



January 5, 2018

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 #6 (FFY18, Quarter 1) to the FFY2017-2018 Planning Work Program

Dear Messrs. Monge-Oviedo and Ogboli:

The NMDOT has determined that amendments are required to Federal Fiscal Year (FFY) 2018 of the Planning Work Program (PWP) for FFYs 2017-2018. The attached table lists all of the amendments, including changes to the International and Research Program Work Plan. Your approval of this amendment to the FFY2017-18 PWP is requested.

Sincerely,

A handwritten signature in blue ink, appearing to read "J. Griffin".

Jessica Griffin, AICP
Statewide Planning Bureau Chief

cc: Tammy Haas
Anthony Lujan
Marcos Trujillo
Randall Soderquist

Attachments: Amendment #6 (FFY 18, Quarter 1) Packet

Susana Martinez
Governor

Tom Church
Cabinet Secretary

Commissioners

Ronald Schmeits
Chairman
District 4

Dr. Kenneth White
Secretary
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Commissioner
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FFY2017-2018 Planning Work Program Amendment 6 / FFY18 Quarter 1

Amend No.	Part, Chapter Task (I.1.1)	CN	Original / Amended Amount of Total Funds	Description of Change	Type (Admin or Formal)
6	I.3.6	P917110	\$100,000/ \$150,000	Roadway Data Inventory Program, increase contract amount and to add Data Governance	Formal
6		P117030	\$47,418 / \$63,580	EPMPPO - Add local match (\$16,162) to FFY18/FFY19 UPWP. Funding will be distributed to tasks 1.1, 1.2, 3.5, 4.1, and 4.2 of the UPWP.	Admin
6	I.2.12			New task – Update and revise NMDOT Public Involvement Plan to comply with FAST Act, assess organization and content. Funding will come from Statewide Planning On-Call contract (FFY16 SPR, CN P916030).	Admin
The following are amendments to MPO/RTPO Work Program budgets to carry forward unexpended FFY17 funds into FFY18. These amendments are not reflected in the PWP FFY18 budget because there is no change to the original funding amounts.					
6		P517020		FMPO - Increase FFY18 total to \$291,183.86 to carry forward unexpended FFY17 funds (\$62,546.86). Funds will be applied to consultant costs associated with Task 4.3 [Bike and Ped. Plan update] and Task 4.4 [Red Apple Transit's Route & Operations Study].	Formal
6		P117040		MVMPO - Increase FFY18 total to \$358,679 to carry forward unexpended FFY17 funds (\$67,675). Funding will be added to Tasks 3, 4, and 5 of the UPWP.	Formal
6		P317010		MRRTPO - Increase FFY18 total to \$112,637 to carry forward unexpended FFY17 funds (\$6,387). Funding will be distributed across all RWP tasks.	Formal
6		P617101		NWRTPO - Increase FFY18 total to \$117,354 to carry forward a portion of unexpended FFY17 funds (\$11,104). Funding will be distributed to RWP tasks and budget line items.	Formal
6		P217010		SERTPO – Increase FFY18 SPR total to \$118,375 to carry forward unexpended FFY17 funds (\$12,125). Funding will be used to purchase RTPO vehicle.	Formal
6		P117020		SCRTPPO - Increase FFY18 SPR total to \$120,167 to carry forward unexpended FFY17 funds (\$13,917). Funding will be distributed across all RWP tasks.	Formal

Research Amendments (see attached for detailed descriptions of amendments)					
6	3.2.19	R918034	\$40,000 / \$108,000 (SPR)	NM18MSC-02 Dev. of a Balanced Mix Design	Formal
6	3.2.21	R918036	\$0 / 35,000 (SPR)	NM18DSN-02 Development of User-Interface Software for GPR Analysis	Formal
6	3.2.22	R918037	\$0 / \$53,000 (SPR)	NM18MNT-02 Application of Forensic Hydrology to Model Weather Conditions	Formal
6	3.2.18	R918033	\$8,000 / \$0 (SPR)	NM18MSC-01 – Long Term Performance Pervious Concrete	Formal
6	3.2.9	R917033	\$85,000 / \$0 (SPR)	NM17DSN-01 – Scaled Model of Complex Drainage Structure	Formal
6	3.1.6	P918200	\$0 / \$75,000 (SPR)	NM18INT-01 New Mexico – Chihuahua Border Master Plan	Formal
6	3.2.23	R918031	\$0 / \$125,000 (SPR)	NM18ENV-01 – Dev. Native Seed Germplasm	Formal

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%)	Date Obligated	Federal Amount Obligated	Match Obligated	Total Obligated
P918010	Planning Division Salaries - Tammy Haas PM (200)	\$ 1,500,000				\$ 1,500,000	\$ 1,200,000	\$ 300,000		9/18/2017	\$ 1,200,000	\$ 300,000	\$ 1,500,000
P918020	Planning Division Operations - Tammy Haas PM (400)	\$ 200,000				\$ 200,000	\$ 160,000	\$ 40,000		9/18/2017	\$ 160,000	\$ 40,000	\$ 200,000
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, Project 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					
P917110	Roadway Inventory Program Support (add funds to FY17 project)	\$ -			\$ 50,000	\$ 50,000	\$ 40,000	\$ 10,000					
	NCHRP Dues (100%) 1/2 of annual payment	202612	-202612			0	0	0					
P417020	Eastern Plains RTPO RWP - Soamiya Chavez PM	\$ 106,250				\$ 106,250	\$ 85,000		\$ 21,250	AC on 8/29/2017	\$ 85,000	\$ 21,250	\$ 106,250
P317010	Mid-Region RTPO RWP - Wade Patterson PM	\$ 106,250				\$ 106,250	\$ 85,000		\$ 21,250	AC on 8/29/2017	\$ 85,000	\$ 21,250	\$ 106,250
P417010	Northeast RTPO RWP - Soamiya Chavez PM	\$ 106,250				\$ 106,250	\$ 85,000		\$ 21,250	AC on 8/29/2017	\$ 85,000	\$ 21,250	\$ 106,250
P517010	Northern Pueblos RTPO RWP - Ron Shutiva PM	\$ 106,250				\$ 106,250	\$ 85,000		\$ 21,250	AC on 8/29/2017	\$ 85,000	\$ 21,250	\$ 106,250
P617010	Northwest RTPO RWP - Wade Patterson PM	\$ 106,250				\$ 106,250	\$ 85,000		\$ 21,250	AC on 8/29/2017	\$ 85,000	\$ 21,250	\$ 106,250
P117020	South Central RTPO RWP - Jolene Herrera PM	\$ 106,250				\$ 106,250	\$ 85,000		\$ 21,250	AC on 8/29/2017	\$ 85,000	\$ 21,250	\$ 106,250
P217010	Southeast RTPO RWP - Jolene Herrera PM	\$ 159,375		\$ (53,125)		\$ 106,250	\$ 85,000		\$ 21,250	AC on 8/31/2017	\$ 85,000	\$ 21,250	\$ 106,250
P117010	Southwest RTPO RWP - Jolene Herrera PM	\$ 106,250				\$ 106,250	\$ 85,000		\$ 21,250	AC on 8/29/2017	\$ 85,000	\$ 21,250	\$ 106,250
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	AC on 9/18/2017	\$ 340,000	\$ 85,000	\$ 425,000
	TOTALS	\$ 6,834,957				\$ 6,240,059	\$ 5,001,047	\$ 984,012	\$ 255,000		\$ 2,380,000	\$ 595,000	\$ 2,975,000

Target w/match \$ 6,834,913.75
 over/under \$ 43.25

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%)	Date Obligated	Federal Amount Obligated	Match Obligated	Total Obligated
P117030	El Paso MPO UPWP - Jolene Herrera PM	\$ 52,536	\$ 47,418		\$ 16,162.00		\$ 63,580	\$ 63,580		AC on 9/8/2017	\$ 47,418	\$ -	\$ 47,418
P517020	Farmington MPO UPWP - Soamiya Chavez PM	\$ 239,420	\$ 228,637				\$ 228,637	\$ 195,347	\$ 33,290	AC on 9/8/2018	\$ 195,347	\$ 33,290	\$ 228,637
P117040	Mesilla Valley MPO UPWP- Jolene Herrera PM	\$ 308,520	\$ 291,004				\$ 291,004	\$ 248,634	\$ 42,370	AC on 9/8/2019	\$ 248,634	\$ 42,370	\$ 291,004
P317020	Mid-Region MPO UPWP - Wade Patterson PM	\$ 983,534	\$ 887,706				\$ 887,706	\$ 758,456	\$ 129,250	AC on 9/8/2020	\$ 758,456	\$ 129,250	\$ 887,706
P517030	Santa Fe MPO UPWP - Soamiya Chavez PM	\$ 261,642	\$ 248,693				\$ 248,693	\$ 212,483	\$ 36,210	AC on 9/8/2021	\$ 212,483	\$ 36,210	\$ 248,693
	TOTALS	\$ 1,845,652	\$ 1,703,458		\$ 16,162		\$ 1,719,620	\$ 1,478,501	\$ 241,119		\$ 1,462,338	\$ 241,120	\$ 1,703,458

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) 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.

Date:	January 05, 2018
Requestor Name:	Randall J. Soderquist
Amendment Number (FFY/Quarter #):	FFY18/Quarter 6

Part, Chapter, Task (I.1.1)	Control Number	Original Amount \$	Revised Amount \$	Description of Change (attach excerpt for PWP showing proposed changes to narrative)
3.2.19	R918034	\$40,000	\$108,000	NM18MSC-02 Dev. of a Balanced Mix Design
3.2.21	R918036	New	35,000	NM18DSN-02 Development of User-Interface Software for GPR Analysis
3.2.22	R918037	New	\$53,000	NM18MNT-02 Application of Forensic Hydrology to Model Weather Conditions
3.2.18	R918033	\$8,000	\$0	NM18MSC-01 – Long Term Performance Pervious Concrete
3.2.9	R917033	\$85,000	\$0	NM17DSN-01 – Scaled Model of Complex Drainage Structure
3.1.6	P918200	New	\$75,000	NM18INT-01 New Mexico – Chihuahua Border Master Plan
3.2.23	R918031	New	\$125,000	NM18ENV-01 – Dev. Native Seed Germplasm

Amendment Type (Administrative/Formal)	Explanation
Formal	To adjust the FFY18 Work Program to include four new projects identified at the November 1 ROC meeting (one project partially using HSIP funding) and one new project using new funding from FHWA for Border activities; and to remove two projects that have been cancelled.

For Planning use only.

Date rcvd:	1/5/18	Action:	Added to Amendment 6 by Jessica Griffin
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FY17-18 Research Program:

<p>3.2.19</p>	<p>Project Description: Research to be Contracted Out (12 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: \$108,000</p> <p><u>Project Summary</u> This research project would fund a study to assist in the development of 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. Traditional practices focus on utilizing volumetric mixture designs to determine field performance however during the early life of pavements, mixes are susceptible to aging and some nano-micron level cracking (pathway for moisture ingress, stripping, etc.) and damages that lead to early failure. The proposed study will focus on testing mixture performance in regard to rutting and cracking resistance as well as 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, indirect tensile test for top-down crack, overlay test for reflection crack, and semi-circular bending for thermal crack will be used to evaluate cracking.</p> <p><u>Justification</u> The literature search for this request revealed that several state DOT's are recognizing the importance 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. Additionally, balanced mixture design parameters are a priority for New Mexico and the research endeavors for the proposed project will be aligned with other states nationally.</p>
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	<p><u>Anticipated Benefits</u> Anticipated goals for this study are to develop a specification for a balanced mixture design including a range of volumetric parameters in order to implement the concept in design and construction.</p>
<p>3.2.21</p>	<p>Project Description: Research to be Contracted Out (6 month contract) NM18DSN-02 Development of User-Interface Software for GPR Advocate/Sponsor: Pavement Management Bureau Project Manager: TBD Project Number: CN R918036 Project Amount FY17: \$0 Project Amount FY18: \$35,000</p> <p><u>Project Summary</u> This research project will develop a Graphic User-Interface that advances a newly created algorithm that is capable of scanning GPR data and providing graphical output of GPR anomalies. Matlab software is used to analyze data, develop algorithms, and create models, among other things, however the use of the new algorithm itself requires an extensive understanding of computer programming. The need for a user interface that allows one without the working knowledge of the code to analyze GPR data was recognized.</p> <p><u>Justification</u> The literature search for this project revealed that GPR has been used extensively to evaluate roads to find anomalies such as collapses, stripping, pavement defects, etc. Current available software applications used to process signal information provide data in form of pictures which results at times in subjective interpretation. Additionally, experienced engineers are required to make the interpretations which has also proven to be time consuming and inaccurate.</p> <p><u>Anticipated Benefits</u> Anticipated findings for this project is a functional graphic user interface that improves efficiency as well as increases the accuracy of subsurface pavement data and eliminates subjective data interpretations.</p>
<p>3.2.22</p>	<p>Project Description: Research to be Contracted Out (18 Mo. Contract) NM18MNT-02 Application of Forensic Hydrology to Model Weather Conditions</p> <p>Advocate/Sponsor: Drainage Bureau Project Manager: TBD Project Number: CN R918037 Project Amount FY17: \$0 Project Amount FY18: \$53,000</p>

	<p><u>Project Summary</u> This research project will develop a method to predict road, bridge, and culvert failures prior to their occurrence using weather-gathering stations and weather radar. The objective is to develop a network of weather/precipitation gathering devices to help evaluate the process by which a failure occurred. The study will utilize a forensic hydrology approach to try and identify locations where high precipitation amounts following storm events occurred that resulted in infrastructure failures. This information will then be used to explore when, why, and how the failure occurred. This project proposes to install weather stations on the network at specific patrol yard locations and use the data to verify NEXRAD weather data.</p> <p><u>Justification</u> The project will develop better regional weather forecasting and response management. It appears that there is very little research on forensic hydrology as it refers to transportation infrastructure failures; the available research focuses on mostly larger areas and on a broader level.</p> <p><u>Anticipated Benefits</u> The anticipated goals for this project are to develop a predictive model that will assist in preventing or reducing damages caused by storm events.</p>
<p>3.2.23</p>	<p>Project Description: Research to be Contracted Out (48 Mo. Contract) NM18ENV-01 Testing Native Seed Germplasm from the Wild for Arid Lands Advocate/Sponsor: Environmental Development Bureau Project Manager: David Hadwiger Project Number: R918031 Project Amount FY17: \$0 Project Amount: FY18: \$45,309 Research Funding; additional \$45,000 HSIP funding Project Amount: FY19: \$40,000 Project Amount: FY20: \$40,000</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>Amount of \$45,309 was submitted and approved in Amendment #4 and reflects Research funding committed to the project. Amounts of \$45,000 (FY18), \$40,000 (FY19) and \$40,000 (FY20) are being submitted in the current amendment (Amendment #6) for approval and reflects HSIP funding being committed to the project.</p>

	<p><u>Justification</u></p> <p>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 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></p> <p>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>
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<p>3.1.6</p>	<p>Project Description: Research to be Contracted Out (36 Mo. Contract) NM18INT-01 New Mexico – Chihuahua Border Master Plan Policy Advisory Committee Workshops Advocate/Sponsor: International Planner Project Manager: International Planner Project Number: P918200 Project Amount FY17: \$0 Project Amount FY18: \$25,000 Project Amount FY19: \$25,000 Project Amount FY20: \$25,000</p> <p><u>Project Summary</u></p> <p>The Policy Advisory Committee (PAC) Workshops will provide past BMP stakeholders the opportunity to revisit the BMP study and discuss the project list that was developed by local, state, and federal stakeholders. The workshops will offer stakeholders a chance to provide updates and commence again the dialogue, policy, and process regarding the bi-national port of entry and border infrastructure projects. Also, stakeholders will have the opportunity to provide updated information to lay the groundwork for the 3 year update of the BMP document. Furthermore, the workshop will allow the BMP PAC to be introduced to regional transportation studies that have evolved since the completion of the Final BMP document. Finally, due to the changes in the</p>
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administrations in the state of Chihuahua from the recent elections in Mexico, the PAC Workshop will allow the opportunity for the new administrations of the State of Chihuahua and Cd. Juarez to combine their goals and priority projects for the border region with the BMP project list. The addition of new or different perspectives presented by our neighboring state of Chihuahua will benefit the BMP by having any possible modifications set in motion for the future BMP Update Plan. In preparation for the BMP Update Plan the BMP PAC Workshops will be held every six months for the course of three years.

Justification

The Policy Advisory Committee workshops promote effective communication concerning transportation planning between U.S. - Mexico Border States and develop a well-coordinated land transportation planning process along the border. The goal is to establish methods and procedures to analyze current and future transportation infrastructure needs and evaluate transportation demand and infrastructure impacts resulting from future changes in land transportation traffic. The effort is required by the FHWA.

Anticipated Benefits

The workshops will result in a document that can be used to update the New Mexico-Chihuahua Border Master Plan and ensure effective and efficient transportation infrastructure development in the Border region.