



June 21, 2017

Mr. Rodolfo Monge-Oviedo  
Planning/Program Management Team Leader  
FHWA NM Division Office  
4001 Office Court Drive, Suite 801  
Santa Fe, New Mexico 87507

Mr. Tony Ogboli, Community Planner  
FTA Region 6  
819 Taylor Street, Room 8A36  
Fort Worth, Texas 76102

Subject: Amendment #4 (FFY17 Quarter 3) to the FFY2017-2018 Planning Work Program

Dear Messrs. Monge-Oviedo and Ogboli:

The NMDOT has determined that amendments are required for Federal Fiscal Years (FFYs) 2017 and 2018 of the Planning Work Program (PWP) for Federal Fiscal Years 2017-2018. The attached table lists all of the amendments. The amendments are as follows:

- Deletion of NCHRP dues in FFY18;
- P918100 – move \$110,000 to P918080 in FFY18 and delete project;
- P918120 – decrease project amount in FFY18 by \$100,000 and add new project P918121 for \$100,000;
- P918160 – decrease project amount in FFY18 to \$190,000;
- P918180 – decrease project amount in FFY18 to \$176,059;
- MPO FFY18 UPWP budgets and tasks to reflect revised FFY18 PL target funding amounts;
- P117041 – delete from FFY18 MVMPO UPWP and PWP;
- MRRTPO, SERTPO and SCRTPO adjusted FFY17 RWP budgets and tasks; and
- Research Bureau has several changes to their program and budget, which are outlined on the attached amendment request form and budget.

Your approval of Amendment 4 to the FY2017-18 PWP is respectfully requested.

Sincerely,

A handwritten signature in black ink that reads "Tamara P. Haas".

Tamara P. Haas, P.E.  
Asset Management and Planning Division Director

cc: Anthony Lujan  
Marcos Trujillo  
Jessica Griffin  
Randall Soderquist

Attachments: FFY17\_18 PWP Amendment 4 (FFY17 Quarter 3) Amendment

**Susana Martinez**  
Governor

**Tom Church**  
Cabinet Secretary

**Commissioners**

**Ronald Schmeits**  
Chairman  
District 4

**Dr. Kenneth White**  
Secretary  
District 1

**David Sepich**  
Commissioner  
District 2

**Keith Mortensen**  
Commissioner  
District 3

**Butch Mathews**  
Commissioner  
District 5

**Jackson Gibson**  
Commissioner  
District 6



June 23, 2017

Federal Highway Administration (FHWA)  
C/O Rodolfo Monge-Oviedo  
4001 Office Court Drive Suite # 801  
Santa Fe, NM 87505

Subject: Work Program Amendment – reduction in Category 400 (Research)

Dear Mr. Monge-Oviedo:

This letter informs you that line item CN918020 in the 400 Category in the FY17-18 Planning Work Program has been reduced by \$76,195.05 consistent with a reduction in the target baseline as requested by the Project Oversight Division.

Sincerely,

A handwritten signature in black ink that reads "R. Soderquist".

Randall J. Soderquist, Director  
Research and International Programs Division

cc: Marcos Trujillo  
Mallery Martinez  
Tamara Haas  
Jessica Griffin  
Deidre Billingsley

**Susana Martinez**  
Governor

**Tom Church**  
Cabinet Secretary

**Commissioners**

**Ronald Schmeits**  
Chairman  
District 4

**Dr. Kenneth White**  
Secretary  
District 1

**David Sepich**  
Commissioner  
District 2

**Keith Mortensen**  
Commissioner  
District 3

**Butch Mathews**  
Commissioner  
District 5

**Jackson Gibson**  
Commissioner  
District 6

**FFY2017-2018 Planning Work Program  
Amendment 4 (FFY2017 Quarter 3)**

Amend No.	Part, Chapter Task (I.1.1)	CN	Original Amount / Revised Amount (PL/SPR total)	Description of Change	Type (Admin or Formal)
4			\$202,612 / \$0 (SPR)	FFY18 NCHRP dues deleted from SPR target/budget as dues are a set-aside above the SPR target.	Admin
4	1.3.7	P918100	\$410,000 / \$0 (SPR)	<b>Implementation of ESRI R&amp;H Phase 2</b> This change is to move \$110,000 to P918080 in FFY18 and delete project from FFY18. This phase of the project will be moved to FFY19.  <b>Project Number:</b> CN P918100 <b>Project Amount FY18:</b> <del>\$410,000</del> \$0 <b>Project Manager:</b> HPMS Coordinator, DMB	Formal
4	1.3.5	P918080	\$400,000 / \$510,000 (SPR)	<b>Traffic Monitoring Program Data Collection</b> This change is to move \$110,000 from CN P918100 into P918080. The funding is needed for maintenance of the continuous count stations and weigh in motion repairs and replacements.  <b>Project Number:</b> CN P918080 <b>Project Amount FY18:</b> <del>\$400,000</del> \$510,000 <b>Project Manager:</b> HPMS Coordinator, DMB	
4	1.4.4	P918120 P918121	\$900,000 / \$800,000 \$0 / \$100,000 (SPR)	<b>Add new Task to Pavement Data Collection</b>  The NMDOT will collect pavement condition data using an automated pavement collection process. Pavement condition data is used to support HPMS reporting and is housed in the Pavement Management System database (PMS db) in order to make decisions for future pavement improvement projects. Data is collected on 100% of the Interstate and 50% of the non-Interstate NHS, Non-NHS and HPMS sample panel each year. An RFP will be issued during FFY17 in order to collect the calendar year 2018 pavement data. The current contract will be used to collect the calendar year 2017 data.	Admin

				<p><b>Pavement Data Collection Independent Assurance</b></p> <p>The NMDOT will issue an RFP for Contractual Services to conduct Independent Assurance Reviews of the Pavement Data Collection contract to ensure quality data for the HPMS reporting and incorporation in the NMDOT PMS db. There is a new requirement in 23 CFR 490.319 for a Data Quality Management program and Independent Assurance reviews is a component.</p> <p><b>FY18 Tasks:</b> Professional Services Contract  <b>Professional Services:</b> Professional Services Contract  <b>Project Number:</b> CN P918120  <b>Project Amount FY18:</b> \$800,000  <b>Project Number:</b> CN P918121  <b>Project Amount FY 18:</b> \$100,000  <b>Project Manager:</b> Pavement Management and Design Bureau Chief</p>	
4	1.5.2	P918160	\$230,220 / \$190,000 (SPR)	<p><b>ESRI and FME (ESRI Plug-in) Software maintenance agreement</b></p> <p>This change is to reduce the FY18 Project Amount to the license agreement amount of \$190,000</p> <p><b>Project Number:</b> CN P918160  <b>Project Amount FY18:</b> <del>\$230,220</del> \$190,000  <b>Project Manager:</b> IT Division Director</p>	Admin
4	1.6.1	P918180	\$200,000 / \$176,059 (SPR)	<p><b>Develop and Implement e-STIP</b></p> <p>This change is to reduce the FY18 Project Amount to the contract amount of \$176,059.</p> <p><b>FY18 Tasks:</b> Annual Software Maintenance Agreement for e-STIP  <b>Project Number:</b> CN P918180  <b>Project Amount FY18:</b> <del>\$200,000</del> \$176,059  <b>Project Manager:</b> Staff Manager, POD</p>	Admin
4	IV.1	P117030	\$59,891 / \$47,418 (PL)	<p>EPMPO – delete match in FFY18 (EPMPO does not pay match); EPMPO is developing new UPWP which will reflect revised FFY18 PL target of \$47,418</p>	Admin
4	IV.2	P517020	\$239,420 / \$228,637 (PL)	<p>FMPO - adjusted FFY18 UPWP budget to reflect revised FFY18 PL target</p>	Formal

4	IV.3	P117040	\$308,520 / \$291,004 (PL)	MVMPO – adjusted FFY18 UPWP budget to reflect revised FFY18 PL target	Formal
4	IV.3	P117041	\$25,000 / \$0 (SPR)	MVMPO – delete P9177041 project from UPWP and FFY18 PWP budget	Admin
4	IV.4	P317020	\$983,534 / \$883,706 (PL)	MRMPO – adjusted FFY18 UPWP budget to reflect revised FFY18 PL target	Admin
4	IV.5	P517030	\$261,642 / \$248,693 (PL)	SFMPO – adjusted FFY18 UPWP budget to reflect revised FFY18 PL target	Admin
4	V.1	P317010	NA	MRRTPPO – adjusted FFY17 budget line items and staff hours.	Formal
4	V.5	P117020	NA	SCRTPO – adjusted FFY17 budget line items and staff hours.	Admin
4	V.6	P217010	NA	SERTPO – adjusted FFY17 budget line items and staff hours.	
4	3.2	<b>Amendments to Research Work Program – see attached Amendment Request Form</b>			Admin

## BUDGET TABLE #1 - FY2017 SPR FUNDING SUMMARY

CONTROL NO.	Description (Short) - Project Manager	TOTAL Original Project Amount	Amendment 1	Amendment 2	Amendment 3	Current Total Project Amounts As Amended	SPR Federal Portion (80%)	SPR State Match (20%)	SPR RTPO/MPO Match (20%)
P917010	Planning Division Salaries - Tammy Haas PM (200)	\$ 1,500,000				\$ 1,500,000	\$ 1,200,000	\$ 300,000	
P917020	Planning Division Operations - Tammy Haas PM (400)	\$ 200,000				\$ 200,000	\$ 160,000	\$ 40,000	
P917030	Professional Development, Training and Travel (SPR Portion) - SPB Chief PM (400)	\$ 25,000				\$ 25,000	\$ 20,000	\$ 5,000	
P917040	2040 Plan Implementation, Identifying Priority Bicycle Corridors - Rosa Kozub PM (300)	\$ 125,000			\$ 100,000	\$ 225,000	\$ 180,000	\$ 45,000	
P917050	Statewide Travel Demand Model - Brian Degani PM (300)	\$ 170,000			\$ (100,000)	\$ 70,000	\$ 56,000	\$ 14,000	
P917060	I-10 Western Connected Freight Corridor Coalition (continued participation) - Paul Sittig PM (300)	\$ 45,000			\$ (45,000)	\$ -	\$ -	\$ -	
P917070	Traffic Monitoring Program MS2 Professional Services (300)	\$ 36,000				\$ 36,000	\$ 28,800	\$ 7,200	
P917080	Traffic Monitoring Program Support (300)	\$ 100,000				\$ 100,000	\$ 80,000	\$ 20,000	
P917090	US550 WIM Station Annual Maintenance (400)	\$ 103,000				\$ 103,000	\$ 82,400	\$ 20,600	
P917100	Traffic Monitoring Program ATR Maintenance (400)	\$ 420,000				\$ 420,000	\$ 336,000	\$ 84,000	
P917110	Roadway Inventory Program Support (300)	\$ 100,000				\$ 100,000	\$ 80,000	\$ 20,000	
P917120	Performance Management Program (300)	\$ 225,000		\$ 250,000		\$ 475,000	\$ 380,000	\$ 95,000	
P917130	Data Governance & Warehousing (300)	\$ 200,000		\$ (200,000)		\$ -	\$ -	\$ -	
P917140	Pavement Data Collection (400)	\$ 900,000				\$ 900,000	\$ 720,000	\$ 180,000	
P917150	Agile Assets Maintenance Agreements (PMS-Foundation) (400)	\$ 50,000				\$ 50,000	\$ 40,000	\$ 10,000	
P917160	Agile Assets Maintenance Agreements (MMS) (400)	\$ 115,000				\$ 115,000	\$ 92,000	\$ 23,000	
P917170	Training on PMS/MMS (400)	\$ 50,000		\$ (50,000)		\$ -	\$ -	\$ -	
P917180	AASHTOWare Products (Bridge Management, Project Estimator, Expedite, PES/LAS, BAMS/DSS) (400)	\$ 306,000				\$ 306,000	\$ 244,800	\$ 61,200	
P917190	ESRI and FME (400)	\$ 230,220				\$ 230,220	\$ 184,176	\$ 46,044	
P917200	EXOR - Bentley (TIMS) License Renewal (400)	\$ 85,000				\$ 85,000	\$ 68,000	\$ 17,000	
P917210	Develop and Implement e-STIP (300)	\$ 200,000				\$ 200,000	\$ 160,000	\$ 40,000	
P917260	System of Engagement				\$ 45,000	\$ 45,000	\$ 36,000	\$ 9,000	
	NCHRP Dues (100%) 1/2 of annual payment	\$ 202,612		\$ (202,612)		\$ -	\$ -	\$ -	
P417020	Eastern Plains RTPO RWP - Paul Sittig PM (300)	\$ 106,250				\$ 106,250	\$ 85,000		\$ 21,250
P317010	Mid-Region RTPO RWP - Wade Patterson PM (300)	\$ 106,250				\$ 106,250	\$ 85,000		\$ 21,250
P417010	Northeast RTPO RWP - Paul Sittig PM (300)	\$ 106,250				\$ 106,250	\$ 85,000		\$ 21,250
P517010	Northern Pueblos RTPO RWP - Robin Elkin PM (300)	\$ 106,250				\$ 106,250	\$ 85,000		\$ 21,250
P617010	Northwest RTPO RWP - Wade Patterson PM (300)	\$ 106,250				\$ 106,250	\$ 85,000		\$ 21,250
P117020	South Central RTPO RWP - Jolene Herrera PM (300)	\$ 106,250				\$ 106,250	\$ 85,000		\$ 21,250
P217010	Southeast RTPO RWP - Jolene Herrera PM (300)	\$ 159,375				\$ 159,375	\$ 127,500		\$ 31,875
P117010	Southwest RTPO RWP - Jolene Herrera PM (300)	\$ 106,250				\$ 106,250	\$ 85,000		\$ 21,250
P317021	Mid-Region MPO Traffic Counts - Wade Patterson PM (300)	\$ 400,000				\$ 400,000	\$ 320,000		\$ 80,000
	<b>TOTALS</b>	<b>\$ 6,690,957</b>	<b>\$ -</b>	<b>\$ (202,612)</b>	<b>\$ -</b>	<b>\$ 6,488,345</b>	<b>\$ 5,190,676</b>	<b>\$ 1,037,044</b>	<b>\$ 260,625</b>

Target \$ 6,690,327.50  
under/over programmed \$ 629.50

new target issued 10/31/16 (Fed funds only) \$ 5,043,153.00  
over programmed \$ 147,523.00

## BUDGET TABLE #4 - FY2018 SPR FUNDING SUMMARY

CONTROL NO.	Description (Short) - Project Manager	TOTAL Original Project Amount	Amendment 4	Amendment 5	Amendment 6	Current Total Project Amounts As Amended	SPR Federal Portion (80%)	SPR State Match (20%)	SPR RTPO/MPO Match (20%)
P918010	Planning Division Salaries - Tammy Haas PM (200)	\$ 1,500,000				\$ 1,500,000	\$ 1,200,000	\$ 300,000	
P918020	Planning Division Operations - Tammy Haas PM (400)	\$ 200,000				\$ 200,000	\$ 160,000	\$ 40,000	
P918030	Professional Development, Training and Travel (SPR Portion) - SPB Chief PM (400)	\$ 37,500				\$ 37,500	\$ 30,000	\$ 7,500	
P918040	Statewide Travel Demand Model -Paul Sittig PM (300)	\$ 425,000				\$ 425,000	\$ 340,000	\$ 85,000	
P918050	I-10 Western Connected Freight Corridor Coalition (continued participation) - Paul Sittig PM (Pooled Fund Study)	\$ 45,000				\$ 45,000	\$ 45,000		
P918060	MS2 Software License Agreement (400)	\$ 160,000				\$ 160,000	\$ 128,000	\$ 32,000	
P917080	Traffic Monitoring Program Support	\$ -				\$ -	\$ -	\$ -	
P918070	US550 WIM Station Annual Maintenance (400)	\$ 103,000				\$ 103,000	\$ 82,400	\$ 20,600	
P918080	Traffic Monitoring Program ATR Maintenance (400)	\$ 400,000	\$ 110,000			\$ 510,000	\$ 408,000	\$ 102,000	
P918090	Roadway Inventory Program Support	\$ -				\$ -	\$ -	\$ -	
P918100	Implementation of ESRI R&H Phase 2 - John Baker PM (300)	\$ 410,000	\$ (410,000)			\$ -	\$ -	\$ -	
P918110	Implementation of TAMP - Tammy Haas PM (300)	\$ 100,000				\$ 100,000	\$ 80,000	\$ 20,000	
P918120	Pavement Data Collection - Shawn Romero PM (300)	\$ 900,000	\$ (100,000)			\$ 800,000	\$ 640,000	\$ 160,000	
P918121	Pavement Data Collection Independent Assurance - Jeff Mann PM (300)		\$ 100,000			\$ 100,000	\$ 80,000	\$ 20,000	
P918130	Agile Assets Maintenance Agreements (PMS-Foundation) - Shawn Romero PM(400)	\$ 55,000				\$ 55,000	\$ 44,000	\$ 11,000	
P918140	Agile Assets Maintenance Agreements (MMS) - Phil Montoya PM (400)	\$ 120,000				\$ 120,000	\$ 96,000	\$ 24,000	
P918150	AASHTOWare Products (Bridge Management, Porject Estimator, Expedite, PES/LAS, BAMS/DSS) -IT PM (400)	\$ 308,500				\$ 308,500	\$ 246,800	\$ 61,700	
P918160	ESRI and FME - IT PM (400)	\$ 230,220	\$ (40,220)			\$ 190,000	\$ 152,000	\$ 38,000	
P918170	EXOR - Bentley (TIMS) License Renewal - IT PM (400)	\$ 85,000				\$ 85,000	\$ 68,000	\$ 17,000	
P918180	Develop and Implement e-STIP -Rebecca Maes PM	\$ 200,000	\$ (23,941)			\$ 176,059	\$ 140,847	\$ 35,212	
	NCHRP Dues (100%) 1/2 of annual payment	202612	-202612			0	0	0	
P417020	Eastern Plains RTPO RWP - Paul Sittig PM	\$ 106,250				\$ 106,250	\$ 85,000	\$ 21,250	\$ 21,250
P317010	Mid-Region RTPO RWP - Wade Patterson PM	\$ 106,250				\$ 106,250	\$ 85,000	\$ 21,250	\$ 21,250
P417010	Northeast RTPO RWP - Paul Sittig PM	\$ 106,250				\$ 106,250	\$ 85,000	\$ 21,250	\$ 21,250
P517010	Northern Pueblos RTPO RWP - Robin Elkin PM	\$ 106,250				\$ 106,250	\$ 85,000	\$ 21,250	\$ 21,250
P617010	Northwest RTPO RWP - Wade Patterson PM	\$ 106,250				\$ 106,250	\$ 85,000	\$ 21,250	\$ 21,250
P117020	South Central RTPO RWP - Jolene Herrera PM	\$ 106,250				\$ 106,250	\$ 85,000	\$ 21,250	\$ 21,250
P217010	Southeast RTPO RWP - Jolene Herrera PM	\$ 159,375				\$ 159,375	\$ 127,500	\$ 31,875	\$ 31,875
P117010	Southwest RTPO RWP - Jolene Herrera PM	\$ 106,250				\$ 106,250	\$ 85,000	\$ 21,250	\$ 21,250
P117041	Mesilla Valley MPO Participatory Mapping Project - Jolene Herrera PM	\$ 25,000	\$ (25,000)			\$ -	\$ -	\$ -	\$ -
P317021	Mid-Region MPO Traffic Counts - Wade Patterson PM	\$ 425,000				\$ 425,000	\$ 340,000	\$ 85,000	\$ 85,000
	<b>TOTALS</b>	<b>\$ 6,834,957</b>				<b>\$ 6,243,184</b>	<b>\$ 5,003,547</b>	<b>\$ 974,012</b>	<b>\$ 265,625</b>

Target w/match	\$ 6,834,913.75
over/under	\$ 43.25
new target issued 10/31/16 (Fed funds only)	\$ 5,043,153.00
over programmed	\$ (39,605.80)

## BUDGET TABLE #5 - FY2018 PL FUNDING SUMMARY

CONTROL NO.	Description (Short) - Project Manager	TOTAL Original Project Amount	Revised FFY2018 Targets Amendment 4	Amendment 5	Amendment 6	Amendment 7	Current Total Project Amounts As Amended	PL Federal Portion (85.44%)	PL MPO Match (14.56%)
P117030	El Paso MPO UPWP - Jolene Herrera PM	\$ 52,536	\$ 47,418				\$ 47,418	\$ 47,418	
P517020	Farmington MPO UPWP - Rosa Kozub PM	\$ 239,420	\$ 228,637				\$ 228,637	\$ 195,347	\$ 33,290
P117040	Mesilla Valley MPO UPWP - Jolene Herrera PM	\$ 308,520	\$ 291,004				\$ 291,004	\$ 248,634	\$ 42,370
P317020	Mid-Region MPO UPWP - Wade Patterson PM	\$ 983,534	\$ 887,706				\$ 887,706	\$ 758,456	\$ 129,250
P517030	Santa Fe MPO UPWP - Wade Patterson PM	\$ 261,642	\$ 248,693				\$ 248,693	\$ 212,483	\$ 36,210
	<b>TOTALS</b>	<b>\$ 1,845,652</b>	<b>\$ 1,703,458</b>				<b>\$ 1,703,458</b>	<b>\$ 1,462,339</b>	<b>\$ 241,119</b>



## Planning Work Program Amendment Request Form - Internal

This form is for amendment requests to the Planning Work Program. Amendment requests are due, as follows:

- Quarter 1 – 12/15
- Quarter 2 – 3/15
- Quarter 3 – 6/15
- Quarter 4 – 9/15

Your application must indicate whether the amendment is an administrative or formal amendment based on the definitions in the *Planning Procedures Manual*

([http://dot.state.nm.us/content/dam/nmdot/planning/Planning\\_Procedures\\_Manual.pdf](http://dot.state.nm.us/content/dam/nmdot/planning/Planning_Procedures_Manual.pdf)) and summarized below:

- **Administrative Amendment.** An administrative amendment to the PWP may be accomplished unilaterally by the Division if it meets the following criteria.
  1. The study or task will not significantly impact approved work program priorities and work product delivery schedules (by causing other project delivery schedules to be set back by more than a month), and
  2. The study or task will result in a cost change (increase or decrease) of 20% or less of the approved budgeted amount for a specific project or task; or a cost change (increase or decrease) of 3% or less for an entire, program budget (Division, IT, STIP or other NMDOT program budget).
- **Formal Amendments.** A formal amendment is required if there are substantive changes to work elements funded by the PWP, as defined by the following criteria:
  1. The new study or task will impact approved work program priorities by causing other project delivery schedules to slip by more than one month, and
  2. The study or task will result in a cost change (increase or decrease) of more than 20% of the approved budgeted amount for a specific project or task; or a cost change (increase or decrease) of more than 3% for an entire, program budget (Division, IT, STIP or other NMDOT program budget).

Please complete and submit to Jessica Griffin, Statewide Planning Bureau Chief by email at [Jessica.Griffin@state.nm.us](mailto:Jessica.Griffin@state.nm.us).

<b>Date:</b>	June 7, 2017
<b>Requestor Name:</b>	Randall J. Soderquist
<b>Amendment Number (FFY/Quarter #):</b>	FFY17/Quarter 3

Part, Chapter, Task (I.1.1)	Control Number	Original Amount \$	Revised Amount \$	Description of Change (attach excerpt for PWP showing proposed changes to narrative)
3.2.2	R918020	\$301,075	\$224,880	Research Operational – reduction in target baseline as requested by Project Oversight Division
3.2.16	R918030	New	\$47,000	NM18DSN-01 – Cost Effective Strategies - Culverts
3.2.17	R918031	New	\$45,309	NM18ENV-01 – Dev. Native Seed Germplasm
3.2.18	R918033	New	\$8,000	NM18MSC-01 – Long Term Performance Pervious Concrete
3.2.19	R918034	New	\$40,000	NM18MSC-02 – Development of Balanced Asphalt Mixture
3.2.20	R918035	New	\$0	NM18SAF-01 – Driver Education Survey
3.2.a		\$240,000	\$0	NCHRP will be taken at the 2% level

Amendment Type (Administrative/Formal)	Explanation
Formal	To adjust FFY18 Work Program to include new projects identified at the June 6 ROC meeting

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**For Planning use only.**

<b>Date rcvd:</b>	<b>6/23/17</b>	<b>Action:</b>	<b>Added to revised Amendment 4 packet, replacing one sent 6/14/17</b>
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<b>3.2.2</b>	<p>Project Description: Research Operational  Project Number: CN R917020  Project Amount FY17: \$301,075</p> <p>Project Number: CN R918020  Project Amount FY18: \$224,880  Project Manager: Research Bureau Chief</p> <p>Purchase of:</p> <ul style="list-style-type: none"> <li>• Project specific supplies/equipment</li> <li>• Technology Transfer innovations</li> <li>• Eligible travel reimbursements</li> <li>• Eligible conferences/workshops</li> <li>• Library needs</li> <li>• Peer Exchange</li> </ul>
<b>3.2.16</b>	<p>Project Description: Research to be Contracted Out (24 Mo. Contract)  NM18DSN-01 Cost Effective Strategies for Repair and Retrofit of Metal Culverts Using Glass Fiber Reinforced Polymer</p> <p>Advocate/Sponsor: Drainage Design Bureau  Project Manager: TBD  Project Number: CN R918030  Project Amount FY17: \$0  Project Amount FY18: \$47,000</p> <p><u>Project Summary</u>  This research project will design a Glass Fiber Reinforced Polymer (GFRP) slipline culvert and test the design in a laboratory. Actual construction of the slipline would require additional funding. Research Bureau and Drainage</p>

	<p>Design staff would work to identify the construction funding for the pilot slipline culvert. The proposed project costs a total of \$188,000, with half of the funds (\$94,000) coming from Transportation Consortium of South Central States (TranSET). The TranSET portion of the funding has been approved by that organization.</p> <p><u>Justification</u>  Many metal culverts nationally and in New Mexico in particular are reaching the end of their design lives, causing corroded pipes and culvert collapse. Fiber-reinforced polymers (FRP) have gained wide acceptance for retrofitting existing structures such as bridges and buildings, due to ease of installation and high strength to weight ratio. Using FRP to retrofit metal culverts is a relatively new application. With improved manufacturing techniques and significant decreases in cost, glass fiber reinforced polymers have emerged as a desirable material for structural applications. There are no existing design guides for FRP and GFRP as a material for retrofitting or sliplining metal culverts.</p> <p><u>Anticipated Benefits</u>  The development and design of a cost-effective technique for retrofitting corroded metal culverts using Glass Fiber Reinforced Polymer materials. The proposed retrofitting technique may extend the life expectancy of retrofitted metal culverts beyond 75 years.</p>
<p><b>3.2.17</b></p>	<p>Project Description: Research to be Contracted Out (48 Mo. Contract)  NM18ENV-01 Testing Native Seed Germplasm From the Wild for Arid Lands</p> <p>Advocate/Sponsor: Environmental Development Bureau  Project Manager: TBD  Project Number: CN R918031  Project Amount FY17: \$0  Project Amount FY18: \$45,309</p> <p><u>Project Summary</u>  This research project will fund a study to assess the success of substituting alternative native species and local genotypes in the DOT standard seed mix. Native grasses, forbs, and woody shrubs play an extremely important role in roadside soil stabilization efforts following construction and during maintenance, and, further, in re-establishing critical habitats.</p> <p><u>Justification</u>  Alternative native species and local genotypes vegetation will be of increased importance due to the historic long-term “drying out” of New Mexico, which is being exacerbated by rapid climate change. The project will identify native species, sources, and plant material types appropriate for soils that are saline, sodic, gypsum, sand, and other soils, all of which are problematic as they are</p>

	<p>associated with dust-related crashes and extreme erosion. Vegetation that has the characteristics of being deep rooted, drought-tolerant and both quickly establishes and quickly spreads will be identified. Indigenous seeds with these characteristics will be collected from the wild and tested for potential establishment in critical locations.</p> <p><u>Anticipated Benefits</u> Identifying, developing, and propagating indigenous seeds with the characteristics of drought resistance and quick establishment in problem soils could increase safety due to reduced dust in the highway environment, reduce economic losses due to road closures, and reduce costs associated with the frequency of roadside maintenance.</p>
<p><b>3.2.18</b></p>	<p>Project Description: Research to be Contracted Out (24 Mo. Contract) NM18MSC-01 Long-Term Pervious Concrete Pavement Performance on NM 47 Bike Lane</p> <p>Advocate/Sponsor: Central Regional Design Division/District Three Project Manager: TBD Project Number: CN R918033 Project Amount FY17: \$0 Project Amount FY18: \$8,000</p> <p><u>Project Summary</u> This project would fund a study to assess the long-term performance of newly installed pervious concrete pavement on the eastbound and westbound 5-foot wide bicycle lanes along NM 47 between mile marker 31.0 and 32.8. The study will be conducted over a period of four (4) years. The evaluation is intended to reveal how the pavement performs under extreme weather conditions of snow and ice. Based on the results, recommendations and maintenance strategies will be developed to maximize performance and longevity of permeable pavements. In-house participants will conduct the research with infiltration testing to be done by an external source.</p> <p><u>Justification</u> The literature search for this request revealed that the use of pervious concrete pavement has been utilized nationally on various parking lot, sidewalk, and low-traffic street projects. However, the use of pervious concrete as a stormwater management solution along roadways is a relatively new concept and is understudied. There has been an increase in the use of permeable pavements to meet US Environmental Protection Agency storm water regulations. This is the first time that NMDOT has used pervious concrete pavement on its New Mexico route (NM 47). According to researchers more long-term evaluations of the effectiveness of pervious concrete pavement on State DOTs is needed to enhance previous concrete capabilities.</p> <p><u>Anticipated Benefits</u></p>

	<p>Anticipated findings for this project will result in an increase in implementation of pervious pavements on other State projects. The use of pervious pavements typically results in the reduction or absence of large detention/retention ponds and pipes for storm water management; therefore, a cost savings benefit for the NMDOT is anticipated.</p>
<p><b>3.2.19</b></p>	<p>Project Description: Research to be Contracted Out (36 Mo. Contract)          NM18MSC-02 Development of a Balanced Asphalt Mixture Design Procedure for New Mexico</p> <p>Advocate/Sponsor: State Materials Bureau          Project Manager: TBD          Project Number: CN R918034          Project Amount FY17: \$0          Project Amount FY18: \$40,000</p> <p><u>Project Summary</u>          This research project will fund the first steps in developing a Balanced Asphalt Mixture Design Procedure for New Mexico. Balanced mixture design is a new approach to mix design that is intended to create a better connection between laboratory testing and field performance. The initial focus for the proposed project will be to explore national approaches and outcomes for Balanced Mix Design. Data and information obtained from testing in other states will then be used to conduct mix design trials to develop one single mix for laboratory testing, specifically mixture performance related to rutting, cracking resistance and long-term resilience. The Hamburg Wheel Tracking Device (HWTD) will be used to evaluate rut potential whereas other tests such as beam fatigue for bottom-up crack and semi-circular notch testing and/or indirect tensile testing will be used to evaluate cracking.</p> <p><u>Justification</u>          The literature search for this request revealed that a number of state DOT's are recognizing the innovative nature of balanced mixture design. States including Texas, Louisiana, Oklahoma, Michigan, New Jersey, Illinois, California, and Wisconsin are developing performance criteria (limits) for their existing mixture designs. Balanced mixture design parameters are considered a priority for New Mexico roads and the research results for the proposed project will be used to align with the practices researched and used in other states.</p> <p><u>Anticipated Benefits</u>          The goal of the project is to take the initial steps required for the development of a specification for a balanced mixture design. By aggregating the test results for balanced mixed design obtained in other states, the project will establish a foundation that will ensure more cost-effective testing in New Mexico.</p>

<p><b>3.2.20</b></p>	<p>Project Description: Research to be Conducted In-House NM18SAF-01 Driver Education Study</p> <p>Advocate/Sponsor: State Materials Bureau/Risk Management Bureau Project Manager: TBD Project Number: CN R918035 Project Amount FY17: \$0 Project Amount FY18: \$0</p> <p><u>Project Summary</u> The purpose of this study is to consider whether NMDOT defensive driving training practices can be improved by changing content emphasis or by changing the frequency of the training requirement. The Research Bureau staff would conduct a study/survey to determine: 1) whether the number of NMDOT vehicle crashes declines following Defensive Driving training and 2) the degree to which NMDOT staff retain information imparted in Defensive Driving classes during the four years between each training iteration.</p> <p><u>Justification</u> There is not a consistent standard for requirements for state employees to complete defensive driving courses. The NMDOT Research Bureau identified frequency requirements for Defensive Driving training for state employees in eleven states. Five states required defensive driving training every three years (Iowa, Louisiana, New Hampshire, West Virginia and Wyoming). Four states required defensive driving training every four years (California, New Mexico, Nevada, and North Dakota). One state, Oregon, required defensive driving every five years. One state, Maine, offered but did not require defensive driving training for state employees.</p> <p><u>Anticipated Benefits</u> The survey data will indicate whether drivers retain knowledge from the defensive driving course over time and will also give insight into particular training modules that may need additional emphasis.</p>
<p><b>3.2.a</b></p>	<p>100% Federally Participating NCHRP (to be taken at the 2% authorization per legislation)</p> <ul style="list-style-type: none"> <li>• Estimate \$240,000 – FFY17</li> <li>• Estimate \$240,000 – FFY18</li> </ul>
<p><b>3.2.b</b></p>	<p>100% Federally Participating TRB Annual Dues</p> <ul style="list-style-type: none"> <li>• Estimate \$100,000 – FFY17</li> <li>• Estimate \$100,000 – FFY18</li> </ul>
<p><b>3.2.c</b></p>	<p>100% Federally Participating Library Pooled Fund Study</p>

	<ul style="list-style-type: none"><li>• Estimate \$20,000 – FFY17</li><li>• Estimate \$20,000 – FFY18</li></ul>
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**RESEARCH 2017 - SOURCE SPR-MANDATORY 25%**

CONTROL NO.	Res. Proj. No.	Description (Short); 3210 Budget Item; Project Manager	Source	TOTAL PROJECT AMOUNT PER STIP CONTROL NUMBERS	Amendment 1	Amendment 2	Amendment #3	REVISED TOTAL PROJECT AMOUNTS AS AMENDED	SPR 100% RESEARCH	SPR RESEARCH 80%	SPR RESEARCH 20%
R917010		Research Salaries (200) 3.2.1	SPR	\$ 717,000				\$ 717,000.00		573,600	143,400
R917020		Research Operational 3.2.2	SPR	\$ 306,200		\$ (5,125.00)		\$ 301,075.00		240,860	60,215
<b>Project total</b>		<b>RIPD, Randall Soderquist, Division Director</b>	<b>SPR</b>	<b>\$ 1,023,200</b>				<b>\$ 1,023,200.00</b>		<b>818,560</b>	<b>204,640</b>
<b>Continuing Research Projects</b>											
R915047	NM11MSC-03	Materials Response in Hot Mix Asphalt (Phase 2) 3.2.3	SPR	\$ 50,000				\$ 50,000.00		40,000	10,000
R915048	NM13MSC-04	Field and Lab Evaluation of WMA (Phase 2) 3.2.4	SPR	\$ 110,000				\$ 110,000.00		88,000	22,000
R915049	NM14MSC-01	Evaluation of Plus Graded Performance Asphalt (Phase 2) 3.2.5	SPR	\$ 125,000				\$ 125,000.00		100,000	25,000
R916030	NM16SAF-01	Law Enforcement Agency Crash Data Linkage 3.2.6	SPR	\$ 74,000				\$ 74,000.00		59,200	14,800
<b>Project total</b>		<b>RIPD, Randall Soderquist, Division Director</b>	<b>SPR</b>	<b>\$ 359,000</b>				<b>\$ 359,000.00</b>		<b>287,200</b>	<b>71,800</b>
<b>New Research Projects</b>											
R917030	NM09MSC-01	Feasibility Analysis of UHPC for Prestressed Concrete Bridge Applications (Phase 4) 3.2.7	SPR	\$ 100,000				\$ 100,000.00		80,000	20,000
R917031	NM17ADM-01	On-Call Research Services 3.2.8	SPR	\$ 117,000				\$ 117,000.00		93,600	23,400
R917034	NM17ENV-01	Determining Effectiveness of Wildlife-Vehicle Collision 3.2.10	SPR	\$ 100,000		\$ 5,125.00		\$ 105,125.00		84,100	21,025
R917035	NM17ENV-02	Dust Mitigation Monitoring Project 3.2.11	SPR	\$ 55,000				\$ 55,000.00		44,000	11,000
R917038	NMSAF-01	Establishing Variable Speed Limits for Inclement Weather, Phase 1 3.2.14	SPR	\$ 25,000				\$ 25,000.00		20,000	5,000
<b>Project total</b>		<b>RIPD, Randall Soderquist, Division Director</b>	<b>SPR</b>	<b>\$ 397,000</b>				<b>\$ 397,000.00</b>		<b>317,600</b>	<b>79,400</b>
<b>100% Federally Participating</b>											
		NCHRP Program Transfer NO MATCH REQUIRED 3.2.a	SPR	\$480,000				\$ 240,000.00	240,000		
		TRB Program Transfer NO MATCH REQUIRED 3.2.b	SPR	\$100,000				\$ 100,000.00	100,000		
		Library Pooled Fund Study NO MATCH REQUIRED 3.2.c		\$100,000				\$ 20,000.00			
		LIBS Pooled Fund Study NO MATCH REQUIRED 3.2.d	SPR			\$144,000					
<b>Project total</b>		<b>RIPD, Randall Soderquist, Division Director</b>		<b>\$ 680,000</b>	<b>\$ -</b>	<b>\$ 144,000.00</b>		<b>\$ 824,000.00</b>	<b>340,000</b>		
<b>TOTALS</b>				<b>\$ 2,459,200</b>	<b>\$ -</b>	<b>\$ 144,000</b>	<b>\$ -</b>	<b>\$ 2,603,200</b>	<b>\$ 340,000</b>	<b>\$ 1,423,360</b>	<b>\$ 355,840</b>

Federal FY17 Target \$1,784,087  
 Fed Programmed Amt \$ 1,763,360  
 Under Programmed by (20,727)



**RESEARCH 2017 - SOURCE SPR-MANDATORY 25%**

CONTROL NO.	Res. Proj. No.	Description (Short); 3210 Budget Item; Project Manager	Source	TOTAL PROJECT AMOUNT PER STIP CONTROL NUMBERS	Amendment #4	Amendment #5	Amendment #6	REVISED TOTAL PROJECT AMOUNTS AS AMENDED	SPR 100% RESEARCH	SPR RESEARCH 80%	SPR RESEARCH 20%
<b>R918010</b>		Research Salaries (200) 3.2.1	SPR	\$ 717,000				\$ 717,000.00		573,600	143,400
<b>R918020</b>		Research Operational 3.2.2	SPR	\$ 224,880				\$ 224,879.95		179,904	44,976
<b>Project total</b>		<b>RIPD, Randall Soderquist, Division Director</b>	<b>SPR</b>	<b>\$ 941,880</b>				<b>\$ 941,879.95</b>		<b>753,504</b>	<b>188,376</b>
<b>Continuing Research Projects</b>											
<b>R915047</b>	NM11MSC-03	Materials Response in Hot Mix Asphalt (Phase 2) 3.2.3	SPR	\$ 50,000				\$ 50,000.00		40,000	10,000
<b>R915048</b>	NM13MSC-04	Field and Lab Evaluation of WMA (Phase 2) 3.2.4	SPR	\$ 110,000				\$ 110,000.00		88,000	22,000
<b>R917030</b>	NM09MSC-01	Feasibility Analysis of UHPC for Prestressed Concrete Bridge Applications (Phase 4) 3.2.7	SPR	\$ 100,000				\$ 100,000.00		80,000	20,000
<b>R917031</b>	NM17ADM-01	On-Call Research Services 3.2.8	SPR	\$ 109,000				\$ 109,000.00		87,200	21,800
<b>R917034</b>	NM17ENV-01	Determining Effectiveness of Wildlife-Vehicle Collision 3.2.10	SPR	\$ 105,125				\$ 105,125.00		84,100	21,025
<b>R917035</b>	NMENV-02	Dust Mitigation Monitoring Project 3.2.11	SPR	\$ 45,000				\$ 45,000.00		36,000	9,000
<b>Project total</b>		<b>RIPD, Randall Soderquist, Division Director</b>	<b>SPR</b>	<b>\$ 519,125</b>				<b>\$ 519,125.00</b>		<b>415,300</b>	<b>103,825</b>
<b>New Research Projects</b>											
<b>R917033</b>	NM17DSN-01	Scale Model of Complex Drainage Structure 3.2.9	SPR	\$ 85,000				\$ 85,000.00		68,000	17,000
<b>R917036</b>	NM17ENV-03	Free Energy - A Feasibility Study for a No-Cost NMDOT "Solar Highway" Program 3.2.12	SPR	\$ 85,000				\$ 85,000.00		68,000	17,000
<b>R917037</b>	NM17MSC-01	Superpave 5: Constructing Asphalt Pavement with Road Voids Equal to Design Air Voids 3.2.13	SPR	\$ 120,000				\$ 120,000.00		96,000	24,000
<b>R918030</b>	NM18DSN-01	Cost Effective Strategies for Repair and Retrofit of Metal Culverts Using Glass Fiber Reinforced Polymer 3.2.16	SPR	\$ -	\$ 47,000.00			\$ 47,000.00		37,600	9,400
<b>R918031</b>	NM18ENV-01	Testing Native Seed Germplasm from the Wild for Arid Lands 3.2.17	SPR	\$ -	\$ 45,309.00			\$ 45,309.00		36,247	9,062
<b>R918033</b>	NM18MSC-01	Long-Term Pervious Concrete Pavement Performance on NM 47 Bike Lane 3.2.18	SPR	\$ -	\$ 8,000.00			\$ 8,000.00		6,400	1,600
<b>R918034</b>	NM18MSC-02	Development of a Balanced Asphalt Mixture Design Procedure for New Mexico 3.2.19	SPR	\$ -	\$ 40,000.00			\$ 40,000.00		32,000	8,000
<b>R918035</b>	NM18SAF-01	Driver Education Survey (NO COST) 3.2.20	SPR	\$ -				\$ -		-	-
<b>Project total</b>		<b>RIPD, Randall Soderquist, Division Director</b>	<b>SPR</b>	<b>\$ 290,000</b>	<b>\$ 140,309.00</b>		<b>\$ -</b>	<b>\$ 430,309.00</b>		<b>344,247</b>	<b>86,062</b>
<b>100% Federally Participating</b>											
		NCHRP Program Transfer NO MATCH REQUIRED	SPR	\$240,000	(\$240,000)			\$ -			
		TRB Program Transfer NO MATCH REQUIRED	SPR	\$100,000				\$ 100,000.00	100,000		
		Library Pooled Fund Study	SPR	\$20,000				\$ 20,000.00	20,000		
<b>Project total</b>		<b>RIPD, Randall Soderquist, Division Director</b>		<b>\$ 360,000</b>	<b>\$ (240,000)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 120,000.00</b>	<b>120,000</b>		
<b>TOTALS</b>				<b>\$ 2,111,005</b>	<b>\$ (99,691)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,011,314</b>	<b>\$ 120,000</b>	<b>\$ 1,513,051</b>	<b>\$ 378,263</b>

Federal FY18 Target \$1,681,051  
 Fed Programmed Amt \$ 1,633,051  
 Under Programmed by (48,000)