driver feedback – these issues are expected to be addressed in this program. Research on evolving crash avoidance technology and the development of safety assessment tools is intended for widespread use in automotive design that would lead to high societal benefits. For example, such technologies may support automatic braking or steering interventions to provide

additional safety benefits. Further, crash avoidance systems are precursors and necessary building blocks for driving automation systems (SAE Automation Levels 1-5), which are beginning to appear in vehicle manufacturers' product development plans and are even emerging in the marketplace today in early forms at the lower levels of automation. This program is not statutorily mandated.

- Internal DOT Collaboration Partners: NHTSA reviews and uses Federal Aviation Administration (FAA), Federal Railroad Administration (FRA), and Maritime Administration research in the areas of vehicle automation and cybersecurity (protections, approaches, policies, etc.). NHTSA collaborates with the Intelligent Transportation Systems Joint Program Office (ITS JPO) and Federal Highway Administration (FHWA) on intelligent technologies research, spectrum testing, Automated Driving Systems research (e.g., benefits assessment), and vehicle cybersecurity research (joint investment in NHTSA developing applied capabilities to develop best practices).

- Expected Outputs of Internal DOT Collaboration: NHTSA collaborates and reviews FHWA, FMCSA, Federal Transit Administration (FTA), and Pipeline and Hazardous Materials Safety Administration (PHMSA) studies on light vehicle, heavy truck, and motor coach safety. NHTSA collaborates with other Government agencies as well including the Department of Homeland Security (DHS), Department of Defense (DOD), Department of Energy (DOE), and Federal Communications Commission (FCC) in sharing research being conducted with emerging technology. NHTSA also collaborates with research institutions and the private sector to access cutting-edge technologies to be scientifically and objectively studied without the need to exchange proprietary intellectual property.

- External Collaboration Partners: NHTSA Vehicle Safety Research (VSR) regularly meets with the public and other stakeholders (industry, safety advocates) to seek feedback, prioritize, and communicate status of projects aimed at improving vehicle safety. Projects are often set up to partner directly with stakeholders to conduct the research. We also publish reports and data to seek feedback from all interested parties. Additionally, NHTSA VSR frequently hosts public meetings and submits research reports for public comment such that the targeted customer has an opportunity to review and comment on the research products. The output or results are then published at the top conference venues in which the targeted end users participate. The input NHTSA receives from these exchanges are considered when executing current research and in planning future research priority areas.

- Does this Program/Project/Activity have a Technology Component: Yes

- Is this Program/Project listed in the USDOT Research Hub or TRB Research in Progress(RIP) Database https://rip.trb.org/: Yes

RD&T Program Summary

- RD&T Program Name: Office of Vehicle Safety Research Alternative Fuels Vehicle Safety Program

- FY 2021 Funding Request for this Project/Program/Activity: $674,000

- Objective: The Alternative Fuels Vehicle Safety program aligns with DOT's priority of "building upon DOT's legacy of safety" and the strategic goal of "improving public health and safety by reducing transportation-related fatalities and injuries for all users [and] working toward no fatalities across all modes of travel." This aligns with NHTSA's mission to "save lives, prevent injuries, and reduce economic costs due to road traffic crashes through education, research, safety standards, and enforcement activity."

  In support of NHTSA's Strategic Goals and Objectives 2016-2020, the Alternative Fuels Vehicle Safety research program will address the safety of alternative fuel technologies that will be used in conventional and future ADS.

- Brief Description: Recently introduced vehicle engine technologies including hydrogen and advanced lithium ion battery vehicles are being introduced to the market at a fast rate. There are new concerns regarding the safety of these vehicle systems. This research will document any safety issues and promote industry best practices. Test procedures and assessment methods will be developed to standardize safety assessment methods.

- Expected Outputs: There are a broad range of outputs expected through this program, including continuing the development of battery safety diagnostics, enhancing best practices of post-crash battery stranded energy evaluation and stabilization procedures, completing the test requirements for electric vehicle charging safety, and finalizing updated safety performance test procedures for compressed natural gas and hydrogen gas containers.

- Internal DOT Collaboration Partners: NHTSA coordinates its alternative fuel safety research with Federal Motor Carrier Safety Administration (FMCSA) and Federal Transit Administration (FTA) researchers who also study fleet safety of these systems. NHTSA reviews Pipeline and Hazardous Materials Safety Administration (PHMSA) standards on lithium ion battery safety and high-pressure carbon fiber overwrapped pressure vessels. NHTSA collaborates with Federal Highway Administration (FHWA) on developing and conducting crash simulation models for electric vehicles and battery packs. NHTSA participated in the DOT liquefied natural gas safety research meeting.
- Expected Outputs of Internal DOT Collaboration: This research program is supporting the development of objective safety performance and diagnostic tests to enhance the safety of future electric drive vehicles. NHTSA is partnering with several National Labs to develop and test diagnostic methods to detect damaged battery systems before fires can begin. NHTSA is also developing test procedures to evaluate the safety of vehicles during charging operations, and testing is underway to examine the safety concerns for submerged vehicles.

- External Collaboration Partners: NHTSA works with the Department of Energy (DOE) to anticipate safety considerations for new transportation fuel systems. NHTSA is also collaborating with National Labs. NHTSA Research public meetings are used to describe ongoing and planned research and to solicit feedback on future safety concerns.

- Does this Program/Project/Activity have a Technology Component: Yes

- Is this Program/Project listed in the USDOT Research Hub or TRB Research in Progress (RIP) Database https://rip.trb.org/: Yes

RD&T Program Summary

- RD&T Program Name: Office of Vehicle Safety Research Vehicle Electronics and Cybersecurity Program

- FY 2021 Funding Request for this Project/Program/Activity: $3,469,000

- Objective: The Vehicle Electronics and Cybersecurity program is directed at DOT's priority of "building upon DOT's legacy of safety" and the strategic goal of "improving public health and safety by reducing transportation-related fatalities and injuries for all users [and] working toward no fatalities across all modes of travel." This aligns with NHTSA's mission to "save lives, prevent injuries, and reduce economic costs due to road traffic crashes through education, research, safety standards, and enforcement activity." Technical objectives of the Vehicle Electronics and Cybersecurity research program area are to support the safety assurance of vehicle electronics, software, and cybersecurity such that they do not pose public acceptance barriers for proven safety technologies and driving automation systems. The program seeks to support improvements in the cybersecurity posture of motor vehicles, and understand and promote contemporary methods in software development, testing practices, and requirements management as they pertain to robust management of underlying hazards and risks across the vehicle life-cycle. These activities include close collaboration with industry to promote a strong risk management culture and associated organizational and systems engineering processes.

- Brief Description: This program broadly covers two major research areas: Electronics functional safety and vehicle cybersecurity. Electronics functional safety is an important part of overall systems safety that deals with safety risk management associated with potential failures in sensors, components, systems, and software implementation, as well as operator errors and environmental changes. Vehicle cybersecurity research deals with the safety risk management associated with intentional manipulation of software, hardware, sensors, and associated communication networks on-board the vehicle.

- Expected Outputs: This research program directly supports policy decisions on the part of DOT and NHTSA on safety and security of emerging electronics and software technologies, and their implications to the safety of motorists and other vehicle occupants.

- Internal DOT Collaboration Partners: NHTSA collaborates with the Intelligent Transportation Systems Joint Program Office, Federal Model Carrier Safety Administration, Federal Highway Administration, and Federal Transit Administration on studies related to light vehicle, heavy truck, and motor coach electronics, functional safety, and cybersecurity.

- Expected Outputs of Internal DOT Collaboration: This effort results in the publication of reports and data to seek feedback from all interested parties. Additionally, public meetings are hosted and research reports submitted for public comment such that the targeted customer has an opportunity to review and comment on the products. The output or results are then published at the top conference venues in which the targeted end users participate. The input NHTSA receives from these exchanges are considered when executing current research and in planning future research priority areas.

- External Collaboration Partners: NHTSA collaborates with other Government agencies as well including the Department of Homeland Security, Department of Defense, Department of Energy, and Federal Communications Commission in sharing research being conducted with emerging technology, their testing, assessment and cyber resiliency. NHTSA also collaborates with Research institutions and private sector to access cutting-edge technologies to be scientifically and objectively studied without the need to exchange proprietary intellectual property. NHTSA's Vehicle Safety Research office regularly meets with the public and other stakeholders (industry, safety advocates) to seek feedback, prioritize, and to communicate status of projects aimed at improving vehicle safety and projects are often set up to partner directly with stakeholders to conduct the research.

- Expected Outputs of External Collaboration Partners: This partnership will allow NHTSA to expeditiously and proactively enhance the Agency's ability to understand the vehicle platform as it evolves from a primarily mechanical tool to a highly complex computerized consumer product, as well as its impact on the safety outcomes to carry out its mission in the new era of emergent technologies and vehicle electronics.

- Does this Program/Project/Activity have a Technology Component: Yes

- Is this Program/Project listed in the USDOT Research Hub or TRB Research in Progress (RIP) Database https://rip.trb.org/: Yes

RD&T Program Summary

- RD&T Program Name: Office of Vehicle Safety Research Automated Driving Systems (ADS)

- FY 2021 Funding Request for this Project/Program/Activity: $7,000,000

- Objective: The Automated Driving Systems program is directed at DOT's priority of "building upon DOT's legacy of safety" and the strategic goal of "improving public health and safety by reducing transportation-related fatalities and injuries for all users [and] working toward no fatalities across all modes of travel." This aligns with NHTSA's mission to "save lives, prevent injuries, and reduce economic costs due to road traffic crashes through education, research, safety standards, and enforcement activity."

  In support of NHTSA's Strategic Goals and Objectives 2016-2020, the Automated Driving Systems program is conducting work to remove potential regulatory barriers to ADS and other advanced technology innovations, developing of ADS safety assurance frameworks and methods, enhancing occupant protection for current and future vehicle designs, and addressing critical human factors issues for both ADS and other advanced technologies. ADS program research has impacts for all communities.

- Brief Description: There are many lives to be saved with further advancements in new Automated Driving Systems (ADS). However, in the transportation sector, where nine out of ten serious roadway crashes occur due to human behavior, driving automation technologies possess a significant potential to not only save thousands of lives, but reduce congestion, enhance mobility, and improve productivity. Hence, ADS, categorically referring to the driving automation systems in the Society of Automotive Engineers (SAE) Levels 3, 4 and 5, is a major area of research emphasis for NHTSA in addition to research on ADAS. The principal objective of this program area is to focus on the most promising safety-enhancement segment of driving automation and to align the Agency's activities to support and maintain the United States' global leadership in the safe development, testing, and future deployment of ADS through technological innovation and open market access. Because ADS are still in the development and testing stages, continually and quickly evolving, the Agency's research to support public safety assurance needs to adapt quickly as new innovations are conceived. NHTSA partners closely with technology developers to understand the varying nature of approaches and temporal changes through data gathered through private-sector testing. Through such collaboration, NHTSA focuses on ADS research activities that provide value by bridging research gaps with leveraged resources and provide leadership through efforts to spur the community to share appropriate information and agree on fundamental safety goals, and leverage best practices.

- Expected Outputs: The main goal of the ADS research program is to assure that ADS are being designed, operated, and used safely within their given operational design domain. By ensuring safe operation, many crashes and fatalities may be avoided. ADS research supports the entire private sector but does not benefit a single company. Research on evolving ADS technology and the development of safety assessment tools is intended for widespread use in automotive design.

Internal DOT Collaboration Partners: NHTSA's program partners are: Office of the Secretary Joint Program Office, Federal Highway Administration, Federal Motor Carrier Safety Administration, and Pipeline and Hazardous Materials Safety Administration.

- Expected Outputs of Internal DOT Collaboration: This effort will result in the development of research findings and data to advance industry's safe testing and deployment of Automated Driving Systems (SAE Levels 3-5). Through advanced, proactive and collaborative research, emerging challenges can be addressed in a timely manner such that transformative automated driving technologies with proven safety benefits can be introduced sooner.

- External Collaboration Partners: NHTSA partners with automotive manufacturers, suppliers, technology companies, and universities. These partnerships are intended to share research results and coordinate research plans and projects. Public-private projects are often set up to partner directly with stakeholders to conduct the research. We also publish reports and data to seek feedback from all interested parties. NHTSA frequently conducts broad-based research meetings with automotive manufacturers, suppliers, safety advocates, and other stakeholders. Non-Government group partners contribute to NHTSA in numerous methods such as sharing lessons learned, providing guidance documentation, developing industry standards, and providing comments to NHTSA public meetings and documents.

- Expected Outputs of External Collaboration Partners: These partnerships will allow NHTSA to expeditiously and proactively address the barriers that challenge the rollout of higher level Automated Driving Systems on U.S. roadways.

- Does this Program/Project/Activity have a Technology Component: Yes

- Is this Program/Project listed in the USDOT Research Hub or TRB Research in Progress (RIP) Database https://rip.trb.org/: Yes

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FY 2021 Budget Submission
National Highway Traffic Safety Administration
Information Technology Budget
Budget Authority
($000)

Vehicle Safety Account	FY 2019 Enacted	FY 2020 Budget	FY 2021 Request
Programmatic IT Shared Services WCF			
Office of the Chief Information Officer [Organization/Office/Program/PPA]	$ 2,298	$ 3,887	$ 2,644
Cybersecurity	$ 952	$ 2,441	$ 1,626
Mission Critical IT Support System Applications	$ 1,139	$ 1,239	$ 866
Infrastructure	$ 57	$ 57	$ 2
IT Management	$ 150	$ 150	$ 150
Enforcement [Office/Program/PPA Subtotal]	$ 10,692	$ 12,531	$ 5,258
Cybersecurity	$ -	$ -	$ -
Mission Critical IT System Applications	$ 8,916	$ 10,755	$ 4,883
Infrastructure	$ 936	$ 936	$ -
IT Management	$ 840	$ 840	$ 375
Vehicle Safety Research and Analysis [Office/Program/PPA Subtotal]	$ 471	$ 471	$ 456
Cybersecurity	$ -	$ -	$ -
Mission Critical IT System Applications	$ 401	$ 401	$ 387
Infrastructure	$ 55	$ 55	$ 55
IT Management	$ 15	$ 15	$ 15
Rulemaking [Office/Program/PPA Subtotal]	$ 2,355	$ 2,555	$ 2,584
Cybersecurity	$ -	$ -	$ -
Mission Critical IT System Applications	$ 2,059	$ 2,259	$ 2,288
Infrastructure	$ 131	$ 131	$ 131
IT Management	$ 165	$ 165	$ 165
Office of Administrative & Management Services [Office/Program/PPA Subtotal]	$ 471	$ 471	$ 5,273
Cybersecurity	$ -	$ -	$ -
Mission Critical IT System Applications	$ 471	$ 471	$ -
Infrastructure	$ -	$ -	$ -
NHTSA Programmatic IT	$ -	$ -	$ 5,273
IT Management	$ -	$ -	$ -
Subtotal: Programmatic IT Shared Services WCF	**16,288**	**19,915**	**16,216**
Commodity IT Shared Services WCF			
Office of the Chief Information Officer[Organization/Office/Program/PPA]	$ 7,015	$ 9,396	$ 10,021
Cybersecurity	$ -	$ -	$ -
Mission Critical IT Support System Applications	$ -	$ -	$ -
Infrastructure	$ 7,015	$ 9,396	$ 10,021
IT Management	$ -	$ -	$ -
Subtotal: Commodity IT Shared Services WCF	**$ 7,015**	**$ 9,396**	**$ 10,021**
Vehicle Safety Account Total	**$ 23,303**	**$ 29,311**	**$ 26,237**
Summary of IT & WCF Shared Services			
Programmatic IT Shared Services WCF	$ 16,288	$ 19,915	$ 16,216
Commodity IT Shared Services WCF	$ 7,015	$ 9,396	$ 10,021
IT & WCF Shared Services Total	**$ 23,303**	**$ 29,311**	**$ 26,237**

Highway Safety Research & Development (R&D) Account	FY 2019 Enacted	FY 2020 Budget	FY 2021 Request
Programmatic IT Shared Services WCF			
Office of the Chief Information Officer [Organization/Office/Program/PPA]	$ 2,296	$ 2,812	$ 2,406
Cybersecurity	$ 952	$ 1,368	$ 1,450
Mission Critical IT System Applications	$ 1,139	$ 1,239	$ 806
Infrastructure	$ 55	$ 55	$ -
IT Management	$ 150	$ 150	$ 150
Research and Development [Office/Program/PPA Subtotal]	$ 2,650	$ 2,927	$ 2,927
Cybersecurity	$ -	$ -	$ -
Mission Critical IT System Applications	$ 457	$ 535	$ 535
Infrastructure	$ 1,928	$ 2,128	$ 2,128
IT Management	$ 265	$ 265	$ 265
National Center for Statistics [Office/Program/PPA Subtotal]	$ 14,759	$ 17,214	$ 7,397
Cybersecurity	$ -	$ -	$ -
Mission Critical IT System Applications	$ 9,205	$ 10,912	$ 4,189
Infrastructure	$ 2,549	$ 2,799	$ 1,883
IT Management	$ 3,005	$ 3,504	$ 1,325
Office of Administrative & Management Services [Office/Program/PPA Subtotal]	$ 442	$ 442	$ 9,968
Cybersecurity	$ -	$ -	$ -
Mission Critical IT System Applications	$ 292	$ 292	$ 28
Infrastructure	$ -	$ -	$ -
NHTSA Programmatic IT	$ -	$ -	$ 9,790
IT Management	$ 150	$ 150	$ 150
Subtotal: Programmatic IT Shared Services WCF	**$ 20,147**	**$ 23,396**	**$ 22,698**
Commodity IT Shared Services WCF			
Office of the Chief Information Officer[Organization/Office/Program/PPA]	$ 6,421	$ 5,261	$ 5,612
Cybersecurity	$ -	$ -	$ -
Mission Critical IT Support System Applications	$ -	$ -	$ -
Infrastructure	$ 6,421	$ 5,261	$ 5,612
IT Management	$ -	$ -	$ -
Subtotal: Commodity IT Shared Services WCF	**$ 6,421**	**$ 5,261**	**$ 5,612**
Highway Safety R&D Account Total	**$ 26,568**	**$ 28,657**	**$ 28,310**
Summary of IT & WCF Shared Services[1]			
Programmatic IT Shared Services WCF	$ 20,147	$ 23,396	$ 22,698
Commodity IT Shared Services WCF	$ 6,421	$ 5,261	$ 5,612
IT & WCF Shared Services Total	**$ 26,568**	**$ 28,657**	**$ 28,310**

Highway Traffic Safety Grants Account	FY 2019 Enacted	FY 2020 Budget	FY 2021 Request
Programmatic IT Shared Services WCF			
Office of the Chief Information Officer[Organization/Office/Program/PPA]	$ 2,368	$ 2,491	$ 2,762
Cybersecurity	$ 952	$ 1,075	$ 1,806
Mission Critical IT System Applications	$ 1,239	$ 1,239	$ 806
Infrastructure	$ 27	$ 27	$ -
IT Management	$ 150	$ 150	$ 150
Regional Operations and Program Delivery [Office/Program/PPA Subtotal]	$ 2,799	$ 2,799	$ 2,799
Cybersecurity	$ -	$ -	$ -
Mission Critical IT System Applications	$ 2,282	$ 2,282	$ 2,282
Infrastructure	$ 66	$ 66	$ 66
IT Management	$ 450	$ 450	$ 450
Office of Administrative & Management Services [Office/Program/PPA Subtotal]	$ 217	$ 207	$ -
Cybersecurity	$ -	$ -	$ -
Mission Critical IT System Applications	$ 217	$ 207	$ -
Infrastructure	$ -	$ -	$ -
NHTSA Programmatic IT	$ -	$ -	$ -
IT Management	$ -	$ -	$ -
Subtotal: Programmatic IT Shared Services WCF	**$ 9,956**	**$ 5,497**	**$ 5,561**
Commodity IT Shared Services WCF			
Office of the Chief Information Officer[Organization/Office/Program/PPA]	$ 8,660	$ 4,134	$ 4,409
Cybersecurity	$ -	$ -	$ -
Mission Critical IT Support System Applications	$ -	$ -	$ -
Infrastructure	$ 8,660	$ 4,134	$ 4,409
IT Management	$ -	$ -	$ -
Subtotal: Commodity IT Shared Services WCF	**$ 8,660**	**$ 4,134**	**$ 4,409**
Highway Traffic Safety Grants Account Total	**$ 18,616**	**$ 9,631**	**$ 9,970**
Summary of IT & WCF Shared Services[1]			
Programmatic IT Shared Services WCF	$ 9,956	$ 5,497	$ 5,561
Commodity IT Shared Services WCF	$ 8,660	$ 4,134	$ 4,409
IT & WCF Shared Services Total	**$ 18,616**	**$ 9,631**	**$ 9,970**

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INFORMATION TECHNOLOGY
DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
BUDGET AUTHORITY

($000)

Budget Account	FY 2019 Enacted	FY 2020 Budget	FY 2021 Request
Vehicle Safety	**$23,303**	**$29,310**	**$26,237**
Commodity IT SS WCF	*$7,015*	*$9,396*	*$10,021*
NHTSA IT	*$16,228*	*$19,914*	*$16,040*
Highway Safety Research & Development (R&D)	**$26,568**	**$28,657**	**$28,310**
Commodity IT SS WCF	*$6,421*	*$5,261*	*$5,710*
NHTSA IT	*$20,147*	*$23,396*	*$22,600*
Highway Traffic Safety Grants	**$18,616**	**$9,631**	**$9,970**
Commodity IT SS WCF	*$8,660*	*$4,134*	*$4,490*
NHTSA IT	*$9,956*	*$5,497*	*$5,480*
Total	**$68,487**	**$67,600**	**$64,517**

Note: Totals may not add due to rounding.

The National Highway Traffic Safety Administration (NHTSA) is requesting **$64.52 million** in FY 2021 for information technologies that support the full spectrum of highway safety programs as well as the Department's initiative to transform and consolidate the management of certain IT solutions centrally by the Office of the Chief Information Officer (OCIO).

Commodity IT Shared Services (SS) through Working Capital Fund

OCIO will continue to provide NHTSA Commodity IT Shared Services in FY 2021 to achieve economies of scale and increase consistency of cybersecurity protections across the Department. Commodity IT Shared Services include IT functions and activities dedicated to basic support services, including network operations, end-user computing, telecommunications services and server operations.

- NHTSA requests **$10.19 million** from the Vehicle Safety account, **$5.71 million** from the Highway Safety Research & Development account, and **$4.49 million** from the Highway Traffic Safety Grants account for Commodity IT Shared Services. NHTSA's share was based on actual commodity IT consumption in prior years as well as planned future consumption. OCIO, in collaboration with NHTSA, assumed a one-to-one cost estimate to transition all commodity IT to OCIO. NHTSA will only be charged for services rendered.

NHTSA IT through Working Capital Fund

OCIO will continue to transfer NHTSA IT investments in FY 2021.

- NHTSA requests **$16.04 million** from the Vehicle Safety account, **$22.60 million** from the Highway Safety Research & Development account, and **$5.48 million** from the Highway Traffic Safety Grants account. OCIO, in collaboration with NHTSA, identified public-facing Outreach systems that will be transferred to OCIO for IT management. NHTSA will only be charged for services rendered.

Full Time Equivalents

- NHTSA plans to transfer 6 FTE in FY 2020 to OCIO.

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