

**New Mexico
Highway Safety Improvement Program
Fiscal Year 2009 Annual Report**

**New Mexico Department of Transportation
Office of Infrastructure Divisions
Engineering Support Division
Traffic Technical Support Bureau**



August 31, 2009

This report is prepared as a partial completion of the reporting requirements of Title 23 United States Code, Code of Federal Regulations, Part 924 (23 CFR 924) and Section 130(g) regarding participation in the Highway Safety Improvement Program by the New Mexico Department of Transportation (NMDOT).

SECTION 1: Highway Safety Improvement Program: (Title 23 United States Code, Code of Federal Regulations, Part 924)

1-A. - Program Structure

1.A.1 Program Administration

In compliance with the Title 23 United States Code, Code of Federal Regulations, Part 924 regulations of the Federal Highway Administration (FHWA), this section represents the New Mexico Fiscal Year 2009 (July 1, 2008 to June 30, 2009) Annual Report for the New Mexico Highway Safety Improvement Program (NM HSIP).

One can commonly categorize highway safety into three elements: Driver/Pedestrian Vehicle, and the Roadway. One can also categorize traffic safety programs into four functional groups: Education (of the driver/pedestrian/ bicyclist), Enforcement (of traffic and vehicle related laws), Emergency Medical Response (to a traffic crash involving injuries and fatalities), and Engineering (physical improvements to facilities or systems that improve the safety of the transportation network). The NM Highway Safety Improvement Program (HSIP) addresses the highway element and the engineering functional group as part of a more comprehensive transportation safety program operated by others both within and outside of the NMDOT.

The NM HSIP is administered by the NMDOT Office of Infrastructure Divisions, Engineering Support Division, Traffic Technical Support Bureau. Other transportation safety-related programs are managed by other bureaus in the Office of Programs of NMDOT and by other state agencies.

All 68,339 centerline miles of public roadways in New Mexico are subject to analysis for safety issues by the NM HSIP. The latest estimate of the universe of public roadway centerline miles in New Mexico is as follows:

| | |
|---|-------------------------|
| NM State Highways | 11,983 centerline miles |
| NM State Parks & Other State Agency Roads | 215 centerline miles |
| County Roads | 39,466 centerline miles |
| City Streets | 4,878 centerline miles |
| Tribal Roads | 5,025 centerline miles |
| Other Federal Agency Roads | 6,772 centerline miles |
| NM Statewide Total Public Roadways | 68,339 centerline miles |

The NM HSIP operates in compliance with the latest federal surface transportation act, Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), and the latest set of Hazard Elimination Program regulations promulgated by the Federal Highway Administration that are authorized by Section 148

of SAFETEA-LU. The NM HSIP also operates in compliance with the multi-agency New Mexico Comprehensive Transportation Safety Plan (NM CTSP).

The NM CTSP is a jointly sponsored, multiple State of New Mexico agency document which addresses the requirements for a Strategic Highway Safety Plan (SHSP) as mandated under SAFETEA-LU. It is a multi-modal, umbrella type strategic plan that describes proposed high priority traffic safety countermeasures as strategies that are intended to reduce injuries and fatalities to motorists, transit riders, bicyclists, and pedestrians on New Mexico's surface transportation network. The NM CTSP contains explicit objectives to achieve this goal. The major NM CTSP Emphasis Areas that relate to the NM HSIP are: Reduce Lane Departure Crashes; Reduce Intersection-Related Crashes; and, Improve Safety for Special Road Users: Pedestrians, Cyclists, Motorcyclists, and Elder Drivers.

During the FY 2009 Program Year, the process for selecting proposed safety improvement projects for recommendation and implementation was composed of the following elements. The first element was review of solicited safety projects submitted in response to a request for submitted safety projects by NMDOT General Office, NMDOT Districts, MPOs, RPOs, cities, counties, and tribal governments. The second element was a group of various field visits performed by the NMDOT Safety Project Engineer. The third element was review of the previous year's New Mexico Transparency Report (Five Percent Most Severe Safety Needs Report) and other engineering safety studies.

Once selected, the proposed engineering type safety projects are programmed in the Statewide Transportation Improvement Program (STIP) for implementation. Appropriate stand-alone, safety improvement roadway construction projects for federal safety funding assistance include relatively low capital cost improvements, such as shoulder rumble strips, pavement markings, warning signs, chevrons, delineators, median barriers, guardrail, and lighting. Intersection improvements include signalization, turning lanes, and crosswalks. Other road side improvements include sidewalks, bicycle trails, slope flattening, safety fencing to reduce animal hits, and roadway realignment.

1.A.2 – Program Methodology

The NM HSIP has the responsibility to systematically analyze New Mexico's roadways, utilizing available crash data, to identify roadway (state highway, tribal road, county road, or city street) locations, sections, and elements in New Mexico that are currently determined to be hazardous or are forecasted with the likelihood of becoming hazardous to vehicular or pedestrian travel.

From these analyses, suggested countermeasures in the form of safety improvement projects can be recommended, and federal funding can be applied to implement them. The NM HSIP develops, prioritizes, and selects engineering type roadway safety improvement projects on a statewide basis. The FHWA, NM Division Office provides

program oversight and federal aid for these safety projects. In addition to state highways, tribal roads, city streets and county roads are eligible for federal aid for safety projects.

1.A.2.A New Mexico Highway Safety Improvement Program Procedures

Below is a summary description of the latest version of the procedures to administer the New Mexico Highway Safety Improvement Program (HSIP). These procedures provide guidance in the system planning and project planning tasks to provide an ongoing analysis of environmental (physical highway and weather – related) issues affecting the overall safe performance of travel on New Mexico’s public surface transportation network, and guide the selection, programming, implementation monitoring, and post construction evaluation of engineering type stand-alone safety countermeasure projects to increase the safety and reduce the hazards to the traveling public in New Mexico.

These procedures comply with Federal Regulation 23 CFR 924, Highway Safety Improvement Program and USC Title 23, Section 120. There are three basic components to the HSIP, planning, implementation and evaluation.

1.A.2.A-1 Planning Procedures Section

Review Roadway System:

Review the latest available roadway crash statistics, physical attributes and weather related data concerning New Mexico’s roadways on a system wide basis. Review the latest version of the annual NM Transparency Report (Five Percent Most Severe Safety Needs Report). Such reviews also analyze potential hazard exposure of existing vehicular, bicycle and pedestrian trips based on various studies or observations. Consider whether or not to continue to support and carry forward previously approved programmed safety projects that have not yet been implemented by supporting their approval as carry over projects and the Annual Program Year of the NM State Transportation Improvement Program (STIP). If upon review of the lack of progress of previously approved programmed safety projects, it is determined that the lead agency did not work diligently to get the project ready for implementation, then the NMDOT HSIP reserves the right to withdraw approval of the project and have it removed as a programmed project in the STIP.

The process for analyzing locations on the public roadway system of New Mexico for potential safety improvements originally focused on using already established benefit cost ratios established by earlier studies in New Mexico or nationally regarding the benefit cost ratios in crash reduction potential that is offered by the construction of specific types of safety improvements. Later following passage of SAFETEA-LU and the adoption by New Mexico of the NM Comprehensive Transportation Safety Plan (CTSP) in August 2006, focus on planning for engineering safety improvements focused on what would accomplish the CTSP Goal of reducing the fatality rate in New Mexico due to severe crashes. Also SAFETEA-LU required each state’s HSIP to perform a

Transparency Report (Five Percent Most Severe Safety Needs Report) each year along with its annual report and consider this information while continuing the administration of the HSIP. Consequently, the latest Transparency Report results are also considered in the project planning phase of the HSIP each year.

Seek guidance:

The NM HSIP has also sought guidance in terms of suggested conceptual safety projects from:

- The NMDOT Deputy Secretaries,
- District Offices,
- Director of the Planning Division
- Chief of Programs
- Chief of the Traffic Safety Bureau,
- Director of the Infrastructure Divisions,
- Other NMDOT General Office Management
- Metropolitan Planning Organizations, Regional Planning Organizations, Tribal Governments, Municipalities, and Counties through the NMDOT Planning Division, Strategic Planning Section, Government to Government Unit.

Perform Proposed Safety Project Review:

Previously, a general reference, such as the Evaluation of Safety Improvements by Construction Classification Table, was used as guidance for identifying, selecting and programming particular types of safety improvement projects for inclusion in the pertinent metropolitan Transportation Improvement Programs and the State Transportation Improvement Program. This guidance was based on sources from the 1996 Annual Report on Highway System Improvement Programs, April 1996, Office of Highway Safety, FHWA, USDOT, and was augmented by results from a special study conducted for NMDOT's 1999-2000 Highway Safety Improvement Program in June 1999 by Wilson and Company, and crash reduction factor data from the New York DOT from a May 1990 report.

However, recent interpretations of the revised FHWA regulations for the HSIP, following passage of SAFETEA-LU, downplay the importance of forecasted crash reductions based on trying to estimate a safety-related benefit/cost ratio for a proposed project for an estimated lifetime of the proposed benefit of the project. Consequently, estimating a safety-related benefit/cost ratio for each proposed safety project is no longer being done. However, the focus is still being placed on low capital intensive type projects with some type of proven or otherwise determined likely possibility of a beneficial outcome to the traveling public as a consequence of implementing the project. Projects that are considered stand-alone safety projects, without significant mobility improvements through capacity enhancement and also without facility asset improvement, such as pavement-oriented rehabilitation projects, have the best chance of being approved for implementation.

1.A.2.A-2 Implementation Procedures Section

Project Programming Funding Sources:

The funds used to program safety improvement projects are primarily 23 USC 148 Hazard Elimination Program federal funds. Also NHTSA administered Impaired Driver Laws (Section 164) Sanctioned Program funds and FHWA administered High Risk Rural Road funds are included as funding categories.

If approved, such projects would be funded by one or more of the safety funding categories that are administered by the Department's Highway Safety Improvement Program (HSIP). These categories include:

- Surface Transportation Safety (TPS)
- Hazard Elimination Program (TPZ)
- NHTSA Impaired Driver Laws (Section 164) Sanctioned Program (HSP).
- High Risk Rural Roads Program (HRR)

Safety funds are usually 90% federal and 10% state share and rarely 100% federal funding for HSIP safety projects It is NMDOT policy that no local or tribal government funds for local match are required for any local or tribal government lead agency approved safety project. State funds cover all required non-federal funding matches. City streets, sidewalks, bikeways, pedestrian trails, county roads, and tribal roads are eligible facilities, as well as state highways.

All projects must conform to the strategies as outlined in the current emphasis areas of the NM Comprehensive Transportation Safety Plan. Currently those strategies that contain primarily engineering related countermeasures include the following areas:

- Road Departure
 - Improved Geometry of horizontal curves
 - Delineate curves with warning signs, advisory speed signing, pavement markings, chevrons, and post mounted delineators
 - Install new and improved barrier and attenuation systems on roadsides, including median barrier systems on divided highways
 - Shoulder treatments - including installing shoulder rumble strips on rural roadways with four feet or wider shoulders and eliminating pavement edge drop-offs
 - Widen roadside clear zones, by removing or relocating hazardous objects
- Intersection Safety – signaling unsignalized intersections, improved signal equipment , pavement markings, signing, and lighting at intersections, channelizing intersections, construct acceleration and deceleration lanes at intersections; augmenting Section 130 highway – railroad crossing safety funds with additional improved signal equipment, pavement markings, signing, crossing surface, and lighting at highway-railroad at-grade crossings.

- Special Road Users: Pedestrians, Bicyclists, Equestrians, Elderly Drivers, and Motorcyclists - Pedestrian facility improvements, lighting; construct sidewalks; new bikeways, construct pedestrian crossings with pavement markings, signing, and other devices; install fencing to prevent unauthorized pedestrian travel and to separate pedestrians from vehicular traffic; construct pedestrian crossing grade separations for relatively low construction cost, high pedestrian traffic volume benefit scenarios only.

Safety Project Funding Distribution Guidelines:

The department reserves the right to distribute funding in a manner necessary in order to achieve certain improvements in the safety performance of New Mexico's roadway system.

Project Development, Including Design, Right of Way Acquisition, Project Certification Acquisitions, Project Letting, and Project Construction Management:

All of these tasks to actually accomplish the implementation of each HSIP funded safety project are the responsibility of the lead agency assigned to the programmed project.

1.A.2.A-3 Evaluation Procedures Section

Where data is available and labor resources are available, after three years or longer beyond the project completion date, before and after studies will be conducted for single site-specific completed roadway safety improvement projects. This will be accomplished by examining three years or more of pre-construction time period and three or more years of post construction time period crash data plus general observations of current traffic operating conditions at the project site.

The findings of such studies, if significant, are incorporated in future system planning project planning tasks in the Planning section of the procedures cited above. However, usually the post construction crash history has not displayed any significant results either proving success or failure in reducing crashes at particular locations of past site specific safety projects.

1.B – Progress in Implementing the HSIP Projects

| HSIP Project Funding | | |
|---|---------------------|------------------------|
| Reporting Period: 10/01/2008 to 08/21/2009 | | |
| Funding Category | Programmed* | Obligated |
| HSIP (Section 148) | \$23,966,375 | \$11,486,288.87 |
| Hazard Elimination (Section 152) | \$2,373,750 | \$9,958.49 |
| Optional Safety | \$0 | \$-51,578.63 |
| Penalty Transfer (154 and 164) | \$83,000 | \$7,599,425.00 |
| Safety Belt Performance Grants (Section 406) | \$0.00 | \$558,230.00 |
| Incentive Grants (i.e. Sections 157, 163) | \$0.00 | \$0.00 |
| Other Federal-aid funds (i.e. STP, ARRA) | \$0.00 | \$0.00 |
| State and Local Funds | \$0.00 | \$0.00 |
| Total | \$26,423,125 | \$19,602,323.73 |

* "Available"(Programmed) funds refer to those funds that have been programmed in the Statewide Transportation Improvement Program (STIP) and can be expended on highway safety improvement projects.

The HSIP Project Funding table lists for the reporting time period of October 1, 2008 through August 21, 2009 all programmed funds and obligated funds related to roadway safety improvement projects or programs for the federal funding program categories shown in the table. The FHWA program funding categories are HSIP Sections 148 and 152. The National Highway Traffic Safety Administration (NHTSA) funding categories listed are Penalty Transfer (Sections 154 and 164), Safety Belt Performance Grant Program (Section 406), and Incentive Grant Program (Sections 157 and 163). The negative value for obligated amounts in the Optional Safety Program of \$51,578.63 indicates that these funds were available for obligation in previous time periods. However, the previous time period programmed and constructed to completion Optional Safety projects used fewer federal funds than anticipated and left the \$51,578.63 balance as unspent. Money spent in New Mexico using Section 130 Railroad-Highway Crossing Safety Program funds are separately reported in Section 2 of this annual report. Since October 1, 2008 New Mexico has programmed a total of \$26,423,125 of which \$19,602,323.73 has been obligated towards various roadway safety improvement programs and projects for the selected federal programs listed in the table.

1.C – New Mexico Highway Safety Improvement Program Evaluation

1.C 1 – Overview of New Mexico Statewide Roadway Safety Trends

The State of New Mexico collects data on all crashes on public roadways that involve any injury to a person or property damage over \$500. Police agencies are required to forward each crash report to NMDOT within 10 days of the completion of each investigation. Crash reports are reviewed, coded, and entered by the Crash Records Section of NMDOT. Approximately 49,500 crashes are entered each year. Data are entered for all vehicles and all occupants involved in each crash. The Division of Government Research at the University of New Mexico (DGR) receives annual crash data files from the Crash Records Section. These are converted to analysis files in Statistical Analysis System (SAS) for use in data analysis and reporting. The codebooks for these SAS files are available at www.unm.edu/~dgrint/tcd.html#data.

New Mexico suffered 484 fatalities in 2006, 412 fatalities in 2007 and only 367 during 2008. This was the first two-year time period of significant actual reduction in the magnitude of fatalities for New Mexico in several years.

1.C 2 - Description of the Overall Effectiveness of the New Mexico Highway Safety Improvement Program

In New Mexico as in other states it is estimated that roadway environment issues that can be mitigated through engineering type countermeasures are the primary contributing factor in only a small percentage (5% to 20%) of typical motor vehicle crashes. Alternately issues of driver, pedestrian, and bicyclist behavior are the primarily contributing factor to 80 -95 % of all crashes. Consequently, education and enforcement related safety projects and programs have the greatest potential to reduce serious crashes and fatalities in NM, but engineering type safety projects still play a vital role. It is estimated that either engineering type stand-alone safety projects or other highway improvement projects whose primary focus was either pavement condition preservation or capacity enhancement have contributed 5 -10 % of New Mexico's recent reduction in fatalities.

1.D – High Risk Rural Roads Program

1.D 1 - Basic Program Implementation Information

The NM High Risk Rural Roads Program is a subset of the NM HSIP, following the NM HSIP Program Structure listed above. In statewide competition with all other roadway sections, those sections determined to be good candidates for engineering type stand-alone safety projects are then further considered for funding with HRRR funds, if the existing average daily traffic (ADT) volume is less than 2000.

1.D 2 - Methods used to Identify HRRR

ADT less than 2,000 determines the class of potential roadway section candidates for HRRR funds. In the recent past there have always been several candidate roadway segments for which proposed safety projects have been programmed whose current traffic volume AADT was less than 2,000.

1.D 3 - Overall NM HRRR Program Effectiveness

This is unknown because of the lack of completion of any programmed HRRR projects.

SECTION 2: The Railroad-Highway Crossing Safety Program



New Mexico Highway Safety Improvement Program Report
Prepared by the NMDOT Rail Section
August 7, 2009

Planning NMDOT's 3 Year Program:

The NMDOT Rail Section is responsible for administering and implementing the Federal Section 130 Railroad Safety Program.

In Developing Planning its Railroad Safety Initiatives all aspects of the initial development of a Safety Program, Program Approval, Developing Contracts, and Implementing Program Projects through all Construction phases; the NMDOT Rail Section coordinates these aspects with the following Project Partners:

- NMDOT Management and Staff (Traffic Engineers and Planning Staff)
- Local Federal Highway Administration Staff
- Federal Railroad Administration coordination
- Impacted Railroads Staff and Engineers
- Impacted City's Counties and other Local Entities.
- Input from New Mexico Citizens

Data Collection and Analysis:

NMDOT in the past has developed Safety Programs based on a 3-year cycle, starting this year in 2009 based on NMDOT's Management's desire to be more proactive on a year-to-year basis, NMDOT will now implement a yearly Railroad Safety and Inspection Program.

NMDOT's Railroad Safety Program is funded through Federal Transportation Legislation under the Federal Section 130 Program through funds in the amount of approximately \$1,500,000 are given annually to the State of New Mexico.

Federal Highway Administration (FHWA) policies and procedures have rigid requirements for the approval of Section 130 funds for safety improvements at highway-rail grade crossings. For example, the State must maintain a current and accurate inventory of all public and private crossings within the State. The Rail Section has developed and implemented one of the most efficient crossing inventory databases in the United States.

All Train, Vehicle and Crash data is updated annually through the Federal Railroad Administration Database and include crash data associated with railroad crossings that occur near or within rail-highway grade crossings.

The New Mexico inventory is web-based giving all vested users; District Offices, city traffic departments, counties, railroads and other shareholders in highway-rail crossing safety online immediate access to physical, operational and accident experience at each of New Mexico's more than 750 public crossings. ***(NOTE: As can be expected, access to this database is highly restricted. If a review of the database is requested, by an appropriate New Mexico staff person, the Rail Section within the Transportation Oriented Property Asset Management Division can be contacted for the secured password.)***

The Federal Railroad Administration relies upon the New Mexico inventory as the official database for the State's participation in the U.S. DOT Highway-Rail National Inventory.

FHWA policy, for Section 130 authorization, requires the State to have adopted an approved method for prioritizing grade crossings for safety improvement. With the development of the current inventory database the Rail Section ensure that all data elements included in the US DOT Accident Prediction Model are included. The Section, with approval, has adopted the US DOT model for prioritization of all public crossings included in the inventory. New Mexico is one of more than twenty states that currently use the FHWA approved prioritization system.

Diagnostic Team review (field evaluation) of highway-rail crossings, included in Section 130 authorization, is also a requirement of the FHWA. The staff of the Rail Section has recently participated with railroads and representatives of other public agencies in the identification and evaluation of all crossings included in the current highway-rail crossing safety improvement program. In addition to several field trips throughout the state, the staff has met with railroads, citizens, city councils and other shareholders in the identification of crossings to be considered in the program.

Crossing Prioritization and Project Selection

Following the procedures established by FHWA the Rail Section staff selected individual projects identified by the accident prediction model as having the highest probability of a motor vehicle-train crash. The accident prediction model assigned an accident prediction index to all public highway-rail grade crossings in New Mexico.

Based upon the funding that is currently available, the top 45 priorities (including 2 other compliance and implementation projects) were chosen for consideration in the safety improvement program. At the same time, the staff reviewed all recent correspondence related to individual crossings recommended for improvement. The Rail Section correspondence files contain letters from private citizens, city council staff, mayors, Pueblo Governors, railroads, county officials and elected public officials. These letters were reviewed and crossings recommended for improvement were added to the priority list for evaluation. In several instances the crossings were among the top 45 rated by the priority index.

In February of 2002 the U.S. Department of Transportation issued a report titled: “*Report on High Risk Crossings and Mitigation Efforts by States.*” The report listed the 10 most hazardous highway-rail crossings in each state. The 10 crossings identified in the New Mexico list have been reviewed and, where appropriate, have been identified as projects in the current safety improvement program. Although not included in the Section 130 program, safety improvement projects to certain highway-rail crossings in several New Mexico Cities were funded by the State Legislature, and they are included in the projects to be implemented by the Rail Section.

The FRA and the railroads operating in New Mexico report 41 motor vehicle/train crashes have occurred in the state during the past five years. The project locations selected account for 35 (70%) of these accidents. When this program is completed, it is estimated that motor vehicle/train accidents in the State of New Mexico will be reduced by 50 percent.

On April 13, 2006 the Rail Section staff met with their consultant, and the following individuals:

| | |
|-----------------|--|
| Steve Marchenke | Public Works Engineer, Union Pacific Railroad (UPRR) |
| Harry Lara | Public Works Engineer, Burlington Northern Santa Fe Railroad (BNSFRR) |
| Greg Clark | New Mexico DOT Traffic Section |
| Frank Sharpless | New Mexico DOT Transit and Rail Bureau Chief |
| Steve Eagan | New Mexico DOT Project Planning Bureau |

The result of this meeting was an agreement between the railroads and the Railroads and NMDOT staff to submit the attached highway-rail grade crossing safety improvement program for approval by New Mexico DOT and the Federal Highway Administration.

In November of 2006 a highway-rail safety improvement program was approved for implementation. The program consisted of 43 individual crossings with an estimated cost of \$5,284,000.00 plus \$370,000 for Vegetation Control and MUTCD compliance projects. The status of this program is shown in Section A of this submission. As of this date about eighty percent of the crossing safety projects have been completed. In addition, more than 75 percent of the MUTCD compliance projects were implemented; some are still in the process of encumbrance; NMDOT staff has canceled others. In 2001 there were 9 train vehicle accidents, in 2005 there were six. Over the course of approximately 5 years, there was a thirty (30) percent reduction in accidents.

NMDOT project selection criteria allows for consideration of crossings with lights and gates that are 20 years or older and has implemented two safety program with BNSF and Union Pacific Railroad to develop HXP and LED corridor upgrades.

When looking at potential projects and adhering to the Railroad Grade Crossing Handbook, NMDOT’s analysis always considers closure as a first option. On average One to Two crossings are closed each year.

Program Implementation

With the approval of the Federal Highway Administration the New Mexico Highway-Rail Safety Improvement Program for the FY 2007-2009 period will be implemented. The current staff of the Rail Section has been augmented by contracting with a consultant familiar with both the New Mexico Department of Transportation's highway-rail safety program and the U. S. Department of Transportation's policy and procedures for implementing the Section 130 Federal funds. The consultant's contract is funded by state appropriations, as Federal policy does not permit Section 130 funds to be used for grade crossing program administration. However, once the State's program has received FHWA approval, and individual projects have been authorized, Section 130 funds may be used to support professional consulting services; these professional consulting services in the amount of \$60,000 will be sought through the advertisement of a Request for Proposal (RFP).

THERE ARE 775 PUBLIC AT GRADE CROSSINGS IN NEW MEXICO

OF THESE CROSSINGS THERE ARE:

| | |
|--|------------|
| PASSIVE CROSSINGS (ONLY CROSSBUCKS) | 460 |
| ACTIVE (LIGHTS AND GATES) | 315 |
| CROSSINGS WITH FLASHING LIGHTS ONLY | 80 |
| 2007 TRAIN VEHICLE ACCIDENTS | 11 |
| 2008 TRAIN VEHICLE ACCIDENTS | 8 |
| 2009 TRAIN VEHICLE ACCIDENTS* | 6 |
| <small>2009 data as of 8/2009</small> | |

HIGHWAY-RAIL INCIDENTS REPORTED ON FORM FRA F 6180-57
Selections: Railroad - ALL
State - NEW MEXICO County - ALL
Public Crossings only / All Accidents
January To May, 2007

| Mo/Day | Incident # | ST. | County | City | Crossing ID | Type Road | Highway Name | Rail equipment | Highway User |
|--------|---------------------------|-----|------------|-----------|-------------------------|-----------|---------------------|----------------|--------------|
| Jan 20 | 0107EP009 | NM | LINCOLN | CARRIZOZO | 741919D | Public | AVENUE E | Freight trn | Car |
| Feb 24 | SW0207204 | NM | VALENCIA | | 019342H | Public | NM SH 109 | Freight trn | Trk& Trail |
| Mar 23 | SW0307200 | NM | VALENCIA | | 019336E | Public | NM SH 6 | Freight trn | Car |
| Jul 26 | SWC112 | NM | CHAVES | ROSWELL | 019894X | Public | SECOND ST | Freight trn | Car |
| Aug 10 | SW113 | NM | CHAVES | | 019917C | Public | LUPTON RD. | Freight trn | Car |
| Aug 24 | 082407 | NM | VALENCIA | | 019465U | Public | LUSCOMBE LANE | Psgr trn | Car |
| Aug 31 | 105514 | NM | CIBOLA | | 024935K | Public | NM 23 ; STATE HIGHW | Psgr trn | Pedestrian |
| Sep 04 | SW0907202 | NM | CIBOLA | GRANTS | 024859U | Public | HORIZON BLVD. | Freight trn | Pickup Trk |
| Oct 24 | SW1007201 | NM | MCKINLEY | GALLUP | 024950M | Public | 2ND STREET | Freight trn | Pedestrian |
| Oct 27 | 102707 | NM | SANTA FE | SANTA FE | 013817C | Public | ALTA VISTA STREET | Psgr trn | Pickup Trk |
| Dec 07 | SW1207202 | NM | BERNALILLO | | 019425W | Public | PROSPERITY AVE | Yard/Switch | Car |

HIGHWAY-RAIL INCIDENTS REPORTED ON FORM FRA F 6180-57
Selections: Railroad - ALL
State - NEW MEXICO County - ALL
Public Crossings only / All Accidents
January To May, 2008

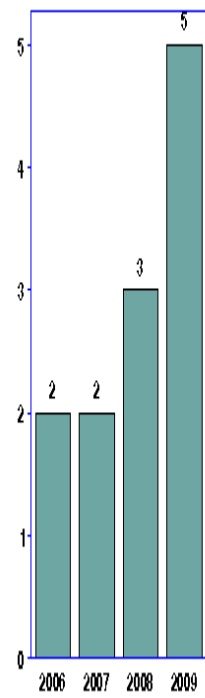
| Mo/Day | Incident # | ST. | County | City | Crossing ID | Type Road | Highway Name | Rail equipment | Highway User |
|--------|---------------------------|-----|------------|-----------|-------------------------|-----------|--------------------|----------------|--------------|
| Jan 09 | SW0108200 | NM | DONA ANA | | 019679L | Public | CO RD | Freight trn | Car |
| May 17 | 108017 | NM | MCKINLEY | | 024886R | Public | PEREA ROAD | Psgr trn | Car |
| May 22 | 022008 | NM | ROOSEVELT | PORTALES | 019825P | Public | NEW MEXICO 467 | Freight trn | Trk& Trail |
| Sep 11 | 109474 | NM | SAN MIGUEL | | 013655C | Public | ARRIBA ROAD | Psgr trn | Pickup Trk |
| Oct 04 | SW1008200 | NM | MCKINLEY | GALLUP | 024951U | Public | 3RD STREET | Freight trn | Pedestrian |
| Nov 17 | SW1108202 | NM | SOCORRO | | 019504H | Public | PALZALAS RD | Freight trn | Car |
| Nov 27 | 110342 | NM | SAN MIGUEL | | 013694T | Public | CO RD | Psgr trn | Pickup Trk |
| Dec 13 | 1208EP002 | NM | QUAY | TUCUMCARI | 741594W | Public | ROCK ISLAND STREET | Freight trn | Pedestrian |

HIGHWAY-RAIL INCIDENTS REPORTED ON FORM FRA F 6180-57
Selections: Railroad - ALL
State - NEW MEXICO County - ALL
Public Crossings only / All Accidents
January To May, 2009

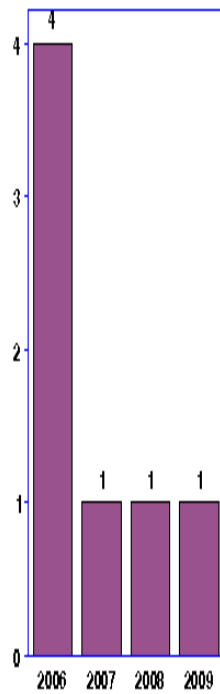
| Mo/Day | Incident # | ST. | County | City | Crossing ID | Type Road | Highway Name | Rail equipment | Highway User |
|--------|------------------------|-----|------------|---------|-------------------------|-----------|--------------|----------------|--------------|
| Jan 15 | 110803 | NM | SAN MIGUEL | | 013655C | Public | ARRIBA RD | Psgr trn | Pickup Trk |
| Jan 28 | SW01 | NM | CHAVES | ROSWELL | 019894X | Public | E. 2ND ST | Freight trn | Car |

| Mo/Day | Incident # | ST. | County | City | Crossing ID | Type Road | Highway Name | Rail equipment | Highway User | C |
|--------|---------------------------|-----|------------|------|-------------------------|-----------|---------------------|----------------|--------------|----|
| Mar 09 | SW0309200 | NM | VALENCIA | | 019487U | Public | STEVAN LOPEZ | Freight trn | Van | Cr |
| Mar 20 | SW0309202 | NM | DONA ANA | | 019683B | Public | PEDRO MADRID | Freight trn | Car | Cr |
| Mar 30 | SW02 | NM | CHAVES | | 019918J | Public | DARBY RD. & HWY 256 | Freight trn | School Bus | G |
| Apr 18 | SW0409202 | NM | BERNALILLO | | 019424P | Public | RIO BRAVO | Yard/Switch | Pedestrian | G |

TOTAL DEATHS, ALL ACCIDENTS/INCIDENTS
FOR NEW MEXICO, January – May (ALL YEARS)



TOTAL INJURIES IN HIGHWAY–RAIL INCIDENTS
FOR NEW MEXICO, January – May (ALL YEARS)



NMDOT 2007-2009 PROGRAM

| SUMMARY TABLE | | | | | | | | CR OS SI NG | |
|-----------------|---|--|-----------------------------|---------------------------------------|------------------------------------|----------------------|---------------|----------------------|---|
| CORRIDOR | D O T N U M B E R | R A I L R O A D | LOCATION | SCOPE OF WORK | SE CT IO N 1 3 0 | RA IL RO AD | FU ND S | FU ND S | ES TI M AT ED CO ST |
| | 024951U | BNSF | 3rd Street, Gallup | Pedestrian Control Warning System | \$100,000 | \$0.00 | | | \$100,000 |
| | 024950M | BNSF | 2nd Street, Gallup | Pedestrian Control Warning System | \$100,000 | \$0.00 | | | \$100,000 |
| ALBQ CORFIDOR | 013796L | MRCOG | ALAMEDA BLVD., ALBUQUERQUE | SURFACE UPGRADES, LIGHTS & GATES LEDS | \$230,000 | | | | \$230,000 |
| ALBQ CORFIDOR | 019358E | MRCOG | CANDELARIA RD., ALBUQUERQUE | SURFACE UPGRADES, LIGHTS & GATES LEDS | \$205,000 | | | | \$205,000 |
| ALBQ CORFIDOR | 019400M | MRCOG | BROADWAY, ALBUQUERQUE | SURFACE IMPROVEMENTS | \$350,000 | | | | \$350,000 |
| ALBQ CORFIDOR | 019374N | MRCOG | 12TH STREET, ALBUQUERQUE | SURFACE IMPROVEMENTS AND LEDS | \$120,000 | | | | \$120,000 |
| ALBQ CORFIDOR | 013772X | MRCOG | ALAMEDA ROAD., ALBUQUERQUE | SURFACE UPGRADES, LIGHTS & GATES LEDS | \$230,000 | | | | \$230,000 |
| ALBQ CORFIDOR | 019422S | MRCOG | DESERT ROAD, ALBUQUERQUE | SURFACE UPGRADES, LIGHTS & GATES LEDS | \$250,000 | | | | \$250,000 |
| ALBQ CORFIDOR | 019415R | MRCOG | WOODWARD, ALBUQUERQUE | SURFACE IMPROVEMENTS AND LEDS | \$200,000 | | | | \$200,000 |
| | | | | | \$1,785,000 | | | | |
| CLOVIS CORRIDOR | 019 | BNS | NORRIS/FAIRGROUNDS , CLOVIS | ADD MEDIANS AN D LEDS | \$400,000 | | | | \$400,000 |

| | | | | | | | | |
|-----------------|------------|------|--------------------------------|--|--|----------|--|----------|
| | 1890198210 | F | | | | 00 | | 00 |
| CLOVIS CORRIDOR | 0198210 | S | RRN, COUNTY ROAD 202, PORTALES | | LIGHTS & GATES , INSTALL TWO 8' PANELS | \$190.00 | | \$190.00 |
| CLOVIS CORRIDOR | 0198210 | BNSF | COUNTY ROAD U, CLOVIS | | LIGHTS & GATES WITH CWT AND LEDS | \$180.00 | | \$180.00 |

| | | | | | | | | |
|---------------------|---------|------|--------------------|-----|---------------------------------------|----------|--|----------|
| LAS CRUCES CORRIDOR | 0197300 | BNSF | RICHARDSON, CRUCES | LAS | SURFACE UPGRADES, LIGHTS & GATES LEDS | \$170.00 | | \$170.00 |
| LAS CRUCES CORRIDOR | 0197240 | BNSF | ADDINGTON, CRUCES | LAS | SURFACE UPGRADES, LIGHTS & GATES LEDS | \$220.00 | | \$220.00 |
| LAS CRUCES CORRIDOR | 0197330 | BNSF | SNOW ROAD, CRUCES | LAS | SURFACE UPGRADES, LIGHTS & GATES LEDS | \$220.00 | | \$220.00 |

| | | | | | | | | |
|--|---------|------|-----------------------------|--|--------------|----------|--|----------|
| | 024887X | BNSF | PEREA ROAD, MCKINLEY COUNTY | | CWT AND LEDS | \$600.00 | | \$600.00 |
|--|---------|------|-----------------------------|--|--------------|----------|--|----------|

| | | | | | | | | |
|----------------|---------|-------|----------------------------|--|---------------------------------------|----------|--|----------|
| BELEN CORRIDOR | 0193400 | BNSF | HORSE RANCH ROAD, BELEN | | SURFACE UPGRADES, LIGHTS & GATES LEDS | \$240.00 | | \$240.00 |
| BELEN CORRIDOR | 0193370 | BNSF | BECKER, BELEN | | SURFACE UPGRADES | \$300.00 | | \$300.00 |
| BELEN CORRIDOR | 0194700 | MRCOG | COURTHOUSE DRIVE LOS LUNAS | | LIGHTS, GATES, LEDS, AND CWT | \$270.00 | | \$270.00 |
| BELEN CORRIDOR | 0194790 | MRCOG | ARAGON RD. BELEN | | LIGHTS, GATES, LEDS, AND CWT | \$300.00 | | \$300.00 |

| | | | | | | | | |
|--|--|--|--|--|--|----------|--|----------|
| | | | | | | \$840.00 | | \$840.00 |
|--|--|--|--|--|--|----------|--|----------|

| | | | | | | | | |
|-------------------|--|----|------------|--|-------------|----------|--|----------|
| UPRR LED CORRIDOR | | UP | STATE WIDE | | LED UPGRADE | \$150.00 | | \$300.00 |
|-------------------|--|----|------------|--|-------------|----------|--|----------|

| | | | | | | | | |
|-------------------|--------|----|------------------------|--|-------------|-----|--|-----|
| UPRR LED CORRIDOR | 741281 | UP | LORDSBURG, CAMINO REAL | | LED UPGRADE | \$0 | | \$0 |
|-------------------|--------|----|------------------------|--|-------------|-----|--|-----|

| | | G | | | |
|----------------------|---|--------|-------------------------------|-------------|--|
| UPRR LED CORRIDOR | 5 | U P | TUCUMCARI, SR 402 | LED UPGRADE | |
| | 9 | | | | |
| | 6 | | | | |
| | 2 | | | | |
| | 5 | | | | |
| UPRR LED CORRIDOR | 1 | U P | TUCUMCARI, SR 469 | LED UPGRADE | |
| | R | | | | |
| | 5 | | | | |
| | 9 | | | | |
| | 6 | | | | |
| UPRR LED CORRIDOR | 2 | U P | TUCUMCARI, CEMETERY ROAD | LED UPGRADE | |
| | 4 | | | | |
| | 1 | | | | |
| | 5 | | | | |
| | 9 | | | | |
| UPRR LED CORRIDOR | 9 | U P | TUCUMCARI, CONCHA DAM ROAD | LED UPGRADE | |
| | F | | | | |
| | 7 | | | | |
| | 4 | | | | |
| | 1 | | | | |
| UPRR LED CORRIDOR | 5 | U P | TUCUMCARI, SR 219 | LED UPGRADE | |
| | 9 | | | | |
| | 9 | | | | |
| | 4 | | | | |
| | 2 | | | | |
| UPRR LED CORRIDOR | X | U P | TUCUMCARI, CAMINO AL BAS | LED UPGRADE | |
| | 7 | | | | |
| | 4 | | | | |
| | 1 | | | | |
| | 9 | | | | |
| UPRR LED CORRIDOR | 3 | U P | CARRIZOZO, FIRST STREET | LED UPGRADE | |
| | P | | | | |
| | 7 | | | | |
| | 4 | | | | |
| | 1 | | | | |
| UPRR LED CORRIDOR | 9 | U P | CARRIZOZO, SR 247 | LED UPGRADE | |
| | 3 | | | | |
| | 7 | | | | |
| | 9 | | | | |
| | 2 | | | | |
| UPRR LED CORRIDOR | J | U P | CARRIZOZO, WHITE OAK | LED UPGRADE | |
| | 7 | | | | |
| | 4 | | | | |
| | 1 | | | | |
| | 9 | | | | |
| UPRR LED CORRIDOR | 2 | U P | CARRIZOZO, AVENUE E. | LED UPGRADE | |
| | T | | | | |
| | 7 | | | | |
| | 4 | | | | |
| | 1 | | | | |
| UPRR LED CORRIDOR | 9 | U P | CARRIZOZO, FIRST STREET | LED UPGRADE | |
| | 1 | | | | |
| | 9 | | | | |
| | 1 | | | | |
| | 9 | | | | |
| UPRR LED CORRIDOR | D | U P | CARRIZOZO, LA LUZ | LED UPGRADE | |
| | 7 | | | | |
| | 4 | | | | |
| | 1 | | | | |
| | 9 | | | | |
| UPRR LED CORRIDOR | 9 | U P | CARRIZOZO, CANAL STREET | LED UPGRADE | |
| | 6 | | | | |
| | 9 | | | | |
| | 9 | | | | |
| | 7 | | | | |
| UPRR LED CORRIDOR | 7 | U P | | | |
| | 4 | | | | |
| | 1 | | | | |
| | 9 | | | | |
| | 9 | | | | |
| UPRR LED CORRIDOR | K | | | | |
| | 7 | | | | |
| | 9 | | | | |
| | 9 | | | | |
| | 7 | | | | |

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|--------------------|---------|--------|-------------------------------|--------|--------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| UPRR LED CORRIDOR | 17626W | U P | CARROZOZ, STREET | TENTH | LED UPGRADE | | | |
| UPRR LED CORRIDOR | 741998S | U P | CARRIZOZO, STREET | EIGHTH | LED UPGRADE | | | |
| UPRR LED CORRIDOR | 741898M | U P | CARRIZOZO, STREET | FIRST | LED UPGRADE | | | |
| UPRR LED CORRIDOR | 741906C | U P | CARRIZOZO, CANYON | DOG | LED UPGRADE | | | |
| UPRR LED CORRIDOR | 741910S | U P | CARRIZOZO, GOVERNMENT/PRIVATE | US | LED UPGRADE | | | |
| VEGETATION CONTROL | | | STATE WIDE | | VEGETATION CONTROL | \$6 0,0 00. 00 | | \$6 0,0 00. 00 |
| CONSULTANT PROJECT | | | GALLUP | | CONSULTANT PROJECT | \$8 0,0 00. 00 | | \$8 0,0 00. 00 |
| Total | | | | | | \$4, 07 1,0 00 | \$1, 10 0,0 00 | \$5, 17 1,0 00 |

*NOTE PRIORITY 3, INCLUDES \$150,000 IN LEGISLATIVE FUNDS FUNS FOR PRIORITY 9 ARAGON AVE. DEPEND ON A CLOSURE ON CLAIRMONT AVE.

Other Program Improvements Recommended for New Mexico Highway-Rail Safety

The following is a list of New Mexico highway-rail intersections that have been nominated for evaluation and possible inclusion in the State's Section 130 Highway-Rail Safety Improvement Program. The highway-rail intersections are listed according to the priority index (P.I.) resulting from the application of the USDOT Accident Prediction model applied to all public highway-rail intersections included in the State of New Mexico grade crossing inventory. The type of safety improvement is listed with each project. In every instance all warning systems, either active or passive, will meet MUTCD requirements. In some cases, where warranted, LED lights will be installed. Also where there is a nearby signalized highway intersection preemption control will be included in the railroad traffic control system.

UPRR/BNSFRR Vegetation Control.

| | | |
|-----------------------|--------------------|--------------------|
| Estimated Cost | BNSFRR/UPRR | \$60,000.00 |
| | Section | \$60,000.00 |
| | 130 | |

Low Cost Device Research as part of National Cooperative Highway Research Program (NCHRP) research project.

US 54 entry into military training facility (a carryover project from the prior year program).

| | | |
|-----------------------|----------------|---------------------|
| Estimated Cost | | |
| | Section | \$100,000.00 |
| | 130 | |

Compliance with the MUTCD

According to an analysis of the total New Mexico highway-rail intersection database there are some 400 public at grade crossings that may not be in compliance with the Manual on Uniform Traffic Control Devices (MUTCD). A listing of these crossings is available in the New Mexico HiRiide database.

| | | |
|-----------------------|----------------|---------------------|
| Estimated Cost | | \$250,000.00 |
| | SECTION | \$250,000.00 |
| 130 | | |

Project Implementation Consulting Services

With the approval of the Federal Highway Administration the New Mexico Highway-Rail Safety Improvement Program for the FY 2007-2009 period will be implemented. The current staff of the Railroad Section has been augmented by contracting with a consultant familiar with both the New Mexico Department of Transportation's highway-rail safety program and the U. S. Department of Transportation's policy and procedures for implementing the Section 130 Federal funds. The consultant's contract is funded by state appropriations. Federal policy does not permit Section 130 funds to be used for grade crossing program administration. However, once the State's program has received FHWA approval, and individual projects have been authorized, Section 130 funds may be used to support professional consulting services. The Section's consultant has more than 30 years experience in highway-rail engineering matters including employment as a railroad signalman and an instructor for the National Highway Institute.

The New Mexico Department of Transportation's Highway Safety Program Procedures outlines the process by which safety program planning and approval will proceed.

Section B of the procedures, titled Railroad Grade Crossings, lists steps to be followed in implementing a highway-rail safety improvement program.

Sub-section 7 states that:

"After the Annual Program is approved by FHWA, the Railroad Section will process the agreement documentation, authorize, implement, inspect and reimburse the Railroad Company and/or others for their work".

The Railroad Section's Request for Proposal (RFP) will encompass the following work product:

Agreement Documentation: Assist NMDOT staff in the preparation and the negotiation of an agreement with the involved Railroad Company, for each project authorized by the FHWA. This will include a review of the following items:

Site plans; location of warning systems; control systems for active warning devices, and compliance with MUTCD for all project warning systems installed.

Implementation: Assist the NMDOT staff in monitoring the implementation of each FHWA approved safety project. This will include at least one "during construction" site visit to ensure project construction compliance. The consultant will be responsible for the development of a computer adapted project construction schedule to ensure the timely completion of each project. The schedule will be developed in cooperation with the appropriate Railroad Company and will be continuously monitored during the construction phase.

Inspection: Assist the NMDOT staff in completing the inspection of individual safety projects and the preparation of inspection reports, in accordance with FHWA procedures.

| | | |
|-----------------------|----------------------------|--------------------|
| Estimated Cost | \$80,000.00 | |
| | State of New Mexico | \$20,000.00 |
| | SECTION 130 | \$60,000.00 |

SECTION 3:

FY 2009 New Mexico Transparency Report



**New Mexico Department of Transportation
Office of Infrastructure Divisions
Engineering Support Division
Traffic Technical Support Bureau**

August 31, 2009

I Introduction

As part of the HSIP, states are required to submit to FHWA an annual Transparency Report that lists not less than five percent of the roadway locations exhibiting the State's most severe safety needs. This "Five Percent Report" for New Mexico for 2009 follows the same methodology used in the preparation of the 2008 report, using the most recent available five calendar years of crash data for the analysis. The five-year set of data analyzed for the 2009 report covers the Calendar 2004 to 2008 time period.

In New Mexico, the HSIP has the responsibility to systematically analyze roadways and available crash data to identify locations that are determined as current or possible locations with severe safety needs. The New Mexico Department of Transportation (NMDOT) uses certain procedures for HSIP project selection. These procedures are meant to provide guidance for the ongoing analysis of environmental issues affecting the overall safe performance of travel on New Mexico's public roadways. The HSIP also is expected to accomplish safety improvement project programming in support of the New Mexico Comprehensive Transportation Safety Plan (NM CTSP).

The NM CTSP was developed by the NMDOT in collaboration with many safety partners and stakeholders, to coordinate activities and resources to achieve safer transportation conditions in New Mexico and to be consistent with the requirements of the new Federal Surface Transportation Act, SAFETEA-LU. The NM CTSP provides the traffic safety agency stakeholders with a new planning and coordination tool to facilitate better collaboration among various agencies. The overall goal of the NM CTSP is to reduce traffic-related injuries and fatalities.

II Available Data

■ *II-1 State Roadway System*

For the purpose of this report, the statewide system of roadways and intersections are divided into three subsystem categories, as indicated below, and are analyzed separately:

- Rural State Highway System and Rural Plus Urban Interstate Roadways;
- Urban Intersections and Roadways; and
- Rural Offsystem Roadways.

■ *II-2 Traffic Volume Data*

Traffic volume was obtained from the Metropolitan Planning Organizations (MPO) tribal government records, and the NMDOT Consolidated Highway Data Base.

■ **II-3 Crash Data**

The New Mexico State Police or local enforcement agencies are required to report all investigated crashes to the NMDOT within 24 hours of completing the investigation. The Crash Records Section of NMDOT then codes and enters crash data. Crash data on the state highway system is generally located geographically by route name and milepost.

For this analysis, available statewide crash data for the most recent five years, 2004 to 2008, have been collected from the NMDOT.

■ **II-4 Limitations on the Data**

Some of the reports of crashes at an intersection are not clear in identifying if the crash occurred within the intersection or at an approach to the intersection, and if so, how far back from the intersection. The cause and type of the accident are based on the officers' judgments, and not an engineering analysis. Also, the contributing factors are not always clear in the reports.

Most of the rural offsystem roadways do not have mileposts, so the indicated location of a crash is approximate, and is based on the intersecting roadways. Manual review of the crash data is necessary to determine if specific segments of these routes meet the criteria for high-crash locations. The crashes at the rural intersections are covered with the rural roadway segments and are not identified separately.

III Methodology for Developing the Five Percent Lists

Serious crashes are defined as those crashes resulting in at least one fatal, incapacitating, or visible injury, referred to as KAB crashes.¹

As in the previous Five Percent Report, the basic methodology begins with an initial analysis group of locations with a minimum threshold of a five-year total of either 10 KAB crashes per mile for roadway segments or 10 KAB crashes per intersection for roadway intersections for all roadway categories. To ensure that the top five percent of high serious crash locations are determined, the top 10 percent of locations are selected of each initial analysis group for each roadway category set of segments or intersections.

The Rural State Highway System and Rural Plus Urban Interstate Roadways category is composed of segments only for this year's Five Percent Report, because no individual rural state highway intersection achieved the minimum analysis threshold of 10 KAB crashes over five years. The Urban Intersections and Roadways category is composed of intersections only for this year's Five Percent Report, because no individual urban roadway segment located between major intersections achieved the minimum analysis threshold of 10 non-intersection-related KAB crashes per mile over

¹ K= fatal crash; A= incapacitating injury crash; and B= visible, non-incapacitating injury crash.

five years. The Rural Offsystem Roadways category is composed of one segment and no intersections for each entire rural offsystem roadway route identified in New Mexico, in order to seek large enough groupings of crash data to achieve the threshold of 10 KAB crashes or more over five years.

These boundary conditions which limit the categories of crash data to be analyzed can produce certain quirks in analysis results. For example, a multiyear concentration of a few fatal crashes without additional Class A or Class B type injury nonfatal crashes may not be included on the Five Percent List. Likewise, locations of extremely high magnitude numbers of property damage only crashes, but very few Class K, Class A, or Class B crashes, will likewise not be included on the Five Percent List. However, the New Mexico Highway Safety Improvement Program also will seriously examine such sites and will seriously consider review of proposed engineering type safety improvement projects at these locations.

The methodology for each of the state roadway categories is discussed below.

■ **III-1 Rural State System and Interstate Roadways**

There are approximately 11,100 miles of rural state roadways and interstates in New Mexico, which were assessed for analysis in this report. The rural intersections on those roadways also are included in this category.

A sliding-window technique is used to identify the rural state roads, interstates, and rural intersections with the highest crash rates. A one-mile-long “window” is “slid” along each route. Based on the 2004 to 2008 crash data, this procedure identified 1,187 serious crashes in 52 high-crash roadway segments with at least 10 serious crashes (frequency). The five-year grand total of serious crashes for this roadway subsystem of approximately 11,100 miles was 7,726. Therefore, $1,187/7,726$ or approximately 15.4 percent of the total serious crashes in five years occurred in these 52 segments, which together represent 85.7 miles or 0.8 percent of the total miles of rural state highways and rural plus urban interstates.

The crash rates for these segments are then calculated to rank the locations. The crash rate is defined as the number of crashes per 100 million vehicle miles of travel (MVM). Results are shown in Table III-1.

Please note that there were no rural state highways and rural plus urban interstates high severe crash locations in the Maintenance District Four Area.

Table III-1 Five Percent List of Rural State System and Interstates with 10 or More KAB Crashes in Five Years

| 2004-2008 KAB Crash Rate Rank | In Previous Year 5% Report? | Route | Start Mile | End Mile | Length | 100 Million Vehicle Miles | Total Crashes | KAB Crashes | People Killed | People Injured | KAB Crashes per Mile | 2004-2008 KAB Crashes per 100MM | County | NMDOT Maintenance District |
|----------------------------------|--------------------------------|--------|---------------|-------------|--------|------------------------------------|------------------|----------------|------------------|-------------------|----------------------------|------------------------------------|------------|-------------------------------|
| 1 | | NM0076 | 6.9 | 8.1 | 1.2 | 0.030682 | 55 | 15 | 0 | 51 | 12.5 | 97.8 | RIO ARRIBA | 5 |
| 2 | Yes | I00025 | 42.2 | 43.2 | 1 | 0.022736 | 19 | 10 | 4 | 24 | 10 | 88 | DONA ANA | 1 |
| 3 | Yes | US0070 | 239 | 240 | 1 | 0.023477 | 36 | 10 | 1 | 14 | 10 | 85.2 | OTERO | 2 |
| 4 | Yes | NM0478 | 20 | 20.8 | 0.8 | 0.030599 | 44 | 13 | 0 | 37 | 16.3 | 85 | DONA ANA | 1 |
| 5 | Yes | NM0047 | 37 | 37.5 | 0.5 | 0.042378 | 60 | 16 | 4 | 41 | 32 | 75.5 | VALENCIA | 3 |
| 6 | Yes | NM0371 | 101.9 | 102.8 | 0.9 | 0.036969 | 18 | 12 | 2 | 17 | 13.3 | 64.9 | SAN JUAN | 5 |
| 7 | Yes | NM0599 | 6 | 7.1 | 1.1 | 0.052609 | 32 | 15 | 0 | 44 | 13.6 | 57 | SANTA FE | 5 |
| 8 | Yes | NM0502 | 7 | 8.7 | 1.7 | 0.077296 | 75 | 20 | 1 | 47 | 11.8 | 51.7 | SANTA FE | 5 |
| 9 | Yes | US0084 | 193.4 | 194.8 | 1.4 | 0.0676 | 29 | 14 | 2 | 27 | 10 | 41.4 | RIO ARRIBA | 5 |
| 10 | Yes | NM0599 | 2.7 | 3.7 | 1 | 0.049598 | 44 | 10 | 0 | 24 | 10 | 40.3 | SANTA FE | 5 |
| 11 | | I00010 | 30.9 | 31.8 | 0.9 | 0.057652 | 13 | 10 | 5 | 20 | 11.1 | 34.7 | HIDALGO | 1 |
| 12 | Yes | US0180 | 116.8 | 118 | 1.2 | 0.074583 | 44 | 12 | 0 | 21 | 10 | 32.2 | GRANT | 1 |
| 13 | Yes | US0064 | 56.5 | 58.6 | 2.1 | 0.190992 | 138 | 30 | 3 | 100 | 14.3 | 31.4 | SAN JUAN | 5 |
| 14 | Yes | NM0068 | 3 | 4.4 | 1.4 | 0.097163 | 41 | 15 | 1 | 45 | 10.7 | 30.9 | RIO ARRIBA | 5 |
| 15 | Yes | I00040 | 181 | 182 | 1 | 0.097335 | 73 | 14 | 3 | 27 | 14 | 28.8 | BERNALILLO | 3 |
| 16 | Yes | I00040 | 52.7 | 54 | 1.3 | 0.105044 | 54 | 15 | 2 | 34 | 11.5 | 28.6 | MCKINLEY | 6 |
| 17 | Yes | I00040 | 29.9 | 30.7 | 0.8 | 0.070936 | 24 | 10 | 4 | 16 | 12.5 | 28.2 | MCKINLEY | 6 |
| 18 | Yes | I00040 | 139.3 | 141 | 1.7 | 0.151736 | 99 | 21 | 2 | 59 | 12.4 | 27.7 | BERNALILLO | 3 |
| 19 | | I00025 | 0.3 | 3.4 | 3.1 | 0.218585 | 114 | 30 | 2 | 77 | 9.7 | 27.4 | DONA ANA | 1 |
| 20 | Yes | I00040 | 46.5 | 47.9 | 1.4 | 0.117734 | 62 | 16 | 9 | 34 | 11.4 | 27.2 | MCKINLEY | 6 |
| 21 | Yes | I00025 | 289.5 | 290.4 | 0.9 | 0.0834 | 24 | 11 | 1 | 19 | 12.2 | 26.4 | SANTA FE | 5 |
| 22 | Yes | I00025 | 263.6 | 264.4 | 0.8 | 0.084841 | 23 | 11 | 4 | 12 | 13.8 | 25.9 | SANDOVAL | 3 |
| 23 | Yes | I00040 | 103 | 104 | 1 | 0.094338 | 23 | 12 | 5 | 25 | 12 | 25.4 | CIBOLA | 6 |
| 24 | Yes | I00040 | 25.2 | 26.5 | 1.3 | 0.095013 | 47 | 12 | 7 | 29 | 9.2 | 25.3 | MCKINLEY | 6 |
| 25 | Yes | I00040 | 186.1 | 188 | 1.9 | 0.169387 | 104 | 20 | 1 | 50 | 10.5 | 23.6 | SANTA FE | 5 |
| 26 | Yes | I00040 | 67.5 | 69 | 1.5 | 0.118687 | 45 | 14 | 3 | 32 | 9.3 | 23.6 | MCKINLEY | 6 |

Table III-1 Five Percent List of Rural State System and Interstates with 10 or More KAB Crashes in Five Years

| 2004-2008 KAB Crash Rate Rank | In Previous Year 5% Report? | Route | Start Mile | End Mile | Length | 100 Million Vehicle Miles | Total Crashes | KAB Crashes | People Killed | People Injured | KAB Crashes per Mile | 2004-2008 KAB Crashes per 100MVM | County | NMDOT Maintenance District |
|-------------------------------|-----------------------------|--------|------------|----------|--------|---------------------------|---------------|-------------|---------------|----------------|----------------------|----------------------------------|------------|----------------------------|
| 27 | Yes | I00040 | 178 | 178.9 | 0.9 | 0.109075 | 37 | 12 | 0 | 22 | 13.3 | 22 | BERNALILLO | 3 |
| 28 | Yes | I00040 | 142.1 | 143.1 | 1 | 0.091186 | 26 | 10 | 1 | 16 | 10 | 21.9 | BERNALILLO | 3 |
| 29 | Yes | I00025 | 212.4 | 213.4 | 1 | 0.119851 | 51 | 13 | 1 | 26 | 13 | 21.7 | BERNALILLO | 3 |
| 30 | Yes | I00040 | 143.7 | 144.7 | 1 | 0.092305 | 29 | 10 | 0 | 18 | 10 | 21.7 | BERNALILLO | 3 |
| 31 | Yes | I00025 | 214.8 | 216 | 1.2 | 0.139223 | 84 | 15 | 0 | 52 | 12.5 | 21.5 | BERNALILLO | 3 |
| 32 | Yes | I00010 | 160.1 | 162.5 | 2.4 | 0.283303 | 71 | 30 | 1 | 51 | 12.5 | 21.2 | DONA ANA | 1 |
| 33 | Yes | I00010 | 153.4 | 154.5 | 1.1 | 0.127079 | 28 | 13 | 1 | 17 | 11.8 | 20.5 | DONA ANA | 1 |
| 34 | Yes | I00040 | 62.2 | 63.7 | 1.5 | 0.121307 | 47 | 12 | 5 | 31 | 8 | 19.8 | MCKINLEY | 6 |
| 35 | Yes | I00025 | 274.7 | 276.3 | 1.6 | 0.18271 | 68 | 18 | 2 | 47 | 11.3 | 19.7 | SANTA FE | 5 |
| 36 | Yes | I00040 | 152.3 | 153.5 | 1.2 | 0.186079 | 174 | 18 | 0 | 87 | 15 | 19.3 | BERNALILLO | 3 |
| 37 | Yes | I00025 | 256.6 | 257.6 | 1 | 0.106974 | 36 | 10 | 3 | 31 | 10 | 18.7 | SANDOVAL | 3 |
| 38 | Yes | I00025 | 219.9 | 220.7 | 0.8 | 0.138618 | 166 | 11 | 1 | 64 | 13.8 | 15.9 | BERNALILLO | 3 |
| 39 | Yes | I00010 | 149.4 | 151.8 | 2.4 | 0.336854 | 81 | 25 | 3 | 57 | 10.4 | 14.8 | DONA ANA | 1 |
| 40 | Yes | I00025 | 247.3 | 248.9 | 1.6 | 0.190857 | 64 | 14 | 2 | 37 | 8.8 | 14.7 | SANDOVAL | 3 |
| 41 | | I00010 | 148 | 149.1 | 1.1 | 0.164539 | 35 | 12 | 0 | 31 | 10.9 | 14.6 | DONA ANA | 1 |
| 42 | | I00010 | 145.1 | 146.1 | 1 | 0.149581 | 22 | 10 | 1 | 16 | 10 | 13.4 | DONA ANA | 1 |
| 43 | Yes | US0084 | 167.8 | 169 | 1.2 | 0.196974 | 51 | 13 | 2 | 32 | 10.8 | 13.2 | SANTA FE | 5 |
| 44 | Yes | I00025 | 233.9 | 234.8 | 0.9 | 0.22403 | 56 | 14 | 3 | 23 | 15.6 | 12.5 | BERNALILLO | 3 |
| 45 | Yes | I00040 | 154.9 | 156.1 | 1.2 | 0.453739 | 340 | 24 | 0 | 125 | 20 | 10.6 | BERNALILLO | 3 |
| 46 | | I00025 | 235.4 | 236.2 | 0.8 | 0.196028 | 20 | 10 | 8 | 21 | 12.5 | 10.2 | BERNALILLO | 3 |
| 47 | Yes | I00040 | 156.3 | 167.1 | 10.8 | 5.304491 | 3104 | 262 | 9 | 1512 | 24.3 | 9.9 | BERNALILLO | 3 |
| 48 | Yes | I00040 | 174.3 | 176 | 1.7 | 0.328096 | 71 | 16 | 3 | 29 | 9.4 | 9.8 | BERNALILLO | 3 |
| 49 | Yes | I00025 | 238.4 | 241 | 2.6 | 0.656945 | 101 | 28 | 6 | 80 | 10.8 | 8.5 | SANDOVAL | 3 |
| 50 | Yes | I00040 | 169.5 | 170.9 | 1.4 | 0.335083 | 94 | 14 | 1 | 49 | 10 | 8.4 | BERNALILLO | 3 |
| 51 | Yes | I00025 | 221.3 | 230.9 | 9.6 | 4.70459 | 2166 | 164 | 8 | 974 | 17.1 | 7 | BERNALILLO | 3 |
| 52 | Yes | I00025 | 231 | 232.8 | 1.8 | 0.901882 | 325 | 21 | 3 | 134 | 11.7 | 4.7 | BERNALILLO | 3 |

■ **III-2 Urban Intersections and Roadways**

Urban roadway and intersection crashes are included in this data, all coded to the nearest intersection. The data also show whether the crashes occurred at an intersection, driveway, or non-intersection. The urban roadway extent in New Mexico (excluding urban interstates) is estimated to be:

- 883 miles urban state highways (excluding Interstate Routes)
- 3,519 miles urban county roads
- 3,508 miles urban city streets
- 1 mile urban federal agency roads
- 7,911 miles total urban roadway subsystem

Every urban crash is included in the database. Local streets, as well as major roadways, are included in the definition of an intersection, (i.e., any place where two named public streets intersect). In this case each intersection coded covers the “general area” of that intersection. The intersections that are some distance away from any other intersection cover a larger “general area” than intersections in denser areas.

For crashes that did not occur at an intersection, the distance and direction from the intersection, if known, are coded. To the extent possible, all crashes are identified with a standardized intersection name.

Crashes are counted for each intersection, and those with 10 or more KAB crashes in five years are considered high-crash locations. A total of 143,400 crashes occurred at urban intersections in 2004 to 2008, of which 12,062 were KAB crashes.

The data shows 169 signalized urban intersections that meet the criteria of 10 or more serious crashes in a five-year period. These 169 intersections accounted for 2,362 (20 percent) of the serious crashes and 30,242 (21 percent) of all crashes. The top 10 percent of these intersections, 19 intersections with 19 or more KAB crashes each, are selected for further analysis. These 19 intersections accounted for 6,137 total crashes and 456 KAB crashes.

There were insufficient concentrations of serious non-intersection KAB crashes (less than 19 KAB Crashes) during 2004 to 2008 for all identified urban roadway sections in New Mexico between major intersections for any of them to qualify for the Five Percent List for this category of Urban Intersections and Roadways of the NM Roadway Network. Thus, only the 19 intersections make up this category of the Five Percent List this year.

In order to have consistent rankings with all roadway subsystems in this report, the 19 intersections are ranked based on their magnitude of KAB crashes and not on KAB

crash rate, which was the ranking method used for Urban Intersection and Roadways in last year's report. The results are shown in Table III-2.

Table III-2 Five Percent Urban Intersections and Roadways with 20 or more KAB crashes in Five Years

| KAB Crash Volume Rank | In Last Year's 5% Report? | City | Primary Street | Secondary Street | Total Crashes | Fatal & Injury Crashes | KAB Crashes | KAB fraction | People Killed | People Injured |
|-----------------------|---------------------------|-------------|--------------------|-------------------------|---------------|------------------------|-------------|--------------|---------------|----------------|
| 1 | Yes | ALBUQUERQUE | COORS BLVD NW | PASEO DEL NORTE BLVD NW | 795 | 224 | 40 | 0.05 | 1 | 317 |
| 2 | Yes | ALBUQUERQUE | JEFFERSON ST NE | PASEO DEL NORTE BLVD NE | 654 | 196 | 39 | 0.06 | 0 | 278 |
| 3 | Yes | ALBUQUERQUE | CENTRAL AVE E | LOUISIANA BLVD NE | 269 | 75 | 28 | 0.104 | 3 | 114 |
| 4 | Yes | ALBUQUERQUE | EUBANK BLVD NE | MONTGOMERY BLVD NE | 384 | 124 | 28 | 0.073 | 1 | 178 |
| 5 | Yes | ALBUQUERQUE | ACADEMY RD NE | WYOMING BLVD NE | 306 | 99 | 24 | 0.078 | 0 | 143 |
| 6 | Yes | SANTA FE | SIRINGO RD | ST FRANCIS DR | 162 | 82 | 24 | 0.148 | 0 | 131 |
| 7 | Yes | ALBUQUERQUE | CENTRAL AVE E | JUAN TABO BLVD NE | 210 | 59 | 23 | 0.11 | 1 | 95 |
| 8 | Yes | RIO RANCHO | RIO RANCHO DR | SARA RD | 179 | 63 | 23 | 0.128 | 1 | 93 |
| 9 | | ALBUQUERQUE | 2ND ST NW | PASEO DEL NORTE BLVD NW | 206 | 50 | 23 | 0.112 | 0 | 69 |
| 10 | Yes | ALBUQUERQUE | COORS BLVD NW | IRVING BLVD NW | 435 | 137 | 22 | 0.051 | 0 | 230 |
| 11 | Yes | ALBUQUERQUE | MONTGOMERY BLVD NE | SAN MATEO BLVD NE | 540 | 158 | 22 | 0.041 | 0 | 223 |
| 12 | Yes | LAS CRUCES | MAIN ST | SOLANO DR | 245 | 99 | 22 | 0.09 | 0 | 139 |
| 13 | | ALBUQUERQUE | CANDELARIA RD NE | SAN MATEO BLVD NE | 266 | 86 | 21 | 0.079 | 0 | 134 |
| 14 | | ALBUQUERQUE | MONTGOMERY BLVD NE | TRAMWAY BLVD NE | 159 | 56 | 20 | 0.126 | 1 | 80 |
| 15 | Yes | LAS CRUCES | ELKS DR | MAIN ST | 187 | 76 | 20 | 0.107 | 0 | 109 |
| 16 | | ALBUQUERQUE | ISLETA BLVD SW | RIO BRAVO BLVD SW | 189 | 46 | 20 | 0.106 | 0 | 64 |
| 17 | Yes | ALBUQUERQUE | CENTRAL AVE W | COORS BLVD NW | 447 | 136 | 19 | 0.043 | 0 | 206 |
| 18 | | ALBUQUERQUE | JUAN TABO BLVD NE | MONTGOMERY BLVD NE | 246 | 79 | 19 | 0.077 | 0 | 116 |
| 19 | | RIO RANCHO | RIO RANCHO DR | SOUTHERN BLVD | 257 | 84 | 19 | 0.074 | 0 | 114 |

■ III-3 Rural Offsystem Roadways

Rural offsystem roads are all rural public roads not in the state NMDOT maintained system. The rural offsystem road extent is estimated to be:

35,947 miles rural county roads

5,025 miles rural tribal roads

6,771 miles rural other federal agency roads

215 miles rural state park and other rural state agency roads

1,370 miles rural city streets

49,328 miles total Rural Offsystem Roadway Subsystem

Crashes on these roads are usually coded by the intersection approach. Some crashes on these roads are coded with a route and milepost, if available. Most of these roads are low-volume roads with a low number of crashes. Some of the crash data on some of these roads, specifically the tribal routes, are not available, due to the fact that they are not reported to the NMDOT. The volume data, also on the tribal routes, is not always complete.

Since most of the data does not come with a location identified milepost the entire length of the route is examined as a single segment and the total number of KAB crashes is summed up for the entire route. This creates a bias in favor of offsystem routes that are relatively long in length to be included on the Five Percent List as opposed to relatively shorter distance routes, given the random locations of many such serious crashes.

Serious crashes are coded by county and route name. Routes with at least 10 KAB crashes in five years are selected for further analysis. From the 2004 to 2008 crash data, there are 13 routes with 10 or more KAB crashes in five years. These routes account for 694 total crashes, 189 of which meet the definition of serious KAB crashes. These routes are ranked based on the number of KAB crashes for the five-year 2004 to 2008 time period and are shown in Table III-3.

Table III-3 Rural Offsystem Roadways with 10 or More KAB Crashes in Five Years

| KAB Crash Volume Rank | Last Year's Five Percent Report Rank | Route Name | Beginning of Route | End of Route | County | KAB Crashes | People Killed | People Injured | Segment Length (Miles) | Maintenance District | 2008 ADT, Average Volume Segment on Route | 2008 Route DVMT | Five-Year 2004 to 2008 KAB Crash Rate, KAB Crashes/ 100 million Vehicle Miles |
|-----------------------|--------------------------------------|---|--------------------------|--|----------|-------------|---------------|----------------|------------------------|----------------------|---|-----------------|---|
| 1 | 1 | IR 36, Navajo Route 36 | US0491, Shiprock | NM-371, Farmington | San Juan | 27 | 7 | 56 | 24 | 5 | 3066 | 73584 | 20.11 |
| 2 | 5 | 453500, San Juan County, CR 350, Crouch Mesa Road | U.S. 64, W of Bloomfield | NM-516, Flora Vista | San Juan | 25 | 5 | 56 | 5.3 | 5 | 8824 | 46767 | 29.29 |
| 3 | 2 | Eddy County CR 206, Illinois Camp Road | NM0200, Carlsbad | US0082 | Eddy | 21 | 5 | 34 | 23.4 | 2 | 613 | 14344 | 80.22 |
| 4 | 4 | San Juan County, CR 3000, Morningstar Drive | NM-516, Farmington | U.S. 550, Aztec | San Juan | 15 | 0 | 41 | 12 | 5 | 2118 | 25416 | 32.34 |
| 5 | 7 | IR 9, Navajo Route 9 | U.S. 491 | NM-197 at Sandoval County Line | McKinley | 14 | 5 | 51 | 98 | 6 | 2000 | 19600 0 | 3.91 |
| 6 | 13 | 456480, San Juan County CR 6480, Twin Peaks Boulevard | CR 6500, Kirtland | NM0170 at Pinon Hills Blvd, Farmington | San Juan | 13 | 2 | 29 | 5.3 | 5 | 2976 | 15773 | 45.16 |

| KAB Crash Volume Rank | Last Year's Five Percent Report Rank | Route Name | Beginning of Route | End of Route | County | KAB Crashes | People Killed | People Injured | Segment Length (Miles) | Maintenance District | 2008 ADT, Average Volume Segment on Route | 2008 Route DVMT | Five-Year 2004 to 2008 KAB Crash Rate, KAB Crashes/ 100 million Vehicle Miles |
|-----------------------|--------------------------------------|---|---|--|----------|-------------|---------------|----------------|------------------------|----------------------|---|-----------------|---|
| 7 | 3 | 61C171, Manzano Expressway | NM0047, Rio Communities | Meadow Lake Road, Meadow Lake | Valencia | 12 | 3 | 33 | 12.9 | 3 | 2100 | 27090 | 24.27 |
| 8 | 6 | IR 49 | Navajo Route 11 at Mariano Lake | NM-371 at Smith Lake | McKinley | 11 | 2 | 18 | 12.4 | 6 | 3000 | 37200 | 16.20 |
| 9 | 10 | San Juan County CR 1980, Glade Road | Pinon Hills Blvd, Farmington | NM-574 | San Juan | 11 | 0 | 22 | 12 | 5 | 2000 | 24000 | 25.11 |
| 10 | | 150748, Old Cavern Hwy, Eddy County Route 748 | From Chapman Road, Carlsbad city limits | Eddy County Rd 720, Black River Village Rd | Eddy | 10 | 4 | 23 | 9.1 | 2 | 446 | 4059 | 135.01 |
| 11 | 8 | Santa Fe County Rd 56, Paseo Real | Aviation Drive, Santa Fe | Los Pinos Road, | Santa Fe | 10 | 1 | 16 | 5.7 | 5 | 3515 | 20036 | 27.35 |
| 12 | 12 | 455500, San Juan County CR 5500 | U.S. 64, Farmington | U.S. 550, Bloomfield | San Juan | 10 | 0 | 27 | 7.1 | 5 | 4228 | 30019 | 18.25 |

| KAB Crash Volume Rank | Last Year's Five Percent Report Rank | Route Name | Beginning of Route | End of Route | County | KAB Crashes | People Killed | People Injured | Segment Length (Miles) | Maintenance District | 2008 ADT, Average Volume Segment on Route | 2008 Route DVMT | Five-Year 2004 to 2008 KAB Crash Rate, KAB Crashes/ 100 million Vehicle Miles |
|-----------------------|--------------------------------------|---|--|--------------------|----------|-------------|---------------|----------------|------------------------|----------------------|---|-----------------|---|
| 13 | | Ruins Rd, San Juan County Route 2900, Aztec | Aztec Ruins National Monument, Aztec City Limits | US 550, Cedar Hill | San Juan | 10 | 0 | 13 | 10.2 | 5 | 800 | 8160 | 67.15 |

IV Treating the Severe Safety Need Locations

Individual locations described in this report require further study to determine whether there are suitable low capital cost, engineering type stand-alone safety improvement countermeasures that could be developed into projects to address the safety needs at these locations. Also, potentially further study of these locations could lead to the development of behavioral education and enforcement programs or projects to address the severe safety problems.

A wide variety of potential engineering type treatments could be employed based on the particular traffic volume, functional class, surrounding land use, and existing physical attributes of each roadway location identified in this report.

The expected impediments to implementation of proposed treatments are as follows:

Some proposed safety project treatments may be unpopular with certain segments of the public or with particular road users interest groups, which could restrict or defeat their implementation.

Full cooperation from NMDOT Districts, MPOs, municipalities, counties, and tribes are needed for successful implementation of remedies.

Appendix

Listing of NM HSIP Projects Initiated during July 2008-June 2009

| Lead agency | Route or Roadway name, Community | Safety Countermeasure Work Description | Total Cost (\$K) | FHWA Improvement Category | NM CTSP Emphasis Area/ Strategy |
|----------------|---|--|------------------|---|--|
| District One | I-10 EB from MP 34 -50; I-10 EB from MP 92 - 105 | Install Raised pavement markers in dashed white lane lines | \$ 150 | (11) Improvement of highway signage and pavement markings | Reduce the number and severity of Road Departure Crashes |
| District One | US 70 MP 151.5 Rinconada Bridge and US 70 MP 152.5 Sonoma Ranch Blvd Bridge, Las Cruces | Extend length of current guardrail to meet current Federal and NMDOT standards | \$ 135 | (17) Installation of guardrails, barriers (including barriers between construction work zones and traffic lanes for the safety of road users and workers), and crash attenuators. | Reduce the number and severity of Road Departure Crashes |
| District 2 | US 82, MP 93 - 95, West of Artesia | S Horizontal curve flattening | \$2,000 | (2) Pavement and shoulder widening | Reduce the number and severity of Road Departure Crashes |
| Town of Vaughn | US 60/285 at US 54, SW of Vaughn | Install new pavement markings, warning signs and flasher signals | \$ 93 | (1) An intersection safety improvement project | Reduce Intersection Related Crashes |
| District 3 | I-25, from MP 222 Sunport Blvd. to MP 240, NM 556, Tramway Road, Albuquerque | For overhead sign bases and other hazards, extend shielding or modify conditions with concrete wall barrier, metal guardrail barrier, end treatments, or attenuator devices. | \$500 | (17) Installation of guardrails, barriers (including barriers between construction work zones and traffic lanes for the safety of road users and workers), and crash attenuators. | Reduce the number and severity of Road Departure Crashes |

| Lead agency | Route or Roadway name, Community | Safety Countermeasure Work Description | Total Cost (\$K) | FHWA Improvement Category | NM CTSP Emphasis Area/ Strategy |
|------------------------------------|--|--|------------------|---|--|
| District 3 | I-25, from MP 234 at NM 556, Tramway Road interchange to US 550/NM 165 North Bernalillo Interchange | Install Median Guardrail | \$1,800 | (17) Installation of guardrails, barriers (including barriers between construction work zones and traffic lanes for the safety of road users and workers), and crash attenuators. | Reduce the number and severity of Road Departure Crashes |
| District 3 | I-40 from MP 167.510, Tramway Blvd, NM 556 Intch., Albuquerque to Santa Fe/ Bernalillo County Line, MP 183.80 | Install recessed, grooved in glass bead hot thermoplastic lane line striping | \$2,000 | (11) Improvement of highway signage and pavement markings | Reduce the number and severity of Road Departure Crashes |
| District 3 | I-40, from Carnuel, MP 169.21 to Santa Fe/ Bernalillo County Line, MP 183.80 | Resurfacing traveled lanes with wearing course to provide better skid resistance | \$2,000 | (4) Installation of skid resistant surface at an intersection or other location with a high frequency of crashes | Reduce the number and severity of Road Departure Crashes |
| District 3 | On NM 448 (Coors Boulevard NW) from south of the NM 423, Paseo Del Norte NW Interchange to the Calabacillas Arroyo Bridge, north of Irving Boulevard NW, Albuquerque | Realign the Westbound NM 423 west to north off Ramp; construct additional lane on Coors Blvd NW Northbound between the Westbound NM 423 off ramp junction and the Calabacillas Arroyo Bridge | \$2,100 | (2) Pavement and shoulder widening | Reduce the number and severity of Road Departure Crashes |
| NMDOT General Office, Rail Section | Elaine Road Crossing, Valencia County, DOT crossing number 019466B | Installation of crossing gates and flashers. Supplemental to other funds already identified for this project | \$250 | (7) Construction of railway-highway crossing safety feature, including installation of highway-railway grade crossing protective devices | Reduce Intersection Related Crashes |

| Lead agency | Route or Roadway name, Community | Safety Countermeasure Work Description | Total Cost (\$K) | FHWA Improvement Category | NM CTSP Emphasis Area/ Strategy |
|------------------------------------|--|--|------------------|--|-------------------------------------|
| NMDOT General Office, Rail Section | San Felipe Crossing, Sandoval County, DOT crossing number 013743M | installation of crossing gates and flashers | \$250 | (7) Construction of railway-highway crossing safety feature, including installation of highway-railway grade crossing protective devices | Reduce Intersection Related Crashes |
| NMDOT General Office, Rail Section | South Isleta Crossing, Valencia County, DOT crossing number 019446P | installation of crossing gates and flashers | \$300 | (7) Construction of railway-highway crossing safety feature, including installation of highway-railway grade crossing protective devices | Reduce Intersection Related Crashes |
| District 4 | Arriba Road (San Miguel County Road) Railroad Crossing, north of Las Vegas, DOT Crossing Number 136556 | installation of crossing gates and flashers | \$300 | (7) Construction of railway-highway crossing safety feature, including installation of highway-railway grade crossing protective devices | Reduce Intersection Related Crashes |
| District 4 | I-25, Exit 339 at US 84, Romeroville | Installation of lighting, signing, striping, guardrail, and ramp widening | \$1,000 | (1) An intersection safety improvement project | Reduce Intersection Related Crashes |
| District 4 | NM 518 at Mills Ave interchange, Las Vegas | Upgrade traffic signals, signing and striping | \$250 | (1) An intersection safety improvement project | Reduce Intersection Related Crashes |
| City of Farmington | West Main/ Apache Street at Westland Park Drive, Farmington | Rebuild and replace existing traffic signal and add advance flasher for west bound intersection approach | \$300 | (1) An intersection safety improvement project | Reduce Intersection Related Crashes |

| Lead agency | Route or Roadway name, Community | Safety Countermeasure Work Description | Total Cost (\$K) | FHWA Improvement Category | NM CTSP Emphasis Area/ Strategy |
|------------------------------|--|--|------------------|---|---|
| City of Santa Fe | On Airport Road from Cerrillos Road to San Felipe/ Country Club Road, approximately 3 miles in length, in Santa Fe | Construct Raised Median Barriers and eliminate existing two-way center left turn lanes considerations. Total cost estimate for this alternative is \$2,200,000. Only \$250,000 approved for Safety funds for this project. | \$250 | (17) Installation of guardrails, barriers (including barriers between construction work zones and traffic lanes for the safety of road users and workers), and crash attenuators. | Reduce Intersection Related Crashes |
| District 5 and City of Aztec | NM 574, Light Plant Road, from NM 516 to Lydia Rippy Road, Aztec | Acquire Right of way, construct geometric improvements at NM 574, Light Plant Road at NM 516, improve traffic control, and construct sidewalks | \$1,500 | (1) An intersection safety improvement project | Reduce Intersection Related Crashes |
| District Five | NM 68, from MP 15, Velarde to MP 34, Horseshoe Curve, north of Pilar | rumble strips at several locations between Velarde (MP15) and the Horseshoe Curve (MP34). | \$1,300 | (3) Installation of rumble strips or other warning devices | Reduce the number and severity of Road Departure Crashes |
| San Juan County | San Juan Co. Rd CR 350 (formerly CR 3500) at CR 3750 and CR 3100, south west of Aztec | Design and Install signal and geometric improvements | \$1,740 | (1) An intersection safety improvement project | Reduce Intersection Related Crashes |
| City of Gallup | On NM 610, 2nd Street, from Green Ave to Nizhoni Blvd, Gallup | Install six foot wide sidewalk and eight foot wide bicycle path. | \$1,168 | (5) An improvement for pedestrian or bicyclist safety or for the safety of persons with disabilities | Improve Safety for Special Road Users, Pedestrians & Bicyclists |

| Lead agency | Route or Roadway name, Community | Safety Countermeasure Work Description | Total Cost (\$K) | FHWA Improvement Category | NM CTSP Emphasis Area/ Strategy |
|-------------|---|---|------------------|--|--|
| District 6 | I-40 Westbound at MP 93.5, East of Grants | Install ITS Changeable Message Sign; Change the proposed sign type from mobile to fixed overhead sign. Increase cost estimate from \$40,000 to \$300,000. | \$300 | (13) Installation of a traffic control or other warning device at a location with high crash potential | Reduce the number and severity of Road Departure Crashes |
| District 6 | On NM 371, from MP 23.5 to MP 26, south of Crownpoint | Construct acceleration and deceleration lanes at intersection | \$2,000 | (1) An intersection safety improvement project | Reduce Intersection Related Crashes |
| | | Total | \$21,686 | | |

The FHWA Improvement Category listed in the above table comes from the Highway Safety Improvement Program, Reporting Guidance, dated May 15, 2009. The full documentation of HSIP safety project definition categories developed by FHWA is described below.

- (1) An intersection safety improvement project
- (2) Pavement and shoulder widening
- (3) Installation of rumble strips or other warning devices
- (4) Installation of skid resistant surface at an intersection or other location with a high frequency of crashes
- (5) An improvement for pedestrian or bicyclist safety or for the safety of persons with disabilities
- (6) Construction of any project for the elimination of hazards at a railway-highway crossing that is eligible for funding under 23 U.S.C. 130, including the separation or protection of grades at railway-highway crossings.
- (7) Construction of railway-highway crossing safety feature, including installation of highway-railway grade crossing protective devices
- (8) The conduct of an effective traffic enforcement activity at a railway-highway crossing
- (9) Construction of a traffic calming feature
- (10) Elimination of a roadside obstacle or roadside hazard
- (11) Improvement of highway signage and pavement markings
- (12) Installation of a priority control system for emergency vehicles at signalized intersections
- (13) Installation of a traffic control or other warning device at a location with high crash potential

- (14) Transportation safety planning
- (15) Improvement in the collection and analysis of data
- (16) Planning integrated interoperable emergency communications equipment, operational activities or traffic enforcement activities (including law enforcement assistance) relating to work zone safety.
- (17) Installation of guardrails, barriers (including barriers between construction work zones and traffic lanes for the safety of road users and workers), and crash attenuators.
- (18) The addition or retrofitting of structures or other measures to eliminate or reduce crashes involving vehicles and wildlife
- (19) Installation and maintenance of signs (including fluorescent yellow-green signs) at pedestrian-bicycle crossings and in school zones.
- (21) Construction and operational improvements on high risk rural roads.
- (22) Conducting road safety audits.