

# Santa Fe County Road Projects

## 2011

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# Road Projects Constructed in Calendar Year 2011

Agua Fria Reconstruction - \$2,471,795

Juan Medina Road Shoulder Widening - \$1,166,704

South Meadows Extension - \$4,261,501

Santa Fe Studio Improvements - \$1,035,331

Verano Loop Chip Seal - \$358,000

Arroyo De Las Cuevas Chip Seal - \$92,700

Avenida Ponderosa Chip Seal - \$37,710

Ojo De La Vaca Chip Seal - \$74,640

Dry Creek Road Tire Bale Project - \$105,000

Santa Fe County Fairgrounds Paving Project - \$99,985



# Agua Fria Reconstruction

## Project Scope

Roadway reconstruction, drainage improvements, curb and gutter, sidewalk

Contractor Star Paving

Construction began January 2011

Estimated completion date November 2011

Total Cost – \$2,471,795

Funding Source Bond



# Juan Medina Road Shoulder Widening

Project Scope  
Shoulder Widening and Drainage Improvements

Contractor Star Paving

Construction began  
May 2011

Completion date  
October 2011

Total Cost – \$1,166,704  
Funding Source FHWA





# South Meadows Extension

Project Scope

New Roadway Construction, Drainage Improvements

Contractor TLC Plumbing and Utility

Construction began December 2009

Completion date January, 2011

Total Cost – \$4,261,501

Funding Source Bond

Southwest 's Best Transportation Project

Award of Merit from Engineer New Record

In the 2011 Best Projects Competition



# Santa Fe Studio Improvements

Project Scope

New Roadway Construction, Drainage Improvements

Contractor Star Paving

Construction began May 2010

Completion date August 2011

Total Cost – \$1,035,331

Funding Source State Appropriation



# 2011 Santa Fe County Chip Seal Projects

Constructed by Santa Fe County Road Maintenance Forces



# 2011 Santa Fe County Chip Seal Projects

## Equipment Used

Reclaimer

Dump Trucks

Chip Spreader

Front End Loader

Distributor Truck

Backhoe

Motor Grader

Steel Wheel Roller

Pneumatic Wheel

Roller



# Verano Loop Chip Seal Project

## Project Scope

Reclamation of existing surface and basecourse , placement of 4” new basecourse, double penetration chip seal along with a fog seal. Roads improved were Verano Loop, Verano Place, Verano Drive, Verano Court, Verano Way, Verano Lane, and a 200’ portion of Conchas Loop.

Project was completed by County Road Maintenance Forces

Construction began February 28, 2011

Completion date October 5, 2011

Total Cost – \$358,000

Funded by Local Government Road Fund

NMDOT 75%

Santa Fe County 25%





## Arroyo De Las Cuevas Chip Seal Project CR 72E

### Project Scope

Roadway widening, placement of 4" new basecourse, drainage improvements, double penetration chip seal along with a fog seal. Project Length .87 miles

Project was completed by County Road Maintenance Forces

Drainage Improvements consisted of placing new drainage pipes at existing structure locations, placement of 5 new drainage crossings, and construction of 4 rip rap and gabion retaining structures.

Construction began February 28, 2011

Completion date October 12, 2011

Total Cost – \$92,700

Majority Funded by Private Residents

Drainage Improvements by Santa Fe County



## Avenida Ponderosa Chip Seal Project

### Project Scope

Reclamation of existing surface and basecourse , placement of 1" new basecourse processed with existing reclaimed surface, magnesium chloride stabilization of basecourse, double penetration chip seal along with a fog seal. Project Length .69 Miles

Project was completed by County Road Maintenance Forces

Construction began February 28, 2011

Completion date October 5, 2011

Total Cost – \$37,710

Funded by Santa Fe County



SPEED  
LIMIT  
25



# Ojo De La Vaca Chip Seal Project

## CR 51

### Project Scope

Reclamation of existing surface and basecourse , placement of 1”new basecourse processed with existing reclaimed surface, magnesium chloride stabilization of basecourse, double penetration chip seal along with a fog seal. Project Length 1.2 miles

Project was completed by County Road Maintenance Forces

Construction began February 28, 2011

Completion date October 5, 2011

Total Cost – \$74,460

Funded by Santa Fe County





# Dry Creek Road Tire Bale Project

## CR 101D

### Project Scope

Construction of a tire bale retaining wall at two separate locations where erosion was occurring along CR 101D Project Length 1500ft

Project was completed by Santa Fe County Road Maintenance forces and two Contractors

Construction began March 28, 2011

Completion date May 26, 2011

Total Cost – \$105,000

Funded by a New Mexico State Environmental Department  
Grant for Tire Bale Construction



## Pre-Construction







# Santa Fe County Fairgrounds Paving Project

## Project Scope

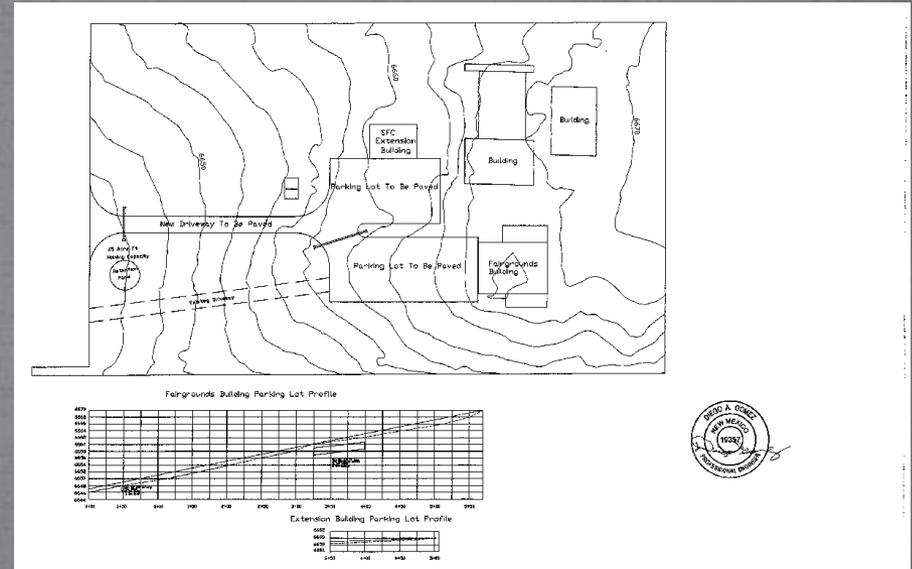
Construction of a new access to the fairgrounds, paving the fairgrounds parking lot, and construction of new drainage improvements. Site grading, placement of 6" new basecourse and 3" new Hot Mix Asphalt.

Project was designed and constructed by County Road Maintenance Forces

Construction began April 18, 2011

Completion date Friday April 29, 2011

Total Cost – \$99,985  
Funded by Santa Fe County





# Santa Fe County's Road Maintenance Program

Consists of maintaining approximately 574 miles of road. Surfaced roads account for 242 miles of road while un-surfaced roads account for 332 miles of road.

In 2011 the Road Maintenance Department conducted pavement evaluations on all surfaced roads maintained by Santa Fe County.

This consisted of evaluating, rating, and documenting 263 separate county roads for a total length of 242 miles.

The roads were rated in compliance with the Asphalt PASER Manual. PASER uses visual inspection to evaluate pavement surface distress and condition. The PASER system was produced by the Transportation Information Center with support from Federal Highway Administration.

The pavement evaluations will be used to create a preventative pavement maintenance plan and budget.

## Preventive Pavement Maintenance

Preventive maintenance is a systematic process of applying a series of preventive maintenance treatments over the life of the pavement to maintain a good condition, extend pavement life, and minimize life-cycle costs. Preventive maintenance has been proven to result in lower agency costs, improved pavement conditions, and increased customer satisfaction. Preventive maintenance applies lower-cost treatments to retard a highway's deterioration. With various short-term treatments, preventive maintenance can extend pavement life an average of 5 to 10 years. Applied to the right road at the right time-when the pavements are mostly in good condition-preventive maintenance can improve the network condition significantly at a lower unit cost.

# Paser Rating System

## Types of Distress

### Surface defects

Raveling, flushing, polishing.

### Surface deformation

Rutting, distortion—rippling and shoving, settling, frost heave.

### Cracks

Transverse, reflection, slippage, longitudinal, block, and alligator cracks.

### Patches and potholes

## Rating system

Surface rating	Visible distress*	General condition/ treatment measures
<b>10</b> Excellent	None.	New construction.
<b>9</b> Excellent	None.	Recent overlay. Like new.
<b>8</b> Very Good	No longitudinal cracks except reflection of paving joints. Occasional transverse cracks, widely spaced (40' or greater). All cracks sealed or tight (open less than 1/4").	Recent sealcoat or new cold mix. Little or no maintenance required.
<b>7</b> Good	Very slight or no raveling, surface shows some traffic wear. Longitudinal cracks (open 1/4") due to reflection or paving joints. Transverse cracks (open 1/4") spaced 10' or more apart, little or slight crack raveling. No patching or very few patches in excellent condition.	First signs of aging. Maintain with routine crack filling.
<b>6</b> Good	Slight raveling (loss of fines) and traffic wear. Longitudinal cracks (open 1/4"–1/2"), some spaced less than 10'. First sign of block cracking. Slight to moderate flushing or polishing. Occasional patching in good condition.	Shows signs of aging. Sound structural condition. Could extend life with sealcoat.
<b>5</b> Fair	Moderate to severe raveling (loss of fine and coarse aggregate). Longitudinal and transverse cracks (open 1/2") show first signs of slight raveling and secondary cracks. First signs of longitudinal cracks near pavement edge. Block cracking up to 50% of surface. Extensive to severe flushing or polishing. Some patching or edge wedging in good condition.	Surface aging. Sound structural condition. Needs sealcoat or thin non-structural overlay (less than 2")
<b>4</b> Fair	Severe surface raveling. Multiple longitudinal and transverse cracking with slight raveling. Longitudinal cracking in wheel path. Block cracking (over 50% of surface). Patching in fair condition. Slight rutting or distortions (1/2" deep or less).	Significant aging and first signs of need for strengthening. Would benefit from a structural overlay (2" or more).
<b>3</b> Poor	Closely spaced longitudinal and transverse cracks often showing raveling and crack erosion. Severe block cracking. Some alligator cracking (less than 25% of surface). Patches in fair to poor condition. Moderate rutting or distortion (1" or 2" deep). Occasional potholes.	Needs patching and repair prior to major overlay. Milling and removal of deterioration extends the life of overlay.
<b>2</b> Very Poor	Alligator cracking (over 25% of surface). Severe distortions (over 2" deep). Extensive patching in poor condition. Potholes.	Severe deterioration. Needs reconstruction with extensive base repair. Pulverization of old pavement is effective.
<b>1</b> Failed	Severe distress with extensive loss of surface integrity.	Failed. Needs total reconstruction.

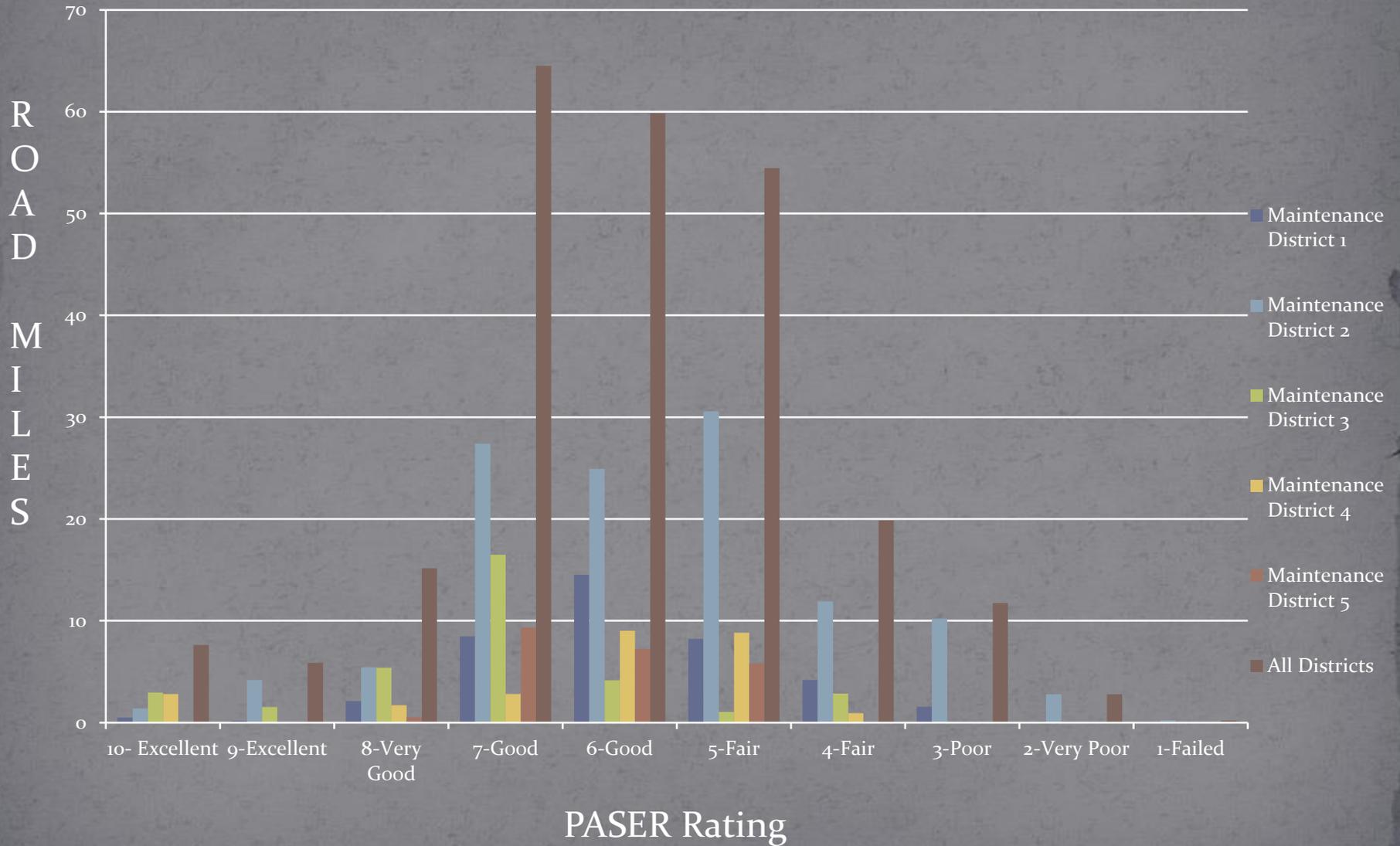
\* Individual pavements will not have all of the types of distress listed for any particular rating. They may have only one or two types.

## Costs of Maintenance Treatments

Treatment	Life Cycle (years)	Estimated Cost
Fog Seal	2-3	\$.15-\$.35 sq yd
Crack Seal	3+	\$.30 linear foot
Sand Seal	2-3	\$.40-\$.70 sq yd
Chip Seal	3-5	\$.50-\$1.00 sq yd
Polymer Modified Chip Seal	5-7	\$.70-\$1.40 sq yd
Micro Surfacing	5-7	\$1.60-\$2.00 sq yd
Nova Chip	7-10	\$4.75-\$6.00 sq yd

Preventive pavement treatments are more economical than waiting until the road needs to be reconstructed which can cost upwards of \$30/sq yd for 6" basecourse and 3" of hot mix asphalt.

# Surfaced Road Miles vs. PASER Rating

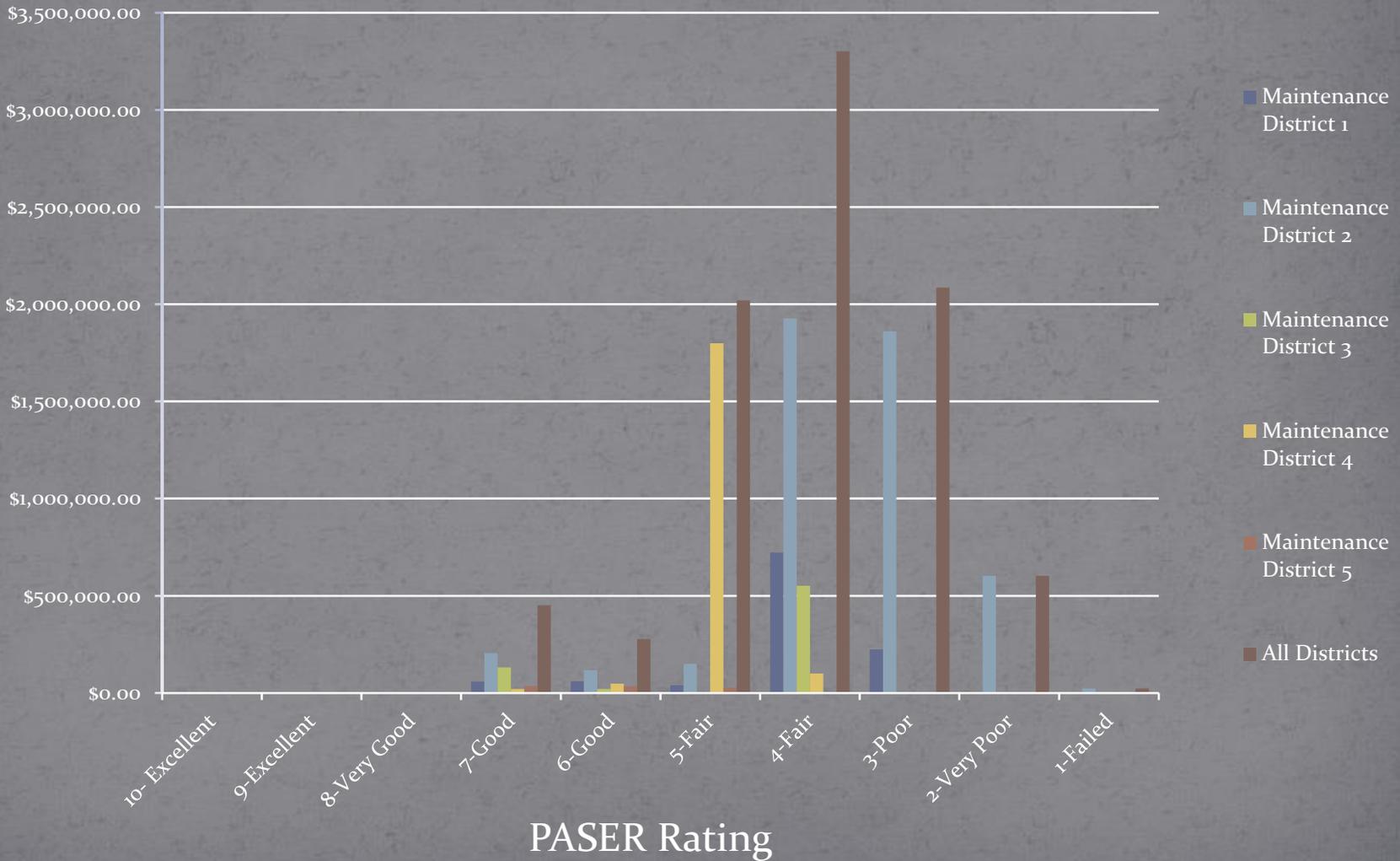


## Santa Fe County Surfaced Roads Miles of Road per Paser Rating

Paser Rating	10-Excellent	9-Excellent	8-Very Good	7-Good	6-Good	5-Fair	4-Fair	3-Poor	2-Very Poor	1-Failed
District 1	0.50	0.18	2.10	8.47	14.51	8.22	4.17	1.56	0.00	0.00
District 2	1.39	4.17	5.43	27.39	24.91	30.56	11.91	10.19	2.78	0.20
District 3	2.94	1.52	5.39	16.48	4.15	1.05	2.85	0.00	0.00	0.00
District 4	2.80	0.00	1.71	2.81	9.03	8.82	0.93	0.00	0.00	0.00
District 5	0.00	0.00	0.54	9.34	7.22	5.81	0.00	0.00	0.00	0.00
All Districts	7.63	5.87	15.17	64.49	59.82	54.46	19.86	11.75	2.78	0.20

# Maintenance Cost vs. Paser Rating

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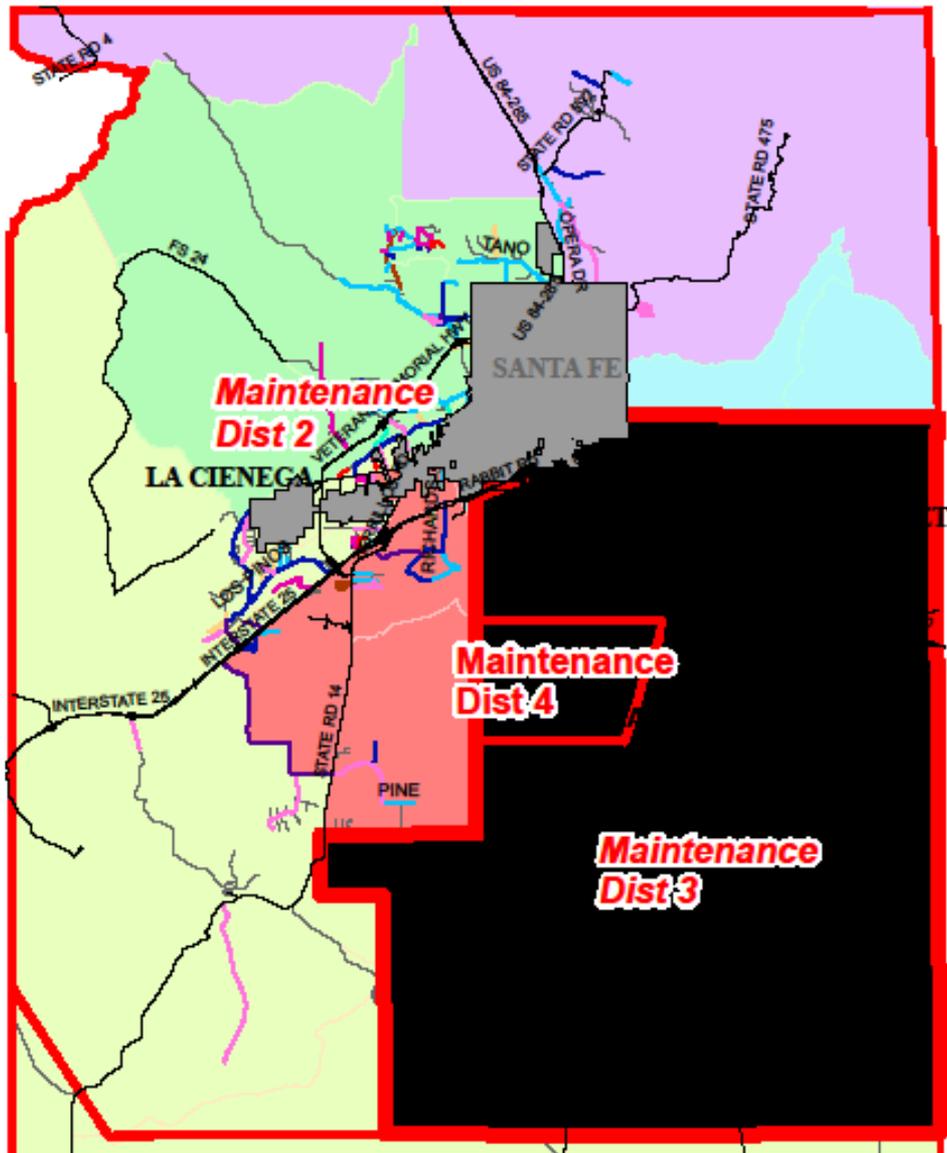
## Santa Fe County Surfaced Roads Estimated Cost to Maintain

Paser Rating	10-Excellent	9-Excellent	8-Very Good	7-Good	6-Good	5-Fair	4-Fair	3-Poor	2-Very Poor	1-Failed
District 1	\$0.00	\$0.00	\$0.00	\$58,367.63	\$60,616.45	\$39,598.53	\$722,335.68	\$224,514.05	\$0.00	\$0.00
District 2	\$0.00	\$0.00	\$0.00	\$204,994.05	\$116,535.91	\$149,924.51	\$1,927,105.90	\$1,861,493.39	\$602,002.60	\$23,232.00
District 3	\$0.00	\$0.00	\$0.00	\$131,840.00	\$20,137.04	\$3,665.20	\$551,638.03	\$0.00	\$0.00	\$0.00
District 4	\$0.00	\$0.00	\$0.00	\$20,146.61	\$47,181.49	\$1,798,663.68	\$99,500.54	\$0.00	\$0.00	\$0.00
District 5	\$0.00	\$0.00	\$0.00	\$35,219.80	\$33,563.99	\$27,649.37	\$0.00	\$0.00	\$0.00	\$0.00
All Districts	\$0.00	\$0.00	\$0.00	\$450,568.09	\$278,034.88	\$2,019,501.29	\$3,300,580.15	\$2,086,007.44	\$602,002.60	\$23,232.00

Estimated cost to maintain surfaced roads \$8,759,926



# SFC Road Maintenance Dist 2 Paser Ratings

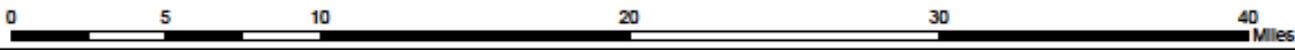


**Legend**

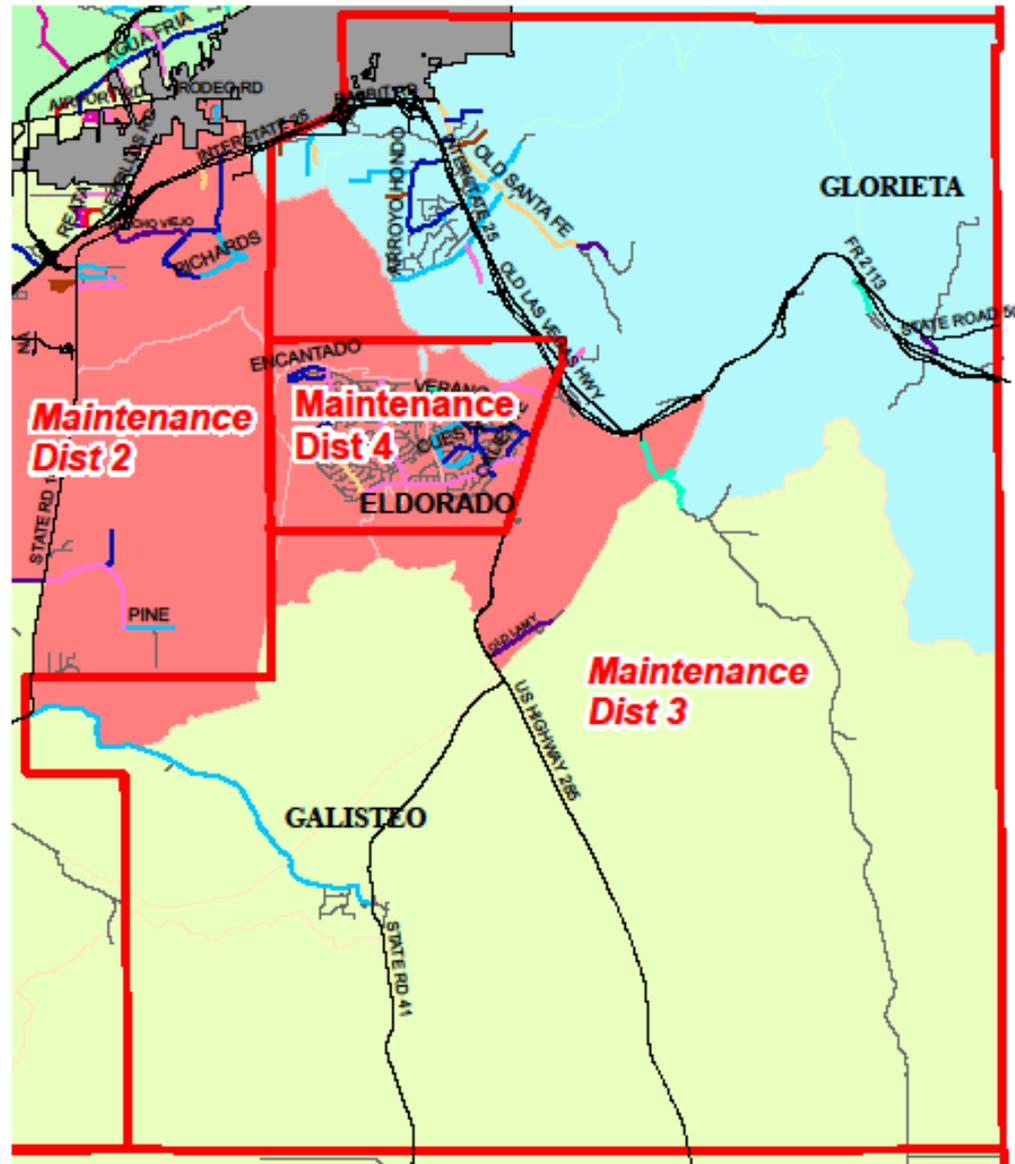
- PUBLISH.POLITICAL.INCORPORATED\_AREAS
- STATEANDUSROADS
- Road Maintenance District Boundary
- PASER1FAILED
- PASER2VERYPOOR
- PASER3POOR
- PASER4FAIR
- PASER5FAIR
- PASER6GOOD
- PASER7GOOD
- PASER8VERYGOOD
- PASER9EXCELLENT
- PASER10EXCELLENT
- publish.TRANSPORTATION.ROADS\_COUNTYMANT
- PUBLISH.ELECTIONS.VOTING\_DISTRICT\_ELECTED\_OFFICIAL\_AREAS
- <all other values>

**COMMOIST**

- 1
- 2
- 3
- 4
- 5

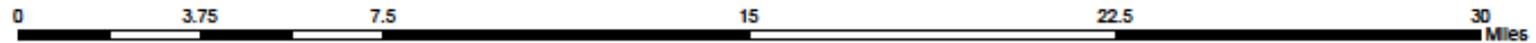


# SFC Road Maintenance Dist 3 Paser Ratings



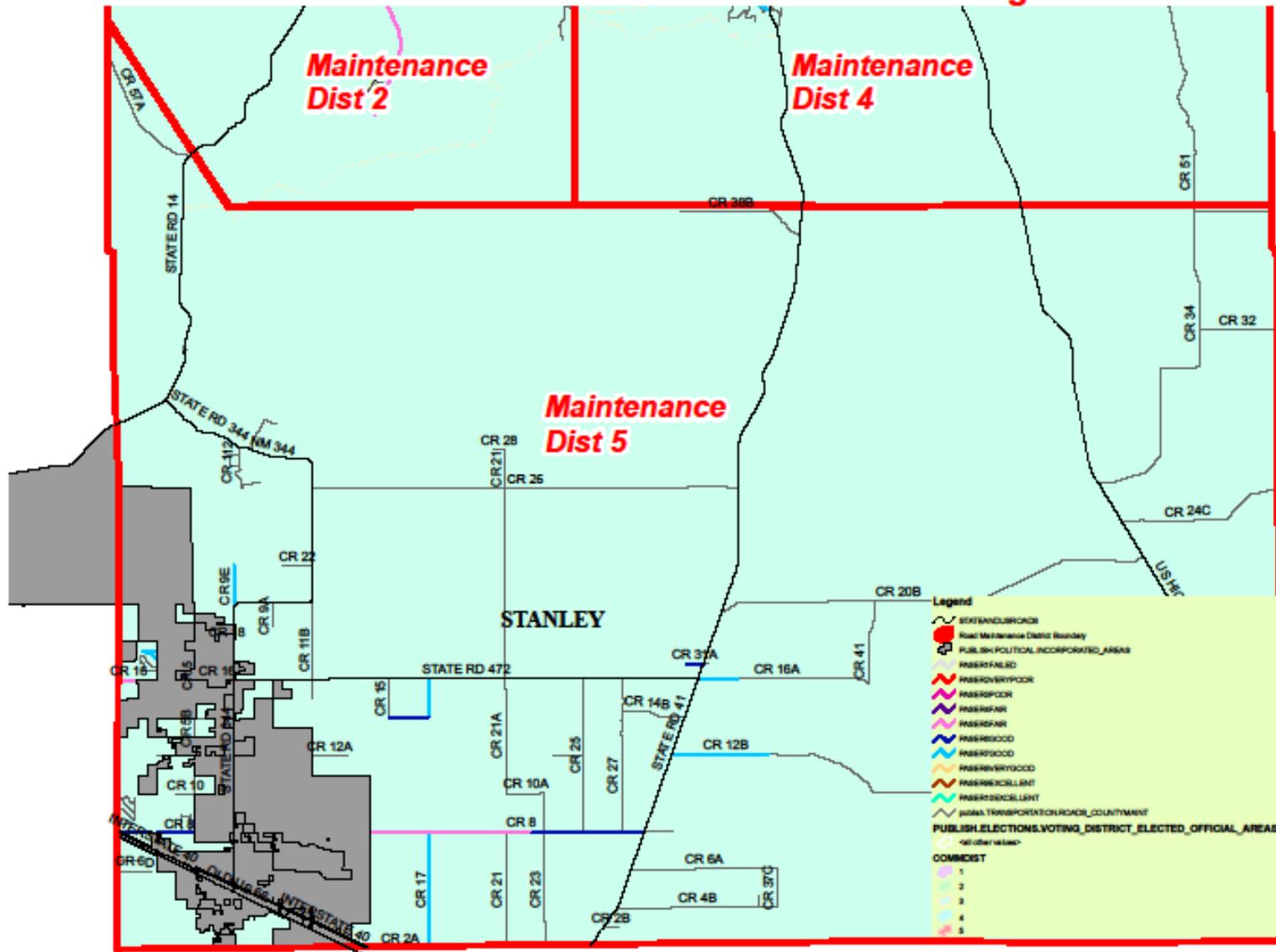
**Legend**

- STATE AND ROADS
- Road Maintenance District Boundary
- PUBLISH.POLITICAL.INCORPORATED\_AREAS
- PASER FAILED
- PASER VERY POOR
- PASER POOR
- PASER FAIR
- PASER GOOD
- PASER VERY GOOD
- PASER EXCELLENT
- PASER EXCELLENT
- PUBLISH.TRANSPORTATION.ROADS.COUNTY.MANT
- PUBLISH.ELECTIONS.VOTING\_DISTRICT.ELECTED\_OFFICIAL\_AREAS
- all other values
- COMMOIST
- 1
- 2
- 3
- 4
- 5





# SFC Road Maintenance Dist 5 Paser Ratings



**Legend**

- STATE/US/POOR
- Road Maintenance District Boundary
- PUBLISH POLITICAL INCORPORATED AREAS
- PASER 1 (pink line)
- PASER 2 (light blue line)
- PASER 3 (yellow line)
- PASER 4 (orange line)
- PASER 5 (red line)
- PASER 6 (purple line)
- PASER 7 (green line)
- PASER 8 (cyan line)
- PASER 9 (brown line)
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- PUBLISH ELECTIONS/VOTING DISTRICT ELECTED OFFICIAL AREAS
- COMDIST

