

# FHWA FY 2020 BUDGET

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# FEDERAL HIGHWAY ADMINISTRATION (FHWA) FISCAL YEAR 2020 BUDGET

## BUDGET SUMMARY OVERVIEW

**FHWA requests \$47.4 billion for fiscal year (FY) 2020.** This request reflects the fifth year of the Fixing America's Surface Transportation (FAST) Act plus additional funding for a competitive highway bridge program. It will advance FHWA's mission to enable and empower the strengthening of a world-class highway system that promotes safety, mobility, and economic growth, while enhancing the quality of life of all Americans. FHWA's request supports the Secretary of Transportation's four key priorities: safety, infrastructure, innovation, and accountability.

**Safety is FHWA's top priority.** In 2017, 37,133 people died in motor vehicle crashes on our Nation's highways. FHWA's Highway Safety Improvement Program will provide \$2.66 billion in FY 2020 for safety projects across the Nation. Through a data-driven and performance-based strategic approach, this request will focus on reducing traffic fatalities and serious injuries on all public roads. A primary component of the HSIP is the requirement that each State utilize a Strategic Highway Safety Plan that provides a comprehensive framework for establishing statewide goals and objectives to reduce fatalities and serious injuries.

In addition, FHWA will continue to conduct rigorous evaluations of new safety technologies and practices, and champion life-saving innovations. For example, FHWA is using innovative approaches to reduce rural roadway departures, which account for one-third of traffic fatalities, by championing the systemic deployment of proven roadway departure countermeasures, which help keep vehicles in their travel lanes, reduce the potential for crashes, and reduce the severity of those crashes that do occur. Examples of these countermeasures include friction treatments on pavements to prevent loss of vehicle control, roadside hardware that can reduce the severity of crashes, and signage and roadway alignment changes that can help drivers navigate. Minnesota developed local road safety plans for every county to implement measures such as these; after two years of widespread deployment of the safety strategies in the plans, the fatality rate on Minnesota's county system went from 1.2 to 0.85 per 100 million vehicle miles traveled.

FHWA will continue to **improve the condition and performance of our national transportation infrastructure** through a variety of programs. The budget requests \$12.14 billion for the Surface Transportation Block Grant Program (STBG), which provides flexible funding to States and localities to improve the condition and performance of their roads and bridges through a wide range of eligible projects. To further enhance the flexibility and effectiveness of the STBG, the request contains the following proposal:

- **Elimination of the off-system bridge set-aside, while maintaining the eligibility and funding under the existing STBG program.** This set-aside limits State and local governments from making funding decisions that best meet their needs. Eliminating this set-aside will provide States with greater flexibility and allow for the more effective use of limited Federal funds.

FHWA seeks to **improve the condition and performance of the National Highway System (NHS) by requesting \$24.24 billion for the National Highway Performance Program (NHPP)**. The NHS, a roughly 220,000-mile network of high-volume roads that further includes the Interstate Highway System (itself around 49,000 miles), carries approximately 55 percent of all highway traffic. A key component of the NHPP is performance management requirements that focus Federal-aid investments to support progress toward the achievement of performance targets for the NHS. These requirements will hold States accountable for achieving performance targets while continuing to give them the flexibility to make transportation investment decisions.

Investments in freight infrastructure have a profoundly positive effect on the national economy, create jobs, and support economic growth and competitiveness. Our FY 2020 budget requests **\$1.49 billion for the National Highway Freight Program and \$1.00 billion for the Nationally Significant Freight and Highway Projects Program to provide funding for States to invest in infrastructure and operational improvements** that reduce congestion, improve safety and productivity, and strengthen the contribution of the National Highway Freight Network to the economic competitiveness of the United States. By 2045, the Nation's population is projected to increase to 389 million people, compared to 321 million in 2015. To support the projected population and economic growth, freight movements across all modes are expected to grow by roughly 42 percent by the year 2040. Investment is needed now to ensure this future demand can be met. Taking steps to address this need, nearly \$2.4 billion has been awarded through the Nationally Significant Freight and Highway Projects Program since its inception in FY 2016. The projects awarded - ranging from interstate improvements and new bridge construction, to the implementation of tolled shoulders - will use innovative approaches to improve safe movement of people and freight.

**FHWA is focused on the transportation needs of rural areas.** Rural America is home to many of the Nation's most critical infrastructure assets, including 444,000 bridges, 3 million miles of roadways, and approximately 29,000 miles of Interstate highways. To this end, several FHWA programs include rural set-asides or other rural components including: \$1.52 billion allocated to areas with population of 5,000 or less; and \$1.15 billion for FHWA's Federal Lands and Tribal programs that fund projects in and around Federal and Tribal lands, many of which are rural in nature. These include roads used by more than 900 million people who visit National parks, forests, and wildlife refuges annually in addition to tribal residents who rely on these roads to access community services, e.g., schools and hospitals, within their respective reservations and tribal communities.

FHWA seeks to **rehabilitate and replace our Nation's dilapidated bridges by requesting \$300 million for the Competitive Highway Bridge Program (CHBP)**. The CHBP is a competitive grant program that provides funding for highway bridge replacement and rehabilitation projects on public roads that demonstrate cost savings by bundling multiple highway bridge projects into a single contract. FHWA is proposing to extend the eligibility of this program to all States with highway bridges that have a rural functional classification in the 2018 National Bridge Inventory. Currently, there remains a significant highway bridge funding gap in rural areas, leaving States unable to meet many bridge replacement and rehabilitation needs. The FY 2020 funding request will continue to help States meet the challenges of maintaining highway bridges in rural areas in a state of good repair, resulting in safer bridges, improved mobility of the public and freight, and supporting local and regional economic vitality.

**A total of \$420 million is requested for the Research, Technology, and Education Program,** which focuses on highway research and development, and technology and innovation deployment. FHWA's contributions to researching and implementing transformative innovations and technologies are changing the way roads, bridges, and other facilities are planned, designed, built, managed, and maintained across the country to be more responsive to current and future needs.

- Notably, FHWA, in partnership with the National Highway Traffic Safety Administration (NHTSA), is at the forefront of automated vehicle research. Through the Intelligent Transportation Systems Program (ITS), FHWA is playing a significant role in addressing key technological and institutional barriers to ensure the safe, efficient, and equitable integration of automation into the transportation system. For example, the Intelligent Transportation Systems Program Joint Program Office has awarded cooperative agreements collectively worth more than \$45 million to three pilot sites in New York City, Wyoming, and Tampa to implement a suite of connected vehicle applications and technologies tailored to meet their region's unique transportation needs. These pilot sites are helping connected vehicles make the final leap into real-world deployment so that they can deliver on their promises to increase safety, improve personal mobility, enhance economic productivity, reduce environmental impacts, and transform public agency operations. Moreover, these sites are laying the groundwork for even more dramatic transformations as other areas follow in their footsteps.
- In addition, FHWA is developing the Cooperative Automation Research for Mobility Applications (CARMA) open source research platform to enable U.S. Department of Transportation (DOT) modes to work together and partner with State DOTs, automakers, and academia to reduce the risk, leverage expertise and resources, and expedite early deployment of cooperative automated vehicles. The CARMA platform has become a powerful tool to assist researchers in advancing cooperative automation strategies for new Transportation Systems Management and Operations (TSMO) use cases. In 2020, FHWA will implement proof of concept testing of TSMO strategies on real roads in partnership with industry stakeholders.
- The Exploratory Advanced Research (EAR) program conducts longer-term, higher-risk research with the potential for dramatic breakthroughs. This program seeks discoveries in basic science and technology and matches them to critical and emerging transportation needs. Recent successes under the EAR program include demonstrating CV technologies in support of systems like General Motors' hands-free driving system. Currently, the EAR program is undergoing research into truck platooning with the goal to significantly increase safety while reducing the cost of every mile traveled by heavy vehicles. The Heavy Truck Cooperative Adaptive Cruise Control (CACC) study will investigate the potential of CACC to lead to new levels of freight efficiency and improved mobility for all highway travelers.
- Through its Every Day Counts initiative, FHWA works with State and local transportation agencies and industry stakeholders to identify a new collection of innovations to champion every two years. Innovations are selected collaboratively by stakeholders, taking into consideration market readiness, impacts, benefits and ease of adoption. For example, unmanned aerial systems, or drones, an FHWA championed

technology, can benefit nearly all aspects of highway transportation, from inspection to construction and operations, by collecting high-quality data automatically or remotely. These relatively low-cost devices allow agencies to expedite the data collection needed for better-informed decisions while reducing the adverse impacts of temporary work zones on work crews and the traveling public.

**To ensure FHWA's resources are directed to projects of highest priority to our State and local partners, this request cancels a total of \$210 million in unobligated balances** from the Appalachian Development Highway System (ADHS), Miscellaneous Appropriations, and Miscellaneous Highway Trust Funds accounts. These unobligated balances are at least a decade old, and some are several decades old. For example, the ADHS account's balances are over 20 years old, and certain balances from the other accounts were appropriated in the 1970s. If States choose to proceed with the projects that these balances were originally intended to support, they are able to finance them using traditional Federal-aid highway funds or non-Federal resources, just like all other highway projects.

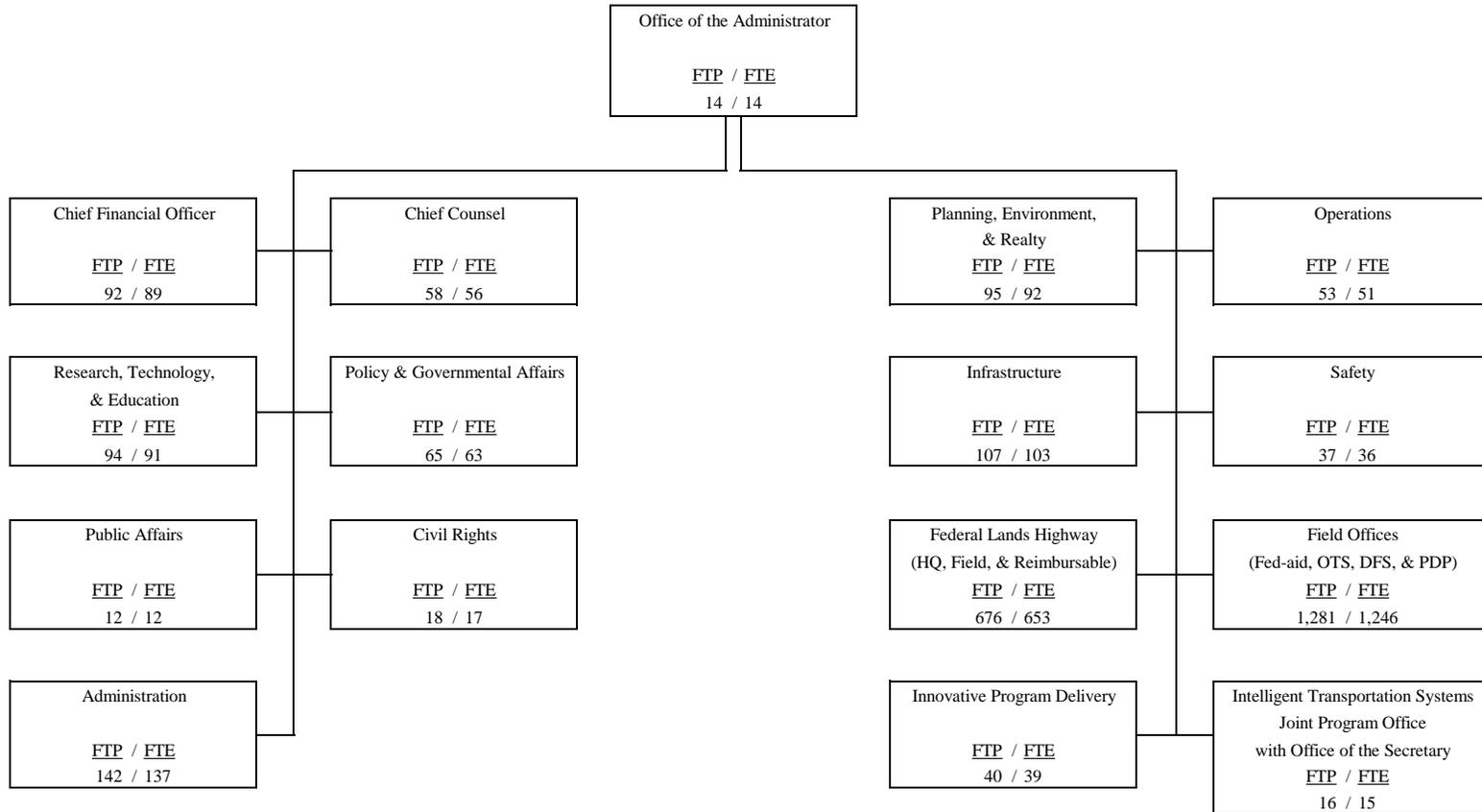
**This request demonstrates FHWA's commitment to accountability.** FHWA continues to examine regulations and policies to identify those that should be modified, streamlined or repealed to reduce costs or eliminate bureaucratic obstacles to efficient project delivery. FHWA, jointly with FTA and FRA, finalized a rule which ensures that FHWA, FTA, and FRA use the same flexible environmental procedures, which will eliminate confusion and increase efficiency. The rulemaking also provides for greater flexibility on projects that take place entirely within the operational right-of-way. In addition, FHWA is working with the Office of the Secretary and modal partners through the Regulatory Reform Task Force to identify high-impact ideas to speed project development and delivery.

In response to Executive Order 13807 on Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure, FHWA developed an agreement with Federal resource and permitting agencies. The agencies agreed to participate in early coordination activities for projects identified as high-priority major infrastructure projects under the Executive Order. In addition, FHWA led the agencies in developing a process chart for major infrastructure projects that synchronizes the environmental review and permitting processes. The process will lead to a single NEPA document that satisfies the requirements of all the agencies.

FHWA will continue to pursue a multi-faceted strategy to accelerate project delivery while also protecting the environment. This includes initiatives, whether legislatively or agency-driven, to encourage interagency collaboration and to significantly shorten project delivery timeframes. Examples include: reducing duplication by linking planning and environmental review; and exploring new categorical exclusions under the National Environmental Policy Act – projects that have no significant environmental impacts and are not required to develop a time-consuming environment impact statement.

**EXHIBIT I-A**

**FEDERAL HIGHWAY ADMINISTRATION ORGANIZATION CHART  
FY 2019 ESTIMATED FTP BY OFFICE AND ESTIMATED FTE BY OFFICE**



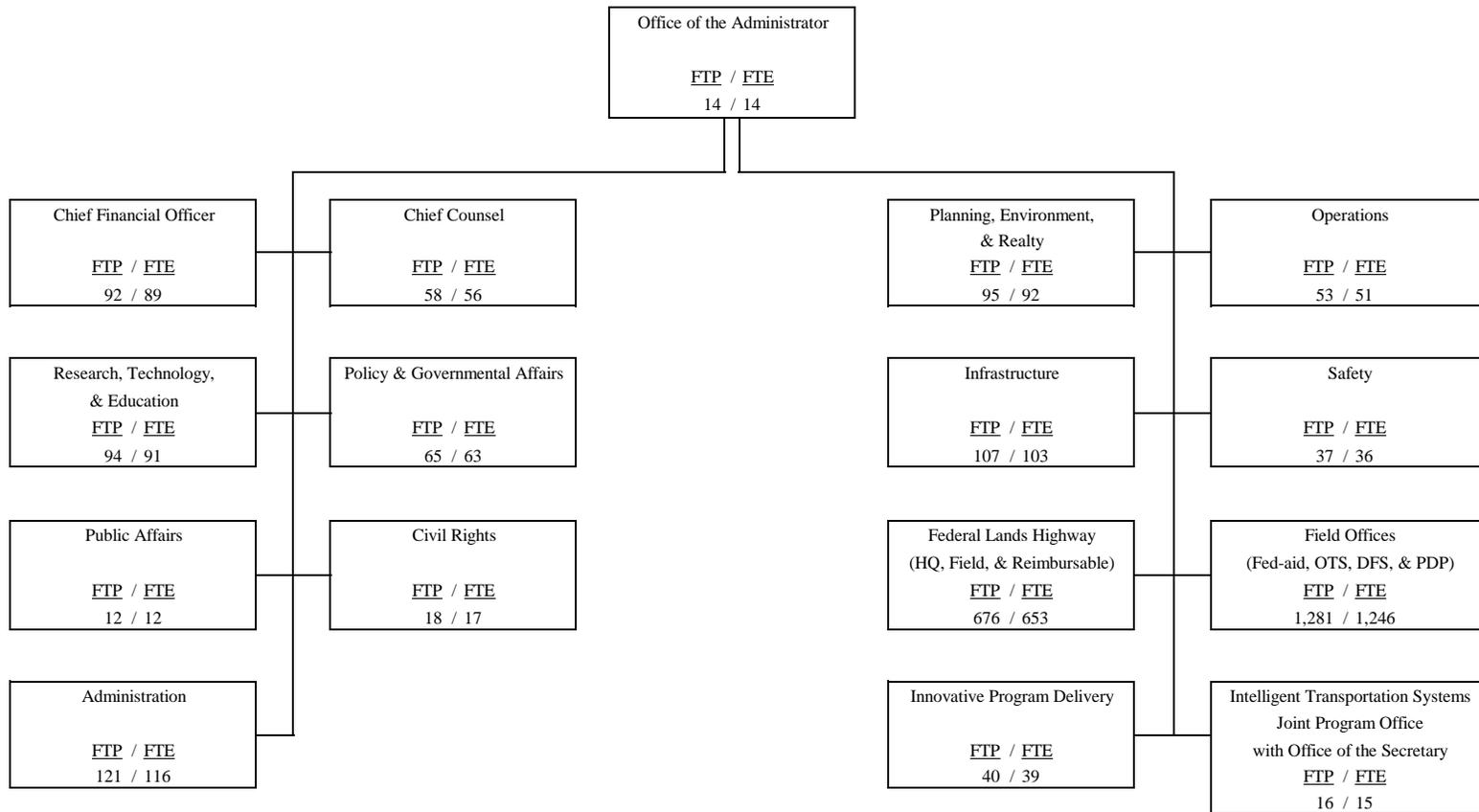
FTP - FULL-TIME PERMANENT POSITIONS	
Direct funded	2,558
Indirect funded	<u>242</u>
<b>Total</b>	<b>2,800</b>

FTE - FULL-TIME EQUIVALENTS	
Direct funded	2,472
Indirect funded	<u>242</u>
<b>Total</b>	<b>2,714</b>

Direct funded FTP presented by office reflects an estimated on-board level at fiscal year end, not total positions including vacancies. This is consistent with Exhibit II-9. Direct funded FTE presented by office reflects an illustrative pro-ration of total FTE. Indirect funded FTP & FTE include Federal Lands Highway reimbursable FTE and allocation FTE from OST.

**EXHIBIT I-B**

**FEDERAL HIGHWAY ADMINISTRATION ORGANIZATION CHART  
FY 2020 ESTIMATED FTP BY OFFICE AND ESTIMATED FTE BY OFFICE**



FTP - FULL-TIME PERMANENT POSITIONS	
Direct funded	2,537
Indirect funded	<u>242</u>
<b>Total</b>	<b>2,779</b>

FTE - FULL-TIME EQUIVALENTS	
Direct funded	2,451
Indirect funded	<u>242</u>
<b>Total</b>	<b>2,693</b>

Direct funded FTP presented by office reflects an estimated on-board level at fiscal year end, not total positions including vacancies. This is consistent with Exhibit II-9. Direct funded FTE presented by office reflects an illustrative pro-ration of total FTE. Indirect funded FTP & FTE include Federal Lands Highway reimbursable FTE and allocation FTE from OST.

**EXHIBIT II-1**  
**FY 2020 COMPARATIVE STATEMENT OF NEW BUDGET AUTHORITY**  
**FEDERAL HIGHWAY ADMINISTRATION**  
**(\$000)**

ACCOUNT NAME	FY 2018 ACTUAL	FY 2019 ANNUALIZED CR	FY 2019 ENACTED	FY 2020 REQUEST
[Administrative Expenses (Contract Authority, subject to limitation)] <sup>1/</sup>	[442,692]	[449,692]	[449,692]	[456,798]
Federal-aid Highways				
Contract Authority (subject to limitation)	44,234,212	45,268,596	45,268,596	46,365,092
Exempt Contract Authority	739,000	739,000	739,000	739,000
Subtotal, Federal-aid Highways	44,973,212	46,007,596	46,007,596	47,104,092
Flex Transfers to/from FTA	- 1,290,869	- 1,300,000	- 1,300,000	- 1,300,000
Transfer to NHTSA <sup>2/</sup>	- 104,266	- 102,349	- 105,024	-----
Sequestered Exempt Contract Authority	- 48,774 <sup>3/</sup>	- 45,818 <sup>4/</sup>	- 45,818 <sup>4/</sup>	-----
Rescission of Unobligated Balances of Apportioned Contract Authority	-----	-----	-----	- 7,569,000 <sup>5/</sup>
Total, Federal-aid Highways	43,529,303	44,559,429	44,556,754	38,235,092
Highway Infrastructure Programs (GF)	2,525,000 <sup>6/</sup>	2,525,000 <sup>6/</sup>	3,250,000 <sup>7/</sup>	300,000 <sup>8/</sup>
Emergency Relief (GF)	1,374,000 <sup>9/</sup>	-----	-----	-----
Miscellaneous Trust Funds (TF)	20,909	20,909	20,909	20,909
Miscellaneous Appropriations (TIFIA Upward Reestimate GF)	250,737	135,141	135,141	-----
TIFIA General Fund Program Account Upward Reestimate (GF)	2,836	-----	-----	-----
Highway Infrastructure Investment, Recovery Act (TIFIA upward reestimate GF)	110,626	-----	-----	-----
Cash Management Improvement Act (CMIA) Interest Payments	383	-----	-----	-----
Cancellation - Appalachian Development Highway System	-----	-----	-----	- 40,317
Cancellation - Miscellaneous Appropriations	-----	-----	-----	- 117,340
Cancellation - Miscellaneous Highway Trust Fund	-----	-----	-----	- 52,065
<b>TOTALS</b>	<b>47,813,794</b>	<b>47,240,479</b>	<b>47,962,804</b>	<b>38,346,279</b>
[ ] Non-add				

1/ All fiscal years include FHWA General Operating Expenses (GOE) and transfers to the Appalachian Regional Commission (ARC) for administrative activities associated with the Appalachian development highway system. All fiscal years do not include amounts for other non-administrative programs authorized under Administrative Expenses.

2/ FHWA anticipates transfers to NHTSA in FY 2020 in an amount to be determined based on State penalty information.

3/ Reflects sequestration of 6.6 percent of contract authority exempt from obligation limitation per Sequestration Order dated May 23, 2017.

4/ Reflects sequestration of 6.2 percent of contract authority exempt from obligation limitation per Sequestration Order dated February 12, 2018.

5/ Reflects the rescission in FY 2020 of \$7.6 billion from unobligated balances of apportioned contract authority as required under the Fixing America's Surface Transportation Act (Public Law 114-94).

6/ The Department of Transportation Appropriations Act, 2018 (Public Law 115-141) provided \$2.525 billion in additional highway funding from the General Fund.

7/ The Department of Transportation Appropriations Act, 2019 (Public Law 116-6) provided \$3.250 billion in additional highway funding from the General Fund.

8/ The budget requests \$300 million in FY 2020 for the Competitive Highway Bridge Program.

**EXHIBIT II-2**  
**FY 2020 TOTAL BUDGETARY RESOURCES BY APPROPRIATION ACCOUNT**  
**FEDERAL HIGHWAY ADMINISTRATION**  
**Appropriations, Obligation Limitations, and Exempt Obligations**  
**(\$000)**

ACCOUNT NAME	FY 2018 ACTUAL	FY 2019 ANNUALIZED CR	FY 2019 ENACTED	FY 2020 REQUEST
[Limitation on Administrative Expenses] <sup>1/</sup>	[442,692]	[442,692]	[449,692]	[456,798]
Federal-aid Highways				
(Liquidation of contract authorization)	(44,973,212)	(44,973,212)	(46,007,596)	(47,104,092)
(Limitation on obligations)	(44,234,212)	(44,234,212)	(45,268,596)	(46,365,092)
Exempt Contract Authority <sup>2/</sup>	739,000	739,000	739,000	739,000
Subtotal, Federal-aid Obligation Limitation & Exempt CA	44,973,212	44,973,212	46,007,596	47,104,092
Flex Transfers to/from FTA	-1,290,869	-1,300,000	-1,300,000	-1,300,000
Transfer to NHTSA <sup>3/</sup>	-104,266	-102,349	-105,024	-----
Total, Federal-aid Obligation Limitation & Exempt CA	43,578,077	43,570,863	44,602,572	45,804,092
Highway Infrastructure Programs (GF)	2,525,000 <sup>4/</sup>	2,525,000 <sup>4/</sup>	3,250,000 <sup>5/</sup>	300,000 <sup>6/</sup>
Emergency Relief (GF)	1,374,000 <sup>6/</sup>	-----	-----	-----
<b>Total, Federal Highway Administration</b>				
(Limitation on obligations)	(42,839,077)	(42,831,863)	(43,863,572)	(45,065,092)
Exempt Contract Authority	739,000	739,000	739,000	739,000
Appropriated Budget Authority (GF)	2,525,000 <sup>4/</sup>	2,525,000 <sup>4/</sup>	3,250,000 <sup>5/</sup>	300,000 <sup>6/</sup>
Disaster Relief Funds (GF)	1,374,000 <sup>7/</sup>	-----	-----	-----
<b>Total Budgetary Resources, FHWA</b>	<b>47,477,077</b>	<b>46,095,863</b>	<b>47,852,572</b>	<b>46,104,092</b>

[ ] Non-add

1/ All fiscal years include FHWA General Operating Expenses (GOE) and transfers to the Appalachian Regional Commission (ARC) for administrative activities associated with the Appalachian development highway system. All fiscal years do not include amounts for other non-administrative programs authorized under Administrative Expenses.

2/ FY 2018 does not reflect sequestration of 6.6 percent of contract authority exempt from obligation limitation per Sequestration Order dated May 23, 2017. FY 2019 does not reflect sequestration of 6.2 percent of contract authority exempt from obligation limitation per Sequestration Order dated February 12, 2018.

3/ FHWA anticipates transfers to NHTSA in FY 2020 in an amount to be determined based on State penalty information.

4/ The Department of Transportation Appropriations Act, 2018 (Public Law 115-141) provided \$2.525 billion in additional highway funding from the General Fund.

5/ The Department of Transportation Appropriations Act, 2019 (Public Law 116-6) provided \$3.250 billion in additional highway funding from the General Fund.

6/ The budget requests \$300 million in FY 2020 for the Competitive Highway Bridge Program.

7/ The Further Additional Supplemental Appropriations for Disaster Relief Requirements Act, 2018, (Public Law 115-123) provided \$1.374 billion from the General Fund for the Emergency Relief Program under section 125 of title 23, United States Code.

**EXHIBIT II-3**  
**FY 2020 BUDGET REQUEST BY STRATEGIC GOAL AND OBJECTIVE**  
**FEDERAL HIGHWAYS ADMINISTRATION**  
**Appropriations, Obligation Limitations, & Exempt Obligations**  
**(\$000)**

	Safety	Infrastructure	Innovation	Accountability	Total
<b>FEDERAL-AID HIGHWAYS</b>					
Highway Safety Improvement Program	2,655,923	-	-	-	2,655,923
National Highway Performance Program	3,635,343	18,176,716	2,423,562	-	24,235,621
Surface Transportation Block Grant Program	1,820,549	9,102,743	1,213,699	-	12,136,990
Congestion Mitigation & Air Quality Improvement Program	499,792	749,688	749,688	499,792	2,498,961
National Highway Freight Program	74,364	966,734	446,185	-	1,487,283
Metropolitan Transportation Planning	89,629	197,184	71,703	-	358,516
Nationally Significant Freight and Highway Projects Program (INFRA)	50,000	650,000	300,000	-	1,000,000
Federal Lands and Tribal Transportation Programs	57,500	977,500	57,500	57,500	1,150,000
Research, Technology, and Education Program	67,200	134,400	184,800	33,600	420,000
Construction of Ferry Boats and Ferry Terminal Facilities	4,000	72,000	4,000	-	80,000
Disadvantaged Business Enterprise	-	10,000	-	-	10,000
Emergency Relief	5,000	90,000	5,000	-	100,000
Highway Use Tax Evasion Projects	400	400	800	2,400	4,000
On-the-Job Training	-	-	10,000	-	10,000
Territorial and Puerto Rico Highway Program	50,000	130,000	20,000	-	200,000
Transportation Infrastructure Finance and Innovation Act (TIFIA) Program	-	300,000	-	-	300,000
Administrative Expenses	88,228	309,028	53,731	5,810	456,798
<b>Federal-aid Highways Total</b>	<b>9,097,928</b>	<b>31,866,393</b>	<b>5,540,669</b>	<b>599,102</b>	<b>47,104,092</b>
<b>Competitive Highway Bridge Program</b>	<b>135,000</b>	<b>135,000</b>	<b>30,000</b>	<b>-</b>	<b>300,000</b>
<b>TOTAL</b>	<b>9,232,928</b>	<b>32,001,393</b>	<b>5,570,669</b>	<b>599,102</b>	<b>47,404,092</b>

**EXHIBIT II-4**  
**FY 2020 BUDGET AUTHORITY**  
**FEDERAL HIGHWAY ADMINISTRATION**  
**(\$000)**

ACCOUNT NAME	M / D	FY 2018 ACTUAL	FY 2019 ANNUALIZED CR	FY 2019 ENACTED	FY 2020 REQUEST
Federal-aid Highways					
Contract Authority (subject to limitation)	Mand.	44,234,212	45,268,596	45,268,596	46,365,092
Exempt Contract Authority	Mand.	739,000	739,000	739,000	739,000
Subtotal for Federal-aid Highways (TF)		44,973,212	46,007,596	46,007,596	47,104,092
Flex Transfers to/from FTA	Mand.	- 1,290,869	- 1,300,000	- 1,300,000	- 1,300,000
Transfer to NHTSA <sup>1/</sup>	Mand.	- 104,266	- 102,349	- 105,024	----
Sequestered Exempt Contract Authority	Mand.	- 48,774 <sup>2/</sup>	- 45,818 <sup>2/</sup>	- 45,818 <sup>2/</sup>	----
Rescission of Unobligated Balances of Apportioned Contract Authority		----	----	----	- 7,569,000 <sup>3/</sup>
Total, Federal-aid Highways		43,529,303	44,559,429	44,556,754	38,235,092
Highway Infrastructure Programs (GF)	Discr.	2,525,000 <sup>4/</sup>	2,525,000 <sup>4/</sup>	3,250,000 <sup>5/</sup>	300,000 <sup>6/</sup>
Emergency Relief (GF)	Discr.	1,374,000 <sup>7/</sup>	----	----	----
Miscellaneous Trust Funds (TF)	Mand.	20,909	20,909	20,909	20,909
Miscellaneous Appropriations (TIFIA Upward Reestimate GF)	Mand.	250,737	135,141	135,141	----
TIFIA General Fund Program Account Upward Reestimate (GF)	Mand.	2,836	----	----	----
Highway Infrastructure Investment, Recovery Act (TIFIA upward reestimate GF)	Mand.	110,626	----	----	----
Cash Management Improvement Act (CMIA) Interest Payments	Mand.	383	----	----	----
Cancellation - Appalachian Development Highway System	Discr.	----	----	----	- 40,317
Cancellation - Miscellaneous Appropriations	Discr.	----	----	----	- 117,340
Cancellation - Miscellaneous Highway Trust Fund	Discr.	----	----	----	- 52,065
<b>TOTALS</b>		<b>47,813,794</b>	<b>47,240,479</b>	<b>47,962,804</b>	<b>38,346,279</b>
[Discretionary]		3,899,000	2,525,000	3,250,000	90,278
[Mandatory]		43,914,794	44,715,479	44,712,804	38,256,001
<b>PROPRIETARY AND OTHER GOVERNMENTAL RECEIPTS</b>					
Adv from State Coop Agencies, Other Fed Agencies, and Foreign Gov	Mand.	20,706	20,706	20,706	20,706
Adv for Hwy Research Prog, Misc Trust	Mand.	203	203	203	203
Earnings on Investments, Highway Trust Fund	Mand.	745,609	862,000	862,000	559,000
TIFIA Downward Reestimates	Mand.	726,028	- 457,430	- 457,430	----
Transfer from the Leaking Underground Storage Tank Trust Fund	Mand.	93,400 <sup>8/</sup>	----	----	----
<b>TOTAL</b>		<b>1,585,946</b>	<b>425,479</b>	<b>425,479</b>	<b>579,909</b>

1/ FHWA anticipates transfers to NHTSA in FY 2020 in amounts to be determined based on State penalty information.

2/ FY 2018 reflects sequestration of 6.6 percent of contract authority exempt from obligation limitation per Sequestration Order dated May 23, 2017. FY 2019 reflects sequestration of 6.2 percent of contract authority exempt from obligation limitation per Sequestration Order dated February 12, 2018.

3/ FY 2020 reflects the Fixing America's Surface Transportation Act (Public Law 114-94) rescission of \$7.6 billion from unobligated balances of apportioned contract authority.

4/ The Department of Transportation Appropriations Act, 2018, (Public Law 115-141) provided \$2.525 billion in discretionary highway funding from the General Fund.

5/ The Department of Transportation Appropriations Act, 2019, (Public Law 116-6) provided \$3.250 billion in discretionary highway funding from the General Fund.

6/ The budget requests \$300 million in FY 2020 for the Competitive Highway Bridge Program.

7/ The Further Additional Supplemental Appropriations for Disaster Relief Requirements Act, 2018, (Public Law 115-123) provided \$1.374 billion from the General Fund for the Emergency Relief Program under section 125 of title 23, United States Code.

8/ Reflects sequestration of 6.6 percent per Sequestration Order dated May 23, 2017.

**EXHIBIT II-5**  
**FY 2020 OUTLAYS**  
**FEDERAL HIGHWAY ADMINISTRATION**  
**(\$000)**

ACCOUNT NAME	FY 2018 ACTUAL	FY 2019 ANNUALIZED CR	FY 2019 ENACTED	FY 2020 REQUEST
Federal-aid Highways (TF)	43,704,512	44,339,295	44,617,857	45,112,459
Subject to Obligation Limitation	42,918,651	43,563,743	43,842,305	44,316,351
Exempt Contract Authority	775,045	760,090	760,090	771,204
Emergency Relief Supplementals	10,816	15,462	15,462	24,904
Miscellaneous Highway Trust Funds (TF)	8,511	10,395	10,395	5,998
Miscellaneous Trust Funds (TF)	31,790	32,563	32,563	32,861
Right of Way Revolving Fund (TF)	----	4,279	4,279	----
Emergency Relief Program (GF)	765,301	636,419	636,419	631,947
Appalachian Development Highway System (GF)	4,087	5,496	5,496	3,546
Miscellaneous Appropriations (GF)	25,019	18,064	18,064	8,129
Miscellaneous Appropriations (TIFIA upward reestimate GF)	250,737	135,141	135,141	----
Highway Infrastructure Investment, Recovery Act (TIFIA upward reestimate GF)	110,626	----	----	----
Highway Infrastructure Program (GF)	158,315	300,148	315,898	1,097,686
TIFIA General Fund Program Account Upward Reestimate (GF)	4,351	----	----	----
Cash Management Improvement Act (CMIA) Interest Payments	382	----	----	----
<b>TOTALS</b>	<b><u>45,063,630</u></b>	<b><u>45,481,800</u></b>	<b><u>45,776,112</u></b>	<b><u>46,892,626</u></b>
[Mandatory]	1,172,931	932,072	932,073	804,065
[Discretionary]	43,890,699	44,549,728	44,844,039	46,088,561

**EXHIBIT II-6**  
**SUMMARY OF REQUESTED FUNDING CHANGES FROM BASE**  
**FEDERAL HIGHWAY ADMINISTRATION**  
**Appropriations, Obligation Limitations, and Exempt Obligations**

**ADMINISTRATIVE EXPENSES**  
**(\$000)**

	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	Baseline Changes								FY 2020 Baseline Estimate	Program Increases/ Decreases	FY 2020 Request
				Realignments	Annualization of FY 2019 Pay Raises	Annualization of FY 2019 FTE	FY 2020 Pay Raises	One more Compensable Day (262 days)	GSA Rent	WCF Increase/ Decrease	Inflation/ Deflation			
<b>PERSONNEL RESOURCES (FTE)</b>														
Direct FTE	2,019	2,030	2,070									2,070	(21) <sup>1/</sup>	2,049
<b>FINANCIAL RESOURCES</b>														
<b>ADMINISTRATIVE EXPENSES</b>														
Salaries and Benefits	\$312,439	\$313,775	\$323,685		\$1,538			\$1,246				\$326,469	(\$3,612) <sup>2/</sup>	\$322,857
Travel	\$9,410	\$9,410	\$9,410									\$9,410		\$9,410
Transportation	\$1,144	\$1,144	\$1,144									\$1,144		\$1,144
GSA Rent	\$31,166	\$27,390	\$27,390					\$260				\$27,650		\$27,650
Communications & Utilities	\$1,222	\$1,222	\$1,222									\$1,222		\$1,222
Printing	\$430	\$430	\$430									\$430		\$430
Other Services:														
-WCF	\$10,832	\$11,739	\$11,739									\$10,832		\$10,832
-WCF (IT)	\$19,029	\$19,358	\$19,358									\$19,912	\$47,188 <sup>3/</sup>	\$67,100
-Other	\$44,521	\$47,074	\$44,164									\$44,164	(\$33,457) <sup>4/</sup>	\$10,707
Supplies	\$1,158	\$1,158	\$1,158									\$1,158		\$1,158
Equipment	\$6,744	\$6,744	\$6,744									\$6,744	(\$5,704) <sup>5/</sup>	\$1,040
Appalachian Regional Commission (ARC)	\$2,152	\$3,248	\$3,248									\$3,248		\$3,248
<b>Subtotal, Limitation on Administrative Expenses (LAE)</b>	<b>\$440,247</b>	<b>\$442,692</b>	<b>\$449,692</b>	<b>\$0</b>	<b>\$1,538</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,246</b>	<b>\$260</b>	<b>-\$353</b>	<b>\$0</b>	<b>\$452,383</b>	<b>\$4,415</b>	<b>\$456,798</b>
OJT Support Services	\$10,000	\$10,000	\$10,000									\$10,000		\$10,000
Disadvantaged Business Enterprise	\$10,000	\$10,000	\$10,000									\$10,000		\$10,000
Highway Use Tax Evasion	\$4,000	\$4,000	\$4,000									\$4,000		\$4,000
<b>GRAND TOTAL, Obligation Limitation</b>	<b>\$464,247</b>	<b>\$466,692</b>	<b>\$473,692</b>	<b>\$0</b>	<b>\$1,538</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,246</b>	<b>\$260</b>	<b>-\$353</b>	<b>\$0</b>	<b>\$476,383</b>	<b>\$4,415</b>	<b>\$480,798</b>

1/ Estimate of offset (decrease) in FTE due to the transition to a shared services model administered by the Department.

2/ Estimate of offset (decrease) in Salaries and Benefits due to the transition to a shared services model administered by the Department.

3/ Estimate of increase in WCF contribution due to the transition of IT commodity and programmatic functions to a shared services model administered by the Department.

4/ Estimate of offset (decrease of \$37.9 million) in FHWA IT services due to transition to a shared services model administered by the Department. Also includes an increase of \$2.4 million for required additional Enterprise Service Center (ESC) costs and an increase of \$2.0 million for consolidation of FHWA offices in Atlanta.

5/ Estimate of offset (decrease) in equipment due to the transition to a shared services model administered by the Department.

**EXHIBIT II-7  
WORKING CAPITAL FUND  
FEDERAL HIGHWAY ADMINISTRATION  
(\$000)**

	<u>FY 2018 ENACTED</u>	<u>FY 2019 ANNUALIZED CR</u>	<u>FY 2019 ENACTED</u>	<u>FY 2020 REQUEST</u>
<b>DIRECT:</b>				
Federal-aid Highways				
Limitation on Administrative Expenses (LAE)	29,861	31,097	31,097	77,932 <sup>1/</sup>
Working Capital Fund - IT [Non-add]	[19,029]	[19,358]	[19,358]	[67,100]
Federal Lands Highways (Direct Construction)	1,583	1,400	1,400	1,400
<b>TOTAL</b>	<b>31,444</b>	<b>32,497</b>	<b>32,497</b>	<b>79,332</b>

1/ FY 2020 Request includes estimated increases in WCF contributions due to the transition to a shared services model administered by the Department. These amounts are fully offset elsewhere in the Budget (see Administrative Expenses justification).

**EXHIBIT II-8  
FEDERAL HIGHWAY ADMINISTRATION  
RESOURCE SUMMARY -- PERSONNEL  
TOTAL FULL-TIME EQUIVALENTS**

	<u>FY 2018 ACTUAL</u>	<u>FY 2019 ANNUALIZED CR</u>	<u>FY 2019 ENACTED</u>	<u>FY 2020 REQUEST</u>
<b><u>DIRECT FUND, BY APPROPRIATION</u></b>				
Federal-aid Highways -- General Operating Expenses (GOE) and Direct Program Funded <sup>1/</sup>	2,389	2,423	2,463	2,442
Miscellaneous Trust Funds	9	9	9	9
<b>SUBTOTAL, DIRECT FUNDED</b>	<u>2,398</u>	<u>2,432</u>	<u>2,472</u>	<u>2,451</u>
<b><u>REIMBURSEMENT/ ALLOCATIONS/OTHERS</u></b>				
Reimbursable Authority -- Federal-aid Highways	240	240	240	240
Allocation From OST, TIGER grants	2	2	2	2
<b>SUBTOTAL, REIMBURSEMENTS/ALLOCATIONS/OTHER</b>	<u>242</u>	<u>242</u>	<u>242</u>	<u>242</u>
<b>TOTAL FTE</b>	<u><u>2,640</u></u>	<u><u>2,674</u></u>	<u><u>2,714</u></u>	<u><u>2,693</u></u>

1/ FY 2018 includes 18 full-time equivalents (FTE), FY 2019, and FY 2020 include 20 FTE for the TIFIA Program. FY 2018 includes 2 FTE for the SHRP2 Program. This level is reduced to zero in FY 2019 and FY 2020 with the FTE absorbed into existing GOE levels. FY 2018, FY 2019, and FY 2020 include 6 FTE for the Appalachia Regional Commission. FY 2020 includes a reduction of 21 FTE to account for the transition of Information Technology services to a shared services platform administered by the Department.

**EXHIBIT II-9  
FEDERAL HIGHWAY ADMINISTRATION  
RESOURCE SUMMARY - STAFFING  
FULL-TIME PERMANENT POSITIONS**

<b><u>DIRECT FUND, BY APPROPRIATION</u></b>	<b><u>FY 2018 ACTUAL</u></b>	<b><u>FY 2019 ANNUALIZED CR</u></b>	<b><u>FY 2019 ENACTED</u></b>	<b><u>FY 2020 REQUEST</u></b>
Federal-aid Highways -- General Operating Expenses and Direct Program Funded <sup>1/</sup>	2,430	2,469	2,549	2,528
Miscellaneous Trust Funds	9	9	9	9
<b>SUBTOTAL, DIRECT FUNDED</b>	<b>2,439</b>	<b>2,478</b>	<b>2,558</b>	<b>2,537</b>
<b><u>REIMBURSEMENT/ ALLOCATIONS/OTHERS</u></b>				
Reimbursable Authority -- Federal-aid Highways	240	240	240	240
Allocation From OST, TIGER grants	2	2	2	2
<b>SUBTOTAL, REIMBURSEMENT/ALLOCATION/OTHERS</b>	<b>242</b>	<b>242</b>	<b>242</b>	<b>242</b>
<b>TOTAL POSITIONS</b>	<b>2,681</b>	<b>2,720</b>	<b>2,800</b>	<b>2,779</b>

1/ FY 2018 includes 18 full-time positions (FTP), FY 2019, and FY 2020 include 21 FTP for the TIFIA Program. FY 2018 includes 2 FTP for the SHRP2 Program. This level is reduced to zero in FY 2019 and FY 2020 with the FTP absorbed into existing GOE levels. FY 2018, FY 2019, and FY 2020 include 6 FTP for the Appalachian Regional Commission. FY 2020 includes a reduction of 21 FTP to account for the transision of Information Technology services to a shared services platform administered by the Department.

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**FEDERAL HIGHWAY ADMINISTRATION  
HISTORICAL FUNDING LEVELS (2010-2019)  
(S000)**

	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>
<b>Federal-Aid Highways</b>										
<b>Obligation Limitation</b>	\$41,107,000	\$41,107,000	\$39,143,583	\$39,699,000 <sup>1/</sup>	\$40,256,000	\$40,256,000	\$42,361,000	\$43,266,100	\$44,234,212	\$45,268,596
<b>Contract Authority Exempt from Obligation Limitation</b>	\$739,000	\$739,000	\$739,000	\$739,000 <sup>2/</sup>	\$739,000 <sup>3/</sup>	\$739,000 <sup>4/</sup>	\$739,000 <sup>5/</sup>	\$739,000 <sup>6/</sup>	\$739,000 <sup>7/</sup>	\$739,000 <sup>8/</sup>
<b>Liquidation of Contract Authority</b>	\$41,846,000	\$41,846,000	\$39,882,583	\$39,699,000	\$40,995,000	\$40,995,000	\$43,100,000	\$44,005,100	\$44,973,212	\$46,007,596
Limitation on Admin Expenses - FHWA GOE [non-add]	413,533	413,533	412,000	416,126	416,100	415,000 <sup>9/</sup>	429,000	435,795	442,692	449,692
<b>Payment to the Highway Account of the Highway Trust Fund</b>	\$14,700,000			\$6,200,000 <sup>2/</sup>	\$22,365,000 <sup>3/</sup>	\$6,068,000	\$51,900,000			
<b>Transfer from the Leaking Underground Storage Tank Trust Fund to the Highway Account of the Highway Trust Fund</b>			\$2,400,000		\$1,000,000		\$100,000	\$100,000 <sup>6/</sup>	\$100,000 <sup>7/</sup>	
<b>Supplemental Emergency Relief Funds (GF)</b>			\$1,662,000	\$2,022,000 <sup>2/</sup>				\$1,532,017	\$1,374,000	
<b>Appalachian Development Highway System (GF)</b>										
<b>Miscellaneous Appropriations</b>	\$291,429									
<b>Highway Infrastructure Programs (GF)</b>	\$650,000								\$2,525,000	\$3,250,000
<b>Highway Infrastructure Investment, Recovery Act (GF)</b>										

1/ Does not reflect P.L. 113-6 rescission of 0.2 percent of contract authority subject to limitation and obligation limitation.

2/ Does not reflect sequestration of 5.1 percent of contract authority exempt from obligation limitation and payment to the Highway Trust Fund, and 5.0 percent of supplemental emergency relief funds per Sequestration Order dated March 1, 2013.

3/ Does not reflect sequestration of 7.2 percent of contract authority exempt from obligation limitation and \$10.4 billion portion of the payment to the Highway Trust Fund per Sequestration Order dated April 10, 2013.

4/ Does not reflect sequestration of 7.3 percent of contract authority exempt from obligation limitation per Sequestration Order dated March 10, 2014.

5/ Does not reflect sequestration of 6.8 percent of contract authority exempt from obligation limitation per Sequestration Order dated February 2, 2015.

6/ Does not reflect sequestration of 6.9 percent of contract authority exempt from obligation limitation per Sequestration Order dated February 9, 2016.

7/ Does not reflect sequestration of 6.6 percent of contract authority exempt from obligation limitation per Sequestration Order dated May 23, 2017.

8/ Does not reflect sequestration of 6.2 percent of contract authority exempt from obligation limitation per Sequestration Order dated February 12, 2018.

9/ FY 2015 annual appropriations (PL 113-235) provided an obligation limitation of \$429.3 million for GOE and ARC. The Surface Transportation and Veterans Health Care Choice Improvement Act of 2015 (PL 114-41) provided contract authority of only \$415 million.

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FEDERAL-AID HIGHWAY ADMINISTRATION

LIMITATION ON ADMINISTRATIVE EXPENSES

(HIGHWAY TRUST FUND)

Not to exceed \$453,549,689, together with advances and reimbursements received by the Federal Highway Administration, shall be obligated for necessary expenses for administration and operation of the Federal Highway Administration. In addition, \$3,248,000 shall be transferred to the Appalachian Regional Commission in accordance with section 104(a) of title 23, United States Code.

FEDERAL-AID HIGHWAYS

(LIMITATION ON OBLIGATIONS)

(HIGHWAY TRUST FUND)

Funds available for the implementation or execution of Federal aid highway and highway safety construction programs authorized under titles 23 and 49, United States Code, and the provisions of the Fixing America's Surface Transportation Act shall not exceed total obligations of \$46,365,092,000 for fiscal year 2020: *Provided*, That the Secretary may collect and spend fees, as authorized by title 23, United States Code, to cover the costs of services of expert firms, including counsel, in the field of municipal and project finance to assist in the underwriting and servicing of Federal credit instruments and all or a portion of the costs to the Federal Government of servicing such credit instruments: *Provided further*, That such fees are available until expended to pay for such costs: *Provided further*, That such amounts are in addition to administrative expenses that are also available for such purpose, and are not subject to any obligation limitation or the limitation on administrative expenses under section 608 of title 23, United States Code.

(LIQUIDATION OF CONTRACT AUTHORIZATION)

(HIGHWAY TRUST FUND)

For the payment of obligations incurred in carrying out Federal aid highway and highway safety construction programs authorized under title 23, United States Code, \$47,104,092,000 derived from the Highway Trust Fund (other than the Mass Transit Account), to remain available until expended.

## HIGHWAY INFRASTRUCTURE PROGRAMS

For a competitive highway bridge program, \$300,000,000, to remain available through September 30, 2023: *Provided*, That the amounts made available under this heading shall be derived from the general fund, shall be in addition to any funds provided for fiscal year 2020 in this or any other Act for “Federal-aid Highways” under chapter 1 of title 23, United States Code, and shall not affect the distribution or amount of funds provided in any other Act: *Provided further*, That section 1101(b) of Public Law 114–94 shall apply to funds made available under this heading: *Provided further*, That the funds made available under this heading shall be (1) used for discretionary grants to States (as defined in section 101(a)(26) of title 23, United States Code), for replacement or rehabilitation projects on highway bridges on public roads classified as rural in the 2018 National Bridge Inventory that demonstrate cost savings by bundling multiple highway bridge projects and (2) administered as if apportioned under chapter 1 of title 23, United States Code: *Provided further*, That the funds made available under this heading shall not be subject to the requirements of section 144(j)(5) of such title.

**\*\*Reason for revising Highway Infrastructure Programs section: Only the Competitive Highway Bridge Program is proposed for FY 2020.\*\***

### ADMINISTRATIVE PROVISIONS—FEDERAL HIGHWAY ADMINISTRATION

#### SEC. 120.

- (a) For fiscal year 2020, the Secretary of Transportation shall—
- (1) not distribute from the obligation limitation for Federal-aid highways—
    - (A) amounts authorized for administrative expenses and programs by section 104(a) of title 23, United States Code; and
    - (B) amounts authorized for the Bureau of Transportation Statistics;
  - (2) not distribute an amount from the obligation limitation for Federal-aid highways that is equal to the unobligated balance of amounts—
    - (A) made available from the Highway Trust Fund (other than the Mass Transit Account) for Federal-aid highway and highway safety construction programs for previous fiscal years the funds for which are allocated by the Secretary (or apportioned by the Secretary under sections 202 or 204 of title 23, United States Code); and
    - (B) for which obligation limitation was provided in a previous fiscal year;
  - (3) determine the proportion that—
    - (A) the obligation limitation for Federal-aid highways, less the aggregate of amounts not distributed under paragraphs (1) and (2) of this subsection; bears to
    - (B) the total of the sums authorized to be appropriated for the Federal-aid highway and highway safety construction programs (other than sums authorized to be appropriated for provisions of law described in paragraphs (1) through (11) of subsection (b) and sums authorized to be appropriated for section 119 of title 23, United States Code, equal to the amount referred to in subsection (b)(12) for such fiscal year), less the

aggregate of the amounts not distributed under paragraphs (1) and (2) of this subsection;

(4) distribute the obligation limitation for Federal-aid highways, less the aggregate amounts not distributed under paragraphs (1) and (2), for each of the programs (other than programs to which paragraph (1) applies) that are allocated by the Secretary under the Fixing America's Surface Transportation Act and title 23, United States Code, or apportioned by the Secretary under sections 202 or 204 of that title, by multiplying—

(A) the proportion determined under paragraph (3); by

(B) the amounts authorized to be appropriated for each such program for such fiscal year; and

(5) distribute the obligation limitation for Federal-aid highways, less the aggregate amounts not distributed under paragraphs (1) and (2) and the amounts distributed under paragraph (4), for Federal-aid highway and highway safety construction programs that are apportioned by the Secretary under title 23, United States Code (other than the amounts apportioned for the National Highway Performance Program in section 119 of title 23, United States Code, that are exempt from the limitation under subsection (b)(12) and the amounts apportioned under sections 202 and 204 of that title) in the proportion that—

(A) amounts authorized to be appropriated for the programs that are apportioned under title 23, United States Code, to each State for such fiscal year; bears to

(B) the total of the amounts authorized to be appropriated for the programs that are apportioned under title 23, United States Code, to all States for such fiscal year.

(b) EXCEPTIONS FROM OBLIGATION LIMITATION.—The obligation limitation for Federal-aid highways shall not apply to obligations under or for—

(1) section 125 of title 23, United States Code;

(2) section 147 of the Surface Transportation Assistance Act of 1978 (23 U.S.C. 144 note; 92 Stat. 2714);

(3) section 9 of the Federal-Aid Highway Act of 1981 (95 Stat. 1701);

(4) subsections (b) and (j) of section 131 of the Surface Transportation Assistance Act of 1982 (96 Stat. 2119);

(5) subsections (b) and (c) of section 149 of the Surface Transportation and Uniform Relocation Assistance Act of 1987 (101 Stat. 198);

(6) sections 1103 through 1108 of the Intermodal Surface Transportation Efficiency Act of 1991 (105 Stat. 2027);

(7) section 157 of title 23, United States Code (as in effect on June 8, 1998);

(8) section 105 of title 23, United States Code (as in effect for fiscal years 1998 through 2004, but only in an amount equal to \$639,000,000 for each of those fiscal years);

(9) Federal-aid highway programs for which obligation authority was made available under the Transportation Equity Act for the 21st Century (112 Stat. 107) or subsequent Acts for multiple years or to remain available until expended, but only to the extent that the obligation authority has not lapsed or been used;

- (10) section 105 of title 23, United States Code (as in effect for fiscal years 2005 through 2012, but only in an amount equal to \$639,000,000 for each of those fiscal years);
  - (11) section 1603 of SAFETEA-LU (23 U.S.C. 118 note; 119 Stat. 1248), to the extent that funds obligated in accordance with that section were not subject to a limitation on obligations at the time at which the funds were initially made available for obligation; and
  - (12) section 119 of title 23, United States Code (but, for each of fiscal years 2013 through 2020, only in an amount equal to \$639,000,000).
- (c) REDISTRIBUTION OF UNUSED OBLIGATION AUTHORITY.—Notwithstanding subsection (a), the Secretary shall, after August 1 of such fiscal year—
- (1) revise a distribution of the obligation limitation made available under subsection (a) if an amount distributed cannot be obligated during that fiscal year; and
  - (2) redistribute sufficient amounts to those States able to obligate amounts in addition to those previously distributed during that fiscal year, giving priority to those States having large unobligated balances of funds apportioned under sections 144 (as in effect on the day before the date of enactment of Public Law 112–141) and 104 of title 23, United States Code.
- (d) APPLICABILITY OF OBLIGATION LIMITATIONS TO TRANSPORTATION RESEARCH PROGRAMS.—
- (1) IN GENERAL.—Except as provided in paragraph (2), the obligation limitation for Federal-aid highways shall apply to contract authority for transportation research programs carried out under—
    - (A) chapter 5 of title 23, United States Code; and
    - (B) title VI of the Fixing America’s Surface Transportation Act.
  - (2) EXCEPTION.—Obligation authority made available under paragraph (1) shall—
    - (A) remain available for a period of 4 fiscal years; and
    - (B) be in addition to the amount of any limitation imposed on obligations for Federal-aid highway and highway safety construction programs for future fiscal years.
- (e) REDISTRIBUTION OF CERTAIN AUTHORIZED FUNDS.—
- (1) IN GENERAL.—Not later than 30 days after the date of distribution of obligation limitation under subsection (a), the Secretary shall distribute to the States any funds (excluding funds authorized for the program under section 202 of title 23, United States Code) that—
    - (A) are authorized to be appropriated for such fiscal year for Federal-aid highway programs; and
    - (B) the Secretary determines will not be allocated to the States (or will not be apportioned to the States under section 204 of title 23, United States Code), and will not be available for obligation, for such fiscal year because of the imposition of any obligation limitation for such fiscal year.
  - (2) RATIO.—Funds shall be distributed under paragraph (1) in the same proportion as the distribution of obligation authority under subsection (a)(5).

(3) AVAILABILITY.—Funds distributed to each State under paragraph (1) shall be available for any purpose described in section 133(b) of title 23, United States Code.

SEC. 121. Notwithstanding 31 U.S.C. 3302, funds received by the Bureau of Transportation Statistics from the sale of data products, for necessary expenses incurred pursuant to chapter 63 of title 49, United States Code, may be credited to the Federal-aid highways account for the purpose of reimbursing the Bureau for such expenses: *Provided*, That such funds shall be subject to the obligation limitation for Federal-aid highway and highway safety construction programs.

SEC. 122. Not less than 15 days prior to waiving, under his or her statutory authority, any Buy America requirement for Federal-aid highways projects, the Secretary of Transportation shall make an informal public notice and comment opportunity on the intent to issue such waiver and the reasons therefor: *Provided*, That the Secretary shall provide an annual report to the House and Senate Committees on Appropriations on any waivers granted under the Buy America requirements.

SEC. 123. None of the funds provided in this Act to the Department of Transportation may be used to provide credit assistance unless not less than 3 day before any application approval to provide credit assistance under sections 603 and 604 of title 23, United States Code, the Secretary of Transportation provides notification in writing to the following committees: the House and Senate Committees on Appropriations; the Committee on Environment and Public Works and the Committee on Banking, Housing and Urban Affairs of the Senate; and the Committee on Transportation and Infrastructure of the House of Representatives: *Provided*, That such notification shall include, but not be limited to, the name of the project sponsor; a description of the project; whether credit assistance will be provided as a direct loan, loan guarantee, or line of credit; and the amount of credit assistance.

SEC. 124. (a) A State or territory, as defined in section 165 of title 23, United States Code, may use for any project eligible under section 133(b) of title 23 or section 165 of title 23 and located within the boundary of the State or territory any earmarked amount, and any associated obligation limitation: *Provided*, That the Department of Transportation for the State or territory for which the earmarked amount was originally designated or directed notifies the Secretary of Transportation of its intent to use its authority under this section and submits a quarterly report to the Secretary identifying the projects to which the funding would be applied. Notwithstanding the original period of availability of funds to be obligated under this section, such funds and associated obligation limitation shall remain available for obligation for a period of 3 fiscal years after the fiscal year in which the Secretary of Transportation is notified. The Federal share of the cost of a project carried out with funds made available under this section shall be the same as associated with the earmark.

(b) In this section, the term “earmarked amount” means—

(1) congressionally directed spending, as defined in rule XLIV of the Standing Rules of the Senate, identified in a prior law, report, or joint explanatory statement, and administered by the Federal Highway Administration; or  
(2) a congressional earmark, as defined in rule XXI of the Rules of the House of Representatives, identified in a prior law, report, or joint explanatory statement, and administered by the Federal Highway Administration.

(c) The authority under subsection (a) may be exercised only for those projects or activities that have obligated less than 10 percent of the amount made available for obligation as of October 1 of the current fiscal year, and shall be applied to projects within the same general geographic area within 100 miles for which the funding was designated, except that a State or territory may apply such authority to unexpended balances of funds from projects or activities the State or territory certifies have been closed and for which payments have been made under a final voucher.

(d) The Secretary shall submit consolidated reports of the information provided by the States and territories annually to the House and Senate Committees on Appropriations.

SEC. 125. Section 119(e)(5) of title 23, United States Code, is amended to read as follows—

“(5) REQUIREMENT FOR PLAN.—Notwithstanding section 120, beginning on October 1, 2019, and each fiscal year thereafter, if the Secretary determines that a State has not developed and implemented a State asset management plan consistent with this section, the Federal share payable on account of any project or activity for which funds are obligated by the State in that fiscal year under this section shall be 65 percent. The Secretary shall make the determination no later than the day before the beginning of each fiscal year.”.

\*\*Reason for including section: The provision currently as written could be construed to apply to obligations made prior to October 1, 2019. This would result in States being penalized on obligations that occurred before the penalty took effect. As a result, States would be required to cover a higher State match than they had budgeted for at the time. This correction will ensure that the provision can only be read to apply to obligations beginning on October 1, 2019. We understand that this clarification is consistent with Congressional intent.\*\*

SEC. 126. Section 133(f) of title 23, United States Code, is amended to read as follows—

“(f) Bridges Not on Federal-aid Highways.—

Notwithstanding any other provision of law, with respect to any project not on a Federal-aid highway for the replacement of a bridge or rehabilitation of a bridge that is wholly funded from State and local sources, is eligible for Federal funds under this section, is noncontroversial, is certified by the State to have been carried out in accordance with all standards applicable to such projects under this section, and is determined by the Secretary upon completion to be no longer a deficient bridge-

- (1) any amount expended after the date of enactment of this subsection from State and local sources for the project in excess of 20 percent of the cost of construction of the project may be credited to the non-Federal share of the cost of other bridge projects in the State that are eligible for Federal funds under this section; and
- (2) that crediting shall be conducted in accordance with procedures established by the Secretary.”

\*\*Reason for including section: The budget proposes to repeal the off-system bridge set-aside provision. The amended section 133(f) would remove the statutory language associated with the set-aside. \*\*

SEC. 127. (a) Of the unobligated balances of funds remaining from—

- (1) Public Law 105-66, and any other Act, appropriated to the “Appalachian Development Highway System” account under Treasury Account Fund Symbol 69X0640, a total of \$40,316,586 is hereby permanently cancelled;
- (2) Public Law 111-117, and any other Act, appropriated to the “Surface Transportation Priorities” account under Treasury Account Fund Symbol 69X0538, a total of \$81,364,234 is hereby permanently cancelled;
- (3) Public Law 97-257, and any other Act, appropriated to the “Access Highways to Public Recreation Areas on Certain Lakes” account under Treasury Account Fund Symbol 69X0503, a total of \$352,334 is hereby permanently cancelled;
- (4) Public Law 103-331, and any other Act, appropriated to the “Surface Transportation Projects” account under Treasury Account Fund Symbol 69X0505, a total of \$582,594 is hereby permanently cancelled;
- (5) Public Law 102-143, and any other Act, appropriated to the “Highway Studies: Feasibility, Design, Environmental, Engineering” account under Treasury Account Fund Symbol 69X0533, a total of \$262,205 is hereby permanently cancelled;
- (6) Public Law 96-131, and any other Act, appropriated to the “Highway Beautification” account under Treasury Account Fund Symbol 69X0540, a total of \$488,910 is hereby permanently cancelled;
- (7) Public Law 110-161, and any other Act, appropriated to the “Delta Regional Transportation Development Program” account under Treasury Account Fund Symbol 69X0551, a total of \$1,838,577 is hereby permanently cancelled;
- (8) Public Law 92-18, and any other Act, appropriated to the “Darien Gap Highway” account under Treasury Account Fund Symbol 69X0553, a total of \$2,037,035 is hereby permanently cancelled;
- (9) Public Law 92-398, and any other Act, appropriated to the “Rail Crossings – Demonstration Projects” account under Treasury Account Fund Symbol 69X0555, a total of \$517,221 is hereby permanently cancelled;
- (10) Public Law 94-387, and any other Act, appropriated to the “Railroad-Highway Crossings Demonstration Projects” account under Treasury Account Fund Symbol 69X0557, a total of \$2,180,721 is hereby permanently cancelled;

- (11) Public Law 97-276, and any other Act, appropriated to the “Interstate Transfer Grants-Highways” account under Treasury Account Fund Symbol 69X0560, a total of \$5,211,249 is hereby permanently cancelled;
  - (12) Public Law 100-457, and any other Act, appropriated to the “Kentucky Bridge Demonstration Project” account under Treasury Account Fund Symbol 69X0572, a total of \$133,232 is hereby permanently cancelled;
  - (13) Public Law 101-164, and any other Act, appropriated to the “Highway Demonstration Projects-Preliminary Engineering” account under Treasury Account Fund Symbol 69X0583, a total of \$2,601,432 is hereby permanently cancelled;
  - (14) Public Law 107-87, and any other Act, appropriated to the “Miscellaneous Highway Project” account under Treasury Account Fund Symbol 69X0641, a total of \$10,912,217 is hereby permanently cancelled;
  - (15) Public Law 105-277, and any other Act, appropriated to the “Highway Projects” account under Treasury Account Fund Symbol 69X0644, a total of \$8,857,875 is hereby permanently cancelled;
  - (16) Public Law 98-473, and any other Act, appropriated to the “Intermodal Urban Demonstration Project” account under Treasury Account Fund Symbol 69X8001, a total of \$103,404 is hereby permanently cancelled;
  - (17) Public Law 106-346, and any other Act, appropriated to the “Miscellaneous Highway Project” account under Treasury Account Fund Symbol 69X8058.11, a total of \$461,698 is hereby permanently cancelled;
  - (18) Public Law 106-346, and any other Act, appropriated to the “Miscellaneous Highway Project” account under Treasury Account Fund Symbol 69X8058, a total of \$45,494,880 is hereby permanently cancelled;
  - (19) Public Law 106-246, and any other Act, appropriated to the “Construction and Improvements to Halls Mill Road, New Jersey” account under Treasury Account Fund Symbol 69X8061, a total of \$1,000,000 is hereby permanently cancelled; and
  - (20) Public Law 102-388, and any other Act, appropriated to the “Highway Projects” account under Treasury Account Fund Symbol 69X8382, a total of \$5,004,606 is hereby permanently cancelled.
- (b) The cancellations under subsection (a) shall not be taken from the portions of unobligated balances of funds in such accounts for which a State used its authority under section 125 of division L of Public Law 114-113, section 422 of division K of Public Law 115-31, or section 126 of division L of Public Law 115-141.

\*\*Reason for including section: Rescissions of old earmarked funds with little or no recent activity.\*\*

**EXHIBIT III-1**  
**FEDERAL HIGHWAY ADMINISTRATION**  
**Summary by Program Activity**  
**Appropriations, Obligation Limitations, and Exempt Obligations**  
**(\$000)**

	FY 2018 ACTUAL	FY 2019 CR	FY 2019 ENACTED	FY 2020 REQUEST
<b>Federal-aid Highways</b>				
[Limitation on Administrative Expenses] <sup>1/</sup>	[442,692]	[442,692]	[449,692]	[456,798]
(Obligation Limitation)	(44,234,212)	(44,234,212)	(45,268,596)	(46,365,092)
Exempt Programs <sup>2/</sup>	739,000	739,000	739,000	739,000
Flex Transfers to/from FTA	-1,290,869	-1,300,000	-1,300,000	-1,300,000
Transfer to NHTSA <sup>3/</sup>	-104,266	-102,349	-105,024	-----
<b>Total, Obligation Limitation &amp; Authority</b>	<b>43,578,077</b>	<b>43,570,863</b>	<b>44,602,572</b>	<b>45,804,092</b>
<b>FTE</b>				
Direct Funded	2,389	2,423	2,463	2,442
Reimbursable	240	240	240	240
<b>Total, FTE</b>	<b>2,629</b>	<b>2,663</b>	<b>2,703</b>	<b>2,682</b>
<b>Highway Infrastructure Program</b>				
Appropriated Budget Authority (GF)	2,525,000 <sup>4/</sup>	2,525,000 <sup>4/</sup>	3,250,000 <sup>5/</sup>	300,000 <sup>6/</sup>
<b>Total, Obligation Limitation &amp; Authority</b>	<b>2,525,000</b>	<b>2,525,000</b>	<b>3,250,000</b>	<b>300,000</b>

**Program and Performance Statement**

These accounts provide necessary resources to support Federal-aid highway program activities, Highway Infrastructure Program activities, and maintain the agency's administrative infrastructure. Funding will maintain and improve the safety, condition, and performance of our national highway system. These funds will help create a well-coordinated, well-maintained transportation network that supports our economy, creates jobs, and leads us into the future.

[ ] Non-add

1/ All fiscal years include FHWA General Operating Expenses (GOE) and transfers to the Appalachian Regional Commission (ARC) for administrative activities associated with the Appalachian development highway system. All fiscal years do not include amounts for other non-administrative programs authorized under Administrative Expenses.

2/ FY 2018 does not reflect sequestration of 6.6 percent of contract authority exempt from obligation limitation per Sequestration Order dated May 23, 2017. FY 2019 does not reflect sequestration of 6.2 percent of contract authority exempt from obligation limitation per Sequestration Order dated February 12, 2018.

3/ FHWA anticipates transfers to NHTSA in FY 2020 in an amount to be determined based on State penalty information.

4/ The Department of Transportation Appropriations Act, 2018 (Public Law 115-141) provided \$2.525 billion in additional highway funding from the General Fund.

5/ The Department of Transportation Appropriations Act, 2019 (Public Law 116-6) provided \$3.250 billion in additional highway funding from the General Fund.

6/ The budget requests \$300 million in FY 2020 for the Competitive Highway Bridge Program.

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**FEDERAL HIGHWAY ADMINISTRATION**  
**FEDERAL-AID HIGHWAY PROGRAM AUTHORIZATIONS OF CONTRACT AUTHORITY UNDER THE FIXING AMERICA'S SURFACE TRANSPORTATION (FAST) ACT (PUBLIC LAW 114-94)**

Program	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Total FY 2016-2020
<b>Apportioned Programs</b>	<b>39,727,500,000</b>	<b>40,547,805,000</b>	<b>41,424,020,075</b>	<b>42,358,903,696</b>	<b>43,373,294,311</b>	<b>207,431,523,082</b>
Highway Safety Improvement Program <sup>1/</sup>	2,454,094,512	2,508,792,347	2,556,434,401	2,603,108,774	2,655,923,445	12,778,353,479
National Highway Performance Program <sup>2/</sup>	22,332,260,060	22,830,010,326	23,263,553,053	23,741,885,964	24,235,621,114	116,403,330,517
Surface Transportation Block Grant Program <sup>3/</sup>	11,162,564,768	11,425,377,855	11,668,517,528	11,876,557,947	12,136,990,131	58,270,008,229
Congestion Mitigation & Air Quality Improvement Program	2,309,059,935	2,357,349,730	2,402,948,048	2,448,515,802	2,498,960,969	12,016,834,484
National Highway Freight Program	1,140,250,003	1,090,683,553	1,189,833,898	1,338,557,053	1,487,282,615	6,246,607,122
Metropolitan Transportation Planning	329,270,722	335,591,189	342,733,147	350,278,156	358,516,037	1,716,389,251
<b>Nationally Significant Freight and Highway Projects</b>	<b>800,000,000</b>	<b>850,000,000</b>	<b>900,000,000</b>	<b>950,000,000</b>	<b>1,000,000,000</b>	<b>4,500,000,000</b>
<b>Federal Lands and Tribal Transportation Programs</b>	<b>1,050,000,000</b>	<b>1,075,000,000</b>	<b>1,100,000,000</b>	<b>1,125,000,000</b>	<b>1,150,000,000</b>	<b>5,500,000,000</b>
Federal Lands Transportation Program	335,000,000	345,000,000	355,000,000	365,000,000	375,000,000	1,775,000,000
Federal Lands Access Program	250,000,000	255,000,000	260,000,000	265,000,000	270,000,000	1,300,000,000
Tribal Transportation Program	465,000,000	475,000,000	485,000,000	495,000,000	505,000,000	2,425,000,000
<b>Research, Technology, and Education Program</b>	<b>414,500,000</b>	<b>417,500,000</b>	<b>417,500,000</b>	<b>420,000,000</b>	<b>420,000,000</b>	<b>2,089,500,000</b>
Highway Research and Development Program	125,000,000	125,000,000	125,000,000	125,000,000	125,000,000	625,000,000
Technology and Innovation Deployment Program	67,000,000	67,500,000	67,500,000	67,500,000	67,500,000	337,000,000
Training and Education	24,000,000	24,000,000	24,000,000	24,000,000	24,000,000	120,000,000
Intelligent Transportation Systems Program	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	500,000,000
University Transportation Centers	72,500,000	75,000,000	75,000,000	77,500,000	77,500,000	377,500,000
Bureau of Transportation Statistics	26,000,000	26,000,000	26,000,000	26,000,000	26,000,000	130,000,000
<b>Federal Allocation Programs</b>	<b>404,000,000</b>	<b>404,000,000</b>	<b>404,000,000</b>	<b>404,000,000</b>	<b>404,000,000</b>	<b>2,020,000,000</b>
Construction of Ferry Boats and Ferry Terminal Facilities	80,000,000	80,000,000	80,000,000	80,000,000	80,000,000	400,000,000
Disadvantaged Business Enterprise	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	50,000,000
Emergency Relief <sup>2/</sup>	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	500,000,000
Highway Use Tax Evasion Projects	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	20,000,000
On-the-Job Training	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	50,000,000
Territorial and Puerto Rico Highway Program	200,000,000	200,000,000	200,000,000	200,000,000	200,000,000	1,000,000,000
<b>TIFIA Program</b>	<b>275,000,000</b>	<b>275,000,000</b>	<b>285,000,000</b>	<b>300,000,000</b>	<b>300,000,000</b>	<b>1,435,000,000</b>
<b>Administrative Expenses <sup>4/</sup></b>	<b>429,000,000</b>	<b>435,795,000</b>	<b>442,691,925</b>	<b>449,692,304</b>	<b>456,797,689</b>	<b>2,213,976,918</b>
<b>TOTAL, FHWA</b>	<b>43,100,000,000</b>	<b>44,005,100,000</b>	<b>44,973,212,000</b>	<b>46,007,596,000</b>	<b>47,104,092,000</b>	<b>225,190,000,000</b>
<b>CA Subject to Obligation Limitation</b>	<b>42,361,000,000</b>	<b>43,266,100,000</b>	<b>44,234,212,000</b>	<b>45,268,596,000</b>	<b>46,365,092,000</b>	<b>221,495,000,000</b>
<b>CA Exempt from Obligation Limitation</b>	<b>739,000,000</b>	<b>739,000,000</b>	<b>739,000,000</b>	<b>739,000,000</b>	<b>739,000,000</b>	<b>3,695,000,000</b>

1/ Amounts for the Highway Safety Improvement Program (HSIP) include set aside for Railway-Highway Crossings Program (RHCP) (\$225.0 million in FY 2016 and increasing by \$5.0 million each year through FY 2020) and \$3.5 million set aside each fiscal year for allocated funding to carry out certain safety-related activities.

2/ Amounts exempt from Obligation Limitation include \$100,000,000 for Emergency Relief and \$639,000,000 of the National Highway Performance Program apportionments. FY 2016 amounts do not reflect sequestration of 6.8 percent per Sequestration Order dated February 2, 2015. FY 2017 amounts do not reflect sequestration of 6.9 percent per Sequestration Order dated February 9, 2016. FY 2018 amounts do not reflect sequestration of 6.6 percent per Sequestration Order dated May 23, 2017. FY 2019 amounts do not reflect sequestration of 6.2 percent per Sequestration Order dated February 12, 2018.

3/ Amounts for Surface Transportation Block Grant Program include set aside for Transportation Alternatives equal to \$835.0 million in FY 2016 and FY 2017 and \$850.0 million in FY 2018 through FY 2020.

4/ Includes FHWA General Operating Expenses (GOE) and transfers to the Appalachian Regional Commission (ARC) for administrative activities associated with the Appalachian development highway system.

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## **Executive Summary**

### **Highway Safety Improvement Program**

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#### **What is the request and what funds are currently spent on the program?**

Our FY 2020 budget requests \$2.66 billion for the Highway Safety Improvement Program (HSIP). This is a core Federal-aid highway program that supports the Secretary's safety priority by aiming to achieve a significant reduction in fatalities and serious injuries on all public roads. The HSIP funding level for FY 2018 is \$2.56 billion. The FY 2019 enacted funding level is \$2.60 billion.

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

The purpose of the program directly aligns with the Safety Strategic Goal in DOT's Strategic Plan for FY 2018 – FY 2022. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads with a focus on performance. The HSIP is legislated under section 148 of title 23, United States Code (U.S.C.) and regulated under part 924 of title 23, Code of Federal Regulations (CFR). The HSIP is a State-administered program that is driven by the Strategic Highway Safety Plan (SHSP) and a program of infrastructure-related highway safety improvement projects.

The HSIP is based on a performance-driven process that identifies and analyzes highway safety problems and advances highway safety improvement projects that have the greatest potential to reduce fatalities and serious injuries. The program emphasizes coordination among all highway safety modes, including the National Highway Traffic Safety Administration (NHTSA), Federal Railroad Administration (FRA), and Federal Motor Carrier Safety Administration (FMCSA).

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

In 2017, 37,133 people died in motor vehicle traffic crashes. This represents a modest 0.8 percent decrease from 2016, and comes after an increase of 5.6 percent in 2016. Preliminary estimates for the first 6 months of 2018 demonstrate that a downward fatality trend is continuing. The overall number of highway-related fatalities decreased 14.7 percent between 2005 and 2017. This decrease in highway fatalities coincides with the establishment of the HSIP as a core Federal-aid program.

The 2017 HSIP National Summary Report estimates a national benefit-to-cost ratio ranging from 5.3 to 9.8. States obligated a total of \$4.3 billion on over 4,600 highway safety improvement projects in 2017 as part of the HSIP. The HSIP provides funds to States to correct safety challenges on all public roads, including rural roads. Funding the program at a lower level risks reducing investment by States in highway safety projects, and, therefore, risks reducing the number of lives saved and serious injuries prevented on highways.

## Detailed Justification Highway Safety Improvement Program

### What is the request and what funds are currently spent on the program?

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#### FY 2020 – Highway Safety Improvement Program (\$2.66 billion) (\$000)

Program Activity	FY 2018 <u>Actual</u>	FY 2019 <u>Annualized CR</u>	FY 2019 <u>Enacted</u>	FY 2020 <u>Request</u>
Federal-aid Highways				
<b>Highway Safety Improvement Program</b>				
Highway Safety Improvement Program	2,556,434	2,603,109	2,603,109	2,655,923
<b>Total</b>	<u>2,556,434</u>	<u>2,603,109</u>	<u>2,603,109</u>	<u>2,655,923</u>

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

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The HSIP is a core Federal-aid highway program that supports the Secretary’s safety priority by aiming to achieve a significant reduction in fatalities and serious injuries on all public roads. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads with a focus on performance. The HSIP is legislated under section 148 of title 23, United States Code and regulated under part 924 of title 23, Code of Federal Regulations. The HSIP is a State-administered program that is driven by the Strategic Highway Safety Plan (SHSP) and a program of infrastructure-related highway safety improvement projects.

Highway safety improvement projects may be eligible for other Federal-aid programs depending on those programs’ eligibility criteria; however, safety is not the primary purpose of the other programs. The HSIP requires targeted investments to improve safety. The program is designed based on a strategic, performance-driven process that identifies and analyzes highway safety problems and maximizes opportunities to advance highway safety improvement projects that have the greatest potential to reduce the State's roadway fatalities and serious injuries.

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

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In 2017, 37,133 people died in motor vehicle traffic crashes. This represents a modest 0.8 percent decrease from 2016, and comes after increases of 8.4 percent and 5.6 percent in 2015 and 2016, respectively. In fact, fatalities in 2016 were at the highest level since 2008, when 37,423 fatalities were reported. Per the Bureau of Transportation Statistics, the total cost of motor vehicle crashes was estimated at \$836 billion in 2010, with the broader societal costs, including lost quality of life, accounting for 71 percent of the total, far outweighing the economic costs at 29 percent.

In 2017, the States obligated over \$4.3 billion on 4,600 HSIP projects and continued to meet the HSIP obligation target of 80 percent. Rural areas benefit greatly from the HSIP program. Based on information reported by the States in their annual HSIP reports, at least 40 percent of the States’ HSIP projects are on rural roads in a given year representing on average 43 percent of HSIP expenditures.

The table below provides a summary from the 2016 and 2017 HSIP project database. Most of these projects address roadway departure crashes (70 percent) and include projects such as shoulder widening, horizontal curve realignment, rumble strips, barriers, delineation and traffic signs. Additional projects and initiatives include: addition of auxiliary lanes, construction of roundabouts, traffic signal upgrades, guardrail installation, sight distance improvements, passing lanes, traffic calming improvements, flashing yellow arrow, curve warning signs, enhanced striping, and pedestrian safety improvements.

	2016	2017
Rural HSIP Projects (#)	1,683	1,920
Rural HSIP Project (\$)	\$1,359,038,257	\$2,061,604,632

The HSIP requires coordination with NHTSA on its Highway Safety Program as it relates to Highway Safety Plans, Safety Performance Targets, and State Safety Information Systems. FHWA also coordinates with other modes on the DOT Traffic Records Coordinating Committee. States are also required to collaborate and coordinate with stakeholders and document this in their SHSP. Additionally, FHWA coordinates with AASHTO through its Safety Committee.

#### Program Features:

- **Performance-based Framework** – Beginning in 2017, States and metropolitan planning organizations (MPOs) set data-driven annual safety performance targets for the first time. The features of the framework include:
  - A coordinated set of performance measures for the number and rate of fatalities, number and rate of serious injuries, and number of non-motorized fatalities and non-motorized serious injuries.
  - Performance management-based evaluation of program results.
  - Investments dedicated to safety for those States that do not meet or make significant progress toward meeting their targets.
  
- **Statewide Strategic Highway Safety Plan** – Each State's SHSP is a statewide coordinated plan developed in cooperation with a broad range of multidisciplinary stakeholders that provides a comprehensive framework for safety. The data-driven SHSP defines State safety goals and integrates the 4 “E’s” – engineering, education, enforcement, and emergency medical services. The States are guided by the plan in using HSIP and other funds to solve State-specific safety problems and save lives.
  
- **Data and Analysis** –States are required to have in place a safety data system that can be used to perform analyses supporting the strategic and performance-based goals in the SHSP and HSIP. States must develop and maintain a safety data system or advance their capabilities to collect, maintain, and share a record of safety data on all public roads for all road users including pedestrians and bicyclists; create or enhance a highway basemap of all public roads; collect a subset of the Model Inventory of Roadway Elements (MIRE); develop analytical processes for safety data elements; acquire and implement roadway safety analysis tools; identify roadway features that constitute a danger to all road users and perform safety problem identification and countermeasure analysis; and implement and evaluate highway safety improvement projects.

- **HSIP Reporting and Evaluation** – Each State prepares an annual report on its highway safety improvement program that describes the projects implemented under the program, assesses the effectiveness of those projects, and describes the extent to which the funded improvements contribute to the State meeting its targets and reducing the number and rate of fatalities and serious injuries on all public roads in the State.
- **Safety-related Programs** – \$245 million of HSIP funds are set aside for the Railway-Highway Crossings program to reduce the number of fatalities, injuries, and crashes at public railway-highway grade crossings. \$3.5 million of HSIP funds are set aside for transportation safety outreach, training, and education through the following activities: Operation Lifesaver, the Public Road Safety Clearinghouse, Work Zone Safety Grants, the National Work Zone Safety Information Clearinghouse, and guardrail training.
- **Local and Rural Road Safety** – FHWA’s Local and Rural Road Safety (LRRS) program provides Tribal, local, and regional practitioners and decisions makers with information, tools, and resources to improve the safety performance of their roadways.

## **Executive Summary**

### **National Highway Performance Program**

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#### **What is the request and what funds are currently spent on the program?**

Our FY 2020 budget requests \$24.24 billion for the National Highway Performance Program (NHPP), which supports the Secretary's key priorities of preserving safety and infrastructure by improving the condition and performance of the National Highway System (NHS). Performance management requirements represent a key component of the NHPP. These requirements hold States accountable for achieving performance targets while continuing to give them the flexibility to make transportation investment decisions. The FY 2018 actual level is \$23.26 billion. The FY 2019 enacted funding level is \$23.74 billion.

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

The NHPP provides funds to the States on a formula basis. In direct support of the Secretary's key priorities of safety and infrastructure, the NHPP's purpose is to preserve and improve the NHS. Due to expected population and economic growth, freight and passenger transportation demands are projected to increase 250 percent by 2050. Modernizing and preserving an efficient transportation system in this environment are critical to maintain the competitiveness of our economy.

In 2017, 61 percent of vehicle miles travelled on the NHS occurred on pavements with good ride quality. The condition of pavements and bridges across the country varies considerably. Many States struggle to maintain current conditions. Therefore, investment in our nation's transportation infrastructure is critical to maintaining a global competitive edge.

Funding the NHPP program at \$24.24 billion in FY 2020 supports improvements toward achieving a state of good repair and improved operations on the NHS, and is consistent with the analyses presented in the biennial *Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance* report to Congress (2015 C&P report). Maintaining a state of good repair on the NHS reduces costly improvements that would be required if infrastructure is allowed to deteriorate.

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

Preserving and improving the NHS keeps America's highways and bridges safe, supports United States (U.S.) competitiveness in world trade, and improves the U.S. economy. It binds the country together by making interstate and intra-state commerce possible, while allowing Americans to travel across the country to experience its wonders. It creates employment opportunities to support the development of a skilled and diverse transportation workforce. The NHPP emphasizes preservation of the NHS while giving States flexibility to make additional investments to enhance NHS condition and operational performance and to build new capacity. The NHPP ensures that improvements to the NHS benefit both urban and rural areas nationwide.

## Detailed Justification National Highway Performance Program

### What is the request and what funds are currently spent on the program?

#### FY 2020 – National Highway Performance Program (\$24.24 billion) (\$000)

Program Activity	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request
Federal-aid Highways				
National Highway Performance Program				
National Highway Performance Program <sup>1/</sup>	23,263,553	23,741,886	23,741,886	24,235,621
<b>Total</b>	<b>23,263,553</b>	<b>23,741,886</b>	<b>23,741,886</b>	<b>24,235,621</b>

<sup>1/</sup> \$639 million in each fiscal year is exempt from obligation limitation of which \$42.2 million was sequestered in FY 2018 and \$39.6 million was sequestered in FY 2019 (sequestration not reflected in table).

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

The NHPP, requested at \$24.24 billion in FY 2020, is a formula-based program that supports the Secretary’s key priorities of preserving safety and infrastructure by improving the condition of highways and bridges. It helps to keep our roads and bridges safe; improves our Nation’s competitiveness in global trade; and maximizes the economic returns from transportation policies and investments.

Key features of the program include:

- a focus on improving and preserving the NHS;
- a performance-based framework;
- increased flexibility to the States for making transportation investment decisions; and
- requirements for risk-based asset management plans.

The NHPP requires a risk-based asset management approach to ensure that States have a strategic and systematic process for operating, preserving, and improving physical assets on the NHS. It focuses on engineering and economic analysis using quality information to identify a structured sequence of maintenance, preservation, repair, rehabilitation, and replacement actions that will achieve a desired state of good repair over the lifecycle of the assets at minimum cost. The intent of this approach is to better manage system condition and performance.

#### The National Highway System (NHS)

The Federal Government has periodically defined and focused resources on the roads that were critical to national interests and that enhanced mobility, security, economic growth, and quality of life. Each time, the decision was made to emphasize a limited network of roads of critical national priority – the Federal-aid system (1921), the Interstate System (1956), and the National Highway System (1995). MAP-21 defined the NHS as a network comprised of the Interstate System, all principal arterials including border crossings, intermodal connectors, and roads important to national defense. The FAST Act maintains this network and has added provisions

for removing some principal arterials from the NHS after review and reclassification by the States and FHWA.

The NHS totals approximately 220,000 miles. The NHS provides mobility to the vast majority of the Nation's population and almost all of its commerce, supports national defense, and promotes intermodal connectivity. While NHS mileage is only a small portion of the nation's overall public road mileage, it carries 58 percent of all vehicular traffic. The majority of truck-borne freight uses it at some point in its journey. While it comprises 53 percent of U.S. highway border crossings, it handles 98 percent of the value of total truck trade with Canada and Mexico.

Furthermore, the NHS is vital to rural communities. In rural areas, the NHS carries over 47 percent of all vehicle miles traveled, and provides critical access for jobs, health care, and commerce.

**Eligibility:**

NHPP projects must be on an eligible facility and support progress towards achievement of national performance goals for improving infrastructure condition, safety, congestion reduction, system reliability, or freight movement on the NHS, and be consistent with metropolitan and statewide planning requirements.

**Funding:**

Funds are apportioned by formula, and the majority are subject to the overall Federal-aid obligation limitation. State DOTs can spend NHPP funds on eligible facilities that support progress towards the achievement of national performance goals. Projects must be included in the Statewide Transportation Improvement Program (STIP) and in the Transportation Improvement Program (TIP) for urbanized areas. Two percent of each State's NHPP apportionment is set aside for State Planning and Research.

The NHPP program will continue to direct Federal funds towards addressing national performance goals for the NHS. Among these are the condition of pavements and bridges. Past performance has demonstrated that sustained investment in our Nation's roads and bridges leads to better roadway and bridge conditions. A couple examples of this include:

- The share of travel on NHS pavements with good ride quality rose from 48 percent in 2000 to 61 percent in 2017 despite MAP-21 increasing NHS mileage by almost 60,000 miles. Bringing pavements up to a state of good repair yields benefits to system users in the form of decreased wear and tear on vehicles, and reduced repair costs; reduced traveler delays; and helps support the Secretary's safety priority by lowering crash rates. The proposed FAST Act investment level for NHPP is projected to increase this share to nearly 63 percent by 2020. Given that the NHS carries the majority of all vehicular traffic, each 1 percentage point change translates into 17 billion more vehicle miles travelled occurring on pavements with good ride quality.
- The percentage of deck area on NHS bridges classified as in "Good" condition increased from 41.7 percent in 2012 to 44.3 percent in 2017.

Additionally, the NHPP has performance provisions that will improve investment decision-making through a greater level of accountability for States to improve or preserve the condition of NHS pavements and bridges and the performance of the system. These provisions require States to carry out a risk-based asset management process to monitor and evaluate conditions, establish future condition targets for eight performance measures, plan investment strategies, and program funding in support of these strategies. The NHPP has additional requirements for States to maintain minimum-level conditions for NHS bridges and interstate pavements, and to make significant progress in meeting their NHPP conditions and performance targets. The regulations to implement these new requirements took effect on May 20, 2017. An example of one of the measures to assess the condition of NHS bridges is provided below:

- Even as the total number of NHS bridges in the Nation’s inventory increased from 117,485 in 2012 to 145,104 in 2017, the percentage of the deck area on NHS bridges classified as in “Poor” condition dropped from 7.0 percent to 4.8 percent<sup>1</sup>.

Each biennial *Conditions & Performance (C&P)* report identifies a backlog of needed bridge rehabilitation investments, consisting of all potential improvements to bridges that appear to be cost-effective, based solely on their current conditions. Based on analyses developed for the latest biennial C&P report, the portion of the backlog attributable to bridges on the enhanced NHS was estimated to be \$74.2 billion. The proposed investment level for NHPP is projected to help reduce this backlog by 18 percent by 2020.

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

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Preserving and improving the NHS keeps America’s highways and bridges safe, supports U.S. economic world trade competitiveness, and improves the U.S. economy. The NHPP emphasizes preservation of the NHS while giving States the flexibility to make additional investments to enhance NHS condition and operational performance and to build new capacity while holding them accountable to minimum infrastructure condition requirements and the achievement of NHPP condition and performance targets.

The NHPP ensures that improvements to the NHS benefit both urban and rural areas nationwide. It creates employment opportunities to support the development of a skilled and diverse transportation workforce. The public investment in transportation will be more effectively utilized through improved decision-making as a result of an increased focus on national goals and a greater level of accountability on system condition and performance.

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<sup>1</sup> In 2012, the Moving Ahead to Progress in the 21st Century Act (P.L. 112-141) required the establishment of measures to assess the condition of bridges on the NHS. Beginning in 2018, FHWA transitioned from the bridge classification of structurally deficient to various measures to assess the condition of NHS bridges established in 23 CFR 490 Subpart D.

## **Executive Summary**

### **Surface Transportation Block Grant Program**

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#### **What is the request and what funds are currently spent on the program?**

Our FY 2020 budget request of \$12.14 billion for the Surface Transportation Block Grant Program (STBG) supports the Secretary's infrastructure priority by providing flexible funding that States and localities can use to improve the condition and performance of their roads and bridges through a wide range of eligible projects. The FY 2018 actual funding level is \$11.67 billion. The FY 2019 enacted funding level is \$11.88 billion.

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

In direct support of the Secretary's key priorities of safety and infrastructure, the STBG is a formula-based program that helps States and localities to invest in Federal-aid highways and support safe, multimodal transportation networks within communities.

The Fixing America's Surface Transportation (FAST) Act amended the Surface Transportation Program, which was first authorized in the Intermodal Surface Transportation Efficiency Act, by renaming the program as the Surface Transportation Block Grant (STBG) Program to acknowledge that this program has the greatest flexibility of FHWA's core highway programs and to better align the name with how the program is (and has been) administered. The FAST Act also sets aside funding from STBG for Transportation Alternatives and Recreational Trails. Whereas the National Highway Performance Program (NHPP) program is limited to the approximately 220,000 mile National Highway System (NHS); the STBG program is available for the roughly 1,000,000 miles of Federal-aid highways, for bridges on any public road, and for transit capital projects. This program gives transportation agencies, local governments, and communities the ability to direct funding to address State and local priorities.

This program provides flexible funding that States and localities can use for projects to preserve and improve the condition and performance on any Federal-aid highway, bridges on any public road, and transit capital projects, including intercity bus terminals and vehicles. Additionally, this program will develop and improve interconnected, multimodal transportation networks, help improve roadway safety for all road users, especially pedestrians and bicyclists, improve air quality, reduce congestion, foster affordable transportation, and improve quality of life.

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

The flexibility of the STBG provides transportation agencies with the ability to direct funding to State and local priorities. STBG increases mobility, access to community resources, and improves quality of life for all ages, abilities, and incomes. Projects funded through this program enjoy broad popularity with communities across the country.

## Detailed Justification Surface Transportation Block Grant Program

### What is the request and what funds are currently spent on the program?

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#### FY 2020 – Surface Transportation Block Grant Program (\$12.14 billion) (\$000)

Program Activity	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request
Federal-aid Highways				
<b>Surface Transportation Block Grant Program</b>				
Surface Transportation Block Grant Program	11,668,518	11,876,558	11,876,558	12,136,990
<b>Total</b>	<b>11,668,518</b>	<b>11,876,558</b>	<b>11,876,558</b>	<b>12,136,990</b>

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

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The STBG supports the Secretary’s key priorities of safety and infrastructure by providing funds to the States to invest in Federal-aid eligible highways to replace, rehabilitate, and preserve roads, bridges, and other highway infrastructure, and to expand or build new transportation facilities. The STBG program is the most flexible of the core highway programs. The STBG program is available for the roughly 1,000,000 miles of Federal-aid highways (public roads that are not functionally classified as rural minor collectors or local roads) which includes the Interstate System and the NHS, bridges on any public road, pedestrian and bicycle facilities, and projects eligible under the Transportation Alternatives set-aside.

Furthermore, these funds will help to improve quality of life in rural areas by enhancing access to jobs, education resources, health care, and recreation sites. STBG targets transportation investment in rural areas: approximately 15 percent of STBG funds are directed towards areas with a population of 5,000 and less; and nearly half of STBG funds can be used in any part of the State, including rural areas.

A long-term commitment to funding this program has resulted in the following benefits:

- The share of vehicle miles travelled on Federal-aid highway pavements with good ride quality rose from 43 percent in 2000 to 52 percent in 2017.
- The percentage of the deck area of bridges classified as in “Poor” condition dropped from 7.8 percent in 2012 to 5.6 percent in 2017 even as the total number of bridges in the Nation's inventory increased from 607,380 to 615,002. Inversely, the percentage of the deck area on bridges classified as in “Good” condition increased from 44.7 percent in 2012 to 46.1 percent in 2017<sup>1</sup>.

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<sup>1</sup> Beginning in 2018, FHWA transitioned from the bridge classification of structurally deficient to various measures to assess the condition of NHS bridges established in 23 CFR 490 Subpart D.

- More short trips are being accomplished by walking and biking. Approximately 12 percent of all trips were made by bicycling or walking in 2017, compared with 8 percent in 1994. In 2017, walking comprised 11 percent and bicycling 1 percent of all trips.

**Funding:**

Funds are apportioned by formula and are subject to the overall Federal-aid obligation limitation.

The following amounts are set aside from each State’s STBG apportionment:

- An estimated \$243 million in FY 2020 for State Planning and Research (SP&R).
- \$850 million in FY 2020 for Transportation Alternatives.

After the SP&R and Transportation Alternatives set-asides for FY 2020 have been calculated, 55 percent of a State’s annual STBG apportionment will be available for obligation in the following areas in proportion to the relative share of State population--

- Urbanized areas with population greater than 200,000.
- Areas with population greater than 5,000 but no more than 200,000.
- Areas with population of 5,000 or less.

The remaining 45 percent of FY 2020 funding may be used in any area of the State.

- The Governor of a land border State may designate up to 5 percent of STBG funds available for use in any area of the State for border infrastructure projects eligible under the SAFETEA-LU border program.
- STBG funds available for use in any area of the State are subject to transfer penalties under section 154 (Open Container Requirements) and 164 (Minimum Penalties for Repeat DWI or DUI Offenders) of title 23, U.S.C., which, then, at the election of the State, are released as HSIP funds and/or transferred to the National Highway Traffic Safety Administration.

In 2017, 52 percent of vehicle miles travelled on Federal-aid highways occurred on pavements with good ride quality. The proposed FAST Act investment level is projected to increase this share to over 52 percent by 2020. This forecast is based on analyses developed for the biennial *Status of the Nation’s Highways, Bridges, and Transit: Conditions and Performance (C&P)* report, and takes into account increased funding requested for the STBG and NHPP programs. Given that Federal-aid highways carry five-sixths of all vehicular traffic, each 1 percentage point change translates into 27 billion more vehicle miles travelled occurring on pavements with good ride quality.

Each biennial C&P report identifies a backlog of needed bridge rehabilitation investments, consisting of all potential improvements to bridges that appear to be cost-effective, based solely on their current conditions. The 2015 C&P report estimated this backlog to be \$123.1 billion. The proposed funding levels under the FAST Act, including funding requested for the STBG and NHPP programs, is projected to help reduce this backlog for bridges by 26 percent by 2020.

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

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An efficient transportation system is critical to maintaining our economic competitiveness. The highly developed U.S. transportation system played a key role in allowing GDP per capita to grow faster in the U.S. over the past century than in countries with less developed transportation systems. However, additional transportation infrastructure investment is needed to support a globally competitive economy.

The STBG responds to the public's desire to increase mobility, access community resources, and improve quality of life for all ages, abilities, and incomes. This program supports the Secretary's safety priority by funding projects which reduce transportation related fatalities and serious injuries of all roadway users, including pedestrians and bicyclists, as well as providing accessible transportation choices and connections. The Transportation Alternatives set-aside provides States and communities opportunities to fund small projects at the community level that might not otherwise be funded.

It supports the development of a skilled and diverse transportation workforce through the use of 504(e) funds to supplement and expand upon FHWA's existing On-the-Job Training and workforce development programs.

The STBG is the most flexible of the core highway programs. This flexibility provides transportation agencies with the ability to direct funding to State and local priorities. Furthermore, the STBG directs a significant portion of the funds to both rural and urban areas ensuring that all areas of the U.S. have an opportunity to improve their transportation priorities.

### *STBG Streamlining Proposal*

Under 23 U.S.C. 133(f), a set-aside amount of a State's STBG funding is to be obligated on bridges on public roads that are not on Federal-aid highways (off-system bridges). The provision also provides that the required amount may be reduced if the State demonstrates to FHWA there are inadequate needs to justify the expenditure. Funds can then be used for other STBG eligible purposes. Currently, six States (Illinois, Iowa, Michigan, Oregon, Rhode Island, and Washington) have approved waivers to reduce the minimum amount of STBG expenditures on off-system bridges. An additional 11 States have indicated to FHWA an interest in reducing the required expenditure.

FHWA proposes to eliminate the off-system bridge set-aside, while maintaining the eligibility and funding under the existing STBG program. In FY 2018, \$776.5 million was set aside for this program.

This set-aside limits State and local governments from making funding decisions that are in their best interests. The increased flexibility provided by eliminating this set-aside will allow for more effective use of limited Federal-aid funds.

Furthermore, Federal requirements associated with use of these Federal funds may increase project costs compared with locally-funded projects. States and locals that can alternatively fund

off-system bridges may benefit from some cost savings resultant from not needing to impose full Federal requirements on these projects. In addition, removing this set-aside would also eliminate the costs from the associated administrative activities.

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## **Executive Summary**

### **Congestion Mitigation & Air Quality Improvement Program**

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#### **What is the request and what funds are currently spent on the program?**

Our FY 2020 request level of \$2.50 billion for the Congestion Mitigation and Air Quality Improvement (CMAQ) Program will help States and local governments reduce highway congestion and harmful emissions, and also assist many areas in reaching attainment of the National Ambient Air Quality Standards (NAAQS). The FY 2018 actual funding level is \$2.40 billion. FY 2019 enacted funding level is \$2.45 billion.

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

The purpose of the CMAQ program is to provide a funding source for transportation projects and programs that help meet the requirements of the Clean Air Act, and that help reduce regional congestion. CMAQ investments support transportation projects that reduce the mobile source emissions for which an area has been designated nonattainment or maintenance for the ozone, carbon monoxide, and particulate matter by the Environmental Protection Agency (EPA).

Furthermore, the CMAQ program supports the Secretary's safety priority. CMAQ projects that reduce congestion can improve traffic flow and system efficiency resulting in lower vehicle crash and injury risk. The CMAQ program also supports the Secretary's priority of innovation through funds for the installation of vehicle-to-infrastructure communications equipment.

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

The CMAQ program provides funding for projects that improve air quality; providing cleaner air and a healthier environment in areas with air quality challenges. Through its statutory focus on transportation efforts that reduce harmful emissions, the CMAQ program enhances livability and improves health nationwide by contributing to the attainment and maintenance of the NAAQS that act as a public health benchmark for many of the densely populated areas of the country.

Rural areas can benefit from the CMAQ program as well. States with small populations in nonattainment or maintenance areas, or with none of these areas, have additional flexibility to use CMAQ funds anywhere in the State, including rural areas, for any project eligible under the CMAQ program or the Surface Transportation Block Grant program.

Highway congestion continues to rise at a faster rate than transportation investments. Congestion negatively impacts economic activity, quality of life, and air quality. Congestion relief projects, such as traffic flow improvement projects, can reduce idling, and "stop and go" driving, thereby reducing vehicle emissions. Through the CMAQ program, State and local governments can simultaneously reduce the costly impacts of congestion while also improving air quality.

## Detailed Justification Congestion Mitigation & Air Quality Improvement Program

### What is the request and what funds are currently spent on the program?

#### FY 2020 – Congestion Mitigation & Air Quality Improvement Program (\$2.50 billion) (\$000)

<u>Program Activity</u>	<u>FY 2018 Actual</u>	<u>FY 2019 Annualized CR</u>	<u>FY 2019 Enacted</u>	<u>FY 2020 Request</u>
Federal-aid Highways				
<b>Congestion Mitigation &amp; Air Quality Improvement Program</b>				
Congestion Mitigation & Air Quality Improvement Program	2,402,948	2,448,516	2,448,516	2,498,961
<b>Total</b>	<b>2,402,948</b>	<b>2,448,516</b>	<b>2,448,516</b>	<b>2,498,961</b>

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

CMAQ is less traditional than other FHWA capital programs, and serves a crossover function between transportation capital investments and environmental stewardship. Projects supported with CMAQ funds are required to demonstrate an emissions reduction projection. In addition, States provide an annual report on all CMAQ investments that covers the fiscal year’s obligations of program funds and provides descriptions of individual projects and the program’s potential impact on air quality, congestion, and multimodal choice. The data in the annual reports and the CMAQ Public Access System ensure transparency that the program continues to provide incremental benefits through enhanced regional and local air quality, and through contributions to congestion relief. Both of these factors—air pollution and highway congestion—are considered to be negative externalities that reduce the quality of life in many metropolitan areas of the country.

Furthermore, the CMAQ program supports the Secretary’s safety priority. CMAQ projects that target congestion relief can improve traffic flow and system efficiency resulting in lower vehicle crash and injury risk. The CMAQ program also supports the Secretary’s priority of innovation through funds for the installation of vehicle-to-infrastructure communications equipment.

Rural areas can benefit from the CMAQ program as well. States with small populations in nonattainment or maintenance areas, or with none of these areas, have additional flexibility to use CMAQ funds anywhere in the State, including rural areas, for any project eligible under the CMAQ program or the Surface Transportation Block Grant program.

Projects supported with CMAQ funds must demonstrate the three primary requirements that have been a part of the program since its inception under the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991.

An eligible project must:

- Reduce emissions
- Be located in or benefit an EPA-designated nonattainment or maintenance area

- Be identified as a transportation project

Project selection and implementation are made at the State and local levels. FHWA provides program eligibility criteria and broad policy guidance, as well as final project approvals.

CMAQ funds are available to a wide range of government and non-profit organizations, as well as private entities contributing to public private partnerships (PPP), but are administered by the State DOTs and MPOs. These organizations often plan or implement air quality programs and projects as well as provide CMAQ funding to others to implement projects. Sharing of total project costs, both capital and operating, is a critical element of a successful public-private venture, particularly if the private entity is expected to realize profits as part of the joint venture. State and local officials are urged to consider a full range of cost-sharing options when developing a PPP, including a larger State/local match.

An estimated 126 million Americans live in places where the levels of one or more air pollutants exceed national air quality standards, threatening public health. The program will continue to help ensure continuity with State and local programming and provide adequate resources to maintain the air quality progress in many areas as they strive towards attainment of the NAAQS.

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

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The CMAQ program provides funding for projects that improve air quality; providing cleaner air and a healthier environment in areas with air quality challenges; and reduce traffic congestion. The CMAQ program is the only element of the Federal-aid highway program that specifically targets areas with air quality challenges. Through its statutory focus on transportation efforts that reduce harmful emissions, the program enhances livability and improves health nationwide through its contributions to attainment and maintenance of the NAAQS that act as a public health benchmark for many of the densely populated areas of the country.

The CMAQ program fills a unique niche in that it is easily adaptable to both large scale transportation issues as well as local traffic concerns. It is possible that without this dedicated funding source, many of these types of projects would go unfunded.

Growing highway congestion continues to rise at a faster rate than transportation investments. Reducing congestion is a key objective of the Department, and one that has gathered increasing importance in the past several years. The costs of congestion can be an obstacle to economic activity. In addition, congestion can hamper quality of life through diminished air quality, lost personal time, and other negative factors. Since some congestion relief projects also reduce idling, the negative emissions impacts of "stop and go" driving, and the number of vehicles on the road, they have a corollary benefit of improving air quality. Based on their emissions reductions, these types of projects are eligible for CMAQ funding.

Since its inception through FY 2017, \$37 billion in CMAQ funds have supported more than 38,000 projects that reduced emissions of particulate matter, carbon monoxide, nitrogen oxides, and/or volatile organic compounds. CMAQ funded projects, such as public transit, bicycle and pedestrian facilities that promote alternative transportation options and active living can lead to

congestion reduction, air quality improvements and positive health benefits. Many CMAQ projects also can provide additional public health benefits. For example, in addition to congestion relief, projects that focus on improved traffic flow and system efficiency can lower vehicle crash and injury risk while also reducing traveler stress levels.

Over the past 15 years, several large-scale studies have evaluated the CMAQ's effectiveness. Each study has documented the emissions and other benefits provided by the program. The most recent study conducted under MAP-21 by an independent research organization found that 73 percent of studied projects reported traffic or congestion mitigation. It found that the traffic congestion mitigated through the promotion of alternative transportation options can lead to positive health benefits for physical and mental health.

Moving forward, the CMAQ program is part of the national goals and performance management and planning program established under MAP-21. Two national performance measures and associated target setting requirements were established to ensure accountability for the CMAQ program for congestion and emissions reductions. The performance measures will help ensure the advancement of the program objectives and success with program implementation.

The first performance period for the CMAQ Traffic Congestion Measures began on January 1, 2018 and will last through 2021. The CMAQ on-road mobile source emissions performance measures began on October 1, 2017 (FY2018) and will continue through FY2021. States were required to set targets by May 20, 2018 and report on those targets by October 1, 2018 in the first performance report. Per MAP-21, larger MPOs, with urbanized population more than 1 million that include nonattainment and maintenance areas, are required to prepare CMAQ performance plans. These plans include the MPO 2-and 4-year targets as well as baseline performance. For subsequent performance periods, States and MPOs will report every 2 and 4 years on performance toward meeting established targets. Data submitted in the first performance report will be made publicly available during 2019.

## Executive Summary

### National Highway Freight Program

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#### **What is the request and what funds are currently spent on the program?**

The FY 2020 budget requests \$1.49 billion for the National Highway Freight Program (NHFP). The FY 2018 actual funding level is \$1.19 billion. The FY 2019 enacted funding level is \$1.34 billion.

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

The NHFP provides funds to the States on a formula basis to improve the efficient movement of freight on the National Highway Freight Network (NHFN). States have programmed funding in their State Freight Plans to invest in infrastructure and operational improvements that reduce congestion, improve safety and productivity, and enhance the economic competitiveness of the United States.

Investment in our nation's freight transportation infrastructure is needed to support safety and maintain a global competitive edge through projected population and economic growth. Nationwide, truck Vehicle Miles Traveled increased nearly 3 percent per year on the Interstate from 2011-2016. Between 2016 and 2045, the U.S. will see freight activity grow by 44 percentages in tonnage<sup>1</sup>. This growth will have an impact on the infrastructure and operations of our nation's highways.

Funding the NHFP at the statutorily defined level of \$1.49 billion in FY 2020 supports projects to address growth and the need for more and better-directed investment in freight infrastructure, consistent with the analyses developed by FHWA for the *Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance*, 23<sup>rd</sup> Edition. Part III, released in Spring 2018 in advance of the full report, is the first report to Congress on highway freight transportation and includes an in-depth analysis of the status of the NHFN.

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

This program addresses a longstanding need to reduce the existing backlog in freight infrastructure investment. The program eligibilities directly support the Secretary's priorities to improve infrastructure, safety, and innovation, and apply to projects nationwide, including in rural areas. With its multi-year authorization, the NHFP offers States and their private-sector partners secure funding to plan and deliver improvements in freight infrastructure and operations that yield a high return on Federal investment for the economy and provide wide-ranging public benefits. Some States have further leveraged the NHFP funding by offering it to other non-Federal partners through State-run competitive grant programs, expanding the range of funding partners beyond the typical Federal-State cost share arrangement.

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<sup>1</sup> The Freight Analysis Framework (FAF), produced through a partnership between Bureau of Transportation Statistics (BTS) and Federal Highway Administration (FHWA), integrates data from a variety of sources to create a comprehensive national picture of freight movement among states and major metropolitan areas by all modes of transportation. With data from a nationwide 2012 Commodity Flow Survey (CFS) and additional sources, FAF version 4 (FAF4) provides estimates for freight flows for base year 2012 and forecasted data through year 2045. Freight flow forecasts are developed by applying models that rely on macroeconomic data and industry research.

## Detailed Justification National Highway Freight Program

### What is the request and what funds are currently spent on the program?

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#### FY 2020 – National Highway Freight Program (\$1.49 billion) (\$000)

Program Activity	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request
Federal-aid Highways				
National Highway Freight Program				
National Highway Freight Program	1,189,834	1,338,557	1,338,557	1,487,283
<b>Total</b>	<b>1,189,834</b>	<b>1,338,557</b>	<b>1,338,557</b>	<b>1,487,283</b>

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

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The FAST Act provides \$6.3 billion over fiscal years 2016 - 2020 to the National Highway Freight Program (NHFP). The NHFP provides these funds to the States, by formula, to improve the efficient movement of freight on the NHFN. With the FY 2020 request of \$1.49 billion, States will be able to advance projects programmed in their State Freight Plans to develop infrastructure and operational improvements that reduce congestion, improve safety and productivity, and strengthen the contribution of the National Highway Freight Network (NHFN) to the economic competitiveness of the United States.

This justification requests that the NHFP be funded at \$1.49 billion, as provided for in the FAST Act, to improve the movement of freight on the NHFN.

Key features of the program include:

- Establishment of the NHFN;
- Requirement for States to develop comprehensive State Freight Plans; and
- Encouragement by the U.S. Department of Transportation directed at each State to create a multi-modal freight advisory committee with public and private sector representatives.

NHFP leverages Federal investment in freight projects to advance innovation, improve safety, and improve access for rural areas. As part of the administration of the program, FHWA has:

- Proactively engaged with State Departments of Transportation to encourage a data-driven approach to prioritizing the investment of funds apportioned through this program. Tools developed for the States include training on the use of freight performance measures and identification of bottlenecks that impact safety and efficiency, in an effort to improve freight mobility.
- Worked with the States and Metropolitan Planning Organizations on the designation of critical rural and critical urban freight corridors. These public roads provide access and

connection to the primary highway freight system and the Interstate – the backbone of the national freight network.

- Encouraged States to innovate through the application of advanced technology and noteworthy practices in the United States and European Union to improve the safety, efficiency, and reliability of the NHFN.

### **State Freight Plans and State Freight Advisory Committees**

In accordance with 49 U.S.C. 70202, after December 4, 2017, States must have a comprehensive freight plan that provides for the immediate and long-range planning activities and investments in the State in order to obligate NHFP funding. Among the factors that must be included in the State freight plan is a description of how the funds under section 167 of title 23, U.S.C., would be invested and matched. In addition, the statute requires an investment plan that must include a list of priority projects, identifying how the NHFP formula funding will be used and matched, and showing when funding for completion of the project, or an identified phase of a project in the investment plan, can reasonably be anticipated to be available for the project within the time period identified in the freight investment plan. As of December, 2018, 47 States and the District of Columbia have completed a FAST Act-compliant plan and the remaining State freight plans are under U.S. Department of Transportation review, or are nearing completion.

In addition, subsection 70201 of subtitle IX of title 49, U.S.C., directs that States be encouraged to establish freight advisory committees consisting of a representative cross-section of public and private sector freight stakeholders, including representatives of ports, shippers, carriers, freight-related associations, the freight industry workforce, the transportation department of the State, and local governments. These committees serve a critical role in providing user input to the freight transportation planning and decision-making process, ensuring that project prioritization considers the viewpoints of freight stakeholders. Approximately 37 States have engaged State Freight Advisory Committees at various times in the development of State Freight Plans, in discussions of freight investment plans for the NHFP, and on such topics as safer truck parking.

### **Funding**

NHFP funds may be obligated for projects that contribute to the efficient movement of freight on the NHFN, and are consistent with the planning requirements of sections 134 and 135 of title 23, U.S.C. As of December 4, 2017, a State may no longer obligate funds apportioned under the NHFP unless the State has a freight plan that complies with section 70202 of title 49, U.S.C. Projects must be identified in the Statewide Transportation Improvement Program (STIP) and the Transportation Improvement Program (TIP) and should be consistent with the Long-Range Statewide Transportation Plan and the Metropolitan Transportation Plan(s). A proportionate share of each State's NHFP funds is set aside for the State's Metropolitan Planning program.

Congress set the level of funding in the FAST Act to address needs in the system. The establishment of a National Highway Freight Program with multi-year authorization offering public sector agencies and their private sector partners a path forward to make real improvements in freight infrastructure and operations is unprecedented. It yields a high return on Federal investment for the economy and provides wide-ranging public benefits in areas such as: safety, mobility, health and the environment. The U.S. population growth, coupled with consumer

demand for goods, will continue to drive freight growth. Freight projects are often multimodal, multi-jurisdictional, complex, or involve partnership with the private sector, making them difficult to administer under current Federal and State funding programs. Public- and private-sector freight proponents identify these issues along with a lack of predictable Federal funds as challenges to implementing freight solutions despite widespread need and a significant backlog of projects.

The program will have a significant positive effect on the ability of the U.S. freight industry to meet the growth in demand in a responsible, effective and sustainable way. As part of the Freight Investment Plan within the State Freight Plan, two States (California and Illinois) have taken steps to suballocate their NHFP funding to projects identified through a competitive grant program run by the State or a designated entity. This is an innovative approach to investment that can significantly increase the non-Federal share or the public and private sector participation in leveraging Federal funding.

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

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*Investments in Freight Improve the Economy* — An efficient, reliable transportation system promotes economic competitiveness, which is vital to maintaining economic stability, and supports employment for the Nation, States, and localities. For example, in 2015, the transportation system handled a record amount of freight—including a daily average of approximately 55 million tons of freight, worth approximately \$49.5 billion. The freight transportation industry employed 4.6 million workers and contributed 9.5 percent of the Nation's economic activity as measured by gross domestic product (GDP). Although freight moves on all modes of transportation, trucks are involved in the movement of most goods. The highway system is the most-used mode of transport for freight by tonnage and value of goods moved. Additionally, disruptions to the speed and reliability of freight transportation add directly and indirectly to businesses costs, export costs, the cost of consumer goods, and the ability of industry to support jobs.

*Freight Projects Support Growth and can Advance Safety and Innovation* — Investment in our Nation's freight transportation infrastructure is needed to support safety (such as truck parking and rest area expansions along I-80 in Nevada, bridge improvements and highway reconstruction along I-75 in Michigan, and the Port of Everett South Terminal Modernization Project in Washington) and maintain a global competitive edge through projected population and economic growth. Nationwide, truck travel increased nearly 3 percent per year on the Interstate from 2011-2016. Freight movements across all modes are expected to grow by approximately 46 percent between 2015 and 2045 based on the Freight Analysis Framework. This growth will have an impact on the infrastructure and operations of our Nation's highways.

Funding the NHFP at the statutorily defined level of \$1.49 billion in FY 2020 supports projects to address growth and the need for more and better-directed investment in freight infrastructure, consistent with the analyses developed by FHWA for the *Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance*, 23<sup>rd</sup> Edition. Part III, released in the spring of 2018 in advance of the full report, which is the first report to Congress on Highway Freight Transportation, including an in-depth analysis of the status of the NHFN.

## **Executive Summary**

### **Metropolitan Transportation Planning**

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#### **What is the request and what funds are currently spent on the program?**

Our FY 2020 budget requests \$359 million for metropolitan transportation planning (PL) funding. Metropolitan Planning Organizations (MPOs) use these funds for multimodal transportation planning and programming in metropolitan areas. The FY 2018 actual funding level is \$343 million. The FY 2019 enacted funding level is \$350 million.

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

Under the Fixing America's Surface Transportation (FAST) Act, census-designated urbanized areas over 50,000 in population are required to designate an MPO to conduct a continuing, cooperative, and comprehensive transportation planning process as a condition to receiving Federal funds for transportation projects.

Metropolitan areas are comprised of multiple governmental agencies and jurisdictions, which have an interest in and have needs for transportation investment. Through a coordinated, regional approach to planning, an MPO engages the local jurisdictions as well as the State DOT and transit operators in a regional process that identifies the needs and investment priorities for the region. The results are a performance-based long range (20-year) transportation plan and a shorter term (4-year) program of transportation projects for implementation through which the MPOs are required to establish system performance goals and outcomes as part of the metropolitan transportation planning process, and direct their investments toward meeting those system performance outcomes.

Our \$359 million request will ensure that MPOs have adequate resources to conduct the metropolitan planning process. Furthermore, this program supports the Secretary's safety and infrastructure priorities by ensuring that transportation investments follow a coordinated transportation planning process and are directed towards system performance goals.

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

This request will ensure that MPOs direct investments appropriately toward improving transportation system outcomes in a safe, transparent, and accountable manner while engaging the public, elected officials, and other stakeholders in the process. MPOs will then use Federal transportation funds more efficiently and effectively, and focus on the national goal areas identified in MAP-21 and continued in the FAST Act.

## Detailed Justification Metropolitan Transportation Planning

### What is the request and what funds are currently spent on the program?

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#### FY 2020 – Metropolitan Transportation Planning (\$359 million) (\$000)

Program Activity	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request
Federal-aid Highways				
Metropolitan Transportation Planning				
Metropolitan Transportation Planning	342,733	350,278	350,278	358,516
<b>Total</b>	<b>342,733</b>	<b>350,278</b>	<b>350,278</b>	<b>358,516</b>

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

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The FAST Act requires census-designated urbanized areas over 50,000 in population to designate an MPO to conduct a continuing, cooperative, and comprehensive transportation planning process as a condition of receiving Federal funds for transportation projects. MPOs use metropolitan planning (PL) funds for multimodal transportation planning and programming in metropolitan areas. Metropolitan planning activities include the collection and analysis of data on demographics, trends, and system performance; travel demand and system performance forecasting; identification and prioritization of transportation system improvement needs; and coordination of the planning process and decision making with the public, elected officials, and stakeholder groups.

Metropolitan areas are comprised of multiple governmental agencies and jurisdictions, which have an interest in and have needs for transportation investment. Through a coordinated, regional approach to planning, an MPO engages the local jurisdictions as well as the State DOT and transit operators in a regional process that identifies the needs and investment priorities for the region. The results are a long range (20-year) transportation plan and a shorter term (4-year) program of transportation projects for implementation. MAP-21 added a performance based approach to the metropolitan and statewide transportation planning processes, which is continued in the FAST Act. MPOs must establish system performance goals and outcomes as part of the metropolitan transportation planning process, and direct their investments toward meeting those system performance outcomes. By ensuring that transportation investments follow a coordinated transportation planning process and are directed towards system performance goals, the PL program supports the Secretary’s priorities of safety and infrastructure.

In support of the transition to a performance-driven, outcome-based planning process, the FAST Act requires MPOs to have a performance-based process for developing their Transportation Improvement Programs (TIPs). The FAST Act has requirements for resiliency, and stormwater runoff mitigation, which MPOs will have to incorporate into their planning process. Public participation is enhanced through additional opportunities for the public to participate and comment, such as when an MPO chooses to conduct scenario planning. The addition of public

port authorities to the list of interested parties provides another opportunity for the public to comment on the metropolitan plan.

Our \$359 million FY 2020 budget request will ensure that the PL program has adequate resources for MPOs to conduct the metropolitan planning processes and direct investments appropriately toward improving transportation system outcomes while engaging the public, elected officials, and other stakeholders. The current total number of MPOs is 404, up from 384 before the 2010 census.

These funds allow each MPO to carry out a coordinated transportation planning process and develop long range transportation plans and transportation improvement programs that make effective use of limited transportation funding. These fiscally-constrained, prioritized plans and programs account for transportation system performance needs, future population and employment, future land use, economic development, public involvement, multimodal considerations and connectivity (including bicycle, pedestrian, highway, and transit), freight movement, environmental mitigation, transportation systems operation, safety, and congestion mitigation. The slight increase in program funds will provide MPOs with financial resources to aid in the implementation of the FAST Act metropolitan planning provisions such as performance-based planning and programming, and adding transit representation to MPOs serving transportation management areas.

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

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This request will ensure that MPOs direct investments appropriately toward improving transportation system outcomes in a safe, transparent, and accountable manner while engaging the public, elected officials, and other stakeholders in the process. MPOs will then use Federal transportation funds more efficiently and effectively, and focus on the national goal areas of a continuing, cooperative, and comprehensive planning process identified in MAP-21 and continued in the FAST Act. MPOs' use of performance measures and targets in the decision making process will ensure transparency, and their reporting of progress toward achieving performance targets will lead to improved accountability.

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## **Executive Summary**

### **Infrastructure for Rebuilding America**

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#### **What is the request and what funds are currently spent on the program?**

As authorized in the Fixing America's Surface Transportation (FAST) Act, \$1 billion is requested in FY 2020 out of the Highway Trust Fund for a discretionary grant program to support highway and freight projects of national or regional significance. The FY 2018 actual funding level is \$900 million. The FY 2019 enacted funding level is \$950 million. An additional \$1.035 billion is requested for this program for FY 2020 out of the General Fund and is reflected in the Office of the Secretary's Congressional Justification.

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

The Infrastructure for Rebuilding America discretionary grant program (INFRA) supports the Secretary's priorities by advancing nationally significant freight and highway projects to improve the safety, efficiency and reliability of the movement of freight and people. This program allows States, metropolitan planning organizations, local governments and other eligible entities to apply for funding to complete projects that improve safety, generate economic benefits, reduce congestion, enhance resiliency, and hold the greatest promise to eliminate freight bottlenecks and improve critical freight movements.

The FY 2020 budget request of \$1 billion for this program will advance critical highway and bridge projects on the National Highway Freight Network (NHFN) and the National Highway System (NHS) that improve the safe, secure, and efficient movement of people and goods throughout the U.S., and improve the national economy. The program also supports freight and highway projects that are multimodal, multi-jurisdictional, complex, or involve partnership with the private sector – projects which are difficult to develop and implement using other Federal and State funding programs.

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

This program, which advances nationally significant freight and highway projects, offers public-sector agencies and their private-sector partners a path forward to make real improvements in highway and freight infrastructure and operations that will leverage Federal investment. Projects supported by this program provide public benefits including improved national and regional economic vitality, innovation, and safety in both rural and urban areas.

The Department's approach for implementing INFRA addresses critical issues facing the nation's highways and bridges. Projects already funded by this program are fixing aging infrastructure and providing enhanced safety, capacity, and connectivity for highways and the freight system. This program creates opportunities for all levels of government and the private sector to partner in efforts to fund infrastructure, increasing accountability across a broader range of system providers and operators and leveraging Federal funding. The program also encourages innovative approaches to improve the necessary processes for building significant projects.

## Detailed Justification Infrastructure for Rebuilding America

### What is the request and what funds are currently spent on the program?

#### FY 2020 – Infrastructure for Rebuilding America (\$1.00 billion)<sup>1</sup> (\$000)

Program Activity	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request
Federal-aid Highways				
<b>Nationally Significant Freight and Highway Projects</b>				
Nationally Significant Freight and Highway Projects	900,000	950,000	950,000	1,000,000
<b>Total</b>	<b>900,000</b>	<b>950,000</b>	<b>950,000</b>	<b>1,000,000</b>

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

In FY 2017, the Department restructured the administration of the Nationally Significant Freight and Highway Projects (NSFHP) program, identified in FY 2016 and FY 2017 as “FASTLANE,” and retitled it the “Infrastructure for Rebuilding America (INFRA)” discretionary grant program. INFRA is a discretionary grant program that provides financial assistance to States, metropolitan planning organizations, Tribal governments, special purpose districts and port authorities with a transportation function, and local governments to complete projects that align with the program’s statutory goals to:

- Improve safety, efficiency, and reliability of the movement of freight and people;
- Generate national or regional economic benefits and increase the global economic competitiveness of the U.S.;
- Reduce highway congestion and bottlenecks;
- Improve connectivity between modes of freight transportation;
- Enhance the resiliency of critical highway infrastructure and help protect the environment;
- Improve roadways vital to national energy security; and
- Address the impact of population growth on the movement of people and freight.

FY 2020 funds will be used to make awards that adhere to the statutory requirements for the NSFHP established in the FAST Act, while increasing the impact of projects by leveraging capital and allowing innovation in the project delivery and permitting processes, including public-private partnerships. INFRA promotes innovative safety solutions that will improve our transportation system. Additionally, INFRA also targets performance and accountability in project delivery and operations.

<sup>1</sup> An additional \$1.035 billion is requested for this program for FY 2020 out of the General Fund and is reflected in the Office of the Secretary’s Congressional Justification. The Department’s total request for this program for FY 2020 is \$2.035 billion.

The program is anticipated to have a significant effect on the ability of the U.S. to meet the growth in freight and passenger demand in a responsible, effective, and safer way. Nationally and regionally significant highway and freight projects are often multimodal, multi-jurisdictional, complex, or involve partnership with the private sector, making them difficult to efficiently implement under other Federal and State funding programs.

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

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To maximize the value of INFRA funds, the Department is focusing this competitive grant program on transportation infrastructure projects that support four key objectives:

- *Support for National or Regional Economic Vitality* – Investments in infrastructure have a positive effect on the national economy, and freight investment is in high demand. Analyses confirm that an efficient, reliable transportation system enables the economic competitiveness that is vital to maintaining economic health and supporting employment for the Nation, States, and localities. Disruptions to the speed and reliability of freight transportation add directly and indirectly to business costs, export costs, and the cost of consumer goods; delay receipt of goods and services; and impede the ability of industry to support jobs.

In keeping with the FAST Act requirements and to support rural communities, at least 25 percent of the funds provided for INFRA grants are awarded to projects in rural areas. The remainder of the funding benefits projects across the Nation, in cities, on freight corridors, on highways, and at port and rail facilities that offer benefits to the freight system. Through INFRA, the Department is committed to strengthening the ability of rural communities to access national and international trade markets, and supporting regional economic development. For example, in FY 2018, the Department selected 13 projects in rural areas to increase freight mobility and produce greater economic opportunity.

- *Leveraging of Federal Funding* – The restructuring of the program aims to increase the total investment by State, local, and private partners. To maximize the impact of INFRA awards, the Department will seek to leverage INFRA funding through non-Federal contributions. In making award decisions, the Department will give priority consideration to projects that use all available non-Federal resources for development, construction, operations and maintenance. The FY 2017 and 2018 awards of \$1.5 billion leveraged over \$7.6 billion in total investment in transportation infrastructure around the country. In FY 2017, the Department awarded nearly \$78.8 million to support 10 small infrastructure projects across the country, leveraging over \$216.9 million in infrastructure investment in 10 States. In FY 2018, the Department awarded \$1.53 billion in remaining FY 2017 and FY 2018 funds to support 26 (23 large and 6 small) infrastructure projects, leveraging \$7.6 billion of investment in 23 States. Based on the current solicitation, the Department will support \$855 to \$905.5 million in Federal infrastructure investment in FY 2019.

- *Potential for Innovation* – The Department’s solicitation for INFRA projects puts an emphasis on applications that deploy innovative technology and expanded access to broadband; use innovative project delivery practices; and innovative financing. The Department anticipates future INFRA projects will support the integration of new technology and facilitate increased public and private sector collaboration.
- *Performance and Accountability* – INFRA will hold recipients accountable for performance gauged by achieving specific, measurable outcomes, addressing full lifecycle costs, and a willingness to condition the award funding on achieving certain Departmental goals. The Department is looking for linkage to reaching construction and project completion in a timely manner; achieving transportation performance objectives that support economic vitality or improve safety; and making specific State or local policy changes that facilitate interstate commerce.

In some cases, the INFRA Program supports projects that would not otherwise advance to construction and address critical infrastructure needs without receiving an INFRA grant. For example, \$160 million was awarded to the Wisconsin Department of Transportation for the I-94 North-South Freeway Project in Milwaukee, Racine and Kenosha Counties with a total project cost exceeding \$492 million. The INFRA grant leveraged other funding sources to expand Interstate 94 in southeast rural Wisconsin and correct obsolete designs on the current facility by reconstructing 6 interchanges and widening 19 miles of the Interstate from 6 to 8 lanes. This is the final component of a 36-mile corridor improvement project between Chicago and Milwaukee. The project supports growth and economic vitality in southeastern Wisconsin by generating regional mobility and safety benefits. Estimated to produce significant travel time savings and reduce traffic crashes and injuries through added capacity and improved interchange designs, this project will be completed nearly 11 years sooner due to INFRA grant funding.

In another example, the Interstate 10 Phoenix to Tucson Corridor Improvements project in rural Arizona will advance a critically needed safety and efficiency project. The Arizona Department of Transportation received \$54 million for a total project cost of over \$157 million for improvements along the I-10 corridor. This grant will help add capacity, address deficiencies and implement a dust storm warning system. The project improves freight throughput at three bottlenecks. It is expected to reduce traffic fatalities and serious injuries, as well as the frequency and severity of accident by realigning and widening I-10 from two to three lanes, addressing substandard geometric features and incorporating Intelligent Transportation System (ITS) technology. Between Tucson and Phoenix, I-10 carries as many as 120,000 vehicles per day – up to 30 percent of which are trucks. The corridor averages 10,000 units (165,000 tons) of freight per day.

The necessity of this program is evidenced by the large number and value of applications received during the solicitations from FY 2016 to FY 2018. The interest in INFRA grants has steadily increased over the last few years, and it speaks to the significant demand for operations investment in the Nation’s freight and highway infrastructure. In the first call for grants under this program, the Department received 212 applications requesting approximately \$9.8 billion. In the second round, the Department received 195 applications requesting approximately \$7.15

billion. In the third round, the Department received 234 applications requesting approximately \$12.3 billion.

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## Executive Summary

### Federal Lands & Tribal Transportation Programs

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#### **What is the request and what funds are currently spent on the program?**

Our FY 2020 budget requests \$1.15 billion for the Federal Lands and Tribal Transportation Programs (FLTTP) to provide funding for transportation construction and engineering projects on Federal and Tribal lands. The FY 2018 actual funding level is \$1.10 billion. The FY 2019 enacted funding level is \$1.13 billion.

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

The FLTTP is comprised of three primary programs:

- **Federal Lands Transportation Program (FLTTP)** – \$375 million for projects that improve multimodal transportation on high-priority roads, bridges, trails, and transit systems within the Federal estate (national forests, parks, wildlife refuges, and recreation areas and other Federal public lands) on infrastructure *owned by the Federal Government*.
- **Federal Lands Access Program (FLAP)** – \$270 million for projects that improve multimodal transportation on roads, bridges, trails, and transit systems that access the Federal estate on infrastructure *owned by States and local governments*, with an emphasis on high-use recreation sites.
- **Tribal Transportation Program (TTP)** – \$505 million for projects to provide safe and adequate transportation and public road access to and within Indian reservations, Indian lands, and Alaska Native Village communities. The TTP contributes to the economic development, self-determination, and employment of Indians and Native Americans.

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

These programs support safe, seamless, and multimodal transportation access to and within Federal and Tribal lands. About 15 percent of all recreational experiences occur on Federal lands. Rural areas benefit greatly from these programs as many rural townships' local economies, adjacent to national parks, forests, and other Federal and Tribal lands, are fueled by recreational opportunities within the Federal estate. A reliable and safe surface transportation infrastructure that provides access to these recreational areas is critically important to sustaining and growing jobs in these remote areas.

In the absence of these programs, it is highly likely, based on historical experiences, that the roads, bridges, trails, and transit systems providing vital access to our Federal treasures and resources, and community services supporting Tribal governments, will fall into severe disrepair, jeopardizing the public's and Tribal members' ability to access these areas and services.

## Detailed Justification Federal Lands Transportation Program

### What is the request and what funds are currently spent on the program?

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#### FY 2020 – Federal Lands Transportation Program (\$375 million) (\$000)

Program Activity	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request
Federal-aid Highways				
<b>Federal Lands and Tribal Transportation Programs</b>				
Federal Lands Transportation Program	355,000	365,000	365,000	375,000
Federal Lands Access Program	260,000	265,000	265,000	270,000
Tribal Transportation Program	485,000	495,000	495,000	505,000
<b>Total</b>	<b>1,100,000</b>	<b>1,125,000</b>	<b>1,125,000</b>	<b>1,150,000</b>

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

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The Federal Government owns approximately 30 percent of the land in the United States. This land is primarily rural in nature, though there are many Federal lands in urban settings, such as the Golden Gate National Recreation Area in San Francisco, CA. The performance-based Federal Lands Transportation Program (FLTP) supports critical transportation needs within the country’s transportation network by providing access *within* our national parks, forests, wildlife refuges, recreation areas, and other Federal public lands.

Of these funds, FHWA will:

- Non-competitively allocate \$349 million to three Federal Land Management Agencies (FLMAs): the National Park Service, the U.S. Fish and Wildlife Service, and the U.S. Forest Service; and
- Competitively distribute the remainder among three other FLMAs (the Bureau of Land Management, the Bureau of Reclamation, and the U.S. Army Corps of Engineers, and the Presidio Trust Corporation, an eligible independent Federal agency with natural resource and land management responsibilities.

FLMAs are required to identify and maintain a national transportation facility inventory and report annually on safety metrics and the condition of their roads and bridges in their national Federal lands transportation facility inventory.

Each agency submits a single investment plan which describes how they intend to use their funds. Each proposed investment plan is required to demonstrate how it supports authorizing legislation and the Secretary of Transportation’s goals and principles on safety, critical infrastructure, innovation, and leveraging other funds from public and private sources.

Across the Federal estate from these seven FLMAs combined, this program supports:

- \$18 billion in deferred maintenance needs;
- 89,000 miles of roads;
- 8,250 bridges;
- access to over 693 million acres; and
- 979 million visitors.

The FLTP, using performance-based management principles, focuses on the subset of the Federal transportation infrastructure that is nationally significant; the roads, bridges, trails, or transit systems which provide access to high-use recreation areas or provide critical access to resources to support the economy. In this manner, critical funding is strategically directed to those major transportation facilities that provide access to the most popular recreational destination points within the Federal estate and thereby generate the greatest return on investment to land owners, communities adjacent to Federal lands, and the American people who are looking for seamless transportation to these popular locations.

The FLTP base funding provides an effective mechanism to leverage resources from other Federal and non-Federal funding sources. Many projects accessing Federal lands connect to other public roads owned by States and/or local governments. The Federal funding is frequently pooled with other State and/or county funds to deliver a single project consisting of multiple owners. This leveraging saves taxpayers' dollars and expedites project delivery through a single acquisition.

FLTP reserves a percentage of the funding, not to exceed 5 percent, for long range transportation planning, bridge inspections, management systems, and collection of road and bridge inventory and condition data by FLMAs. This set-aside also supplements costs associated with bridge inspection activities on federally-owned bridges which are not on the national Federal transportation facility inventory. The set-aside focuses on comprehensive multi-agency planning efforts and positions the program more effectively to support performance management.

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

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The FLTP outcomes include completed infrastructure projects of paramount importance to improving safe, multimodal access on Federal lands, supporting increasing visitation to recreational areas on public lands, expanding economic development and creating new jobs in and around Federal lands that contribute to the national economy. These collectively result in more options to improve the quality of life for all Americans, while increasing safety, preserving the environment, and reducing congestion at our national treasures.

Based on the requested amount, we anticipate the following accomplishments with these vital funds:

- Improve about 680 miles of roadways accessing Federal lands;
- Enhance safety through innovation deployments on projects;
- Complete over 70 bridge projects to improve safety and mobility;
- Complete approximately 175 active project designs; and
- Advance 105 active construction projects to completion.

The need and demand for recreation for the growing U.S. population is increasing. Recent national trends indicate that national forests and parks that were once 60-90 minutes away from urban areas are now 15-20 minutes away as suburbs continue to expand further from the urban cores. Outdoor recreation is playing a larger role in our nation's health and quality of life. Recreational spending is a significant portion of the hundreds of billions in travel and tourism dollars that are contributed to the U.S. economy every year. It is one of the fastest growing sectors of our economy—and more than 20 percent of Americans' recreational activities take place on Federal lands.

The FLTP provides attractive opportunities for big and small businesses alike. It provides access to those Federal lands for a wide variety of recreational activities: hunting, fishing, hiking, camping, RVing, skiing, snowshoeing, swimming, snorkeling, diving, running, biking, bird watching, sightseeing, horseback riding, driving for pleasure, snowmobiling, boating, waterskiing, and countless other outdoor activities. These activities create thousands of jobs for local communities surrounding Federal lands and support jobs for major equipment and supply manufacturers.

Effective access to these federally-owned treasures is dependent on safe and reliable infrastructure. This program addresses this need by funding the projects that make a positive difference for America.

## Detailed Justification Federal Lands Access Program

### What is the request and what funds are currently spent on the program?

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#### FY 2020 – Federal Lands Access Program (\$270 million) (\$000)

Program Activity	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request
Federal-aid Highways				
<b>Federal Lands and Tribal Transportation Programs</b>				
Federal Lands Transportation Program	355,000	365,000	365,000	375,000
Federal Lands Access Program	260,000	265,000	265,000	270,000
Tribal Transportation Program	485,000	495,000	495,000	505,000
<b>Total</b>	<b>1,100,000</b>	<b>1,125,000</b>	<b>1,125,000</b>	<b>1,150,000</b>

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

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The Federal Lands Access Program (FLAP) funds and supports nationally significant transportation facilities owned by State, county, local, and Tribal governments, which provide direct access to lands owned and operated by the Federal Government, e.g., national parks, forests, refuges, military installations. FLAP (23 U.S.C. 204) and the FLTP (23 U.S.C. 203) are separate yet complementary programs that support seamless transportation access to/through Federal lands.

To promote efficient and effective access to destination points within the Federal estate, it is vitally important that the local and State owned roads that connect with Federal Lands Transportation facilities, just outside a park or forest boundary, are in safe and good condition so the traveling public can seamlessly access these Federal properties and enjoy the recreational opportunities therein.

Frequently, the State and locally-owned facilities for accessing Federal lands are lower classification roads, e.g., minor, 2-lane collectors, that *are not* eligible under the Federal-aid highway system. Historically, prior to the authorization of FLAP, many of these important State and county owned roads fell into a state of disrepair due to constrained transportation resources. FLAP addresses this gap and serves as a vital component within the Federal Lands and Tribal Transportation Programs.

Critical funding resources will be targeted to those State and locally-owned roads and bridges that provide access to the most highly-used recreational destination points within the Federal estate and thereby produce the greatest return on investment to land owners, communities adjacent to Federal lands, and the American people, who are looking for seamless transportation to these popular recreational locations.

The Federal Government owns about 30 percent of the land in the United States. This land is primarily rural in nature, though there are many Federal lands in urban settings, such as the

National Mall and Memorial Parks in Washington, D.C. This program, in conjunction with the FLTP, supports safe, seamless, and multimodal access to and within our national parks, national forests, national wildlife refuges, and many other Federal lands.

The structure of the \$270 million FLAP is a formula distribution by State. Since all States have Federal lands of some type, each State benefits from some portion of this funding. The formula criteria includes visitation to Federal lands, Federal public road miles, number of Federal bridges, and the amount of Federal public lands within each State. Further, 80 percent of the funds are directed towards the 12 western States with at least 1.5 percent of total Federal lands: Alaska, Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

The selection of nationally significant projects in each State is made locally by a Program Decisions Committee comprised of representatives from the State DOT, FHWA, and county or local governments. These decisions are made in coordination with FLMAs. Funds are directed towards transportation infrastructure, owned by States, counties, Tribes, or local governments, which supports safety and provides critical access to Federal lands with high-use Federal recreation areas.

FLAP funds are commonly pooled with other Federal and non-Federal funding sources and serve as an effective mechanism for leveraging taxpayers' dollars in rural America. Through funding flexibilities in current law, coupled with integrated transportation planning between FLMAs and States, projects, that otherwise may have been constructed separately, can be combined into a single project and be delivered cheaper and quicker.

FLAP reserves a percentage of the funding, not to exceed 5 percent, for long range transportation planning, bridge inspections, management systems, and collection of road and bridge inventory and condition data by FLMAs. This set-aside also supplements costs associated with bridge inspection activities on federally-owned bridges which are not on the national Federal transportation facility inventory. The set-aside focuses on comprehensive multi-agency planning efforts and positions the program more effectively to support performance management.

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

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FLAP outcomes include completed infrastructure projects that will improve multimodal access to/through Federal lands, support increasing visitation to recreational areas on public lands, expand economic development and create new jobs in and around Federal lands that contribute to the national economy. These collectively result in more options to improve the quality of life for all Americans, while preserving the environment and reducing congestion in our national treasures.

Based on the requested amount, we anticipate the following accomplishments with these vital funds:

- Improve about 150 miles of roadways accessing Federal lands;
- Improve safety through use of innovations and design;
- Complete over 10 bridge projects to improve safety and mobility;

- Complete approximately 135 active project designs; and
- Advance 105 active construction projects to completion.

Transportation investments stemming from FLAP allow visitors from the United States and numerous countries to experience America's treasures in a safe and seamless manner.

**Detailed Justification  
Tribal Transportation Program**

**What is the request and what funds are currently spent on the program?**

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**FY 2020 – Tribal Transportation Program (\$505 million)**  
(\$000)

<u>Program Activity</u>	<u>FY 2018 Actual</u>	<u>FY 2019 Annualized CR</u>	<u>FY 2019 Enacted</u>	<u>FY 2020 Request</u>
Federal-aid Highways				
<b>Federal Lands and Tribal Transportation Programs</b>				
Federal Lands Transportation Program	355,000	365,000	365,000	375,000
Federal Lands Access Program	260,000	265,000	265,000	270,000
Tribal Transportation Program	485,000	495,000	495,000	505,000
<b>Total</b>	<b>1,100,000</b>	<b>1,125,000</b>	<b>1,125,000</b>	<b>1,150,000</b>

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

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The performance based Tribal Transportation Program (TTP) promotes a coordinated approach to highway construction in Indian country on roads owned by the Bureau of Indian Affairs (BIA), sovereign Tribal governments, and other roads owned by States, counties, or local governments, which provide access to or are located within Indian communities.

The anticipated FY 2020 accomplishments will include the design and construction of Tribal transportation infrastructure consistent with strategic long-range transportation plans and goals of the Tribes and DOT, and benefit facilities included in the National Tribal Transportation Facility Inventory (NTTFI). These roads, trails, bridges, and other facilities provide safe and adequate transportation for public access to, within, and through Indian reservations and native communities for Native Americans, visitors, recreational users, resource users, and others, while contributing to the health, safety and economic development of Native American communities. There are currently more than 161,000 miles of roads on the NTTFI. Approximately 31,500 miles are identified as being BIA routes and another 27,000 miles as Tribal routes. All the remaining mileage is owned by others including States, counties, townships, boroughs, or other Federal agencies.

The structure and allocation of the \$505 million to the 573 federally-recognized Tribes is based on a statutory formula that was established in the Moving Ahead for Progress in the 21st Century Act (MAP-21) and carried forward in the Fixing America’s Surface Transportation (FAST) Act (23 U.S.C. 202(b)). This statutory funding formula replaced a previously used funding formula that was developed through Negotiated Rulemaking during the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) and published in 2004. The current statutory funding formula has various factors and takedowns, but ultimately determines a “tribal share percentage” for each federally-recognized Tribe. This percentage is then applied to the year’s available program funding to calculate each Tribe’s share of TTP funding for that year. Since the transition to the new formula (as established in MAP-21) has been completed, the FY 2020 tribal share “percentages” will closely reflect those percentages used to distribute funding in FY 2017, FY 2018, and FY 2019.

The program funds transportation planning, research, maintenance, engineering, rehabilitation, and construction of roads, bridges, trails, and transit systems that provide access to, are within, or are adjacent to Tribal lands. The BIA and Tribes are required to maintain a national road and bridge inventory, and report annually on the state of good repair of the TTP system. In addition, each user of TTP funds is statutorily required to report on their obligations and expenditures of TTP funds each year as well as on the number of jobs created and retained by the funding.

The TTP advances transportation accessibility in Tribal communities. This program provides better access to housing, emergency services, schools, stores, jobs, and medical services. Access to these basic services improves the quality of life on Tribal lands.

**The TTP Safety Fund (TTPSF)** supports the Secretary's data driven safety priorities. Since the TTPSF was created under MAP-21, FHWA has awarded \$52 million to 420 Indian Tribes for 548 projects, including development of safety plans to address safety issues in Indian country over four rounds of competitive grants. The intent of the TTPSF is to prevent and reduce deaths or serious injuries in transportation-related crashes on Tribal lands where statistics are consistently significant. The TTPSF emphasizes the development of strategic Transportation Safety Plans using a data-driven process as a means for Tribes to determine how transportation safety needs will be addressed in Tribal communities. Tribal Transportation Safety Plans are a tool used to identify risk factors that lead to serious injury or death and organize various entities to strategically reduce risk. TTPSF also places an emphasis on assessment and improvement of traffic records systems (primarily crash data systems). Ultimately, planning and data analysis should lead to the construction of infrastructure projects that improve transportation safety.

Projects submitted to the TTPSF must be data-driven, be included in a transportation safety plan, be part of a comprehensive approach to safety, and correct or improve a hazardous road location or feature, or address a highway safety problem. Safety data is considered critical for informed transportation safety decisions.

**The TTP Bridge Program (TTPBP)** can be used to carry out any planning, design, engineering, preconstruction, construction, and inspection of a project to replace, rehabilitate, seismically retrofit, paint, apply calcium magnesium acetate, sodium acetate/formate, or other environmentally acceptable, minimally corrosive anti-icing and deicing composition; or to implement any countermeasure for eligible tribal transportation facility bridges, including multiple-pipe culverts. To be eligible, a bridge must have an opening of at least 20 feet, be classified as a tribal transportation facility, must be a deficient bridge, and listed on the FHWA National Bridge Inventory (NBI). Since MAP-21, the TTPBP has funded 146 bridge replacement projects for a total of about \$63 million.

The TTPBP has a rolling application process that occurs at the end of the first, second, and third quarter. Projects are programmed after FHWA receives a completed application package. Each project is acknowledged as either BIA/Tribal owned or non-BIA/Tribal-owned, and placed in a preliminary engineering or construction queue. FHWA ranks and prioritizes all projects based on bridge sufficiency rating, bridge condition status, bridges on school bus routes, detour length, average daily traffic, and truck average daily traffic.

The TTP has the following statutory set-asides:

- A two percent set-aside for Transportation Planning. These funds are provided to each Tribe for use in carrying out transportation planning activities as identified in 25 CFR 170;
- A three percent set-aside for national bridge rehabilitation and replacement. The set-aside will be administered using the existing regulatory-defined grant program which prioritizes funds on the bridges with the lowest sufficiency rating. Applications are submitted by Tribes any fiscal year and are funded on a quarterly basis;
- A two percent set-aside for Transportation Safety Activities. These funds are provided to the Tribes on a competitive basis for safety projects eligible under the Highway Safety Improvement Program; and
- A five percent set-aside for administration of the program. Funding from this set-aside helps to provide funding for the seven Tribal Technical Assistance Program Centers, which provide technical assistance and training to Tribes, oversight and maintenance of the TTP Inventory, funding for the TTP Coordinating Committee, and funding for the BIA, BIA-DOT, and FHWA staff responsible for carrying out the Stewardship and Oversight and the inherent Federal functions/responsibilities of the program. These inherent Federal functions include fund distribution, technical assistance, environmental documentation review and approval, project construction inspection, and the travel by the Federal employees to carry out these activities.

The requested \$505 million supports a more comprehensive, coordinated, and goal-oriented approach to Tribal transportation infrastructure management.

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

The TTP provides funding to improve the access to basic community services for all the 567 federally-recognized sovereign Tribal governments. This program directly supports the Secretary's infrastructure and safety priorities by improving the transportation infrastructure to support better and safer access to housing, emergency services, schools, stores, places of employment, and medical services. On some rural reservations, a "complete street" means an all-weather road instead of a native-surface road. The TTP will promote access to Tribal lands for commerce and economic growth within Tribal communities. More than 8 billion vehicle miles are traveled annually on the TTP system, despite more than 60 percent of the system being unpaved.

## Executive Summary

### Research, Technology & Education (RT&E) Program

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#### **What is the request and what funds are currently spent on the program?**

The FY 2020 request for the RT&E Program is \$420 million. The FY 2018 actual funding level is \$418 million. The FY 2019 enacted funding level is \$420 million.

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

The RT&E Program is comprised of the following subprograms:

- Highway Research & Development Program (HRD): \$125 million for research and development to produce transformative solutions to improve safety, accelerate projects, and better meet operations, policy, and infrastructure needs.
- Technology & Innovation Deployment Program (TIDP): \$67.5 million to turn research products into proven technologies that address emerging needs, and to promote rapid adoption of proven, market-ready technologies and innovations.
- Intelligent Transportation Systems Program (ITS): \$100 million for innovative research and rapid deployment of applications and tools that facilitate a safe, connected, integrated, and automated transportation system that is information-intensive to better serve the interests of users and be responsive to the needs of travelers and system operators.
- Training & Education Program (T&E): \$24 million to train the current and future transportation workforce, transferring knowledge quickly for effective deployment.
- State Planning and Research program (SP&R – Research portion – \$214 million -- Non-add): The States must set aside \$214 million of their formula program funds to conduct research and deploy technologies and innovations of local, regional, and national interest.
- University Transportation Centers (\$77.5 million), and Bureau of Transportation Statistics (\$26 million): These programs are administered by the Office of the Assistant Secretary for Research and Technology.

The FHWA RT&E program delivers research, development, and training to address critical knowledge gaps that are not effectively addressed by other highway research sponsors and to accelerate implementation of technologies to meet current and future highway transportation needs. These programs seek to generate new solutions; provide better decision-support data, information, and tools; and build effective partnerships that will allow our Nation to make optimal investments in the transportation system. The research products are transferred to the end users and/or made available in the marketplace through the various technology transfer mechanisms supported by the FHWA RT&E Program. Research and development, technology deployment, and training are the highway program's primary means for developing and advancing transformative solutions that address real-world transportation issues to support and improve the transportation system.

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

FHWA's contributions to researching and implementing transformative innovations and technologies are changing the way roads, bridges, and other facilities are planned, designed, built, managed, and maintained. Innovations developed and/or advanced through FHWA's RT&E program enable a safer and more reliable transportation system that is cost-effective and sustainable, thus improving overall economic competitiveness and quality of life.

**Detailed Justification  
Highway Research and Development Program (HRD)**

**What is the request and what funds are currently spent on the program?**

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**FY 2020 – Highway Research and Development Program (\$125 million)  
(\$000)**

<u>Program Activity</u>	<u>FY 2018 Actual</u>	<u>FY 2019 Annualized CR</u>	<u>FY 2019 Enacted</u>	<u>FY 2020 Request</u>
Federal-aid Highways				
<b>Research, Technology &amp; Education Program</b>				
Highway Research and Development Program <sup>1/</sup>	125,000	125,000	125,000	125,000
Technology and Innovation Deployment Program <sup>1/</sup>	67,500	67,500	67,500	67,500
Intelligent Transportation Systems Program <sup>1/</sup>	100,000	100,000	100,000	100,000
Training and Education	24,000	24,000	24,000	24,000
University Transportation Centers <sup>2/</sup>	75,000	77,500	77,500	77,500
Bureau of Transportation Statistics <sup>2/</sup>	26,000	26,000	26,000	26,000
State Planning & Research (SP&R research portion) [Non-Add]	[204,214]	[208,826]	[208,826]	[213,831]
<b>Total</b>	<b>417,500</b>	<b>420,000</b>	<b>420,000</b>	<b>420,000</b>

<sup>1/</sup> Per the FAST Act, the Advanced Transportation & Congestion Management Technologies Deployment Program (ATCMTD) will be included in the Technology and Innovation Deployment Program and will be funded by set-asides from the Highway Research and Development Program, Technology and Innovation Deployment Program, and Intelligent Transportation Systems Program.

The funding levels shown for these 3 programs are pre-ATCMTD set-aside.

<sup>2/</sup> Administered by the Office of the Assistant Secretary for Research and Technology.

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

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This request enables the Department to conduct, sponsor, sustain, and guide highway research and development activities that address current and emerging highway challenges and provides data and information to support policy decisions. This request aligns with the Secretary’s priorities and provides the funding required to support a comprehensive and coordinated research and development program that will advance the safety of the Nation’s highways; enhance the durability, resilience, sustainability of the highway infrastructure, lead the development and deployment of innovative technologies; and support reform that leads to increased accountability.

The FHWA supports innovation development as a continuous cycle by working with stakeholders and private partners to identify and invest in emerging needs. The agency has a long history of strong partnerships with the States, Federal agencies, academia, and private industry to coordinate efforts and leverage the unique capabilities of each to advance shared goals. In addition, FHWA develops joint strategies to address U.S. Department of Transportation (USDOT) goals with modal stakeholders. Leveraging the outputs of this process, the Agency sets goals to address the national gaps and opportunities through research and technology deployment.

FHWA’s Office of Research, Development, and Technology (RD&T) is located at the Turner-Fairbank Highway Research Center (TFHRC), a federally-owned and operated national research facility in McLean, Virginia. The TFHRC houses more than 20 laboratories and support

facilities, and conducts exploratory and applied research. The TFHRC staff administers the majority of FHWA's research and development activities in the areas of infrastructure, operations, and safety. Research in areas of Intelligent Transportation Systems (ITS), policy, innovative finance, planning, operations, and the environment is primarily conducted or administered by FHWA offices located at USDOT Headquarters.

The Highway Research and Development (HRD) Program is administered in conjunction with the Technology and Innovation Deployment Program (TIDP) and supports the Training and Education Program (T&E), the Intelligent Transportation System (ITS) Program, and the State Planning and Research (SP&R) Program.

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

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The programs under FHWA's R&D portfolio cover exploratory advanced research, applied research and development, and initial testing of technological solutions that address emerging needs and support the infrastructure of the future. FHWA's research programs seek to improve safety, reduce congestion, enhance infrastructure design and construction, and provide data and analyses to decision-makers throughout the transportation community.

- **The Safety R&D Program** addresses the contributing factors to deaths and injuries related to roadway design, construction and maintenance, and develops robust data analysis tools that enable transportation professionals to match those contributing factors with cost-effective countermeasures. The FHWA Safety R&D Program invests in topics such as data-driven safety plans to reduce rural roadway departures, as well as analysis of human behavior in response to automated vehicle technologies.

Pedestrian safety is a continuing focus of the broader safety program because annual pedestrian fatalities have been at their highest levels in decades. In FY 2020, data acquired through the 'Analysis of High Visibility Crosswalks Using Naturalistic Driving Study' will leverage vehicle operator behavior to determine how to focus drivers' attention more closely on pedestrian movements. Other planned FY 2020 efforts, such as the 'Development of Pedestrian-Intersection Crash Modification Factors,' will quantify the safety effects of various treatments, giving roadway designers options that are cost-effective while achieving *Road to Zero* objectives. Other work on 'Infrastructure Improvements to Reduce Motorcycle Crashes' will use input from a representative community of rural safety and motorcycle safety professionals to craft safety countermeasures specifically for these vulnerable road users.

- **The Infrastructure R&D Program** engages in forward-looking research that supports safety, durability, resilience, environmental sustainability and asset management. FHWA infrastructure research outcomes stimulate economic growth, productivity and competitiveness through contributions to improved mobility and accessibility. The program will accomplish these outcomes by conducting R&D aimed at improving bridges and roads through the advancement of test methods and specifications, including the promotion of best practices in highway construction and inspection, as well as the development of solutions for steel and concrete bridges that result in improved

infrastructure durability. The Infrastructure area will also provide technical assistance and resources to State and local partners through activities that include developing analytical tools for calculating cost-benefit analysis and program prioritization that are needed by States and Metropolitan Planning Organizations (MPOs) for Transportation Performance Management.

Examples of proposed new research projects in FY20 include the development of a precast, post-tensioned concrete girder and expanded applications for use of handheld spectroscopy for materials acceptance. The Ultra-Girder will be designed to span 300 feet compared to the current limit of 200 feet. A viable concrete girder option that can span 300 feet will increase competition for longer span bridges and lower costs. Handheld spectrometers can quickly and easily identify material constituents in the field and identify conformance with specification or contamination much faster than is currently possible with lab-based methods.

- **The Operations R&D Program** develops innovative technologies and processes that lead to system-wide improvements in how FHWA and its State and local partners manage and improve the efficiency and reliability of the National Highway System (NHS). The FHWA Operations Program will invest in topics such as the impact of automated driving systems (ADS), as well as freight mobility to enhance the movement of goods and support economic competitiveness.

Cooperative Automation is the concept of using *shared maneuvers* performed by automated vehicles to address transportation issues, such as work zones, traffic incidents, adverse weather, recurring congestion, etc. In collaboration with other US DOT modes, State DOTs, Academia, Industry, Automobile OEMs, and Consultants, in FY 2020 FHWA will develop and test shared maneuver applications that address key transportation issues. In conjunction with on-road testing, FHWA will also advance capabilities to assess the potential impacts of Cooperative Automation by incorporating the performance characteristics of Connected and Automated Vehicles into analysis, modeling, and simulation tools.

- **The Policy R&D Program** offers comprehensive quality data; evaluates the impacts of a broad range of policy options; and analyzes current and emerging issues that will impact the way transportation projects are regulated and permitted, and how transportation systems are constructed, operated, and maintained. The Policy Program will continue to explore alternative private sector data sources, improve a variety of data collection methods, take advantage of “big data” for integrated and linked data systems, and support research to identify policies to streamline the regulatory process. The Policy area will conduct important studies on topics such as policy alternatives and system impacts for emerging technologies including shared modes, on-demand transportation, automated and connected vehicles, alternative fuel vehicles, and multimodal corridor investments. Additionally, the Policy area will establish a framework and quantitative tools for assessing market viability and economic impacts of emerging transportation services, including shared mobility, at varying population densities, levels of access, and socio-economic characteristics.

- **The Planning and Environment R&D Program** assesses new tools and processes that consider complex activities with project sponsors, such as: resiliency, safety, the economy and accelerating project delivery to enable better decisions and outcomes. The FHWA Planning and Environment R&D Program will invest in topics including regulatory reform that expedites the environmental review and permitting process and supports the implementation of One Federal Decision. Additionally, this program will develop the next generation of transportation models and scenario planning tools, and evaluate impacts of emerging technologies, including automated and connected vehicles, on system performance. Research examples include:
  - Economic benefits of accelerating project delivery; and
  - Reducing the number of pedestrian incidents and fatalities.
  
- **The Exploratory Advanced Research (EAR)** program conducts longer-term, higher-risk research in all the research program areas. These research products have the potential for dramatic breakthroughs in transportation. The EAR program will support research on advanced topics such as new methods in machine learning and artificial intelligence, as well as next generation technologies for connected vehicles to improve highway system mobility. For FY 2020, emerging research topics include application of machine learning and artificial intelligence for traffic operations and for increasing automation of actionable information from structural sensor systems.

**Detailed Justification  
Technology Innovation and Deployment Program**

**What is the request and what funds are currently spent on the program?**

**FY 2020 – Technology and Innovation Deployment Program (\$67.5 million)  
(\$000)**

<u>Program Activity</u>	<u>FY 2018 Actual</u>	<u>FY 2019 Annualized CR</u>	<u>FY 2019 Enacted</u>	<u>FY 2020 Request</u>
Federal-aid Highways				
<b>Research, Technology &amp; Education Program</b>				
Highway Research and Development Program <sup>1/</sup>	125,000	125,000	125,000	125,000
Technology and Innovation Deployment Program <sup>1/</sup>	67,500	67,500	67,500	67,500
Intelligent Transportation Systems Program <sup>1/</sup>	100,000	100,000	100,000	100,000
Training and Education	24,000	24,000	24,000	24,000
University Transportation Centers <sup>2/</sup>	75,000	77,500	77,500	77,500
Bureau of Transportation Statistics <sup>2/</sup>	26,000	26,000	26,000	26,000
State Planning & Research (SP&R research portion) [Non-Add]	[204,214]	[208,826]	[208,826]	[213,831]
<b>Total</b>	<b>417,500</b>	<b>420,000</b>	<b>420,000</b>	<b>420,000</b>

<sup>1/</sup> Per the FAST Act, the Advanced Transportation & Congestion Management Technologies Deployment Program (ATCMTD) will be included in the Technology and Innovation Deployment Program and will be funded by set-asides from the Highway Research and Development Program, Technology and Innovation Deployment Program, and Intelligent Transportation Systems Program.

The funding levels shown for these 3 programs are pre-ATCMTD set-aside.

<sup>2/</sup> Administered by the Office of the Assistant Secretary for Research and Technology.

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

This request supports the Secretary’s priorities and advances three of the four main goals in the Department’s 2018-2022 Strategic Plan: innovation, safety, and infrastructure. In addition, it will enable the Department to accelerate the integration and adoption of proven innovative practices and technologies into standard usage to significantly improve safety, system efficiency, infrastructure health, reliability and performance, and sustainable communities. The Technology Innovation and Deployment Program (TIDP) will fund efforts to advance research products into proven technologies and demonstrated practices, identify the market forces that will influence successful technology and innovation deployment, and plan and deliver effective technical assistance, training, communication and outreach to promote rapid adoption of proven, market-ready technologies and innovations. The program will continue to actively accelerate the deployment of innovative technologies and practices that improve system safety and the speed and effectiveness of projects that revitalize and rebuild the Nation’s infrastructure.

The TIDP benefits all aspects of highway transportation and includes the following eligible activities:

- Deploying research results and products developed under the Highway Research and Development (HRD) program;
  - Establishing and carrying out demonstration programs;
  - Providing technical assistance and training to transportation agencies and stakeholders;
- and

- Developing tools and methods to enhance and accelerate the adoption of proven innovative practices and technologies into standard usage.

This program will support the deployment of proven technologies and transportation-related innovations and processes through financial and technical assistance, training, peer exchanges, collaboration with industry groups, information, and knowledge exchange. Through its oversight role, FHWA will evaluate the deployment methods to determine effectiveness, assess needed improvements, and document outcomes.

In the early stages, as an innovation or technology moves from research to development, FHWA will seek out willing State, local, and tribal transportation agencies to pilot new technologies or be early adopters. These early adopters often receive financial and technical assistance to mitigate the increased risk of piloting new technologies or initiatives.

As an innovation or technology becomes more mature and is ready for more widespread use, training aids will be developed for delivery and early adopters often become “lead” States. Lead States share best practices, challenges, and successes and encourage others to adopt the innovation. Peer exchanges and pooled funds are used to encourage States or other transportation agencies to directly share knowledge and information and transfer technology.

The TIDP will promote proven, market-ready technologies and innovations. Specific programs will provide resources that enable States and local agencies to accelerate the speed with which innovative technologies and practices enter into standard usage. FHWA Resource Center technical specialists, program office subject matter specialists, and field office personnel will work with State and local agencies to encourage the use of these technologies and practices by their peers as they are best positioned to discuss how these innovations address their transportation issues and provide benefits and efficiencies.

The TIDP is administered in conjunction with the HRD Program and supports the Training and Education Program (T&E), the Intelligent Transportation System (ITS) Program, and the State Planning and Research (SP&R) Program.

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

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Key stakeholders and beneficiaries from this program include State transportation agencies (DOTs), Federal Land Management agencies (FLMAs), local public agencies, tribal transportation agencies, and industry groups. FHWA’s technology deployment programs contained within TIDP seek to improve safety, improve performance, enhance infrastructure design and construction, and provide data and analyses to decision-makers throughout the transportation community. The primary programs to accomplish these goals are:

- Every Day Counts program (EDC): A State & local-based program that identifies and rapidly deploys proven, yet underutilized market-ready innovations to shorten the project delivery process, enhance roadway safety, reduce traffic congestion, and improve environmental sustainability. Proven innovations promoted through EDC facilitate greater efficiency at the State and local levels, saving time, money and resources that can be used to deliver more projects. The EDC program will continue to provide transportation agencies with training, technical support, tools, and resources to advance stakeholder-selected innovations in a manner that best meets their needs. Each State has

used 14 or more of the 43 innovations promoted through EDC since the program's inception, and 28 States have adopted more than 30.

- Accelerated Innovation Deployment (AID) Demonstration program: Provides funding to support the pilot/demonstration of innovations on projects by State DOTs, FLMAAs, tribal governments, metropolitan planning organizations (MPOs), and local governments. Funds will be made available to cover the cost of implementation of an innovation on a project in areas such as planning, financing, operations, pavements, structures, materials, environment, and construction. FHWA established the AID Demonstration program to provide transportation agencies the resources to mitigate risks associated with first-time or early adoption of innovations on transportation projects.
- Accelerating Market Readiness (AMR) program: Supports the advancement of emerging and transformative innovations by matching these innovations to the transportation organizations interested in testing and evaluating them. The AMR program will provide resources for the rapid, national assessment of emerging innovations and for the development of objective, written documentation of these assessments. The AMR Program is intended to help advance the innovations to a more complete market-ready status, which in turn should accelerate the adoption of the innovations by transportation agencies under the EDC program or by other initiatives.
- State Transportation Innovation Council (STIC) Incentive program: A STIC brings together public and private transportation stakeholders to evaluate innovations and spearhead their deployment in each State. The STIC Incentive program provides technical assistance and resources to support the standardizing of innovative practices in a State transportation agency or by other public sector STIC stakeholders.
- Accelerated deployment of pavement technologies: Provides a coordinated and cohesive approach to research, development, technology and deployment activities focused on providing tools, technologies and guidance, and supporting updated policies, to improve the safety, durability, sustainability and cost-effectiveness of highway pavements, and the materials from which highway infrastructure is constructed. Many of these technologies are advanced through EDC and AID programs.
- Technical Resources and Guidance development: FHWA programs and the FHWA Resource Center will use TIDP funding to conduct technology and innovation deployment on other program priorities, provide technical resources to support the implementation of innovations, and develop appropriate guidance to aid in deployment.

**Detailed Justification  
Intelligent Transportation Systems Program (ITS)**

**What is the request and what funds are currently spent on the program?**

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**FY 2020 – Intelligent Transportation Systems Program (\$100 million)  
(\$000)**

<u>Program Activity</u>	<u>FY 2018 Actual</u>	<u>FY 2019 Annualized CR</u>	<u>FY 2019 Enacted</u>	<u>FY 2020 Request</u>
Federal-aid Highways				
<b>Research, Technology &amp; Education Program</b>				
Highway Research and Development Program <sup>1/</sup>	125,000	125,000	125,000	125,000
Technology and Innovation Deployment Program <sup>1/</sup>	67,500	67,500	67,500	67,500
Intelligent Transportation Systems Program <sup>1/</sup>	100,000	100,000	100,000	100,000
Training and Education	24,000	24,000	24,000	24,000
University Transportation Centers <sup>2/</sup>	75,000	77,500	77,500	77,500
Bureau of Transportation Statistics <sup>2/</sup>	26,000	26,000	26,000	26,000
State Planning & Research (SP&R research portion) [Non-Add]	[204,214]	[208,826]	[208,826]	[213,831]
<b>Total</b>	<b>417,500</b>	<b>420,000</b>	<b>420,000</b>	<b>420,000</b>

<sup>1/</sup> Per the FAST Act, the Advanced Transportation & Congestion Management Technologies Deployment Program (ATCMTD) will be included in the Technology and Innovation Deployment Program and will be funded by set-asides from the Highway Research and Development Program, Technology and Innovation Deployment Program, and Intelligent Transportation Systems Program.

The funding levels shown for these 3 programs are pre-ATCMTD set-aside.

<sup>2/</sup> Administered by the Office of the Assistant Secretary for Research and Technology.

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

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The Intelligent Transportation Systems (ITS) Joint Program Office (JPO) serves as USDOT’s multi-modal technology research program, working toward improving transportation safety, mobility, and efficiency; and enhancing productivity through the integration of innovative technologies within the Nation’s transportation system. Through these efforts, the ITS JPO has emerged as a leader in addressing USDOT’s Strategic Goal on Innovation. The vision of the ITS JPO is to “Transform the way society moves.” That vision is executed through our mission to “Conduct research, development, and education activities to facilitate the adoption of information and communication technology to enable society to move more safely and efficiently.” By undertaking the research and deployment of innovative technologies, the ITS JPO ensures that the Department remains at the forefront of the latest technological advances and that our transportation system is safe and efficient.

The ITS JPO is responsible for coordinating the ITS Program and initiatives among all USDOT operating administrations. The research builds on and leverages the technology and applications developed across all modes delivering cross-cutting research activities and technology transfer that support the entire Department of Transportation. The ITS Program also supports research, evaluation, and technology transfer within the following program categories:

**Automation:** As automated vehicles increasingly enter the transportation system, there is an opportunity to improve the efficiency of the system through Federal research and coordination in the areas of integrated cross-modal planning and infrastructure, increased knowledge of vehicle performance, automated system safety, impact on operations, including mobility and community

services. For example, the ITS JPO, FHWA and the Federal Motorcarrier Safety Administration (FMCSA) will jointly conduct an early deployment truck platooning assessment project. This project will collect on-road safety and operations impacts of in-service truck platoon systems. The project will be conducted in partnership with States, industry, and freight shippers. The project will also collect data to support bridge and pavement performance issues surrounding truck platooning systems. Finally, the project will develop the plan and initiate a comprehensive truck platooning research program to address policy, de-regulatory and technical issues that may inhibit nationwide truck platooning. Initial truck platoons are expected to involve level one enabled automation; however, planning will involve an assessment of needs related to truck platoons of level 4 and 5 automation trucks.

**Data Access and Exchanges:** The program establishes a cross-cutting, multi-modal center of excellence to support consistent data access and evaluation for all USDOT-funded ITS research and demonstration projects, assisting program managers at the Federal, State, and local levels overseeing data-rich ITS projects. For example, the program will enhance data use in innovative practices and methodologies such as: machine learning, agile development, and collaborative source code development that are foundational to the next generation of ITS projects. Specific activities would be conducted in formal collaboration with the USDOT modes, OCIO, OST-P, and OST-R. The activity will include data access and evaluation, and innovative practices and methodologies as part of the Department's broader public access and digital transformation initiatives.

**Cybersecurity for Intelligent Transportation Systems (ITS):** This research is necessary for the ITS sector to develop and apply a strategic framework to address the urgent security concerns of today's systems while preparing for the needs of tomorrow. Resilient intelligent transportation systems - capable of surviving a cyber incident while sustaining critical functions - will take significant investment in shared cyber hygiene and must encompass: public and private sector assets and activities; near-, mid-, and long-term efforts; risk/threat assessments; prevention, detection, response, and recovery efforts; and cyber disruptions, caused by unintentional incidents, or intentional cyber-attacks; and attacks against the cyber-physical interface. This program recognizes the need for and the integral role of establishing a culture of security as ITS systems become more pervasive in transportation.

Furthermore, ITS JPO is uniquely positioned to conduct this research and to work with USDOT modes, including modal partners, to develop and coordinate multimodal projects central to this research. This cross-modal cooperation includes convening and facilitating the transportation ecosystem around shared priorities, facilitating the development of related policies, identifying and addressing common issues, as well as sharing best practices and information, while eliminating "silo" activities.

**Emerging / Enabling Technologies:** Given the magnitude of impacts that transitioning to the next generation technologies has on transportation in, for example, artificial intelligence, machine learning, and next generation communications, the ITS JPO focuses on research initiatives looking at innovative concepts. In communications, for example, there are three specific research objectives to support USDOT's moving into the future, including: institutional adoption of next generation communications technologies; safety and security frameworks that analyze, develop, and demonstrate approaches to test for interference or other harms to existing operations; and partnerships that leverage existing relationships with domestic (SAE, IEEE) and

international (ITU, 3GPP) standards-development organizations to ensure that the transportation needs are represented in potential next-generation communications systems such as DSRC, CV2X and 5G.

**ITS for Underserved Communities:** Building on the Accessible Transportation Technologies Research Initiative (ATTRI) program, the ITS JPO will expand its research to solve the problem of providing an “effective complete trip” for underserved communities. The ATTRI program is a joint USDOT initiative, co-led by the Federal Transit Administration (FTA), FHWA, and the ITS JPO. ATTRI is exploring emerging technologies to enhance travel for people with vision, hearing, cognitive and mobility challenges by providing: way-finding and navigation applications; pre-trip concierge and virtualization services; improved safe intersection crossing, for travelers needing additional help; and assistive robotics and automation applications.

An effective complete trip can be defined in terms of an individual’s ability to go from origin to destination without gaps in the travel chain. The complete trip solutions integrating diverse technologies must be tailored for the needs of specific elements of the community (rural and urban), local transportation infrastructure, and travel conditions. Therefore, a structured, comprehensive, needs-driven approach is required to develop practical, high-value realizations of the effective complete trip concept. This program will take existing research and prototyping on aspects of the complete trip and bring them together to conduct effective complete trip innovative service deployments.

**Accelerating Deployment:** As new Intelligent Transportation Systems (ITS) technologies and systems evolve into market-ready products, the ITS Accelerating Deployment Program is addressing questions associated with adoption and deployment. The goal of the Accelerating Deployment Program is to speed up the transformation of ITS research and prototypes into market-ready technologies that are commercially viable and can easily be adopted by the transportation community. This program provides communication and education support to facilitate awareness, understanding, acceptance, adoption, and deployment of ITS technologies across stakeholder groups; and ensures effective partnerships are fostered and developed at various levels – executive, program, and project. The program provides knowledge transfer, and supports technical assistance, training, outreach, program evaluation, and other stakeholder engagement for our partners at the Federal, State, regional and local levels.

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

The ITS JPO supports a variety of knowledge and technology transfer opportunities in collaboration with other Federal agencies, public sector entities, academia, private sector organizations, and other partners to support the current and future ITS workforce. The program provides training and educational opportunities through many outlets and methods, utilizing the most effective approaches to ensure that multidisciplinary and multimodal stakeholders receive the services needed to plan, design, procure, implement, operate, maintain, and manage innovative transportation technologies. The program provides knowledge transfer, and supports technical assistance, training, outreach, program evaluation, and other stakeholder engagement. The program also supports advancing ITS research, from initial adoption on to wider scale deployment.

**What can USDOT do to promote public safety as automated vehicles are integrated into the road network? Can they provide equitable mobility?**

The USDOT pursues research and analysis to facilitate new transportation technologies to deliver public benefit. Federal leadership reduces risks and costs to State and local agencies by promoting national uniformity that crosses market boundaries and contributes to interoperability among vehicles, infrastructure equipment, and portable devices.

Another cost saving comes from successful knowledge sharing and training to support cross-modal programs such as active traffic management, advanced vehicle safety systems, cyber security, public transportation management, traveler information, etc. Our professional capacity-building program uses several collaborative methods to provide knowledge and technology transfer.

The success of the knowledge and technology transfer activities has been proven by metrics such as: number of participants, engagement levels by State and/or geographic areas, number of ITS JPO PCB sponsored educational offerings developed each year, and progress in completed training needs assessment. Metrics have improved every year for the last five years.

The ITS Program is directly aligned with USDOT's mission of ensuring the nation has the safest, most efficient and modern transportation system in the world. The program categories undertake the research and deployment of emerging ITS technologies and capabilities to leverage emerging public and private innovations. In FY 2020 the program will serve as an innovative hub for various aspects of American transportation, from automation and data to new communication systems and cybersecurity.

## Detailed Justification Training and Education Program

### What is the request and what funds are currently spent on the program?

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#### FY 2020 – Training and Education (\$24 million) ((\$000))

Program Activity	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request
Federal-aid Highways				
<b>Research, Technology &amp; Education Program</b>				
Highway Research and Development Program <sup>1/</sup>	125,000	125,000	125,000	125,000
Technology and Innovation Deployment Program <sup>1/</sup>	67,500	67,500	67,500	67,500
Intelligent Transportation Systems Program <sup>1/</sup>	100,000	100,000	100,000	100,000
Training and Education	24,000	24,000	24,000	24,000
University Transportation Centers <sup>2/</sup>	75,000	77,500	77,500	77,500
Bureau of Transportation Statistics <sup>2/</sup>	26,000	26,000	26,000	26,000
State Planning & Research (SP&R research portion) [Non-Add]	[204,214]	[208,826]	[208,826]	[213,831]
<b>Total</b>	<b>417,500</b>	<b>420,000</b>	<b>420,000</b>	<b>420,000</b>

<sup>1/</sup> Per the FAST Act, the Advanced Transportation & Congestion Management Technologies Deployment Program (ATCMTD) will be included in the Technology and Innovation Deployment Program and will be funded by set-asides from the Highway Research and Development Program, Technology and Innovation Deployment Program, and Intelligent Transportation Systems Program.

The funding levels shown for these 3 programs are pre-ATCMTD set-aside.

<sup>2/</sup> Administered by the Office of the Assistant Secretary for Research and Technology.

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

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This request enables the Department to directly support a key underpinning of a safe, efficient, and environmentally sound surface transportation system - improving the skills and increasing the knowledge of the current and future transportation workforce. The Training and Education (T&E) Program provides resources for the development and delivery of technical assistance, training, professional development, and education programs to improve the professional capacity of the workforce that manages, develops and maintains the Nation's highway system. It provides educational and professional capacity building opportunities and resources to the surface transportation community by routinely updating and delivering training and technical assistance on core competencies; identifying and developing training and technical assistance needs for emerging competencies and new skills; actively promoting technology transfer and innovative practices and technologies into the transportation workforce; and actively supporting the successive generations of transportation professionals in the acquisition of their advanced degrees.

The professional capacity and abilities of the transportation workforce are essential elements in the effective and efficient development, maintenance, operation and expansion of the Nation's transportation system. The deployment of innovative methods, practices, and technologies that improve system performance, safety, reliability and economic competitiveness relies on the ability of the transportation workforce to absorb knowledge quickly and on the continuous building of professional capacity and skills. The T&E program advances strategies to meet emerging workforce challenges through the delivery of technical assistance, training,

professional capacity building, and education programs that develop appropriately skilled and prepared transportation workers and directly supports the strategic objective for workforce development in the USDOT 2018-2022 Strategic Plan.

The T&E program is administered in conjunction with the Highway Research and Development (HRD) Program and supports the Technology and Innovation Deployment Program (TIDP), the Intelligent Transportation System (ITS) Program, and the State Planning and Research (SP&R) Program.

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

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T&E is responsible for the training and professional capacity building of the current and future transportation workforce, transferring knowledge quickly and effectively to and among transportation professionals, and providing education solutions throughout the full innovation lifecycle. T&E provides a wide variety of services and products, including:

- *The National Highway Institute (NHI)* delivers quality training for transportation professionals through a broad range of continuously evolving courses and delivery options. NHI's course catalog includes hundreds of training options in more than 18 transportation industry-related program areas. The delivery options span the spectrum from web-based training, available any time of day, to in-person training. The delivery options integrate the latest digital tools, adult learning research, and industry advancements and are designed and developed in collaboration with professionals from FHWA, State and local agencies, and industry partners. The course content is routinely and continuously reviewed and updated to incorporate new innovative technologies and practices. As an accredited provider, individuals receiving training earn continuing education units (CEUs) toward their professional credentials. Through this effort, NHI's training solutions along with innovative curriculum and delivery methods will build new skills and improve the professional capacity of America's transportation workforce.
- *The Local and Tribal Technical Assistance Programs (LTAP/TTAP)* deliver training, technical assistance and technology transfer tailored to the needs and capacity of local public agencies and tribal governments. Deployed and administered in concert with State transportation agencies, the LTAP maintains and builds the local public agencies' professional capacity as their workforce is responsible for networks that are an integral and vital component of the Nation's transportation system. Serving a comparable function for the Native American Tribal Governments across the U.S., the TTAP is deployed and administered by FHWA through a national center. Both programs consider and integrate innovative technologies and practices into the resources they provide.
- *Education/Academic Programs* provide opportunities for potential and new entrants into the transportation workforce to acquire the skills and professional capacity that they can use to improve system performance. From early education through post graduate work, these programs are critical for attracting, retaining, and advancing the transportation workforce by building awareness and interest in transportation career options; promoting an understanding of the positive impact on mobility, safety, and economic opportunity; and encouraging professionals to take the next steps in their careers through skills

acquisition and enhancement. Many programs place a particular emphasis on reaching women, minorities, and other disadvantaged groups.

- The Dwight David Eisenhower Transportation Fellowship Program provides resources and opportunities for students to pursue advanced degrees in a transportation-related field.
- The Garrett A. Morgan Technology and Transportation Education Program promotes science, technology, engineering, and mathematics (STEM) applications with a transportation focus at elementary and secondary school levels to engage young minds toward the pursuit of a career in transportation.
- *The Transportation Education Development Program* works collaboratively with the academic community to evaluate current and future skills and training needs at all levels of the transportation workforce and to develop new curricula and education programs to meet those needs. The innovative technologies and practices advanced through the Technology and Innovation Deployment Program (TIDP) are integrated into this work.
- *The Transportation Centers for Excellence* provide specific expertise and professional capacity in three key areas:
  - transportation safety with a particular focus on rural road safety,
  - project finance techniques, and
  - environmental stewardship and innovative ways to streamline the transportation delivery process.

**Detailed Justification  
State Planning and Research (Research Portion)**

**What is the request and what funds are currently spent on the program?**

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**FY 2020 – State Planning and Research (Research Portion) (\$214 million)  
(\$000)**

<u>Program Activity</u>	<u>FY 2018 Actual</u>	<u>FY 2019 Annualized CR</u>	<u>FY 2019 Enacted</u>	<u>FY 2020 Request</u>
Federal-aid Highways				
<b>Research, Technology &amp; Education Program</b>				
Highway Research and Development Program <sup>1/</sup>	125,000	125,000	125,000	125,000
Technology and Innovation Deployment Program <sup>1/</sup>	67,500	67,500	67,500	67,500
Intelligent Transportation Systems Program <sup>1/</sup>	100,000	100,000	100,000	100,000
Training and Education	24,000	24,000	24,000	24,000
University Transportation Centers <sup>2/</sup>	75,000	77,500	77,500	77,500
Bureau of Transportation Statistics <sup>2/</sup>	26,000	26,000	26,000	26,000
State Planning & Research (SP&R research portion) [Non-Add]	[204,214]	[208,826]	[208,826]	[213,831]
<b>Total</b>	<b>417,500</b>	<b>420,000</b>	<b>420,000</b>	<b>420,000</b>

<sup>1/</sup> Per the FAST Act, the Advanced Transportation & Congestion Management Technologies Deployment Program (ATCMTD) will be included in the Technology and Innovation Deployment Program and will be funded by set-asides from the Highway Research and Development Program, Technology and Innovation Deployment Program, and Intelligent Transportation Systems Program.

The funding levels shown for these 3 programs are pre-ATCMTD set-aside.

<sup>2/</sup> Administered by the Office of the Assistant Secretary for Research and Technology.

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

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The SP&R research portion (SPR-B) Program will provide funds to support the States' research activities. The funds are used to establish a comprehensive management process to identify, prioritize, conduct, and evaluate transportation research at the State level.

Funding for the SPR-B program is a minimum 25 percent of the SP&R 2 percent set-aside from each State's apportionments of 5 programs: the National Highway Performance Program (NHPP); the Surface Transportation Block Grant Program (STBG); the Highway Safety Improvement Program (HSIP); the Congestion Mitigation Air Quality Improvement Program (CMAQ) Program; and the National Highway Freight Program (NHFP). Eligible activities under the SP&R Program include:

- Research, development, and technology transfer activities necessary in connection with the planning, design, construction, management, and maintenance of highway, public transportation, and intermodal transportation systems.
- Research and training on the engineering standards and construction materials for transportation systems described in the previous bullet, including the evaluation and accreditation of inspection and testing, and the regulation and taxation of their use.

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

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The FHWA SPR-B program provides funding for the States to meet State-identified research needs. Using the research management process, high priority is given to applied research on: State or regional problems, transfer of technologies from researchers to users, and research for setting standards and specifications. This results in better informed policy decisions that balance safety, productivity, and infrastructure preservation. The States may adapt findings to practical applications by developing and transferring new technologies. Additionally, the program promotes enhanced collaboration with transportation stakeholders.

FHWA works with State Departments of Transportation (DOTs) to administer the SPR-B program. In addition to providing stewardship and oversight of SPR-B program, FHWA works with State DOTs on the National Cooperative Highway Research Program (NCHRP), which is a State-driven program to address issues integral to State DOTs using SP&R funds. FHWA also administers the Transportation Pooled Fund (TPF) Program to encourage partnerships among States and FHWA to jointly fund and to conduct transportation research on topics of common, as well as regional interest.

The State DOTs can use their SPR-B funds to address specific needs within their State or pool their contributions through different mechanisms to further leverage their funds. The NCHRP program, which is funded by SPR-B contributions, funds projects that are selected by the States through the American Association of State Highway and Transportation Officials (AASHTO) Special Committee on Research and Innovation. The NCHRP program has a long history of developing valuable tools, innovations, and resources for the States. A recent example is NCHRP report 897: Tools to Facilitate Implementation of Effective Metropolitan Freight Transportation Strategies. This report provides transportation practitioners and decision makers with guidance for implementing effective metropolitan freight transportation strategies. Additionally, States may participate in the TPF program to conduct research of national or regional interest. For instance, Missouri DOT recently led a Pooled Fund study with contributions from six other State DOTs to study traffic disruption-free bridge inspections with robotic systems. States also use their SPR-B funds to do internal research as well, such as a recently completed study conducted by the Utah DOT (UDOT), which developed a safety forecast model to prioritize long-range planning and construction based on the predicted safety performance of different build scenarios. Coincidentally, the UDOT safety forecast model utilized the statistical methodologies outlined in the Highway Safety Manual, which is a product that resulted from numerous NCHRP research projects and reports.

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## **Executive Summary**

### **Federal Allocation Programs**

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#### **What is the request and what funds are currently spent on the program?**

Our FY 2020 budget request for the Federal Allocation Programs includes: \$80.0 million for the Construction of Ferry Boats and Ferry Terminal facilities Program; \$10.0 million for the Disadvantaged Business Enterprise (DBE); \$100.0 million for the Emergency Relief (ER) program; \$4.0 million for the Highway Use Tax Evasion Projects Program; \$10.0 million for the On-The-Job Training (OJT) Program; and \$200.0 million for the Territorial and Puerto Rico Highway Program. These amounts are equal to the FY 2018 actual funding levels and the FY 2019 enacted funding levels.

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

This program category contains six separate programs that provide vital functions to assist Federal highways and have a long-standing, positive impact on the U.S. highway infrastructure.

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

- The **Construction of Ferry Boats and Ferry Terminal Facilities** program provides funding for ferry services which are important links in the network of Federal-aid highways, and in many cases, are the only reasonable form of transportation.
- The **Disadvantaged Business Enterprise** program benefits the American public by assisting small and disadvantaged firms with building capacity and improving their ability to compete for Federal-aid highway contracts. Moreover, a healthy small business sector creates jobs, stimulates innovation, and provides employment opportunities for many people, including women and minorities.
- **Emergency Relief** program funds are critical to maintaining mobility and safety for the American public following a disaster. The ER program provides funding to States, Federal Land Management Agencies, and Tribal governments for the repair and reconstruction of Federal-aid highways and roads on Federal lands following a disaster.
- The **Highway Use Tax Evasion Projects** program provides funding to the Internal Revenue Service and the States to carry out intergovernmental enforcement efforts, along with training and research, to reduce evasion of payment of motor fuel and other highway use taxes, which are the principal sources for Federal and State highway funding.
- The **On-the-Job Training** program helps develop the capacity of our Nation's current and future highway construction industry workforce by providing the development and diversity of skilled labor. A skilled workforce is vital to constructing and maintaining a safe and efficient transportation system.
- The **Territorial and Puerto Rico Highway Program** has provided for the construction of critical infrastructure in Puerto Rico and the four territories. The program stimulates local economic growth, which generates a positive impact on a national level. It also provides critical infrastructure that serves key facilities with strategic role for national defense.

## Detailed Justification

### Construction of Ferry Boats and Ferry Terminal Facilities

#### What is the request and what funds are currently spent on the program?

#### FY 2020 – Construction of Ferry Boats and Ferry Terminal Facilities (\$000)

Program Activity	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request
Federal-aid Highways				
<b>Federal Allocation Programs</b>				
Construction of Ferry Boats and Ferry Terminal Facilities	80,000	80,000	80,000	80,000
Disadvantaged Business Enterprise <sup>1/</sup>	10,000	10,000	10,000	10,000
Emergency Relief (exempt from obligation limitation) <sup>2/</sup>	100,000	100,000	100,000	100,000
Highway Use Tax Evasion Projects <sup>1/</sup>	4,000	4,000	4,000	4,000
On-the-Job Training <sup>1/</sup>	10,000	10,000	10,000	10,000
Territorial and Puerto Rico Highway Program	200,000	200,000	200,000	200,000
<b>Total</b>	<b>404,000</b>	<b>404,000</b>	<b>404,000</b>	<b>404,000</b>

1/ Programs funded as set-asides from Administrative Expenses.

2/ In FY 2018 \$6.6 million was sequestered from Emergency Relief (sequestration not reflected in table). In FY 2019 \$6.2 million was sequestered from Emergency Relief (sequestration not reflected in table).

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

Our FY 2020 budget request of \$80 million, which is in line with the FAST Act, is required to maintain and improve important transportation connections on the Federal-aid highway system, as well as provide access to remote areas where other modes of transportation may not be available for passengers and vehicles.

The Construction of Ferry Boats and Ferry Terminal Facilities (FBP) program provides funding to construct ferry boats and ferry terminal facilities. Funds are proportionally distributed to eligible ferry operations, based on the number of ferry passengers, the number of vehicles carried, and the total route miles serviced.

Ferry services are important links in the network of Federal-aid highways. Often times ferries carry significant numbers of passengers and vehicles. In many cases, they are the only reasonable form of transportation, particularly on coastal islands which have year-round residents.

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

The Construction of Ferry Boats and Ferry Terminal Facilities program addresses mobility and access in urban and rural areas by providing valuable assistance to help States and other entities replace or acquire new ferry boats; replace propulsion systems with newer cleaner and more energy-efficient power plants; update navigational control systems; construct new terminals; improve access for the disabled; and replace and construct new docking facilities. Through these activities, the program provides vital connections on the network of Federal-aid highways, increasing mobility and safety particularly for citizens for which ferry services are the only reasonable transportation option. To date, this program has made available funding for 119 ferry operations in 37 States and 2 U.S. territories.

## Detailed Justification

### Disadvantaged Business Enterprise Supportive Services Program

#### What is the request and what funds are currently spent on the program?

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#### FY 2020 – Disadvantaged Business Enterprise Supportive Services (\$10 million)

(\$000)

Program Activity	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request
Federal-aid Highways				
<b>Federal Allocation Programs</b>				
Construction of Ferry Boats and Ferry Terminal Facilities	80,000	80,000	80,000	80,000
Disadvantaged Business Enterprise <sup>1/</sup>	10,000	10,000	10,000	10,000
Emergency Relief (exempt from obligation limitation) <sup>2/</sup>	100,000	100,000	100,000	100,000
Highway Use Tax Evasion Projects <sup>1/</sup>	4,000	4,000	4,000	4,000
On-the-Job Training <sup>1/</sup>	10,000	10,000	10,000	10,000
Territorial and Puerto Rico Highway Program	200,000	200,000	200,000	200,000
<b>Total</b>	<b>404,000</b>	<b>404,000</b>	<b>404,000</b>	<b>404,000</b>

<sup>1/</sup> Programs funded as set-asides from Administrative Expenses.

<sup>2/</sup> In FY 2018 \$6.6 million was sequestered from Emergency Relief (sequestration not reflected in table). In FY 2019 \$6.2 million was sequestered from Emergency Relief (sequestration not reflected in table).

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

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The FY 2020 budget requests \$10 million for the Disadvantaged Business Enterprise Supportive Services Program (DBE/SS), which is in line with the FAST Act, and is equal to the FY 2018 actual amount and the FY 2019 enacted amount. This request level supports the ability of States to enhance vital DBE/SS programs and supports the Secretary’s infrastructure strategic goal, specifically aligning with Objective 4: Economic Competitiveness and Workforce under the USDOT FY 2018-2022 Strategic Plan.

The DBE/SS Program was established by regulation (23 CFR 230, Subpart B) under statutory authority at 23 U.S.C. 140(c) to develop, conduct, and administer training and provide technical assistance programs to increase the efficiency of small businesses owned and controlled by socially and economically disadvantaged individuals to compete, on an equal basis, for federally-assisted highway contracts.

The program supports State Departments of Transportation (DOT) DBE programs required for recipients of Federal highway, transit, and aviation funds (49 CFR Part 26). The DBE/SS funds made available each fiscal year are allocated by the FHWA Office of Civil Rights to State DOTs and are eligible for a 100 percent Federal share, with no State match required. The primary purpose of the DBE/SS program is to ensure training, capacity building assistance, and services (e.g., training in business development; mentoring, bonding and financial assistance; marketing; and accounting) to firms certified in the DBE program. This training and support is intended to increase their activity within the program, and to facilitate the firms’ development into viable, self-sufficient organizations capable of competing for, and performing on, federally-assisted

highway projects. Beginning in FY 2015, FHWA requires State DOTs accepting DBE/SS funds to create and administer Business Development Programs (BDPs) to ensure that DBEs are afforded the opportunity to be evaluated and provided a structured process to receive firm-specific training and guidance to be competitive within the heavy highway marketplace. Program activities include seminars that highlight DBE program regulation and/or policy changes, workshops geared to help small firms grow their business capacity, and training in bonding and financial assistance, marketing, and accounting. State DOTs should select certified DBE candidates for BDPs, focusing on underperforming DBEs with the desire and potential for growth. The BDP, tailored to individual needs, must assess these DBEs in all areas of performance and business acumen.

The program is necessary to assist a sector of the small business community to build their capacity and ability to compete for contracts. Additionally, this program assists with creating a well-rounded heavy highway construction industry that is prepared to address America's future infrastructure needs.

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

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The DBE/SS program is an essential tool for a successful DBE program. The DBE/SS program benefits the American public by assisting small and disadvantaged firms with building capacity and improving their ability to compete for Federal-aid highway contracts. Moreover, a healthy small business sector creates jobs, stimulates innovation, and provides employment opportunities for many people, including women and minorities.

## Detailed Justification Emergency Relief Program

### What is the request and what funds are currently spent on the program?

#### FY 2020 – Emergency Relief Program (\$100 million) (\$000)

Program Activity	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request
Federal-aid Highways				
<b>Federal Allocation Programs</b>				
Construction of Ferry Boats and Ferry Terminal Facilities	80,000	80,000	80,000	80,000
Disadvantaged Business Enterprise <sup>1/</sup>	10,000	10,000	10,000	10,000
Emergency Relief (exempt from obligation limitation) <sup>2/</sup>	100,000	100,000	100,000	100,000
Highway Use Tax Evasion Projects <sup>1/</sup>	4,000	4,000	4,000	4,000
On-the-Job Training <sup>1/</sup>	10,000	10,000	10,000	10,000
Territorial and Puerto Rico Highway Program	200,000	200,000	200,000	200,000
<b>Total</b>	<b>404,000</b>	<b>404,000</b>	<b>404,000</b>	<b>404,000</b>

1/ Programs funded as set-asides from Administrative Expenses.

2/ In FY 2018 \$6.6 million was sequestered from Emergency Relief (sequestration not reflected in table). In FY 2019 \$6.2 million was sequestered from Emergency Relief (sequestration not reflected in table).

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

Congress authorized in section 125 of title 23, United States Code, a special program from the Highway Trust Fund for the repair or reconstruction of Federal-aid highways and roads on Federal lands, which have suffered serious damage as a result of (1) natural disasters or (2) catastrophic failures from an external cause. This program, commonly referred to as the Emergency Relief (ER) program, supports the Secretary's key priorities of infrastructure and safety by supplementing the commitment of resources from States, their political subdivisions, or other Federal agencies, to help pay for unusually heavy expenses resulting from extraordinary conditions that damage existing infrastructure and allow such infrastructure to return to a safe condition to ensure the continued mobility of the American public.

Examples of natural disasters include floods, hurricanes, earthquakes, tornadoes, tidal waves, severe storms, and landslides. A catastrophic failure from an external cause is defined as the sudden and complete failure of a major element or segment of the highway system that causes a disastrous impact on transportation services. Additionally, the cause of the catastrophic failure must be determined to be external to the facility. A bridge suddenly collapsing after being struck by a barge is an example of a catastrophic failure from an external cause. Failures due to an inherent flaw in the facility itself do not qualify for ER assistance.

Following the 2005 Gulf Coast Hurricanes, more than \$2.8 billion in ER funds were provided to assist States in the repair and recovery of Federal-aid highways damaged by the hurricanes. These funds were instrumental in assisting the Gulf Coast region with needed recovery efforts following the devastating impact from Hurricanes Katrina, Rita, and Wilma. After Superstorm Sandy in 2012, over \$700 million was provided to Mid-Atlantic and Northeast States. A total of

\$29 million of this funding was provided within 3 days after the storm to allow States to address their most critical emergency needs. Most recently, \$414 million of ER funds were provided to Florida, Texas, Puerto Rico, and the U.S. Virgin Islands to reopen roads and restore infrastructure following the catastrophic hurricanes of Harvey, Irma, and Maria.

When a natural disaster or catastrophe strikes, the ER program is available to provide assistance to get damaged highways open to essential traffic. Longer term permanent repairs to restore damaged highways are also funded through the ER program. When economically justified, betterments to damaged highways, aimed at improving the resiliency of those facilities, would be eligible for funding through the ER program. Additionally, the law makes eligible the cost of a comparable facility that is designed to current geometric and construction standards required for the types and volume of traffic the facility will carry over its design life.

The ER program has been funded through a recurring annual authorization of \$100 million since 1972. When ER program has demonstrated a need to exceed available funding, Congress has provided supplemental appropriations to cover the ER backlog.

Over the past 12 years, the costs of nationwide ER events, not including large scale disasters (e.g., Hurricane Katrina, Hurricane Sandy) have averaged about \$360 million annually. Within the same time frame, including large scale disasters, the average costs increased to about \$730 million annually. Over the past 20 years, \$15 billion has been provided through supplemental appropriations to the ER program, in addition to the annual \$100 million authorization. Congress appropriated \$1.5 billion in FY 2017 and \$1.4 billion in FY 2018 for nationwide disasters. These appropriations are not part of the Federal-aid Highway Account and are funded by the General Fund.

In FY 2018, ER funds were provided to 44 States, American Samoa, Northern Mariana Islands, Puerto Rico, the Virgin Islands, and six Federal land management agencies to repair damages caused by natural disasters or catastrophic failures from an external cause. These needs have been funded from the supplemental appropriations provided by Congress. As of December 17, 2018, the estimate of unmet ER needs is \$2.1 billion.

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

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ER program funds are critical to maintaining mobility and safety for the American public following a disaster. Natural disasters and catastrophes that destroy highways and bridges are unpredictable events and can occur anywhere in the country. The ER program provides funding to States, Federal Land Management Agencies, and Tribal governments for the repair and reconstruction of Federal-aid highways and roads on Federal lands following a disaster.

## Detailed Justification Highway Use Tax Evasion Projects

### What is the request and what funds are currently spent on the program?

#### FY 2020 – Highway Use Tax Evasion Projects (\$4 million) (\$000)

Program Activity	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request
Federal-aid Highways				
<b>Federal Allocation Programs</b>				
Construction of Ferry Boats and Ferry Terminal Facilities	80,000	80,000	80,000	80,000
Disadvantaged Business Enterprise <sup>1/</sup>	10,000	10,000	10,000	10,000
Emergency Relief (exempt from obligation limitation) <sup>2/</sup>	100,000	100,000	100,000	100,000
Highway Use Tax Evasion Projects <sup>1/</sup>	4,000	4,000	4,000	4,000
On-the-Job Training <sup>1/</sup>	10,000	10,000	10,000	10,000
Territorial and Puerto Rico Highway Program	200,000	200,000	200,000	200,000
<b>Total</b>	<b>404,000</b>	<b>404,000</b>	<b>404,000</b>	<b>404,000</b>

1/ Programs funded as set-asides from Administrative Expenses.

2/ In FY 2018 \$6.6 million was sequestered from Emergency Relief (sequestration not reflected in table). In FY 2019 \$6.2 million was sequestered from Emergency Relief (sequestration not reflected in table).

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

The Highway Use Tax Evasion Projects (HUTE) program provides funding to the Internal Revenue Service (IRS) and the States to carry out intergovernmental enforcement efforts, along with training and research, to reduce evasion of payment of motor fuel and other highway use taxes, which are the principal sources for Federal and State highway funding. Consistent with the FAST Act, FHWA requests up to \$4 million to fund this vital program in FY 2020. Of this amount:

- \$2 million is available to make grants for intergovernmental enforcement efforts, including research and training. The intergovernmental enforcement efforts grants are awarded to State agencies through a competitive application process from which FHWA and the IRS make selections based on the most innovative, intergovernmental proposals. The States then perform various tasks, including increased enforcement, enhancement of data systems, and coordination with other State agencies.
- The remaining \$2 million may, at the discretion of the Secretary of Transportation, either be awarded for intergovernmental enforcement efforts grants, or allocated to the IRS for their enforcement efforts.
- While the statute allows for the IRS to determine the use of their allocations, they must be used in some fashion related to the identification and elimination of highway use tax evasion. IRS initiatives may include, but are not limited to, office examinations, refinery and terminal examinations, and on-road enforcement in areas such as the illegal use of dyed diesel fuel by motor vehicles.

Our FY 2020 request will continue to fund IRS initiatives, including the expansion of the Joint Operations Center for National Fuel Tax Compliance (JOC), a joint FHWA/IRS/State initiative and new, innovative, and intergovernmental enforcement efforts at the State level.

Through the efforts of this program, the IRS has launched a number of initiatives, including: Diesel Examinations (\$53.2 million in assessments in 2017), Tire Tax Examinations (\$2 million in 2017), the review of Heavy Highway Vehicle Use Tax (HVUT) returns (\$2 million in 2016), mislabeled imported fuel examinations (\$26.9 million in assessments in 2012), examinations of mislabeled products at refineries and terminals (\$9.1 million in assessments in FY 2013), and examinations of questionable credit claims (\$44.4 million in assessments, \$6.2 million in disallowed credits in 2015). These are just some of the efforts supported in part by the annual allocation to the IRS.

From FY 2014 through FY 2018, \$14 million in funding was provided to the IRS (\$8 million in 2014; \$2 million per year from 2016 to 2018), which resulted in \$482 million in assessments through various activities, including internal audits, refinery and terminal inspections, and retail truck inspections. The IRS initiatives are not solely funded from Highway Use Tax Evasion funds, but they provide a significant portion of the funding.

The following table shows examples of initiatives at the State level, comparing amounts provided by this program and the results.

<b>Year</b>	<b>Agency</b>	<b>Expenditures</b>	<b>Results</b>	<b>Description</b>
2018	Kentucky State Police	\$32,763	\$57,556	Vehicle screenings at weigh stations.
2017	California Department of Tax and Fee Administration	\$ 32,023	\$4,400,000	Assessment results from referrals from participation in the Joint Operations Center (JOC), and use of the ExSTARS data system. California uses HUTE funding to participate in the JOC.
2017	Pennsylvania Department of Revenue	\$154,052	\$3,385,469	Funding used to expand efforts in Alternative Fuels Tax program. Assessments resulted from identifying new accounts, and imposing assessments back to 2014.
2017	Illinois Department of Revenue	\$ 63,500	\$287,129	Dyed diesel fuel on-highway enforcement, International Fuel Tax Agreement (IFTA) enforcement, and internal audit.

As the data indicates, there are significant findings at the IRS and State levels; however, highway use tax evasion persists with new methods of evasion regularly employed. The continued funding of this program would strengthen not only the successful efforts already in place, but also the

enhanced practices resulting from training and vital equipment, such as enhanced motor fuel tracking computer software that is critical for sharing information between the IRS and States.

The HUTE program funding can also be used for training in the assessment of highway tax evasion. Many States have opted for this training, which provides great value by preparing practitioners to complete the assessments noted in the above table.

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

The collection of highway use taxes is a critical part of the Federal-aid highway program. The HUTE program will increase transportation revenues at the Federal and State levels ensuring that these valuable tax dollars can be properly used to increase the safety and mobility of our Nation's roads and bridges.

## Detailed Justification On-the-Job Training

### What is the request and what funds are currently spent on the program?

#### FY 2020 – On-the-Job Training (\$10 million) (\$000)

Program Activity	FY 2018 <u>Actual</u>	FY 2019 <u>Annualized CR</u>	FY 2019 <u>Enacted</u>	FY 2020 <u>Request</u>
Federal-aid Highways				
<b>Federal Allocation Programs</b>				
Construction of Ferry Boats and Ferry Terminal Facilities	80,000	80,000	80,000	80,000
Disadvantaged Business Enterprise <sup>1/</sup>	10,000	10,000	10,000	10,000
Emergency Relief (exempt from obligation limitation) <sup>2/</sup>	100,000	100,000	100,000	100,000
Highway Use Tax Evasion Projects <sup>1/</sup>	4,000	4,000	4,000	4,000
On-the-Job Training <sup>1/</sup>	10,000	10,000	10,000	10,000
Territorial and Puerto Rico Highway Program	200,000	200,000	200,000	200,000
<b>Total</b>	<b>404,000</b>	<b>404,000</b>	<b>404,000</b>	<b>404,000</b>

1/ Programs funded as set-asides from Administrative Expenses.

2/ In FY 2018 \$6.6 million was sequestered from Emergency Relief (sequestration not reflected in table). In FY 2019 \$6.2 million was sequestered from Emergency Relief (sequestration not reflected in table).

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

Statutory authority 23 USC 140(b) established regulation 23 CFR 230, Subpart A and the On-the-Job Training Supportive Services Program (OJT/SS) as a program of the FHWA that supports the State DOTs On-the-Job Training (OJT) programs with an OJT/SS program. This is a necessary program that ensures a competent, available, and diverse workforce to meet the present and future highway construction hiring needs, and to remedy historical under-representation of minority, women, and the disadvantaged groups in highway construction skilled crafts.

OJT/SS funds currently support three distinct programs: the OJT/SS Program; the National Summer Transportation Institute Program (NSTI); and the Summer Transportation Internship Program for Diverse Groups (STIPDG). The FY 2020 request of \$10 million is distributed among the three programs as follows: OJT/SS: \$6 million; NSTI: \$2.7 million; and STIPDG: \$1.3 million.

These three programs support the Secretary's infrastructure strategic goal, specifically aligning with Objective #4: Economic Competitiveness and Workforce, and the Workforce Development strategy. Furthermore, as the OJT/SS and NSTI programs are available in every State, they provide key workforce development opportunities in rural areas.

As recipients of Federal transportation funds, the FHWA requires each State DOT to have an OJT program. This program requires prime contractors participating on federally-assisted contracts to establish apprenticeship and training programs targeted to move minorities, women, and disadvantaged individuals into journey-level positions. The OJT/SS Program directly supports this requirement and provides funds for State DOTs to implement skills training

programs to prepare individuals, focusing on historically underrepresented groups, to participate in the highway construction workforce as trainees and apprentices on federally-assisted construction contracts as part of the States' OJT programs. As the OJT/SS Program directly supports a State's Federal-aid program, the program funds are distributed to the States in the same proportion that the Federal-aid apportioned programs funds are apportioned to the States. Such funds are eligible for a 100 percent Federal share, with no State match required.

The NSTI Program is a key component among FHWA's educational initiatives. It is a Science, Technology, Engineering, and Math (STEM) focused program for high school and junior high/middle school students. It is designed to engage students at these levels in transportation-related career options. It is administered by accredited colleges, community colleges, universities, and accredited Minority Serving Institutions (MSIs) throughout the United States, the District of Columbia, the Commonwealth of Puerto Rico, Pacific Island territories and the U.S. Virgin Islands. The program requires the academic institutions to commit significant program time to classroom participation. The program length varies but is typically two to four consecutive weeks. Host sites may be student day programs or residential programs in which room and board are provided to the students.

The STIPDG provides college students with a paid internship, which offers a unique opportunity to gain valuable professional experience and skills that complement their academic pursuits. FHWA designed this hands-on program to mentor and cultivate tomorrow's leaders, to strengthen their understanding of the transportation industry, and to prepare them for future public service opportunities. FHWA administers the STIDG Program for all of USDOT.

The FY 2020 budget request of \$10 million aligns with the FAST Act. FHWA strongly encourages States accepting OJT/SS funds to partner with other States, local entities, and the private sector, such as colleges and universities, workforce development boards, etc., with existing training, recruiting and job placement capabilities. Such partnerships can focus skills training in areas of the industry in which state and localities identify current and future gaps. Partnering will also improve the quality of the services provided to participants and increase the likelihood of success in actual long-term job placement. Further, for States to receive funding in subsequent years, they must demonstrate program outcomes through accomplishment reports that directly address objective measurements such as the number of program participants trained, the type of career job development training provided, the number of participants employed because of the training received, and the dollar cost per program participant. FHWA and the OJT/SS Program needs this funding request level to continue to assist States with administering these programs that are vital to train our Nation's future workforce.

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

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This program helps develop the capacity of our Nation's current and future highway construction industry workforce by providing the development and diversity of skilled labor. A skilled workforce is vital to constructing and maintaining a safe and efficient transportation system.

## Detailed Justification Territorial and Puerto Rico Highway Program

### What is the request and what funds are currently spent on the program?

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#### FY 2020 – Territorial and Puerto Rico Highway Program (\$200 million) (\$000)

Program Activity	FY 2018 Actual	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request
Federal-aid Highways				
<b>Federal Allocation Programs</b>				
Construction of Ferry Boats and Ferry Terminal Facilities	80,000	80,000	80,000	80,000
Disadvantaged Business Enterprise <sup>1/</sup>	10,000	10,000	10,000	10,000
Emergency Relief (exempt from obligation limitation) <sup>2/</sup>	100,000	100,000	100,000	100,000
Highway Use Tax Evasion Projects <sup>1/</sup>	4,000	4,000	4,000	4,000
On-the-Job Training <sup>1/</sup>	10,000	10,000	10,000	10,000
Territorial and Puerto Rico Highway Program	200,000	200,000	200,000	200,000
<b>Total</b>	<b>404,000</b>	<b>404,000</b>	<b>404,000</b>	<b>404,000</b>

1/ Programs funded as set-asides from Administrative Expenses.

2/ In FY 2018 \$6.6 million was sequestered from Emergency Relief (sequestration not reflected in table). In FY 2019 \$6.2 million was sequestered from Emergency Relief (sequestration not reflected in table).

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

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This program provides funding to Puerto Rico and the four territories of American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, and the United States Virgin Islands. From our FY 2020 budget request of \$200 million, \$158 million would be provided to Puerto Rico by authorization, the remaining \$42 million is divided among the four territories via an administrative formula.

In direct support of the Secretary's key priorities of infrastructure and safety, fifty percent of the funds provided to Puerto Rico must be spent on projects eligible under the National Highway Performance Program (NHPP), twenty five percent must be spent on projects eligible under the Highway Safety Improvement Program (HSIP), and the remaining twenty five percent can be spent for any purpose under chapter 1 of title 23, U.S.C. The location and eligibility requirements are similar to those that apply to the States.

Funds provided to the four territories may be used for projects eligible under the Surface Transportation Block Grant Program (STBG); preventive maintenance; ferry boats, terminals, and approach roadways; engineering, economic and planning studies; regulation and equitable taxation of highways; and research and development. Territorial funds are generally subject to the location requirements of the STBG, except that rural minor collector routes are eligible. The four territorial programs are administered under individual agreements between the Secretary and the chief executive officer of each of the territories.

Territorial and Puerto Rico Highway Program funding is critical to providing transportation infrastructure to Puerto Rico and the four territories. Puerto Rico and the four territories have military facilities, or serve a strategic role important to national defense. They also contribute to the national economy through tourism, agriculture, and access to foreign trade.

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

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The Territorial and Puerto Rico Highway Program has provided for the construction of critical infrastructure in Puerto Rico and the four territories. The program stimulates local economic growth, which, in turn, has an overall positive impact on a national level. It also provides critical infrastructure that serves key facilities, which have a strategic role for national defense.

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## **Executive Summary**

### **Transportation Infrastructure Finance and Innovation Act (TIFIA) Program**

#### **What is the request and what funds are currently spent on the program?**

The Federal Highway Administration (FHWA) is requesting \$300 million for the Transportation Infrastructure Finance and Innovation Act (TIFIA) Program in FY 2020, which is consistent with the level authorized under the FAST Act. The FY 2018 actual funding level is \$285 million. The FY 2019 enacted funding level is \$ 300 million.

The TIFIA program provides critical financing support to infrastructure projects across the country, and is a central tool for leveraging both public and private investment. The Department's ongoing work to implement a new National Surface Transportation and Innovative Finance Bureau, authorized under the FAST Act, will continue to expand access to, and demand for, this already successful program.

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

The TIFIA Program provides Federal credit assistance to surface transportation projects of national or regional significance. The TIFIA Program leverages Federal dollars in a time of scarce budgetary resources, facilitating private participation in transportation projects and encouraging innovative financing mechanisms that help accelerate project delivery. By offering flexible repayment terms and attracting private capital, the TIFIA Program stimulates infrastructure investment that would be significantly or permanently delayed without TIFIA financing.

The TIFIA Program FY 2020 funding level of \$300 million is essential in meeting the continued demand for TIFIA credit support. Additionally, the requested funding will support work to meet new requirements pursuant to the FAST Act, which include, among other changes, increased funding flexibility for local governments, transit oriented development, and rural infrastructure projects. Additionally, it will support administrative resources to meet the TIFIA Program's staffing needs.

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

The TIFIA Program will make possible the delivery of significant transportation projects throughout the United States. It will also facilitate projects that would otherwise be delayed or deferred due to lack of funding. By stimulating investment in the country's transportation infrastructure, the TIFIA Program will improve the economy through job creation, improve mobility and enhance transportation options via new eligibilities under the FAST Act for transit-oriented development, help American businesses improve productivity and competitiveness, and improve access in rural communities.

## Detailed Justification

### Transportation Infrastructure Finance and Innovation (TIFIA) Program

#### What Is The Request And What Funds Are Currently Spent On The Program?

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#### FY 2020 – TIFIA Program (\$300 million) ((\$000))

Program Activity	FY 2018 Enacted	FY 2019 Annualized CR	FY 2019 Enacted	FY 2020 Request
Federal-aid Highways				
<b>TIFIA Program (loan program subsidies)</b>				
TIFIA Program (loan program subsidies)	285,000	300,000	300,000	300,000
<b>Total</b>	<b>285,000</b>	<b>300,000</b>	<b>300,000</b>	<b>300,000</b>

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

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Congress created the TIFIA Program as part of its 1998 enactment of the Transportation Equity Act for the 21st Century (TEA-21, P.L. 105-78), as amended by the TEA-21 Restoration Act (Title IX, P.L. 105-206), further amended in 2005 by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU, P.L. 109-59), amended and restated in 2012 by the Moving Ahead for Progress in the 21st Century Act (MAP-21, P.L. 112-141), and most recently, as amended in 2015 by the Fixing America's Surface Transportation (FAST) Act (P.L. 114-94).

The TIFIA Program is a Federal financing program that provides credit assistance to sponsors of surface transportation projects. The program offers three types of credit assistance: direct loans, loan guarantees, and lines of credit. The Office of the Secretary of Transportation oversees the TIFIA program, including the evaluation of individual projects, and provides overall policy direction and program decisions for the TIFIA Program.

In addition to direct funding for the TIFIA program, the FAST Act permits the use of certain Federal-aid funds to cover the subsidy and administrative costs associated with TIFIA credit assistance. For example, Surface Transportation Block Grant Program, National Highway Performance Program, and Nationally Significant Freight and Highway Projects Program funds may be used by eligible recipients to cover the subsidy and administrative costs of TIFIA credit assistance. Similarly, Transportation Investment Generating Economic Recovery (TIGER) program funds may also be used to pay for such costs.

The TIFIA Program has played a significant role in delivering infrastructure projects. Since its launch, the TIFIA Program has financed 76 projects across the United States, including 5 intermodal projects, 49 highway projects, and 22 transit projects. Currently, the TIFIA Program's portfolio represents over \$111 billion in infrastructure investment spread across the country. Under MAP-21 and the FAST Act, the TIFIA Program has dramatically increased its investment and expanded its portfolio into new States and municipalities; the portfolio now includes 22 States, the District of Columbia, and Puerto Rico.

The TIFIA Program is designed to fill market gaps and leverage substantial private co-investment by providing supplemental and subordinate capital to projects. It maximizes limited Federal resources to deliver large infrastructure investments. Historically, each dollar of TIFIA funding authority has provided approximately \$14 in credit assistance. Given statutory changes in the TIFIA credit program under the FAST Act, and the need to calculate credit subsidies on a project-by-project basis, actual lending capacity could vary. On average, TIFIA has supported total infrastructure investment of 3 to 4 times the amount of total credit assistance it has made available.

The TIFIA Program is necessary because of its role in stimulating transportation infrastructure investments that would be temporarily or permanently delayed without TIFIA financing. The program leverages Federal resources to accelerate project delivery and facilitate private participation in transportation infrastructure projects. Since the beginning of FY 2016, the Department has closed 22 projects and extended nearly \$8.5 billion in credit support to stimulate over \$30 billion in infrastructure investment.

The Department closed on loans for 12 projects during FY 2017 and 3 projects during FY 2018, and currently has a pipeline of 9 additional projects in various stages of the review process, which could add \$10 billion in infrastructure investment when constructed.

Like the TIFIA portfolio itself, the pipeline of projects is a diverse mix of rural and urban areas, public-private partnerships (P3) and public projects, and projects in States using TIFIA for the first time. For example, the Oklahoma Turnpike Authority has requested a TIFIA loan of approximately \$108 million for a \$329 million project in Tulsa to construct a five-mile extension of the Gilcrease Expressway. If approved, this project would be the first TIFIA project in Oklahoma.

The TIFIA Program's success in delivering projects and the active pipeline of projects support this budget request of \$300 million for FY 2020. Through TIFIA, the Department has helped advance important infrastructure projects around the country and this positive momentum will continue in FY 2020.

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

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The TIFIA Program will accelerate delivery of significant transportation projects throughout the United States. By stimulating investment in the country's transportation infrastructure, the TIFIA program will improve the economy, create jobs, and improve access to opportunities.

Accelerating Project Delivery: Ultimately, the most beneficial impact of TIFIA may be its ability to accelerate delivery of transportation infrastructure. TIFIA can expedite the financing and accelerate the delivery of a project which may otherwise not be built for years. In some cases, TIFIA assistance is essential to the viability of a project's financial plan; without the interest cost savings or flexible repayment terms of a TIFIA loan, a given revenue stream may be insufficient to support a given project. In other cases, a public project sponsor may have access to adequate revenue and private capital markets to finance the project, but TIFIA assistance helps advance the project more quickly and at a lower cost, freeing up resources to accomplish other

infrastructure projects. TIFIA's streamlined application process implemented as a result of the FAST Act allows sponsors to obtain a faster lending decision.

Stimulating Significant Economic Benefits Including Job Creation: TIFIA credit assistance provides improved access to capital markets, flexible repayment terms, and more favorable interest rates than can be found in private capital markets for similar instruments. In this way, the TIFIA Program can help accelerate delivery of qualified projects that otherwise might be delayed or deferred because of size, complexity, or uncertainty over the timing of revenues. In June 2017, the Department approved a \$538 million TIFIA loan for the Mid-Coast Corridor Project in San Diego. The project's sponsor expects that project construction will result in the creation of up to 50,000 jobs.

Attracting Private Debt and Equity: In addition to stimulating new revenue streams, TIFIA credit assistance can help attract private debt and equity participation to transportation projects. TIFIA has been an integral part of P3s in the United States, with almost one-third of the TIFIA Program's portfolio funded as P3 projects. One such example is the Transform 66 – Outside the Beltway Project, which closed in November 2017. This project involved a major interstate expansion and construction of approximately 22.5 miles of managed tolled lanes of Interstate 66 in Northern Virginia under a P3 agreement with the Virginia Department of Transportation. In addition to a \$1.2 billion TIFIA loan approved to fund the project, the project's private sponsor also contributed approximately \$1.5 billion in equity, and the balance of project funding came from proceeds of Private Activity Bonds and a State Infrastructure Bank loan.

The Transform 66 project is just one of many examples of TIFIA P3 projects. In total, there have been 23 projects financed with TIFIA loans that have advanced as P3s, and \$6 billion of private equity has been committed to these projects. On the debt side, TIFIA has been combined with other debt sources including Private Activity Bonds (PABs), bank debt, and Grant Anticipation Revenue Vehicle (GARVEE) Bonds, that total over \$12 billion in financing for surface transportation projects. Currently, over two-thirds of the entire portfolio has received a level of private participation in financing.

Enhancing Economic Competitiveness: By facilitating projects that would have been delayed or deferred, the TIFIA Program will help modernize our transportation system, which will advance communities and help American businesses compete and grow in the global economy. The TIFIA Program will accelerate project delivery by stimulating new revenue streams for transportation projects and attracting private investment. Furthermore, TIFIA funding will leverage limited Federal funds, so that a relatively small Federal commitment will stimulate a large amount of State, local, and private investment.

## **Executive Summary**

### **Administrative Expenses**

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#### **What is the request and what funds are currently spent on the program?**

FHWA requests \$456.8 million for FHWA General Operating Expenses (GOE) in FY 2020, which is equal to the FAST Act level. The FY 2019 enacted level is \$449.7 million.

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

GOE funds salaries and benefits for approximately 2,100 employees, as well as rent, communications, utilities, contractual services, travel, supplies, and equipment to support the delivery of the Federal-aid highway program. The funding level requested for administrative expenses will support the \$47.4 billion Federal-aid highway program and amounts to just under 1 percent of the overall budget request for FHWA programs. This funding level is essential for FHWA to effectively deliver and manage the Federal-aid highway program. FHWA has instituted significant GOE cost savings measures in recent years, especially in personnel.

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

This program provides essential resources to carry out the agency's mission. FHWA requires adequate administrative funding to maintain its leadership and oversight role for the Federal-aid highway program's increased complexity, accountability, and transparency under the FAST Act.

The Federal-aid highway program requires an appropriately staffed workforce that is sufficiently supported and well-trained. FHWA's immediate response to hurricanes Harvey, Irma, and Maria that helped restore essential highway service to affected areas; our work with stakeholders on the I-84 Project in Idaho, and innovations like the systemic deployment of proven roadway departure countermeasures, which help improve safety on rural roads, are just a few examples of how the agency is providing benefits to the American people.

Without a properly staffed, trained, and equipped workforce capable of carrying out the Federal-aid highway program, the program would not be able to make roadways safer, maintain and improve road conditions, rehabilitate and repair bridges, accelerate project delivery, conduct and deploy innovative transportation research, and undertake many other functions critical to maintaining a safe and efficient transportation network.

## Detailed Justification Limitation on Administrative Expenses

### What is the request and what funds are currently spent on the program?

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#### FY 2020 – Limitation on Administrative Expenses (\$456.8 million) (\$000)

<u>Program Activity</u>	<u>FY 2018 Actual</u>	<u>FY 2019 Annualized CR</u>	<u>FY 2019 Enacted</u>	<u>FY 2020 Request</u>
Federal-aid Highways				
<b>Limitation on Administrative Expenses</b>				
Limitation on Administrative Expenses <sup>1/</sup>	442,692	442,692	449,692	456,798
<b>Total</b>	<u>442,692</u>	<u>442,692</u>	<u>449,692</u>	<u>456,798</u>

1/ All fiscal years include FHWA General Operating Expenses (GOE) and transfers to the Appalachian Regional Commission (ARC) for administrative activities associated with the Appalachian development highway system. Other non-administrative programs funded by set-asides from administrative expenses are included in the Federal Allocation Programs justification.

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

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The Limitation on Administrative Expenses funds salaries and benefits, travel, rent, communications, utilities, printing, contractual services, supplies, and equipment. This account provides the resources necessary to maintain the Federal-aid oversight and administrative operations. Funding will support activities to meet the FHWA strategic objectives and other Federal mandates.

#### ***Program Purpose***

Administrative expenses fund the oversight and management of the Federal-aid highway program, effectively supporting the Secretary’s key priorities of safety, infrastructure, innovation, and accountability.

The majority of FHWA’s employees are located in 52 Division offices – one in each State; Washington, DC; and Puerto Rico. The agency also has 3 Federal Lands Highway Program Field offices and a Resource Center, which provides technical assistance, training, and innovative technology deployment assistance for the Division offices, State departments of transportation, metropolitan planning organizations, and local agencies. In total, FHWA has approximately 1,250 field staff, comprising 60 percent of the GOE-funded workforce. Field staff work directly with State and local partners and other Federal agencies and Tribes to oversee the Federal-aid highway program and assist these partners in advancing projects more quickly through innovations such as the use of unmanned aerial systems and accelerated project delivery tools.

FHWA’s Headquarters program staff provides national leadership and works directly with division offices, States, and other partners to advance the Federal-aid highway program. These

offices are responsible for innovations to accelerate project delivery and reduce environmental review time, instituting performance management standards and processes, oversight of bridge inspection, coordination among other Federal agencies, and providing critical technical assistance to division offices, States, and other partners. The program offices lead implementation of the various components of the FAST Act, especially in the areas of performance management, environmental review, and project/program innovation.

FHWA’s Headquarters offices provide agency-wide support for the Federal-aid highway program. These offices provide all legal, information technology (IT), policy, human resources, training, finance, budget, and acquisitions support for the entire agency. These offices play a key role in administering IT systems such as those used to manage highway funding or report highway data, providing critical technical assistance on reauthorization and other legislation, and establishing employee programs and training opportunities to maintain a knowledgeable workforce, among other essential responsibilities.

***Funding Request***

FHWA requests a total of \$456.8 million Limitation on Administrative Expenses (LAE) for FHWA GOE. The following table summarizes the requested FY 2020 obligation limitation changes from the FY 2019 enacted level.

<b>Summary of Requested FY 2020 Funding Changes from FY 2019 Enacted</b>	
<b>GOE Activity</b>	<b>Amount (\$000)</b>
<b>Adjustments to Base</b>	
Annualization of FY 2019 Pay Raise	1,538
Additional Compensable Day	1,246
GSA Rent	260
Working Capital Fund (WCF)	-907
WCF – Information Technology	554
<b>Subtotal, adjustments to base</b>	<b>\$2,691</b>
<b>Program Increases/Decreases</b>	
Transition to Shared Services:	
Shared Services Increase to WCF	47,188
Offset in Salaries and Benefits for Shared Services	-3,612
Offset in Information Technology for Shared Services	-37,872
Offset in Equipment for Shared Services	-5,704
Enterprise Service Center Cost Increases	2,449
Consolidation of FHWA Offices in Atlanta	1,966
<b>Subtotal, program increase/decreases</b>	<b>4,415</b>
<b>Total</b>	<b>\$7,106</b>

The following are explanations for the increases/decreases included in the request:

- **Shared Services** – The Department of Transportation is implementing a shared services agreement for commodity IT (including network engineering; voice, cable, and wireless services; desktop support services; server operations) and programmatic IT (such as modernization of mission support IT systems and applications). The shared services agreement will increase efficiency and consistency in the provision of these services across FHWA and the other Department of Transportation modal administrations. The agreement is being implemented through the WCF, resulting in FHWA having an increase of \$47.2 million for IT shared services in its GOE WCF contribution. This increase is fully offset by decreases to salaries and benefits for IT staff (-\$3.6 million), IT services (-\$37.9 million), and IT equipment (-\$5.7 million) related to such shared services.
- **Enterprise Service Center (ESC) Cost Increases (\$2.4 million)** – Costs for accounting services through ESC are projected to increase significantly in FY 2020. These services are essential for accounting system support, as well as operations and maintenance of Delphi (the Department’s accounting system), which are vital to the financial execution and reporting for the Federal-aid highway program. This includes increases for support staff payroll/benefits, contractual costs, and greater software and storage (server) costs.
- **Consolidation of FHWA Offices in Atlanta (\$2.0 million)** – The project, which consolidates six separate offices into one, will result in a reduction of FHWA’s office footprint in Atlanta by approximately 7,000 square feet and the elimination of duplicate office features such as conference rooms. Based on the reduction in square footage, the consolidation is expected to achieve long-term savings of approximately \$160,000 per year. Other benefits include better space utilization; improved IT operations and maintenance by having one server space and wireless network; increased interaction between employees of the six FHWA units; and increased employee morale and productivity by providing a more modern work environment.

Funding at the requested amount will enable FHWA to effectively oversee the Federal-aid highway program. It is also important to note the following factor that affects the administration of the Federal-aid highway program:

***Request for Appalachian Regional Commission (ARC) administrative funding.***

The administrative funding amount for ARC is included within FHWA’s overall administrative request. ARC administrative funds provide for salaries, benefits, travel, and related expenses for both ARC and FHWA employees that are working on the Appalachian Development Highway System.

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

FHWA and our administrative funding are integral to the effective delivery of the Federal-aid highway program. In support of the program's delivery, we:

- Ensure that \$47.1 billion of annual Federal funding is delivered in accordance with Federal laws and regulations, and protected from fraud, waste and abuse.
- Protect the safety of the traveling public through highway and bridge design and operations standards and guidance, as well as by establishing requirements for and monitoring bridge inspection practice.
- Help communities recover from disasters through administration of the emergency relief program and by providing internationally recognized technical expertise. For example, FHWA provided quick-release funding to help reopen important sections of roads that were damaged by an earthquake in Alaska, provided funding to repair Hurricane Florence damaged roads and bridges in North Carolina and South Carolina, and provided funding to repair highways and bridges in multiple States damaged by flooding in 2018. Likewise, FHWA continues to support the recovery of Texas, Florida, Puerto Rico, and the U.S. Virgin Islands following Hurricanes Harvey, Irma, and Maria, providing emergency relief funds to restore transportation in the aftermath of these hurricanes. In addition, over 170 FHWA staff deployed following the storms to assist with damage assessments, contract management, and other services.
- Shorten project delivery through assistance to State and local governments in the planning, design and construction process, including meeting NEPA requirements and coordinating with other Federal agencies to obtain the required permits.
- Design and manage the construction for projects on Federal lands, including National Parks and forest highways.
- Conduct research, advance technologies and practices, such as the use of connected vehicle (CV) technologies, deliver training, and provide technical assistance to States, local and tribal governments. These new technologies save taxpayer time, money and lives.

With qualified staff and necessary contracts to provide oversight, FHWA will be able to: make roadways safer; maintain and improve road conditions; rehabilitate and repair bridges; improve access to roads within Federal and Tribal lands; conduct and deploy innovative transportation research; and fulfill many other functions critical to maintaining an efficient and safe transportation network.

In recent years, FHWA has increased its focus on innovation, making significant improvements in shortening project delivery and accelerating technology and innovation deployment. For example, project bundling is a proven practice that draws upon efficiencies found through project delivery streamlining, and benefits from alternative and traditional contracting methods. Bundling design and construction contracts saves procurement time, leverages design expertise, and builds momentum toward keeping critical assets in a state of good repair. This approach delivers strategic program solutions by streamlining various project delivery requirements such

as environmental agreements and standardized designs. Additionally, bundling projects with shared features leverages design expertise and achieves economies of scale.

Through innovative approaches, FHWA is dedicated to making significant safety improvements in rural areas. One-third of all traffic fatalities are the result of rural roadway departures. Substantial safety improvements can be difficult to make in rural areas because rural roads account for approximately 70 percent of public road mileage and are often operated by local agencies with limited resources and technical expertise in safety analysis or planning. FHWA is championing the systemic deployment of proven roadway departure countermeasures which help keep vehicles in their travel lanes, reduce the potential for crashes, and reduce the severity of those crashes that occur. Examples of these countermeasures include friction treatments on pavements to prevent loss of vehicle control, roadside hardware that can reduce the severity of crashes, and signage and roadway alignment changes that can help drivers navigate. For instance, Minnesota developed road safety plans for every county; after two years of widespread deployment of the safety strategies in the plans, the fatality rate on the county system went from 1.2 to 0.85 per 100 million vehicle miles traveled.

FHWA has also supported cutting edge innovation and research in emerging technologies. For instance, the Exploratory Advanced Research Program has resulted in recent successes such as Connected Vehicle technologies in support of systems like Peloton's truck platooning system, which connects the braking and acceleration between two trucks to maximize safety and fuel efficiency, and General Motor's Super Cruise hands-free driving system. Currently, the EAR program is undergoing research into truck platooning with the goal to significantly increase safety while reducing the cost of every mile traveled by heavy vehicles. The Heavy Truck Cooperative Adaptive Cruise Control (CACC) study will investigate the potential of CACC to lead to new levels of freight efficiency and improved mobility for all highway travelers.

FHWA works closely with its State, local, Federal, and Tribal partners to improve project delivery. For example, the Idaho Transportation Department's I-84 Karcher Interchange to Franklin Boulevard project will improve safety, enhance mobility, and bolster economic growth along Idaho's major freight corridor. The project, which encompasses 2.8 miles of I-84, continues a larger \$820 million I-84 corridor project in Idaho's Treasure Valley area. The Karcher project is expected to improve connectivity among the modes of freight transportation moving goods into and out of the Boise area and mitigate the impact on communities.

These are just a few examples of FHWA employing innovation to assist its partners in completing transportation projects more safely, quickly, and efficiently, which results in fewer fatalities and accidents, reduced congestion and commute times, and accelerated movement of goods and services throughout the Nation. In addition, FHWA is continuing to remain accountable by examining regulations to identify those that should be modified, streamlined or repealed to reduce costs or eliminate bureaucratic obstacles to efficient project delivery.

In response to Executive Order 13807 on Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure, FHWA developed an agreement with Federal resource and permitting agencies. The agencies agreed to participate in early coordination activities for projects identified as high-priority major infrastructure projects under the

Executive Order. In addition, FHWA led the agencies in developing a process chart for major infrastructure projects that synchronizes the environmental review and permitting processes. The process will lead to a single NEPA document that satisfies the requirements of all the agencies.

FHWA will continue to pursue a multi-faceted strategy to accelerate project delivery while also protecting the environment. This includes initiatives, whether legislatively or agency-driven, to encourage interagency collaboration and to significantly shorten project delivery timeframes. Examples include: reducing duplication by linking planning and environmental review; and exploring new categorical exclusions under the National Environmental Policy Act – projects that have no significant environmental impacts and are not required to develop a time-consuming environment impact statement.

By providing funding at the requested level, FHWA can continue to provide these valuable services, enhancing the transportation experience for all Americans.

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## **Executive Summary**

### **Competitive Highway Bridge Program**

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#### **What is the request and what funds are currently spent on the program?**

Our FY 2020 budget requests \$300 million for the Competitive Highway Bridge Program (CHBP). In FY 2018, the Department of Transportation Appropriations Act, 2018 (Public Law 115-141) appropriated \$225 million for the CHBP. In FY 2019, the Department of Transportation Appropriations Act, 2019 (Public Law 116-6) changed the CHBP from a discretionary program to a formula-based highway bridge program. The FY 2019 enacted amount is \$475 million.

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

The CHBP is a discretionary competitive grant program that provides funding for highway bridge replacement and rehabilitation projects on public roads that demonstrate cost savings by bundling multiple highway bridge projects into a single contract. For FY 2018, eligible applicants were States that have a population density of less than 100 individuals per square mile (Alabama, Alaska, Arizona, Arkansas, Colorado, Idaho, Iowa, Kansas, Maine, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Vermont, West Virginia, and Wyoming). For FY 2020, FHWA is proposing to extend the eligibility of this program to all highway bridges with a rural functional classification in the 2018 National Bridge Inventory, regardless of state.

The FY 2018 program received 56 grant applications, with at least one application from each of the 25 eligible States, requesting more than \$730 million in Federal funding for projects with total costs of more than \$1 billion.

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

The CHBP provides an opportunity to address significant challenges across the Nation for improving highway bridge conditions in rural areas. As the FY 2018 applications demonstrate, there remains a significant highway bridge funding gap in rural areas leaving States unable to meet many bridge replacement and rehabilitation needs. These additional funds will continue to help States meet the challenges of maintaining highway bridges in rural areas in a state of good repair resulting in improved mobility for the traveling public and for freight, further supporting local and regional economic vitality.

## Detailed Justification Competitive Highway Bridge Program

### What is the request and what funds are currently spent on the program?

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#### FY 2020 – Competitive Highway Bridge Program (\$300 million) (\$000)

Program Activity	FY 2018 <u>Actual</u>	FY 2019 <u>Annualized CR</u>	FY 2019 <u>Enacted</u> <sup>1/</sup>	FY 2020 <u>Request</u>
Federal-aid Highways				
<b>Competitive Highway Bridge Program</b>				
Competitive Highway Bridge Program	225,000	225,000	475,000	300,000
<b>Total</b>	<u>225,000</u>	<u>225,000</u>	<u>475,000</u>	<u>300,000</u>

1/ The Department of Transportation Appropriations Act, 2019 (Public Law 116-6) changed the CHBP from a discretionary program to a formula-based highway bridge program.

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

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The Competitive Highway Bridge Program (CHBP) is a discretionary competitive grant program that provides funding for highway bridge replacement and rehabilitation projects on public roads that demonstrate cost savings by bundling multiple highway bridge projects into a single contract. Consistent with other USDOT competitive grant programs, preference is given to applications that use innovative technologies, strategies or financing approaches that improve highway bridge conditions, restore bridge capacity and/or add bridge capacity, and expedite project delivery. Other considerations include anticipated benefits in three key categories: innovative technologies, project delivery, and financing.

For FY 2018, eligible applicants were States that have a population density of less than 100 individuals per square mile (Alabama, Alaska, Arizona, Arkansas, Colorado, Idaho, Iowa, Kansas, Maine, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Vermont, West Virginia, and Wyoming). In FY 2019, the Department of Transportation Appropriations Act, 2019, changed the CHBP from a discretionary program to a formula-based highway bridge program for States with at least 7.5 percent of total deck area of bridges classified as in poor condition. For FY 2020, FHWA is proposing to return to a discretionary program and extend the eligibility to all highway bridges with a rural functional classification in the 2018 National Bridge Inventory (NBI) regardless of State.

The FY 2018 program received 56 grant applications, with at least one application from each of the 25 eligible States, requesting more than \$730 million in Federal funding for projects totaling more than \$1 billion.

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

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The CHBP provides an opportunity to address significant challenges across the Nation for improving highway bridge conditions in rural areas. According to the 2018 NBI dataset, 8.5% of rural highway bridges are classified as in poor condition compared to 5.4% of urban highway bridges. As the FY 2018 applications demonstrate, there remains a significant highway bridge funding gap in rural areas leaving States unable to meet many bridge replacement and rehabilitation needs. The bundling of highway bridge projects into a single contract will leverage greater cost savings than if projects were contracted for individually. These economic efficiencies will continue to help States meet the challenges of maintaining highway bridges in rural areas in a state of good repair resulting in improved mobility for the traveling public and for freight, further supporting local and regional economic vitality.

Project bundling is a proven practice that draws upon efficiencies found through project delivery streamlining, as well as benefits from alternative and traditional contracting methods. A bundled contract could cover a single county, district, or State, and it may be tiered to allow a combination of work types (design, preservation, rehabilitation, or complete replacement). Bundling design and construction contracts saves procurement time, leverages design expertise, and builds momentum toward keeping critical assets in a state of good repair. Additional benefits include:

- *Expedited Project Delivery:* Project bundling delivers strategic program solutions by streamlining various project delivery requirements such as environmental agreements and standardized designs.
- *Reduced Cost:* Bundling projects with shared features leverages design expertise and achieves economies of scale.
- *Contracting Efficiency:* Using a single contract award for several similar projects streamlines design and construction and saves procurement time.

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**EXHIBIT IV-1**  
**RESEARCH, TECHNOLOGY & EDUCATION**  
**DEPARTMENT OF TRANSPORTATION**  
**Budget Authority**  
**(\$000)**

	CLASSIFICATION (R, D, F, A, or E)	FY 2018 ACTUAL	FY 2019 ANNUALIZED CR	FY 2019 ENACTED	FY 2020 REQUEST	ANNUAL MODAL RESEARCH PLAN
<b>FEDERAL HIGHWAY ADMINISTRATION</b>						
<b>Research, Technology &amp; Education (RT&amp;E) Program</b>						
<b>A. Highway Research and Development</b>		<b>114,625</b>	<b>109,750</b>	<b>112,623</b>	<b>125,000</b>	
Highway Research and Development, Applied Research	R	62,356	59,704	61,266	68,000	X
Highway Research and Development, Development Research	D	15,589	14,926	15,317	17,000	X
Highway Research and Development, Deployment (Technology Transfer)		36,680	35,120	36,040	40,000	X
<b>B. Technology and Innovation Deployment Program</b>		<b>61,898</b>	<b>59,265</b>	<b>60,818</b>	<b>67,500</b>	
Technology and Innovation Deployment, Deployment (Technology Transfer)		61,898	59,265	60,818	67,500	X
<b>C. Training and Education Program</b>		<b>22,008</b>	<b>21,072</b>	<b>21,624</b>	<b>24,000</b>	
Training and Education Program, Training and Education (Technology Transfer)	E	22,008	21,072	21,624	24,000	
<b>D. Intelligent Transportation Systems</b>		<b>91,700</b>	<b>87,800</b>	<b>90,100</b>	<b>100,000</b>	
Intelligent Transportation Systems, Applied Research	R	72,443	69,362	71,179	79,000	X
Intelligent Transportation Systems, Deployment (Technology Transfer)		19,257	18,438	18,921	21,000	X
<b>E. University Transportation Centers (UTC) <sup>1/</sup></b>		<b>68,775</b>	<b>68,045</b>	<b>69,828</b>	<b>77,500</b>	
University Transportation Centers (UTC), Applied Research	R	68,775	68,045	69,828	77,500	X
<b>F. State Planning and Research (SP&amp;R) <sup>2/</sup></b>		<b>204,214</b>	<b>208,826</b>	<b>208,826</b>	<b>213,831</b>	
State Planning and Research (SP&R), Applied Research	R	122,528	125,296	125,296	128,298	
State Planning and Research (SP&R), Development Research	D	30,632	31,324	31,324	32,075	
State Planning and Research (SP&R), Deployment (Technology Transfer)		51,054	52,207	52,207	53,458	
<b>G. Administrative/Facility Expenses</b>		<b>22,059</b>	<b>22,059</b>	<b>22,059</b>	<b>22,059</b>	
Administrative Expenses	A	20,529	20,529	20,529	20,529	
Turner-Fairbank Highway Research Center Facility	F	1,530	1,530	1,530	1,530	
<b>H. Advanced Transportation &amp; Congestion Mgmt. Technologies Deployment [Non-add] <sup>3/</sup></b>		<b>[60,000]</b>	<b>[60,000]</b>	<b>[60,000]</b>	<b>[60,000]</b>	
<b>Subtotal</b>		<b>585,279</b>	<b>576,818</b>	<b>585,879</b>	<b>629,890</b>	
Subtotal, Applied Research <sup>4/</sup>		326,102	322,407	327,569	352,798	
Subtotal, Development Research <sup>4/</sup>		46,221	46,250	46,641	49,075	
Subtotal, Deployment <sup>4/</sup>		168,889	165,030	167,986	181,958	
Subtotal, Research and Development Facilities <sup>4/</sup>		1,530	1,530	1,530	1,530	
Subtotal, Training and Education <sup>4/</sup>		22,008	21,072	21,624	24,000	
Subtotal, Administration <sup>4/</sup>		20,529	20,529	20,529	20,529	
Add: Bureau of Transportation Statistics <sup>1/</sup>		26,000	26,000	26,000	26,000	
Less: Administrative/Facility Expenses		-22,059	-22,059	-22,059	-22,059	
Less: State Planning and Research (SP&R)		-204,214	-208,826	-208,826	-213,831	
<b>Total Title V Programs <sup>4/ 5/</sup></b>		<b>385,006</b>	<b>371,933</b>	<b>380,994</b>	<b>420,000</b>	
<b>Total Technology Transfer</b>		<b>190,897</b>	<b>186,102</b>	<b>189,610</b>	<b>205,958</b>	

1/ Details for this program are contained in the Office of the Assistant Secretary for Research and Technology FY 2020 budget.

2/ Title 23 U.S.C. 505(b) requires State DOT's to expend no less than 25 percent of their annual SP&R funds on RT&E activities. Total SP&R funding represents 2 percent of apportioned programs, exclusive of the Metropolitan Planning Program.

3/ Per the FAST Act, the Advanced Transportation & Congestion Management Technologies Deployment Program will be funded by set-asides from Highway Research and Development, Technology and Innovation Deployment Program, and Intelligent Transportation Systems.

4/ Subtotals may not add due to rounding.

5/ FY 2018 and FY 2019 annualized CR amounts reflect an 8.3 percent and 12.2 percent "lop-off", respectively, resulting from the imposition of the obligation limitation. FY 2019 enacted amounts reflect a 9.9 percent "lop-off" resulting from the imposition of the obligation limitation. FY 2020 amounts are authorized amounts prior to any "lop-off" determination.

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**FEDERAL HIGHWAY ADMINISTRATION  
RESEARCH, TECHNOLOGY, AND EDUCATION (RT&E)**

**RT&E PROGRAM NAME: HIGHWAY RESEARCH & DEVELOPMENT PROGRAM**

**AMOUNT REQUESTED FOR FY 2020: \$125 million**

**Project Name or Program Activity: Core Highway Research and Development Programs**

**Objectives:** To research and develop transformational technologies that promote safety; improve the mobility of people and goods; stimulate growth, productivity, and competitiveness; reduce congestion; improve the durability and extend the life of transportation infrastructure; accelerate project delivery; and support the transition to the future transportation system through innovative practices and technologies.

**Description:** FHWA's core R&D programs improve safety, enhance the transportation infrastructure, reduce congestion, provide data and analysis to transportation decision-makers, and contribute to efficient project delivery.

- The Safety research area utilizes a data-driven approach to address the contributing factors of deaths and injuries related to rural roadway departure, intersections, and pedestrian/bicycle crashes. Partnerships with States and local agencies produce robust data analysis tools that enable transportation professionals to match contributing factors with proven, cost-effective safety countermeasures.
- The Infrastructure area engages in forward-looking research to: develop advanced technologies, practices and knowledge to deliver projects faster and more efficiently; enable greater accountability for public investments in highway infrastructure through effective transportation performance management; facilitate maintenance of a state of good condition; and improve the sustainability of highway infrastructure. The resulting innovations support and enable highway agency efforts to achieve and sustain a state of good repair, enhance the effectiveness of transportation performance management and deliver projects faster and more efficiently.
- The Operations area develops innovative technologies and processes that lead to system-wide improvements in how FHWA and its State and local partners manage and increase the reliability and capacity of the National Highway System (NHS), and conducts activities to improve the efficient movement of freight on the National Highway Freight Network (NHFN).
- The Policy area develops and implements new innovative data methods, explores partnerships with private data providers, integrates multimodal data, supports international exchanges and collaboration across all FHWA offices, evaluates the impacts of a broad range of policy options, and analyzes current and emerging issues that will influence how transportation systems are built, maintained, and used.
- The Planning and Environment area assesses new tools and processes that can consider the complex relationships among individuals, communities, the economy, and the

environment; enable better decisions; lead to improved outcomes; and accelerate project delivery.

- The Exploratory Advanced Research (EAR) program conducts longer-term, higher-risk research in consultation with all the research program areas. These research products have the potential for dramatic breakthroughs in transportation and ensure a continued U.S. pipeline of technology innovations.
- The Turner-Fairbank Highway Research Center is a federally-owned and operated research facility in McLean, VA, where most of FHWA’s research projects are conducted, sponsored, or coordinated.

<b>Outputs and Deliverables</b>	<b>Outcomes and Impacts</b>
Identified innovative road safety solutions and development of effective safety countermeasures.	Data-driven safety plans to reduce rural roadway departures, including partnering plans with states, counties, and local technical assistance programs.
Evaluations and documentation to promote new approaches to road design that enhances road safety through proven safety countermeasures.	Better highway, intersection, roadside, pedestrian, and bicyclist safety design.
Models and design improvements to support the integration of emerging vehicle technologies.	Better understand the relationship between roadway users, infrastructure, and advanced vehicle technologies.
Provide tools, technologies, guidance, and updated policies to improve the safety, structural integrity, and longevity of highway infrastructure.	Enhanced quality and durability of pavements, bridges, tunnels, and other highway structures.
Tools and technologies that enhance the speed and efficiency of highway construction, inspection and condition assessment, and life-cycle management. Specifications and guidelines to improve the durability, resilience and sustainability of highway infrastructure. Information, tools and guidelines to support effective, data-driven management of highway infrastructure.	Accelerated project delivery reduces costs through efficient construction. Improved infrastructure durability and sustainability. More cost-effective highway infrastructure.
Publicly available data sets documenting the performance of a well-characterized set of pavement test sections and bridges.	Better understand the performance of pavements and bridges to assist state and local government agencies responsible for the design, construction, maintenance, and preservation of the highway infrastructure.
Techniques to improve decision-making through collaboration, coordination and communication.	Accelerate projects and successful implementation of One Federal Decision.

Promotion of environmental streamlining/stewardship and sustainability.	Strengthened and advanced State/local and Tribal capabilities regarding surface transportation and the environment.
Identify and define the capabilities needed for the DOT, FHWA, and stakeholders to jointly address the challenges of Automated Driving Systems (ADS).	Establish a collaborative understanding among stakeholders to support collaborative development of ADS and roadway technology.
Tools and organizational support to enable agencies to evaluate, plan, fund, design, and capitalize on emerging cost-effective transportation technologies and operational strategies.	Ensure that advanced and emerging innovative operational strategies and technologies are successfully delivered and sustained for the benefit of the American public and the business sector.
Assess the condition and performance of key freight infrastructure, and provide guidance to incorporate freight infrastructure improvement projects into transportation program delivery.	Ensure safe, durable, and high performing infrastructure, and identify solutions to mitigate or address the negative impacts of freight transportation.
Demonstrate integrated models that combine weather, road conditions, traffic, work zones, incidents tools, and provide training to proactively manage the transportation system during disruptions.	Enhanced prediction of road conditions and more proactive traffic and maintenance management.
Develop tools and models to assess modal choice, travel behavior, system performance, highway construction costs, and identify cost-effective future highway investments.	Enhanced understanding of how national transportation strategies and policies can improve the overall value of transportation investments to the American people.

**Project Name or Program Activity: Surface Transportation System Funding Alternatives**

**Objectives:** To develop user-based revenue solutions to maintain the long-term solvency of the Highway Trust Fund.

**Description:** As required by the FAST Act, this program will provide grants to States to demonstrate user-based revenue mechanisms that utilize a user fee structure to maintain the long-term solvency of the Highway Trust Fund. The FAST Act made available \$15 million in FY 2016 and \$20 million for each year from FY 2017 through FY 2020 for this program.

- *Delaware/I-95 Corridor Coalition-Mileage-Based User Fees in a Multi-State Region:* The pilot determined that out-of-state mileage is generated at a high rate on the East Coast. Study results of pilot participants, who opted for a location-based response, indicate that 20% travel takes place outside of their state.

- *Delaware/I-95 Corridor Coalition*: Currently, this pilot is exploring the ability of OBD II-plug in devices to collect Delaware tolls (E-ZPass).
- *The Minnesota Department of Transportation (MnDOT)*: Demonstrating a user-based fee mechanism with fleet-operated Shared Mobility (SM) service providers. It provides a platform to explore a practical path toward wider deployment of distance-based user fees as a replacement for the motor fuel tax on appropriately equipped vehicles.
- *The Minnesota Department of Transportation (MnDOT)*: By leveraging the advanced technology that has become a standard of SM service providers, MnDOT will advance the user-based fee mechanism using existing embedded vehicle technology. This project will prepare Minnesota for the convergence of shared mobility with broad adoption of vehicle electrification, as well as coming vehicle automation.

<b>Outputs and Deliverables</b>	<b>Outcomes and Impacts</b>
Recommendations regarding adoption of user-based alternative revenue mechanisms.	Improved functionality of user-based alternative revenue mechanisms.
Lessons learned for future deployment of alternative revenue mechanisms that utilize a user fee structure.	Increased public awareness regarding the need for alternative funding sources for surface transportation programs.

**Project Name or Program Activity: Performance Management Data Support Program**

**Objectives:** To improve data collection for performance analysis.

**Description:** Per the FAST Act, up to \$10 million for each of fiscal years 2016 through 2020 may be used to carry out this program. This initiative will develop, use, and maintain data sets and data analysis tools to assist metropolitan planning organizations, States, and the FHWA in carrying out performance management analyses.

<b><u>Outputs and Deliverables</u></b>	<b><u>Outcomes and Impacts</u></b>
Reliable data sets and data analysis tools for performance management analysis.	Improved decision-making tools to evaluate the effects of project investments on performance.

**RT&E PROGRAM NAME: TECHNOLOGY AND INNOVATION DEPLOYMENT PROGRAM (TIDP)**

**AMOUNT REQUESTED FOR FY 2020: \$67.5 million**

**Objectives:** Accelerate the adoption of proven innovative practices and technologies as standard practices to significantly improve: safety, system efficiency, infrastructure health, reliability and performance, and livable/sustainable communities.

**Description:** FHWA achieves the objectives of this program through program area-focused implementation and deployment of innovative methods, practices, and technologies to States and transportation practitioners. These activities are further supported by the following sub-programs:

- *Every Day Counts (EDC) program:* The FAST Act recognizes the success of EDC and adds it as a required program. EDC identifies under-utilized market-ready technologies with high pay-offs and accelerates their deployment and widespread adoption throughout the Nation.
- *Accelerated Innovation Deployment (AID) Demonstration program:* Provides funding up to \$10 million per Federal fiscal year for eligible entities to accelerate the implementation and adoption of innovative technologies or practices on highway transportation projects. This program aims to move transformational technologies into the field faster to enhance the current state while also setting the stage for future technological development.
- *State Transportation Innovation Council (STIC) Incentive program:* Each State DOT co-chairs a STIC that works collaboratively across public and private sectors to identify, evaluate and actively promote the implementation and adoption of innovative technologies and practices. FHWA offers technical assistance, resources, and up to \$100,000 per STIC per federal fiscal year to help enable the standardizing of innovative practices in a State transportation agency or other public sector STIC stakeholder.
- *Accelerated Market Readiness (AMR) program:* Supports promising new or underutilized innovations that have the potential to be considered for accelerated deployment. The AMR program provides resources for the rapid, national assessment of emerging innovations and for the development of objectively-written documentation of these assessments. These activities are intended to help advance the innovations to a more complete market-ready status. The AMR program works with both internal and external stakeholders and partners, including the National STIC Network and the AASHTO Innovation Initiative.
- *Accelerated deployment of pavement technologies:* The FAST Act extends the designation of \$12 million per fiscal year to promote, demonstrate, support, and document the application of innovative pavement technologies, practices, performance, and benefits.
- *Advanced Transportation and Congestion Management Technologies Deployment Program:* The FAST Act requires FHWA to award grants to States and other entities to deploy technologies with the potential to relieve congestion and improve the quality of life. The FAST Act made available \$60 million per fiscal year for this program.

<b><u>Outputs and Deliverables</u></b>	<b><u>Outcomes and Impacts</u></b>
Accelerated deployment of innovative methods, practices, and technologies to States and transportation practitioners.	Improved safety and infrastructure integrity; increased support of all DOT and FHWA goals and objectives.
Identified and rapidly deployed proven, yet underutilized innovations through the EDC program.	Significant acceleration of new technologies at the State and local levels resulting in shortened project delivery times, cost savings, enhanced roadway safety, and reduced traffic congestion.
Incentive funding to STICs to conduct internal assessments, develop guidance, standards, and specifications, implement process changes, or fund other activities to deploy innovations.	Increased use of innovations through assisting States to offset the risks of piloting innovations.
Grants to States to implement advanced transportation and congestion management technologies.	Reduced congestion, improved travel reliability.

**RT&E PROGRAM NAME: TRAINING AND EDUCATION (T&E)**

**AMOUNT REQUESTED FOR FY 2020: \$24 million**

**Objectives:** To foster a safe, efficient, and sustainable surface transportation system by improving skills and increasing the knowledge of the transportation workforce and decision-makers through training and information exchanges. To attract qualified students to the field of transportation and advance transportation workforce development.

**Description:** This program provides leadership, training, educational materials and resources for the development and delivery of training, professional development and education programs to improve the quality of our highway system and its intermodal connections. It also provides educational opportunities to the surface transportation community through developing core competencies and new skills, enabling technology transfer, and sharing best practices.

<b><u>Outputs and Deliverables</u></b>	<b><u>Outcomes and Impacts</u></b>
Training resources to customers, partners, and learners in every State.	Improved workforce training.
Information exchange, professional development, training, and facilitated technology transfer to local governments, Tribes and Federal Land Management Agencies.	Advancements in State, local, Tribal, and Federal Land Management Agencies capabilities regarding the complex relationships in surface transportation.
Scholarships, fellowships, educational grants.	Advancement of careers in transportation.

The National Network for the Transportation Workforce (NNTW) consisting of five Regional Surface Transportation Workforce Centers serves as a resource to support, grow and maintain a skilled and career-ready transportation workforce.	Strategic partnerships to communicate workforce programs and best practices to educators and employers.
Grants to educational pipeline organizations for educational materials and innovative practices in transportation.	A well-educated transportation workforce.
Congressionally-mandated centers for surface transportation excellence to address the areas of environment, surface transportation safety, rural safety, and project finance.	Performance-based surface transportation programs and activities in the areas of environment, safety, and project finance.

**RT&E PROGRAM NAME: INTELLIGENT TRANSPORTATION SYSTEMS PROGRAM (ITS)**

**AMOUNT REQUESTED FOR FY 2020: \$100 million**

**Objectives:** The ITS Program seeks to: enable safer vehicles and roadways by developing better crash avoidance and protection measures; enhance mobility by exploring methods and management strategies that increase system efficiency and improve individual mobility; improve accessibility by better managing traffic flow, speeds, congestion; promote innovation by fostering technological advancement and innovation across the USDOT ITS Program; and support transportation system information sharing through the development of standards and systems architecture.

**Description:**

The ITS Program is directly aligned with USDOT’s mission of ensuring the nation has the safest, most efficient and modern transportation system in the world. The Program undertakes the research and deployment of emerging technologies and capabilities that work to leverage newly developed public and private safety innovations. Through research focusing on innovations in connectivity, automated vehicles (AVs), and infrastructure technologies, the Program has demonstrated advanced capabilities to provide Americans with new levels of personal safety and mobility while improving the efficiency of freight movement. The Program serves as an innovative hub for projects impacting all aspects of American transportation, from AV policy and institutional issues, to data collection, innovative deployments and application testing.

<b><u>Outputs and Deliverables</u></b>	<b><u>Outcomes and Impacts</u></b>
Develop crash avoidance, protection measures, and other notification mechanisms, commercial motor vehicle safety considerations, infrastructure-based, and cooperative safety systems.	Enables safer vehicles and roadways.

Develop system efficiency and individual mobility management strategies.	Increased mobility of people and goods.
Develop technology and roadway operational practices to manage traffic flow, speeds, congestion.	Improved accessibility for drivers.
Develop and pursue a visionary/exploratory research agenda.	Enable technological advancement within the ITS Program to align with the pace of technology development, adoption, and deployment to meet future transportation needs.
Develop standards and systems architecture to support communications among and between vehicles of all types, the infrastructure, and portable devices.	Support transportation system information sharing.

**RT&E PROGRAM NAME: STATE PLANNING & RESEARCH (SP&R)**

**AMOUNT REQUESTED FOR FY 2020: \$213.83 million (non-add)**

**Objectives:** To solve transportation problems identified by the States. To encourage cooperation among States to leverage funds and conduct research of relevance to multi-State regions.

**Description:** States are required to set aside 2 percent of the apportionments they receive from five of the major Federal-aid programs authorized in the FAST Act for their State Planning and Research Program. At least 25 percent of the total SP&R has to be used for research, development, and technology transfer purposes. Each State may tailor its SP&R program to meet the local needs. High priority is given to applied research on State or regional problems, transfer of technologies from researchers to users, and research for setting standards and specifications. States can contribute SP&R research funds to cooperative research programs such as the National Cooperative Highway Research Program and transportation pooled fund studies.

<b><u>Outputs and Deliverables</u></b>	<b><u>Outcomes and Impacts</u></b>
Reports, data, and tools that meet State and local needs.	Enhanced solutions to highway problems identified by the States.
Technology deployment activities essential to States and local transportation agencies.	Adapting findings to practical applications by developing and transferring new technologies.
Contribution to cooperative research programs such as the National Cooperative Highway Research Program, TRB, and Transportation Pooled Fund projects.	Enhanced collaboration practices with transportation stakeholders.

Comprehensive truck size and weight research including assessments of emerging trends and technologies.	Better informed policy decisions that balance safety, productivity, and infrastructure preservation.
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**EXPECTED OUTPUTS OF INTERNAL DOT COLLABORATION (Applies to all RT&E programs)**

Examples of current and ongoing collaborative efforts include:

- Accessible Transportation Technologies Research Initiative (ATTRI): FHWA leads ATTRI, a multi-modal U.S. DOT effort designed to enhance mobility choices for travelers with disabilities, including those with mobility, vision, hearing and intellectual impairments, veterans with disabilities, as well as our aging population. The goal is to provide them with the capability to reliably, safely and independently plan and execute their travel, which, in turn, allows for more opportunities to work and connect. Participants in ATTRI include: the Federal Transit Administration (FTA), the Intelligent Transportation System Joint Program Office (ITS JPO), the National Institute of Disability and Rehabilitation Research, and other Federal agencies. Solutions being explored under the ATTRI program will bring a holistic new approach to completing a trip, getting from point A to point B. These solutions will use emerging new technologies, universal design, and inclusive Information Communication Technologies (ICT) to enhance the total travel chain experience for travelers with disabilities and others.
- FHWA coordinates annual publication of the “Freight Facts and Figures”, developed in partnership with Bureau of Transportation Statistics (BTS), FTA and the Maritime Administration (MARAD) – a multi-modal snapshot of freight movement information.
- FHWA supports the DOT Office of the Inspector General through the delivery of onsite testing and expert technical support in relation to construction-related investigations.
- FHWA is engaging with the Federal Aviation Administration (FAA) as we showcase and advance the application of unmanned aerial system (UAS) technology for project inspection, emergency response, and other transportation uses, so that FAA is aware of how UASs are being used in the highway sector.
- FHWA is partnering with the National Highway Traffic Safety Administration (NHTSA) Special Crash Investigation (SCI) Team to investigate crashes involving the most widely used energy absorbing guardrail end terminals as part of a two-year pilot in-service performance evaluation. This has led to the possibility of including several of the roadway study variables as standard features of future NHTSA data collection efforts.
- Safety Data and analytics – Exploratory Advanced Research Program (EAR) investment in new tools for analysis of safety data including video image data will accelerate the ability of U.S. DOT modal agencies to develop lifesaving countermeasures and prepare for emerging transportation technologies. We are already testing preliminary results from

these projects and coordinating with NHTSA, FTA, Federal Motor Carrier Safety Administration (FMCSA) and FAA.

- Freight data and analytics – the EAR Program is investing in new methods for collecting and modeling freight data that will provide U.S. DOT modal agencies with an improved ability to make data-driven decisions to improve the economic benefits of reliable movement of goods. This work is closely coordinated with FMCSA, Federal Railroad Administration (FRA), Pipeline and Hazardous Materials Safety Administration (PHMSA), and BTS.

### **EXPECTED OUTPUTS OF EXTERNAL DOT COLLABORATION (applies to all RT&E programs)**

Examples of current and ongoing collaborative efforts include:

- FHWA staff annually participates in the National Cooperative Highway Research Program (NCHRP) by reviewing problem statements and by taking part in selection panels and synthesis groups. In addition, FHWA has provided problem statements describing needed analysis of the Long Term Pavement Performance Data for possible pursuit via the NCHRP.
- FHWA administers the Transportation Pooled Fund program, which pools funds from States (generally SP&R funds), federal agencies, and private entities that allow participants to collaborate on research in areas of interest to one or more States and other partners.
- FHWA partners with and supports the National Transportation Safety Board in their investigations of highway infrastructure-related failures by providing technical expertise and physical testing capabilities.
- FHWA is partnering with other Federal agencies, including GSA, State Department, Army Corps of Engineers, in the FedBIM working group to advance the use of Building Information Modeling (BIM) to maximize the efficiency, productivity and cost savings of both vertical and horizontal (highway) construction.
- FHWA is working with the Department of Justice on an FHWA-led project to examine the cost and quality impacts of company mergers and acquisitions that are occurring in the highway materials and construction markets.
- FHWA partners with the Virginia Department of Transportation and Transurban to support our research and testing of cooperative automated vehicle applications that could be deployed relatively soon on managed lanes to improve reliability and capacity of the facilities.
- FHWA partners with the U.S. Army's Aberdeen Test Center and the Department of Homeland Security's Federal Law Enforcement Training Center to support our research and testing of connected and automated vehicle applications and enabling technologies.

- FHWA partners with the State Department to design and crash test security barriers used to protect U.S. government facilities and personnel located around the world. FHWA continues to coordinate work addressing alternatives to traditional Portland cement concrete with FAA and other Federal agencies to advance understanding of how these materials may be effectively used in infrastructure applications.
- National Transportation Liaison Community of Practice: Transportation liaisons facilitate the environmental and permit review processes for transportation projects by providing technical assistance and coordinating between resource and regulatory agencies, State departments of transportation, and metropolitan planning organizations. FHWA created a web site to assist liaisons in sharing information and resources. The site includes a resource library, list of subject matter experts, quarterly liaison profiles, a calendar of events, and a newly launched discussion board.
- The FHWA Exploratory Advanced Research (EAR) Program engages federally-funded basic research programs to identify and demonstrate the potential for highway transportation applications from advances in science and engineering, including the potential for civilian uses of advances in military technology based on Defense Department research programs. The EAR Program coordinates with the Army Corps on materials and truck platooning. The EAR program also coordinates with DOE laboratories on data analytics and machine learning as well as with the National Science Foundation (NSF) Cyber Physical Systems Program. Additionally, there is a Memorandum of Understanding (MOU) between the EAR Program and NSF Directorate for Computer & Information Science & Engineering (CISE) focusing on: connected vehicle research to develop safe and cost-effective methods for scaling next generation connected vehicle systems from research through transition to practice, and applying emerging machine learning methods to improve highway system safety and reliability.
- The FHWA Policy Symposia Series provides a formal mechanism for engaging with outside experts in government, industry, and academia on emerging transportation policy topics. These dialogues help FHWA to make proactive and informed planning, policy, and investment decisions and provide a valuable information resource to State DOTs in the planning and execution of their program.
- The Global Benchmarking Program provides a dedicated mechanism for obtaining and adapting proven foreign innovations that can help FHWA respond to challenges facing the U.S. highway system. The program connects FHWA and U.S. technical experts with transportation advances around the world and thereby helps avoid duplicative research, reduce overall costs and accelerate improvements to our transportation system.
- The Global Technology Exchange Program promotes knowledge exchange by leveraging partnerships, and establishing and managing cooperative agreements with other government agencies and professional organizations worldwide. These efforts help provide direction for U.S. collaboration on highway research and practice, and broaden the depth of knowledge in given priority areas. These exchanges address: areas of national significance that deliver a clear public benefit to the U.S., current or emerging

needs as well as gaps in research and priorities of FHWA and the U.S. transportation community.

**Internal DOT Collaboration Partners (applies to all RT&E programs)**

National Highway Traffic Safety Administration (NHTSA), Federal Motor Carrier Safety Administration (FMCSA), Federal Aviation Administration (FAA), Federal Transit Administration (FTA), Federal Railroad Administration (FRA), Office of the Secretary of Transportation – Office of the Assistant Secretary for Research and Technology (OST-R), the Volpe Center, the Office of the Inspector General (OIG).

**External DOT Collaboration Partners: (applies to all RT&E programs)**

State Transportation Agencies, Metropolitan Planning Organizations (MPOs), Local Public Agencies, State Transportation Innovation Councils (STICs), Transportation Research Board (TRB), American Association of State Highway and Transportation Officials (AASHTO), University Transportation Centers (UTCs), The Human Factors Coordinating Council, academia, industry, National Association of County Engineers (NACE), ITS America, Institute of Transportation Engineers (ITE), Society of Automotive Engineers, American Concrete Pavement Association, National Steel Bridge Alliance, Portland Cement Association, the National Asphalt Pavement Association, National Stone Sand and Gravel Association, National Concrete Bridge Council, American Concrete Institute, American Public Works Association (APWA), Association of Metropolitan Planning Organizations (AMPO), National Association of Regional Councils (NARC), National Association of County Officials (NACO), non-governmental organizations, first responders, law enforcement, freight community, International transportation groups (e.g., the World Road Association), foreign ministries and departments responsible for road transportation; other U.S. Federal agencies and departments, Local and Tribal Technical Assistance Program Centers, Department of Justice, National Transportation Safety Board.

**Does this Program/Project have a Technology Component? (applies to all RT&E programs)**

All FHWA's research programs have a technology component.

**Is this Program/Project listed in the U.S. DOT Research Hub or TRB Research in Progress Database? (applies to all RT&E programs)**

Per the FAST Act, all research programs must be included in the U.S. DOT Research database.

**RT&E PROGRAM NAME: UNIVERSITY TRANSPORTATION CENTERS (UTC)**

**AMOUNT REQUESTED FOR FY 2020: \$77.5 million**

Project and activity summaries are provided in the Office of the Secretary of Transportation (OST) – Office of the Assistant Secretary for Research and Technology FY 2020 budget submission.

**RT&E PROGRAM NAME: BUREAU OF TRANSPORTATION STATISTICS (BTS)**

**AMOUNT REQUESTED FOR FY 2020: \$26 million**

Project and activity summaries are provided in the Office of the Secretary of Transportation (OST) – Office of the Assistant Secretary for Research and Technology FY 2020 budget submission.

## FY 2020 Budget

### Federal Highway Administration Information Technology Budget Narrative

(Budget Authority in Thousands)

Budget Account	FY 2018 Actual	FY 2019 Annualized CR	FY 2020 Request
Federal-Aid Highways			
<i>Commodity IT SS WCF</i>	\$19,029	\$19,358	\$39,588
<i>Programmatic IT SS WCF</i>	\$0	\$0	\$27,512
<i>FHWA Programmatic IT</i>	\$81,768	\$94,055	\$45,634
<b>Total</b>	<b>\$100,797</b>	<b>\$113,413</b>	<b>\$112,734</b>

The Federal Highway Administration (FHWA) is requesting **\$112.7 million** in FY 2020 for information technologies (IT) that support the full spectrum of FHWA 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).

FHWA's FY 2020 IT request will provide essential resources to carry out the agency's mission. FHWA requires secure and up-to-date IT platforms to ensure the successful administration of the **\$47.1 billion** Federal-aid highway program.

FHWA's IT investments directly support critical functions of the agency, including:

- Emergency responses to hurricanes and other natural disasters, allowing for the communication and sharing of information, including field data collection and transcription, and reporting of damages during emergencies.
- National tunnel and bridge inspection and reporting procedures for an electronic inventory to monitor tunnel and bridge conditions to ensure the safety of the traveling public.
- Timeliness and quality of the environmental review process streamlining interagency collaboration associated with all NEPA Classes of Action, and minimizing environmental impacts of transportation.

#### ***Commodity IT Shared Services through the WCF***

OCIO will continue to provide FHWA commodity IT shared services in FY 2020. FHWA's share was based on actual commodity IT consumption in prior years as well as planned future

consumption. OCIO, in collaboration with FHWA, assumed a one-to-one cost estimate to transition all commodity IT to OCIO. FHWA will only be charged for services rendered.

- **Commodity IT Shared Services** - FHWA requests **\$39.6 million** for its share of Department investments in cybersecurity and commodity information technology, including voice, cable, and networks, desktop services, server operations, directory and messaging services, enterprise licensing, and enterprise dashboards.

### *Programmatic IT Shared Services through the WCF*

In addition to OCIO's responsibility to manage IT modernization planning, operations, compliance, governance, and cyber, OCIO will begin to transfer FHWA programmatic IT investments in FY 2020. OCIO, in conversation with FHWA, identified specific programmatic IT systems for transfer that focus on general support systems, IT management and registration. FHWA will only be charged for services rendered.

- **Programmatic IT Shared Services**— FHWA requests **\$27.5 million** to contribute to OCIO's consolidation, cyber compliance, and modernization of mission support IT systems and applications. This includes registration systems that collect and process required information to register an entry and provide a result to the program owner.

### *Full Time Equivalent*

- **Full Time Equivalent** – As part of the consolidation of IT functions under the WCF, FHWA will transfer **21 FTE** supporting IT to the OCIO in FY 2020.

### *FHWA IT Investments*

FHWA's IT investments are critical to the successful delivery of the Federal-aid highway program. Through these investments, FHWA monitors the management of funding distributed to the States; compiles and makes available vital transportation data on highway and bridge condition and performance; and supports the Federal Lands and Tribal Transportation Program and the Research, Technology, and Education Program. The following IT investments will be maintained by FHWA in FY 2020:

- **Fiscal Management Information System 5.0 (FMIS)**. FHWA requests **\$3.8 million** for FMIS, FHWA's most mission-critical system, through which States are reimbursed for Federal-aid program costs, authorize and modify projects, and track/report on critical financial and program information. FHWA staff use FMIS to apportion Federal-aid highway funding, set obligation limitations, transfer funds, approve projects, manage/oversee financial management of the Federal-aid program, and report on FHWA funding. The requested funding is to support operations and maintenance, critical system enhancements necessary to meet Congressionally mandated requirements (e.g., DATA Act, GONE Act, audit requirements for Federal awards under 2 CFR 200, etc.) and new enhancements based on requirements from the States and Federal users.

- **Highway and Bridge Data Collection.** FHWA requests **\$2.8 million** for several IT investments FHWA uses to compile, manage, and make available vital highway and bridge data, some of which is statutorily required. These investments include:
  - The **Highway Performance Monitoring System (HPMS)**, which supports a data-driven decision process among FHWA, the Department, and the Congress. HPMS data are used extensively in the analysis of highway system condition, performance, and investment needs that make up the biennial Condition and Performance Reports to Congress. Those reports are used in establishing both authorization and appropriation legislation activities that ultimately determine the scope and size of the Federal-aid highway program and the level of Federal highway taxation.
  - The **National Bridge Inventory (NBI)**, which is a collection of bridge inventory and condition information collected under the auspices of the National Bridge Inspection Standards (NBIS) as prescribed by law. The information is used for performance measure reporting, NHS penalty determination, and reporting to Congress.
  - The **Integrated Transportation Information Platform (ITIP)** provides a comprehensive source for infrastructure condition and performance and Federal-aid project data elements. The ITIP integrates and provides seamless access to a wide range of data elements, which are maintained within FMIS, HPMS, and the NBI. Through ITIP, users are provided with data analysis, visualization, and reporting capabilities.
- **Direct Program Support for the Office of Federal Lands and the Office of Research, Development, and Technology.** FHWA requests **\$5.5 million** to provide the necessary tools to effectively manage FHWA's Federal Lands and Tribal Transportation Program and Research, Technology, and Education Program, including investments in innovative technologies that improve highway safety and infrastructure. Examples include mobile disaster assessment for emergency response, innovations in robotics and artificial intelligence, laser scanning for hydraulic modeling, automated data collection of non-destructive evaluation tools, robot-assisted bridge inspection, and connected vehicles. Without these investments FHWA could not fulfill the mission of these programs.

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