



ARIZONA ASSOCIATION OF COUNTY ENGINEERS

ROADWAY NEEDS STUDY

Final Report

April 2018



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1. STUDY OVERVIEW

Initiated by the Arizona Association of County Engineers (AACE), the primary purpose of this study was to demonstrate the funding needed to maintain and manage the county roadway system. The 2017 *AACE Roadway Needs Study* was the fifth update of a continuing study, first completed in 1994, to document all aspects of county roadway needs.

Due to the extensive shortages in funding, this study was initiated to assess county road user demand, road infrastructure needs/deficiencies, and transportation funding needs. *Results of this study will help counties demonstrate the magnitude of the discrepancy between transportation needs and transportation revenues.* The overarching goals of this study included:

- Educate policymakers and the public about infrastructure investments needed.
- Provide a credible and defensible analysis to support funding for maintaining the local system.
- Present legislators with information to better fund transportation that keeps pace with the inflation of construction costs and growing populations that depend on county roads.

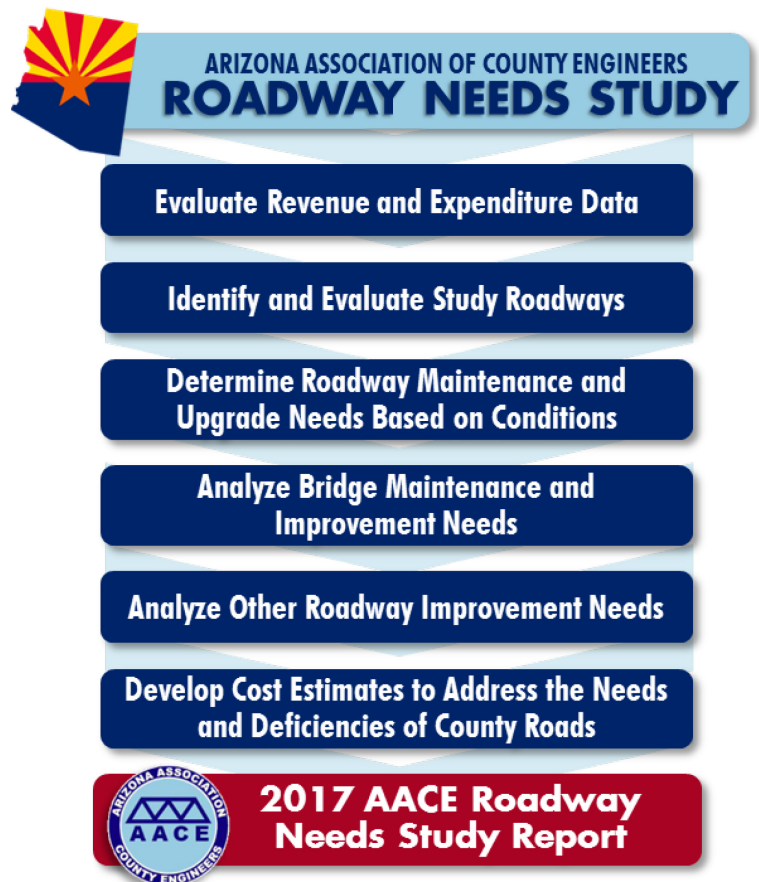
This study was sponsored by AACE and is being managed by Maricopa County Department of Transportation (MCDOT).

Process

The development of the AACE Roadway Needs Study was a technical, collaborative process that included seven key steps. The study process, illustrated in Figure 1.1 included:

- Evaluation of historical revenues and expenditures for each county.
- Identification and evaluation of county maintained roadways.
- Assessment of pavement conditions and identification of roadway maintenance treatments and upgrade needs.
- Review bridge conditions and determine maintenance treatments or upgrades needed.
- Analysis of additional roadway improvement needs.
- Development of planning level cost estimates to address the needs and deficiencies of county roads.

Figure 1.1: Overview of Study Process



Study Elements

This study focused on the evaluation of *county owned and maintained roads only*. The study included the following elements:

- ✓ Evaluated 10% of county roadway system. Results were prorated for the remainder of the system.
- ✓ Conducted planning-level analysis of:
 - Pavement conditions
 - Bridge evaluation
 - Safety conditions
- ✓ Developed planning-level cost estimates to preserve and maintain the existing system

The study did not include:

- ✗ New capacity related projects
- ✗ Transit, pedestrian, bicycle, and trail infrastructure
- ✗ Detailed safety evaluations
- ✗ Engineering level cost estimates



What will this study answer?

This study answers several important questions, including:

- What are the current average pavement conditions of county roadways?
- What will it cost to repair and maintain roads and bridges?
- What are the funding needs in order to keep the transportation system functioning in a state of good repair?
- What are current and projected expenditures for each county?
- What are the historical and projected revenue projections for each county?
- How large is the funding shortfall?

Study Area

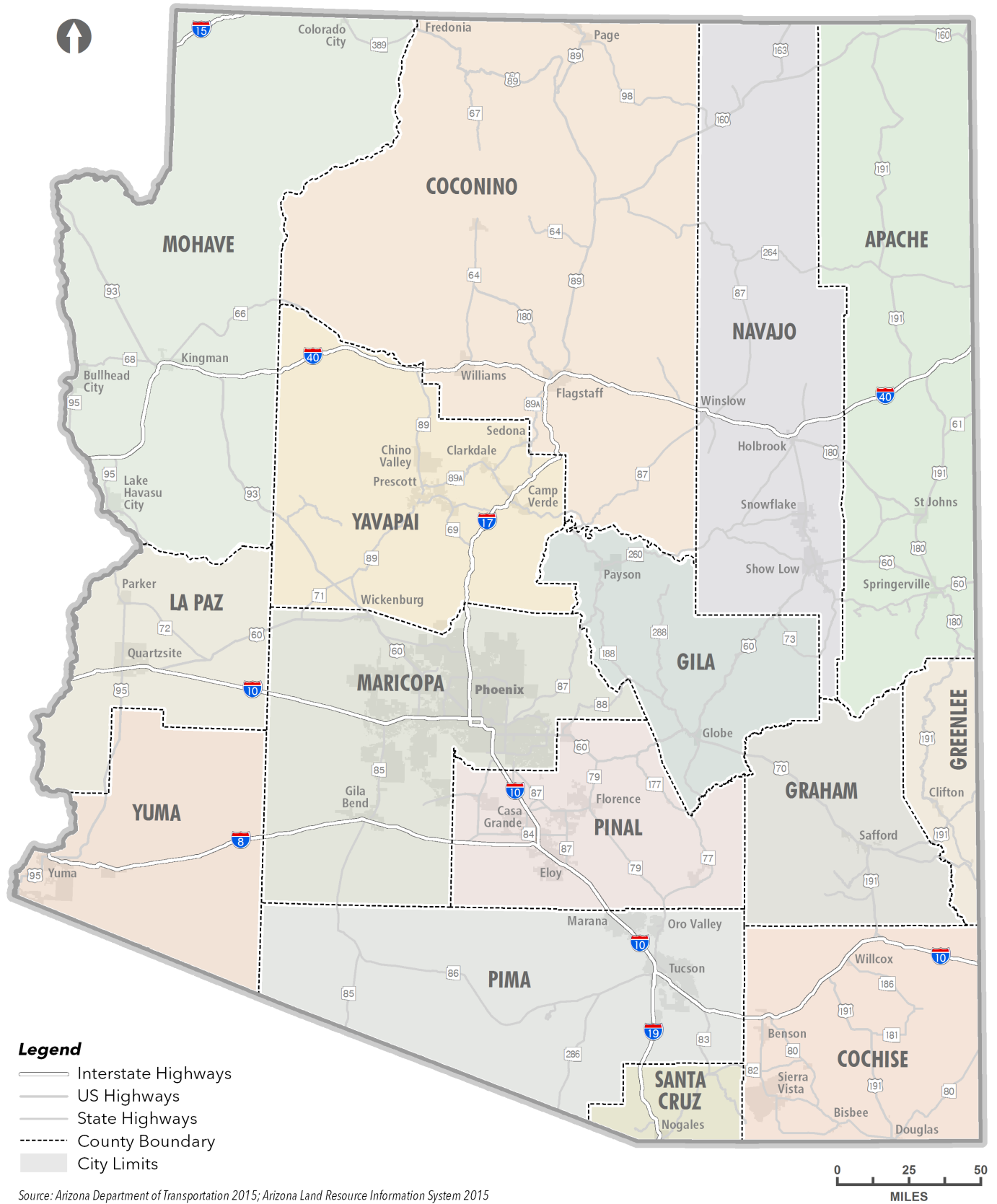
The Study Area was comprised of the unincorporated areas of all fifteen Arizona counties. Figure 1.2 displays a map of Arizona's counties, incorporated cities/towns, and the federal and state highway system. The county roadway system plays an important role in Arizona's integrated transportation system. Counties maintain Arizona's vital network of primarily rural local, collector, and arterials roads, in unincorporated areas. Table 1.1 lists the current and projected population for each county. As shown in the Table, 21% of the total statewide population resides within unincorporated county areas.

Table 1.1: Arizona Counties Population

County	Unincorporated Population Year 2016	Total County Population Year 2016	Percentage of Unincorporated Population Year 2016	Unincorporated Population Year 2027	Total County Population Year 2027	Percentage of Unincorporated Population Year 2027
Apache	61,755	72,131	86%	59,793	71,852	83%
Cochise	50,705	128,343	40%	55,859	138,712	40%
Coconino	55,223	142,560	39%	58,809	158,326	37%
Gila	26,012	54,333	48%	25,674	55,421	46%
Graham	21,239	38,303	55%	24,816	43,961	56%
Greenlee	5,198	10,433	50%	5,351	10,817	49%
La Paz	14,279	21,247	67%	13,906	21,845	64%
Maricopa	297,383	4,137,076	7%	383,100	5,044,163	8%
Mohave	78,135	205,764	38%	95,767	241,678	40%
Navajo	69,888	110,413	63%	71,443	116,954	61%
Pima	361,654	1,013,103	36%	396,739	1,144,042	35%
Pinal	210,933	413,312	51%	267,225	556,905	48%
Santa Cruz	27,660	50,581	55%	31,825	58,745	54%
Yavapai	86,748	220,189	39%	109,598	258,788	42%
Yuma	64,018	217,730	29%	67,836	258,514	26%
TOTAL	1,430,830	6,835,518	21%	1,667,741	8,180,721	20%

* Source: Arizona Office of Economic Opportunity

Figure 1.2: Arizona Counties



The County Roadway System

Counties in Arizona maintain nearly 20,800 miles of roadways, about a third of all public roads in Arizona. Table 1.2 lists the approximate road mileage owned and maintained by each county. Some counties also maintain roadways for Indian communities and national forests by agreement with the owners of these lands.

? Why are county roads important?

County roads prove vital to Arizona's roadway network. They provide termini connection for movement of people and goods, essential links for commerce and economic development, access to recreational areas and tourism, connectivity between city streets and state highways, and routes for emergency services. Most all county roads service school bus, mail carrier, and/or emergency vehicle routes.

Table 1.2: Unincorporated County Road Mileage

County	Total Mileage	Paved Road Mileage	Unpaved Road Mileage
Apache	1,595	106	1,489
Cochise	1,434	659	775
Coconino	1,012	329	683
Gila	765	172	593
Graham	649	148	502
Greenlee	432	98	334
La Paz	1,089	248	842
Maricopa	2,482	2,062	420
Mohave	2,119	813	1,306
Navajo	732	319	412
Pima	2,135	1,866	269
Pinal	2,053	987	1,066
Santa Cruz	705	160	545
Yavapai	1,528	798	730
Yuma	2,075	575	1,500
TOTAL	20,805	9,340	11,465

There are many types and functions of county roads. Some are arterials that serve as higher-volume corridors that help distribute goods and traffic throughout the region. Others are local roadways whose prime function is to provide access to adjacent properties.

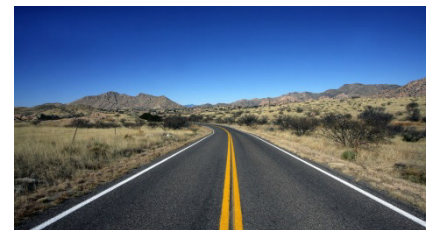
Examples of County Roadways



Urban Road
Bell Road, Maricopa County



Urban Fringe Road
Ina Road, Pima County



Rural Road
Draught Road, Cochise County



Local/Suburban Development
Margaret Way, Coconino County



Daily Commute
Pioneer Parkway, Yavapai County



Regional Connection
Gantzel Road, Pinal County

2. COUNTY ENGINEERS SURVEY

At the onset of the study, a survey was conducted to capture County Engineers' sentiments in regards to maintaining their roadway system. Below is a summary of results from this survey. Appendix A includes a copy of the survey instrument.

A total of 12 responses were received. Following is a summary of the survey results.

- 70 percent of county engineers are NOT confident they can maintain their roadway network for the next 10 years based on current and historical funding levels.
- 90% delay repairs and maintenance due to budget constraints.
- 50% receive daily calls from the public regarding roadway conditions.
- 64% cited that complaints from the public were primarily roadway condition related.
- "New Roads" was cited as the first program to be cut when budgets were reduced.

Survey Results

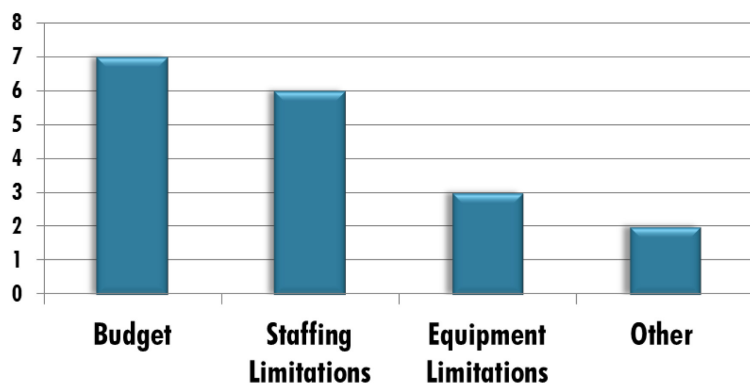
How Often do you Recieve Complaints in Regards to Roadway Conditions?

When asked "How often do you receive complaints in regards to roadway conditions?" – Daily (1 to 3 times a day) was cited most often. The complaints typically heard included:

- Request to upgrade roadways
- Speed limits/speeding
- Poor roadway conditions
- Safety issues
- Complaints about weeds and vegetation maintenance
- Storm event damage

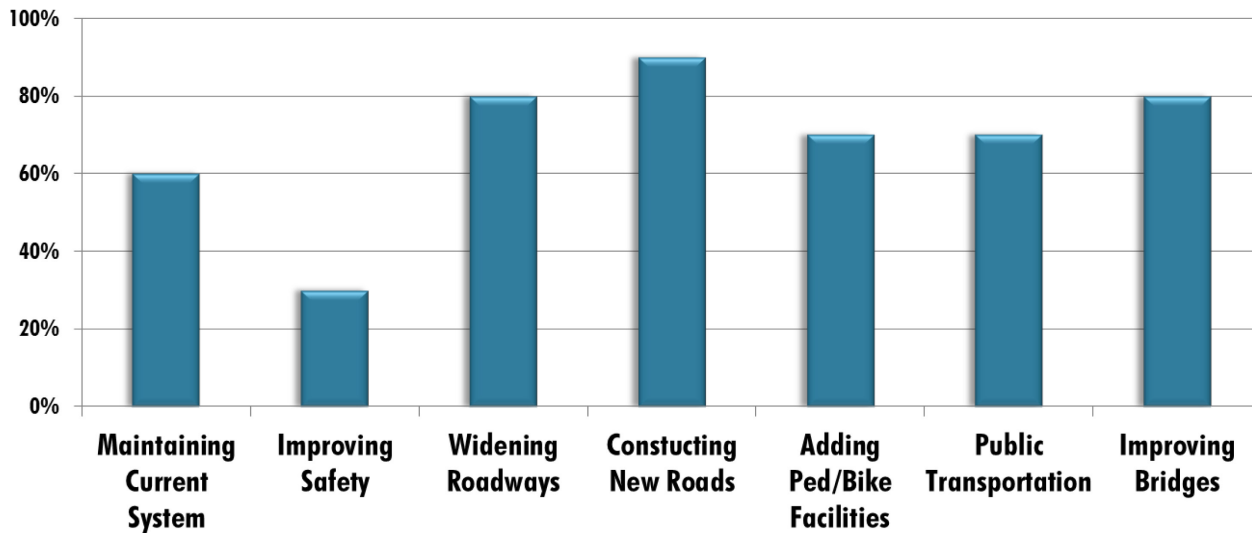
What Stands in the Way of Maintenance?

When asked "What stands in the way of maintenance?" - budget and staffing limitations were mentioned as the primary reasons.



What Areas are the Most Difficult to Fund?

When asked “What areas are the most difficult to fund?” – constructing new roads, widening roadways and improving bridges were cited as the items most difficult to fund.



Biggest Constraints Due to Inadequate Funding

The general consensus from the survey was that inadequate funding was making it difficult to:

- Hire and retain skilled personnel
- Replace aging infrastructure
- Maintain current system

3. ROADWAY SYSTEM CONDITIONS AND NEEDS

The following section summarizes the state of the county roadway system and outlines the improvement and maintenance needs.

Roadway Conditions

A primary expenditure for some counties is preserving existing roads and rebuilding deteriorating roads. While counties strive to keep all roads in “good to excellent” conditions, often counties are forced to prolong roadway maintenance due to funding shortages. As deterioration begins, the cost of roadway repairs significantly increases. Deferred maintenance causes numerous negative impacts on the roads including:

- Noticeably poorer roadway infrastructure quality that impacts a motorist’s level of comfort.
- Decreased service life.
- Negative public sentiment on the counties’ roadway network.
- Premature infrastructure reconstruction/replacement due to limited preventative maintenance activities.
- Increases in the potential for crashes, due to deteriorated roadway operating conditions.

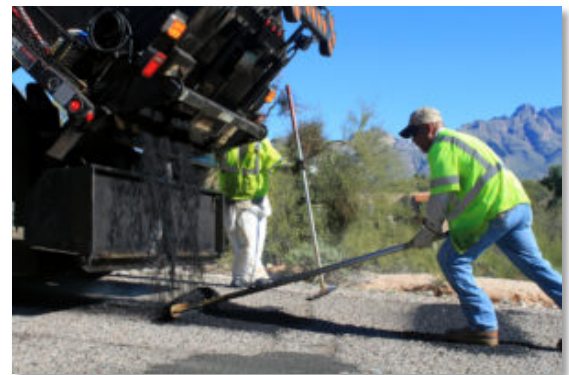
Many new projects are also needed to accommodate multimodal transportation needs and requirements; therefore, counties are now struggling to fund the addition of bicycle, pedestrian, and ADA facilities.



Deteriorating pavement conditions on Oatman Highway in Mohave County. Source: Arizona Central

Pavement Preservation

Maintaining and preserving the roadway system is vital in providing a safe, efficient transportation system for the traveling public. As roadways age and maintenance expenditures rise, limited preservation investments will ultimately result in the deterioration of the roadway system. Potholes, ruts, and uneven surfaces may cause safety issues, puts extra wear and tear on vehicles, and can damage freight. When properly applied, pavement preservation treatments can significantly extend the service life of pavements.



Filling asphalt cracks on River Road in Pima County. Source: Arizona Sonora News

Maintenance and Repairs

Many of the services that county road departments provide are quick response maintenance and repair activities to mitigate issues that may become a safety concern. Examples include:

- **Roadway Maintenance:** including filling dangerous potholes, sweeping for debris, shoulder maintenance, guardrail repairs, etc.
- **Unpaved Roadway Grading:** counties are responsible for grading and maintaining unpaved roadways to provide the traveling public with an even surface on which to travel.
- **Drainage:** includes the cleaning and reshaping of drainage ditches, maintenance of paved ditches and berms, culvert and inlet cleaning, headwall maintenance, and culvert installation and replacement.
- **Bridge Maintenance and Repair:** tasks include cleaning, painting, repairing, and replacing damaged parts of structures.
- **Vegetation Control (Roadside and on-road):** includes clearing brush, mowing, weed and litter abatement, and roadside tree maintenance that may reduce roadway visibility and safety.
- **Traffic Control:** includes striping, curb painting, sign installation and maintenance, traffic signal maintenance and repairs, placement of safety markers, guardrail repair and replacement, and other traffic control maintenance activities.
- **Storm Events/Emergency Response:** activities during emergency situations and storm events include:
 - Snow removal and placing sand/salt on icy roads.
 - Cleaning debris from roadway, culvert inlets, ditches, low water crossings, and bridge abutments.
 - Rebuilding washed-out roadways.
 - Traffic control during wildfires and during major snow and during storm events.

What Unforeseen Challenges Do Arizona Counties Face?

Monsoon Flooding



Forest Fires



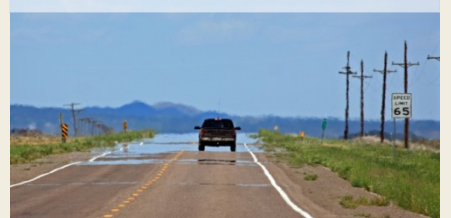
Winter Blizzards



Rock Slides



Extreme Heat



Current Roadway Conditions

The public judges the effectiveness of a road agency by the condition of its roadways; however, reduced budgets have forced counties to extend pavement preservation and maintenance. To determine the current condition of Arizona's county roads, a statewide pavement conditions assessment was conducted. This section presents the methodology and the results of the pavement condition assessment.

Data Collection

Due to the large number of roadways owned and maintained by counties, the study assessed a sample dataset consisting of approximately 10 percent of roadways maintained by each county. The sample dataset included a mixture of roadway types to reflect the county's entire roadway system. At the onset of the project, the study team identified a preliminary set of roadways to serve as the sample dataset; these roadways were then modified based on recommendations provided by county staff. In total, 1,961 miles of county maintained roadways were identified to be included in the sample dataset. Table 3.1 summarizes the total mileage assessed for each county.

Table 3.1: Total Mileage of Sample Dataset

County	10% Sample Dataset Evaluated			TOTAL
	Arterials	Collector	Local Roads	
Apache	1	41	138	180
Cochise	<1	34	109	143
Coconino	3	33	65	101
Gila	<1	15	33	48
Graham	0	30	31	61
Greenlee	0	2	41	43
La Paz	0	9	100	109
Maricopa	28	41	179	248
Mohave	2	28	181	211
Navajo	<1	13	58	71
Pima	21	69	123	213
Pinal	5	28	194	227
Santa Cruz	<1	11	59	70
Yavapai	<1	45	107	152
Yuma	5	21	58	84
TOTAL	65	420	1,476	1,961

Due to the large lengths of some corridors, roadways often do not have consistent characteristics throughout. For the purpose of the pavement condition assessment, each roadway in the sample dataset was divided into smaller segments. An aerial assessment of each sub segment was conducted to determine road surface type, width, area type (rural, suburban, urban), region type (snow area, dry/wet area), and distress level. For each sub segment, pavement distress levels were recorded in the following magnitudes:

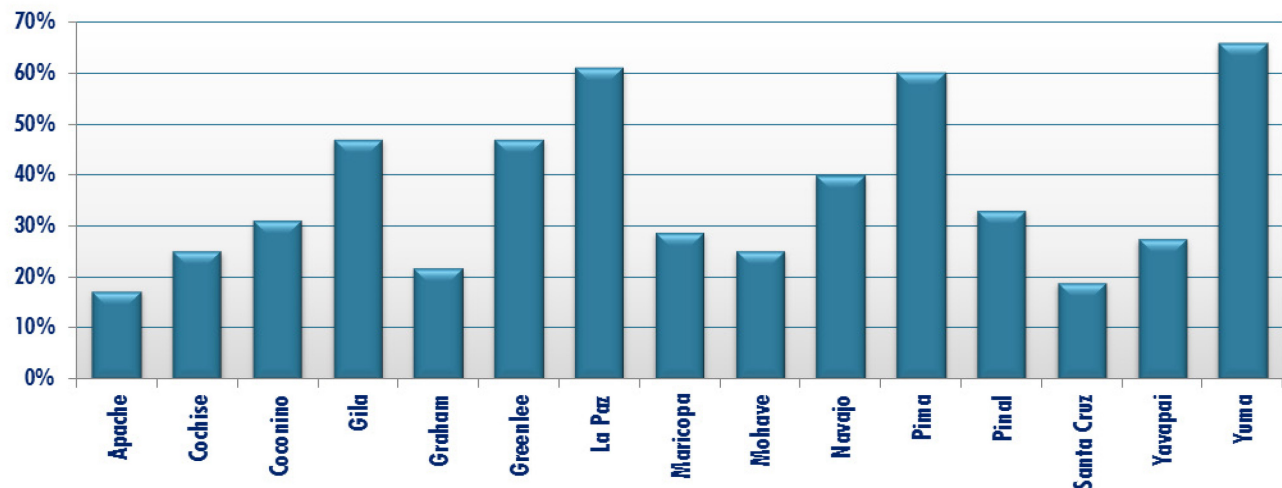
- Paved roads - Very Poor, Poor, Fair, Good, and Excellent.
- Dirt Road - Very Poor, Poor, and Fair.

The aerial assessment, described above, follows generally accepted engineering practices for evaluating pavement conditions. Road condition results from the sample dataset were prorated to the remainder 90% of the road system.

Figure 3.1 illustrates the percentage of roadways found to be in poor or very poor conditions by county. Key findings show:

- Yuma had the highest percent of roadways in poor or very poor condition (66 percent).
- Pima and La Paz counties had over 50 percent of roadways in poor or very poor condition.

Figure 3.1: Percent of Surveyed Roads in Poor or Very Poor Condition



To ensure that study results accurately reflect county conditions, the project team compared study results to readily available pavement condition data maintained by counties. The data comparison showed that results from the study’s visual assessment were on par with conditions found in county databases.

Repair and Maintenance Costs

Roadway repair and maintenance costs were estimated for a 5-year and 10-year timeframe and grouped into two main categories:

- Cost to bring the current system to a state-of-good-repair.
- Cost to maintain the road system for the next 5- and 10-year timeframes.

State-of-good-repair costs consisted of funds needed to bring the roadways identified to be in poor or very poor condition to acceptable standard. Repair/treatments needed to bring a roadway to a state-of-good repair was identified for each roadway based on its region (dry/wet areas or areas that experience snow conditions), roadway classification (arterial, collector, or local), and surface type. Appendix B illustrates recommended repair/treatments utilized in this study.

For each recommend treatment/repair type unit costs were developed. The treatment/repair costs were derived based on a review of unit costs provided by rural and urban counties during the data collection phase. Although unit costs typically vary by region (due to terrain, weather, etc.), a single set of unit costs was used for this study for consistency. Table 3.2 lists the unit costs utilized for this analysis.

Table 3.2: Unit Costs by Treatment/Repair Type

Treatment Type	Costs (2017)
Maintenance	
Thin Overlay	\$1.2 per square foot
Chip Seal/Thin Overlay	\$0.81 per square foot
Crack Seal & Flush Coat	\$0.1 per square foot
Crack Seal & Chip Seal	\$0.42 per square foot
Dirt Road Maintenance	\$0.51/linear foot per year or \$2673/mile per year
State-of-Good Repair	
Mill and Replace	\$4.8 per square foot
Structural Overlay	\$3.6 per square foot

An estimated \$1.65 Billion is needed to bring county roads to a state-of-good-repair. Table 3.3 lists the estimated costs by county to bring roadways in poor or very poor condition to acceptable status.

Table 3.3: State-of-Good Repair Costs (in thousands)

County	State-of-Good-Repair Costs
Apache	\$21,283
Cochise	\$99,219
Coconino	\$68,569
Gila	\$56,982
Graham	\$18,300
Greenlee	\$6,840
La Paz	\$52,645
Maricopa	\$232,594
Mohave	\$144,812
Navajo	\$45,452
Pima	\$334,300
Pinal	\$125,552
Santa Cruz	\$22,658
Yavapai	\$83,231
Yuma	\$340,007
Total	\$1,652,445

It is estimated that a total of \$885 Million is needed to maintain the county roads for the next 10 years. Maintenance treatment types and frequencies were developed and maintenance/preservation costs were estimated based on the road condition, region type, surface type, and classification type. Appendix B illustrates the treatment types and frequency for each surface type. Unit costs developed in the previous section were then utilized to estimate the maintenance costs for the 5-year and 10-year timeframes. To account for inflation, a 2% per year escalation rate was used for the 10-year period. Table 3.4 lists the estimated maintenance costs by county.

Table 3.4: 10-Year Road Maintenance Costs (in thousands)

County	Total Costs (2018-2022)	Total Costs (2023-2027)	Total 10 Year Maintenance Costs
Apache	\$22,507	\$29,695	\$52,202
Cochise	\$22,088	\$27,061	\$49,149
Coconino	\$17,461	\$28,564	\$46,025
Gila	\$11,623	\$24,976	\$36,599
Graham	\$9,354	\$10,316	\$19,670
Greenlee	\$5,830	\$6,435	\$12,265
La Paz	\$15,302	\$16,882	\$32,184
Maricopa	\$60,721	\$94,130	\$154,851
Mohave	\$32,181	\$48,532	\$80,713
Navajo	\$11,612	\$15,096	\$26,707
Pima	\$42,805	\$78,970	\$121,775
Pinal	\$36,916	\$44,695	\$81,611
Santa Cruz	\$10,227	\$11,689	\$21,917
Yavapai	\$24,445	\$36,322	\$60,766
Yuma	\$37,620	\$51,065	\$88,685
Total	\$360,691	\$524,427	\$885,118

Bridge Conditions

On county roadways, bridges serve as a critical connection as roadways typically have limited alternative routes. Closure of a bridge often results in long detours, particularly in rural area. In Arizona, there are over 1,100 bridges on the county roadway system. Key facts about county maintained bridges include:

- On average, the detour length on county road system is 18.8 miles.
- In Greenlee County, the average detour length is 49 miles.
- Roughly 10 percent of the bridges are deemed structurally deficient or functionally obsolete.

Data Collection and Condition Assessment

Arizona Department of Transportation's (ADOT) Bridge Management Section maintains a database of all bridges, inspection reports, and other related data for the State. The condition of bridges is categorized by the following:

- **Sufficiency Rating:** Sufficiency rating is expressed as a percentage, in which 100 percent means a bridge is entirely sufficient and zero percent represents an entirely insufficient bridge. A low sufficiency rating may be attributed to structural defects, narrow lanes, low vertical clearance, or other possible issues.
- **Structurally Deficient (SD):** A bridge is considered Structurally Deficient (SD) if the deck, superstructure, or substructure are rated below a certain threshold. The fact that a bridge is structurally deficient does not imply that it is likely to collapse or that it is unsafe. It means that the bridge must be monitored, inspected, and maintained.
- **Functionally Obsolete (FO):** A bridge is classified as Functionally Obsolete (FO) if it has sub-standard geometric features, such as narrow lanes or shoulders, inadequate clearance, or do not meet the current traffic demand. A functionally obsolete bridge doesn't imply that it is an unsafe bridge, but rather that the bridge doesn't meet current standards. Historic bridges typically fall in this category as they may not meet current design standards though they are functional and safe.

Table 3.5 is a summary of bridge conditions for each county.

Table 3.5: Bridge Conditions

County	Total Bridges	Structurally Deficient (SD)	Functionally Obsolete (FO)	Total SD & FO	Percent Bridges SD or FO	Average Age of Bridge	Percent of Bridges Older than 50 Years	Average Detour Length (Miles)
Apache	14	1	2	3	21%	59	57%	33.0
Cochise	60	8	3	11	18%	52	53%	30.2
Coconino	39	1	0	1	3%	42	44%	38.1
Gila	16	3	1	4	25%	40	25%	41.7
Graham	27	3	1	4	15%	46	26%	11.4
Greenlee	27	3	6	9	33%	69	81%	49.1
La Paz	7	0	2	2	29%	25	0%	11.1
Maricopa	282	0	5	5	2%	24	3%	14.0
Mohave	38	0	0	0	0%	23	11%	18.2
Navajo	19	4	0	4	21%	39	16%	22.2
Pima	199	14	15	29	15%	35	19%	8.1
Pinal	104	2	2	4	4%	33	23%	11.4
Santa Cruz	17	1	3	4	24%	38	18%	7.6
Yavapai	157	6	16	22	14%	46	41%	36.1
Yuma	95	5	3	8	8%	40	32%	10.1
Total	1101	51	59	110	10%	36	24%	18.8

Repair and Maintenance Costs

Repair and maintenance costs for bridges were grouped into three categories:

- Replacement costs for bridges considered Structurally Deficient or Functionally Obsolete.
- Maintenance or rehabilitation costs.
- Yearly inspection costs.

Unit costs were developed for replacement, maintenance, and inspection of bridges for each bridge type (steel, concrete, culvert, and timber) and are presented in Appendix C. Historical data from counties and Federal Highway Administration (FHWA) were reviewed to develop unit costs. Bridges classified as structurally deficient or functionally obsolete were assumed to be replaced within the next 10 years. Inspection frequency of 4 years for culverts, and 2 years each for concrete, steel, and timber bridges was assumed. An escalation factor of 2 percent per year was used to account for inflation for the 10 years.

An estimated \$204 million is needed to bring all county bridges to a state-of-good-repair and to maintain for the next 10 years. Table 3.6 lists the estimated replacement, maintenance, and inspection costs by county.

Table 3.6: 10-Year Bridge Maintenance and Repair Costs (in thousands)

County	Bridge Replacement Costs	Inspection Costs	Maintenance Costs	Total Bridge Costs
Apache	\$1,876	\$179	\$240	\$2,295
Cochise	\$3,739	\$831	\$1,016	\$5,586
Coconino	\$407	\$403	\$303	\$1,113
Gila	\$622	\$332	\$280	\$1,234
Graham	\$774	\$403	\$1,098	\$2,274
Greenlee	\$3,777	\$505	\$477	\$4,759
La Paz	\$5,894	\$121	\$330	\$6,346
Maricopa	\$78,006	\$5,599	\$10,590	\$94,195
Mohave	\$0	\$332	\$870	\$1,203
Navajo	\$2,560	\$377	\$682	\$3,618
Pima	\$31,976	\$2,090	\$7,758	\$41,825
Pinal	\$3,898	\$1,112	\$1,759	\$6,769
Santa Cruz	\$3,954	\$326	\$941	\$5,221
Yavapai	\$11,083	\$2,128	\$2,812	\$16,023
Yuma	\$8,177	\$1,770	\$1,736	\$11,683
Total	\$156,743	\$16,508	\$30,892	\$204,144

Safety and Other Needs

Due to the large number of county roadways, a detailed safety assessment was not feasible within the framework of this study. The study team utilized the following approach to determine safety project needs and costs:

- 1) Reviewed each county’s Transportation Improvement Program (TIP) to identify safety projects.
- 2) Conducted a high-level spatial review of crash locations to identify roadway segments and intersections that have a high density of historical crashes. For locations with high density of crashes, an aerial and Google Streetview evaluation was conducted to identify potential issues and mitigation measures. Cost estimates were developed for potential improvements.
- 3) Combined costs from the TIP and aerial review and calculated overall safety improvement costs. For good measure, a minimum of \$1 million was assumed for safety improvements for each county.

Table 3.7 lists the 10-year safety improvement costs by county. An estimated \$173.5 Million is needed for safety improvements.

Table 3.7: 10-Year Safety Improvement Costs

County	Safety Improvement Costs
Apache	\$1,000,000
Cochise	\$1,439,515
Coconino	\$66,527,000
Gila	\$1,000,000
Graham	\$1,000,000
Greenlee	\$1,000,000
La Paz	\$3,101,511
Maricopa	\$80,604,000
Mohave	\$2,000,332
Navajo	\$1,000,000
Pima	\$10,596,024
Pinal	\$1,280,000
Santa Cruz	\$1,000,000
Yavapai	\$1,000,000
Yuma	\$1,000,000
Total	\$173,548,382



4. REVENUES

The following section summarizes historical and projected revenues for Arizona counties. Highway User Revenue Fund (HURF) and Vehicle License Tax (VLT) are the two primary and recurring revenue sources that the counties rely on to maintain the roadway system. Some counties also have special sales taxes that generate additional funds for transportation uses.

Highway User Revenue Fund (HURF)

The Highway User Revenue Funds (HURF) is Arizona counties' primary source of revenue for transportation projects. The HURF is funded through a combination of transportation related fees, including:

- \$0.18 per gallon State gasoline excise tax
- \$0.26 per gallon use fuel tax
- Motor vehicle registration fees
- Motor carrier fee
- Motor vehicle operator's license fees
- Part of Vehicle License Tax (44.99%)

Collected revenues are deposited in the HURF and then distributed to cities, towns, counties and to the State Highway Fund.

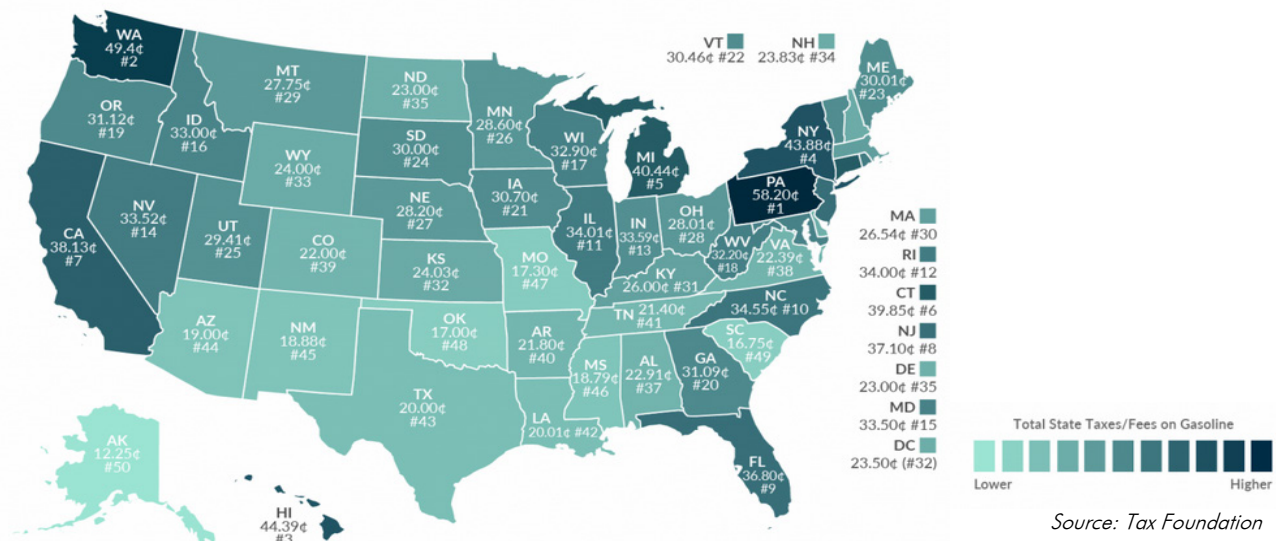
50.5% to State Highway Fund	27.5% to Municipalities	19% to Counties	3% to cities with populations >300k
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Each county's allocation of the HURF is distributed based on a portion of gasoline distribution, diesel fuel consumption, and on a portion of unincorporated population. In Fiscal Year (FY) 2017, approximately \$253.1 million dollars were distributed to counties.

Gasoline Excise Tax by State

Gasoline excise tax is one of the primary sources of HURF funds. As illustrated in Figure 4.1, state gas taxes varies widely from 58.2 cents per gallon (Pennsylvania) to 12.25 cents (Alaska). Arizona has the 7th lowest gasoline tax with \$0.19 cents per gallon (State Excise Tax: \$0.18 cents per gallon; Other State Taxes/Fees: \$0.01 cent per gallon). In Arizona gasoline taxes have not been raised or adjusted since 1991. Although gasoline purchases in the State have increased 52 percent from 1990 to 2012 (source USDOE).

Figure 4.1: Gasoline Tax by State



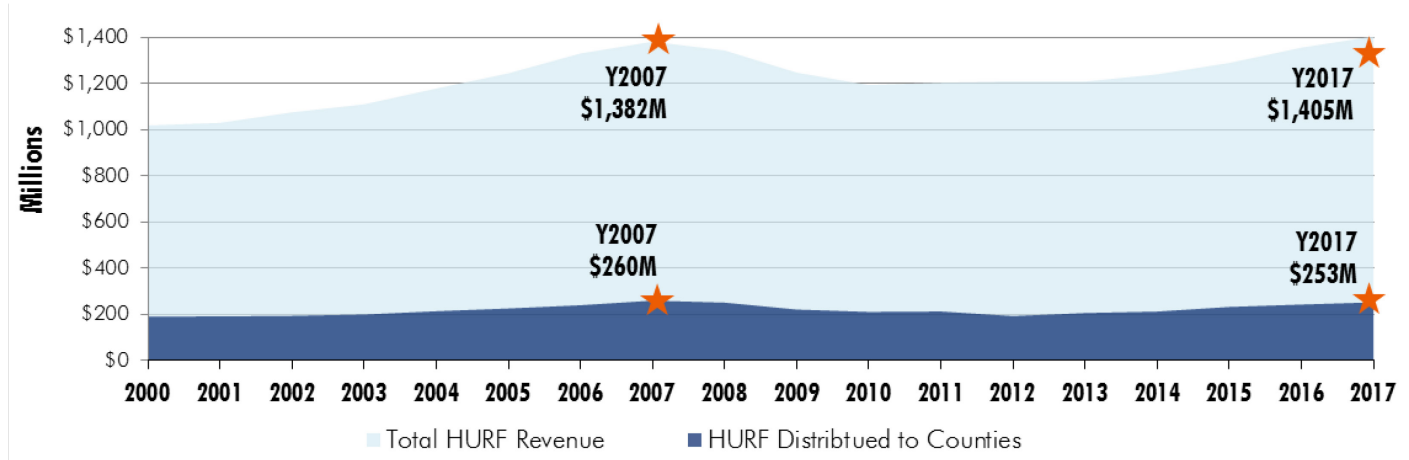
Source: Tax Foundation

Historical Trends of HURF Revenues

HURF revenues were hit particularly hard during the recession of 2008; revenues declined due to motorists driving less, improved gas mileage of vehicles, and fewer vehicle purchases.

- Statewide revenues are just now returning to pre-recession levels (see Figure 4.2).
- County HURF distributions are still 2.7 percent lower than the peak 2007 levels.
- If inflation is considered, the county HURF distributions are 25% lower than peak 2007 levels. Inflation has averaged around 2% per year since 2007.

Figure 4.2: HURF Revenue Trends by Fiscal Year



Transfers

As illustrated in Figure 4.3, portions of HURF funds are transferred to the Motor Vehicle Division (MVD), Department of Public Safety (DPS), and the Economic Strength Fund (ESF). Per Arizona statutes, counties should receive

19 percent HURF funds to maintain roadways; however, each year Arizona legislature approves the transfer of HURF funds to support state programs (such as DPS). Figure 4.3 illustrates that while state statutes have not increased the allowable transfer of HURF funds (\$11.6 million to DPS, MVD, and ESF); each year substantial transfers above this amount are approved. The transfer of HURF funds are primarily allocated to the DPS; which by state statutes, DPS should be funded through the State General Fund.

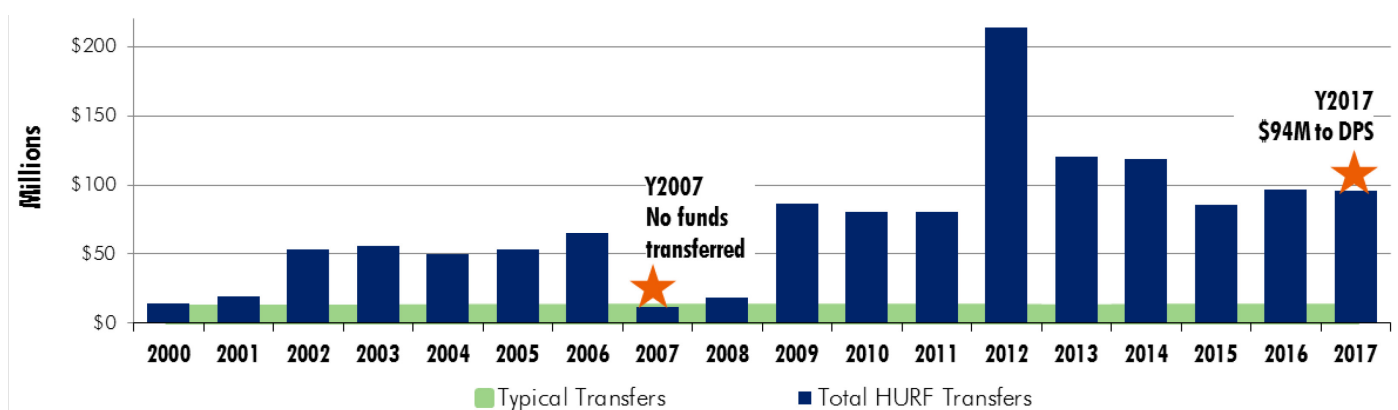
Transfers Allowable by State Statute

~600K
to Motor Vehicle
Division annually

~1 MILLION
to Economic Strength Fund
annually

<10 MILLION
to Department of Public Safety
annually

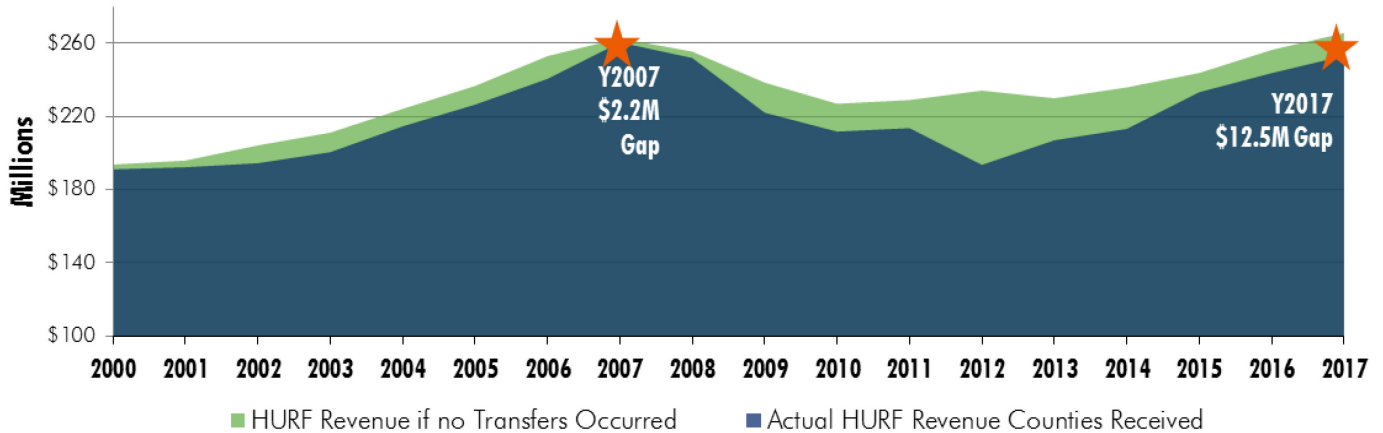
Figure 4.3: Annual HURF Transfers by Fiscal Year



Impact of Transfers on Counties

Since 2000, over \$233 million that should have been allocated to counties has been redirected to support other programs. In 2012 alone, \$40.5 million of HURF funds that would have been allocated to counties was transferred to support MVD and DPS. Figure 4.4 illustrates the actual HURF funds distributed to counties versus the estimated share if no HURF transfers occurred.

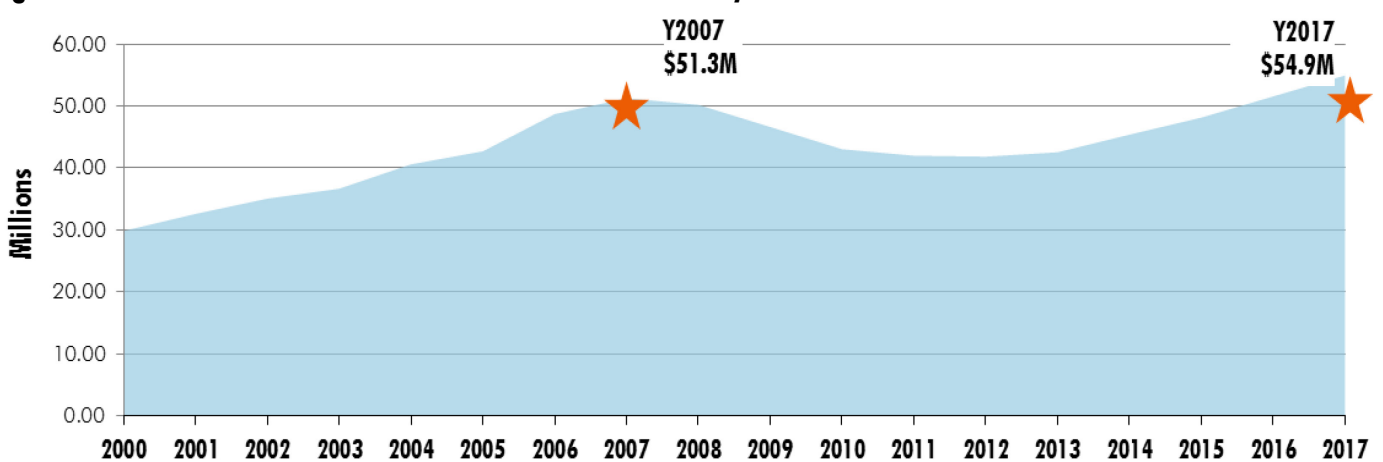
Figure 4.4: Counties Actual HURF Share and Estimated Share without Transfers (By Fiscal Year)



Vehicle License Tax (VLT)

Every year the State imposes a Vehicle License Tax (VLT) based on the value of a resident's vehicles. Revenue generated by the VLT is distributed to fund numerous programs, including 44.99 percent of revenue to HURF, 24.59 percent to the County General Fund, 24.59 percent to cities/towns, and 5.83 percent to counties for transportation purposes. As illustrated in Figure 4.5, revenue disbursements to counties for transportation uses have just reached peak 2007 levels. If inflation is considered, the VLT distributions to counties are 14 percent lower than peak 2007 levels. Inflation has averaged around 2 percent per year since 2007.

Figure 4.5: Historical VLT Revenues Distributed to Counties by Fiscal Year



Federal Funds

Federal government taxes on fuels are collected and used to fund highways and transit. Almost all Federal-Aid to counties comes from the Federal Highway Administration (FHWA), through ADOT. The primary ways county roads receive FHWA funds are through:

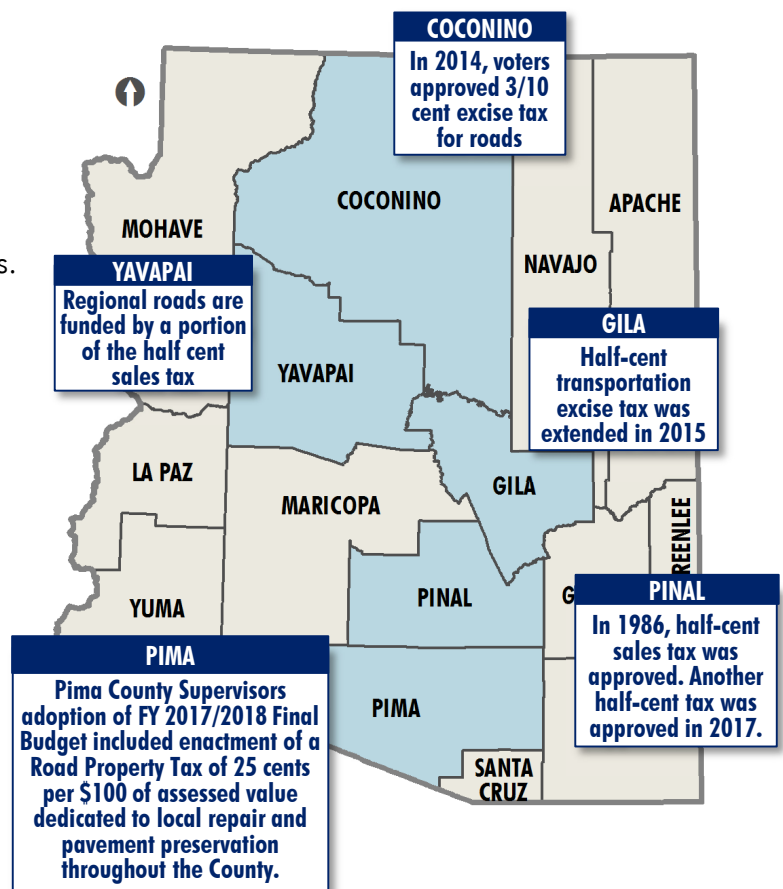
- **Surface Transportation Block Grant Program (STBG):** STBG funds are flexible and can be used by states and local agencies for almost any transportation need. These funds are available to counties through appropriation and distribution through Councils of Governments (COG) and Metropolitan Planning Organizations (MPO).
- **Highway Safety Improvement Program (HSIP):** The purpose of the HSIP is to achieve a reduction in traffic fatalities and serious injuries on all public roads in Arizona. HSIP funds are allocated to each state and ADOT sub-allocates 20 percent of funds to all MPOs and COGs in the State based on a formula.
- **Highway Bridge Program:** Federal-aid program that provides funding to enable states to improve the condition of highway bridges through replacement, rehabilitation, and systematic preventive maintenance.

Additional federal funding programs include the Governor's Office of Highway Safety, Accelerated Innovation Deployment Grant, and Federal Lands Highway Program.

Local Funding Sources

In addition to Federal and State funding sources, counties utilize a myriad of local revenue sources to fund transportation improvements and maintenance expenditures. Local funding sources include:

- Local Sales Tax
- County Vehicle Registration
- Development Impact Fees
- Traffic Impact Fees
- Improvement Districts
- Parking and Permit Fees
- Property Taxes
- Capital Improvement Program (CIP) Reserves/Capital Funds
- Regional Transportation Authority or COG/MPO Funds
- Private Grants
- Transfers from General Fund



Revenue Projections

In order to assess the funding gap, reasonable revenue projection estimates are needed. This section presents the methodologies evaluated to estimate future revenues from recurring sources such as HURF, VLT, and local sales tax initiatives. To most accurately assess future HURF and VLT funding levels, three projection scenarios were identified and evaluated. These scenarios are as follows:

- **Scenario A:** Projections developed by Arizona Department of Transportation (ADOT)
- **Scenario B:** Linear projections based on historical revenue trends
- **Scenario C:** Specialized projections developed by individual counties

Scenario A: HURF Projections Developed by ADOT

HURF Revenue Projections

At the end of each fiscal year, ADOT prepares HURF revenue projections for the following 10-year time period. Since 1986, ADOT has estimated highway user revenues using a comprehensive regression-based econometric model. The model has been updated through the years to take into consideration real gas prices, gasoline consumption, and independent variables such as growth per capita, population growth, and fleet fuel efficiency. In addition, the model includes a Risk Analysis Process (RAP) that relies heavily on the judgments of an expert panel of economic and financial participants to provide information critical to the forecasting process.

When developing the FY 2018 to FY 2027 projections, RAP panel members estimated a modest growth for the Arizona economy going forward. ADOT's official forecast for FY 2018 – FY 2027 totals \$17,135.2 million, an increase of \$236.7 million (September 2016 forecast). Table 4.1 illustrates ADOT's HURF revenue projections for FY 2018 and FY 2027, as well as a comparison of historical and projected growth percentages for a 10-year period.

- Statewide revenues (actual) increased only 4.5% in the previous decade (2008-2017). ADOT projections estimate an increase of 35.3% over the next decade (2018-2027)
- Counties' HURF revenues (actual) increased only 0.4% in the previous decade (2008-2017). ADOT projections estimate an increase of 37.4% over the next decade (2018-2027)

Table 4.1: Scenario A - HURF Revenue Projections (in Millions)

	Actual Revenues			Projected Revenues		
	FY 2008	FY 2017	Percent Change	FY 2018	FY 2027	Percent Change
Total Statewide HURF Revenue	\$1,344	\$1,405	4.5%	\$1,462	\$1,978	35.3%
Counties' HURF Revenue*	\$252	\$253	0.4%	\$262	\$360	37.4%

* Portion of counties HURF revenues after transfers/diversions

To further evaluate the accuracy of forecasts, ADOT's HURF revenue projections for FY 2017 (from the last ten years) were compared against actual 2017 revenues and are shown in Table 4.2. The percent variance between forecasted and actual revenues is smaller for near-term projections. For example, in 2007, 2017 revenues were projected to be 61 percent greater than the actual revenues received; in

comparison, projections created in 2011 have a less than one percent variance. Recent revenue projections for FY 2017 were under projected when compared to actual FY 2017 HURF revenues.

Table 4.2: FY2017 HURF Actual Revenues Compared to ADOT HURF Forecast Report Projections

Year Published	Forecast Period	Projected 2017 Revenue (Millions)	Actual 2017 Revenue (millions)	2017 Percent Variance
2007	FY2008-2017	\$2,257	\$1,405	61%
2008	FY2009-2018	\$2,014	\$1,405	43%
2009	FY2010-2019	\$1,576	\$1,405	12%
2010	FY2011-2020	\$1,452	\$1,405	3%
2011	FY2012-2021	\$1,409	\$1,405	0%
2012	FY2013-2022	\$1,377	\$1,405	-2%
2013	FY2014-2023	\$1,352	\$1,405	-4%
2014	FY2015-2024	\$1,363	\$1,405	-3%
2015	FY2016-2025	\$1,378	\$1,405	-2%
2016	FY2017-2026	\$1,416	\$1,405	1%

In summary, actual statewide revenues have only increased by 0.5% per year since 2008, while ADOT projects a 3.5% yearly increase until 2027. Counties' actual HURF revenues have stayed flat compared to 2008 level, while ADOT projects a 3.7% yearly increase until 2027.

VLT Revenue Projections

ADOT does not develop separate VLT revenue projections; however, the HURF projections include an estimate of VLT revenue contribution to HURF. On average, 44.99% of total VLT revenues are allocated to HURF. In addition, 5.83 percent of total VLT revenues are allocated to counties for transportation use. Table 4.3 illustrates VLT revenue projections for FY 2018 and FY 2027 based on ADOT's HURF projection, as well as a comparison of historical and projected growth rates for a 10-year period.

Table 4.3: Scenario A - VLT Revenue Projections (in Millions)

	Actual Revenues			Projected Revenues		
	FY 2008	FY 2017	Percent Change	FY 2018	FY 2027	Percent Change
Total Statewide VLT Revenue	\$859	\$940	9.4%	\$997	\$1,639	39.1%
Counties' VLT Revenue*	\$50	\$55	10.0%	\$58	\$96	65.5%

* VLT revenue for transportation uses only

- Statewide VLT revenues (actual) increased only 9.4% in the previous decade (2008-2017). ADOT projections reflect an increase of 39.1% over the next decade (2018-2027)
- Counties' VLT revenues (actual) increased only 10% in the previous decade (2008-2017). ADOT projections reflect an increase of 65.5% over the next decade (2018-2027)

In summary, actual statewide VLT revenues have only increased by 1% per year since 2008, while ADOT projects a 3.9% yearly increase until 2027. Counties' actual VLT revenues have only increased 1% per year since 2008, while ADOT projects a 6.5% yearly increase until 2027.

Scenario B: Linear Projection Based on Historical Revenue Trends

HURF Revenue Projections

In this scenario, revenue projections were developed using a trend line based on historical HURF revenues from 1998 to 2017. Table 4.4 illustrates the revenue projections for FY2018 and FY2027 as well as a comparison of historical and projected growth percentages for a 10-year period.

Table 4.4: Scenario B - HURF Revenue Projections (in Millions)

	Actual Revenues			Projected Revenues		
	FY 2008	FY 2017	Percent Change	FY 2018	FY 2027	Percent Change
Total Statewide HURF Revenue	\$1,344	\$1,405	4.5%	\$1,429	\$1,672	17.0%
Counties' HURF Revenue*	\$252	\$253	0.4%	\$256	\$302	18.0%

* Portion of counties HURF revenues after transfers/diversions

Scenario B forecasts have a more moderate growth of HURF revenues compared to Scenario A. In comparison, Scenario A projects a 3.5% yearly increase in statewide HURF revenues by 2027, while Scenario B projects a 1.7% yearly increase.

VLT Revenue Projections

In this scenario, revenue projections were developed using a trend line generated based on historical VLT revenues from FY2000 to FY2017. Table 3.5 illustrates the revenue projections for FY2018 and FY2027 and a comparison of historical and projected growth percentages for a 10-year period.

Table 4.5: Scenario B - VLT Revenue Projections (in Millions)

	Actual Revenues			Projected Revenues		
	FY 2008	FY 2017	Percent Change	FY 2018	FY 2027	Percent Change
Total Statewide VLT Revenue	\$859	\$940	9.4%	\$940	\$1,092	16.2%
Counties' VLT Revenue*	\$50	\$55	10.0%	\$55	\$64	16.4%

* VLT revenue for transportation uses only

Scenario B forecasts have a more moderate growth of VLT revenues compared to Scenario A. In comparison, Scenario A projects a 3.9% yearly increase statewide in VLT revenues by 2027, while Scenario B projects a 1.6% yearly increase.

Scenario C: Specialized Projections Developed by Individual Counties

HURF and VLT Revenue Projections

During the data collection phase of the project, the study team compiled revenue and expenditure data from all counties. In addition to historical revenue information, Pima County provided their own HURF and VLT revenue projections. Pima County developed their own projections due to concerns that the ADOT projections (presented in Scenario A) were too optimistic and not realistic.

Table 4.6 displays the revenue projections provided by Pima County. Pima County's projections are much lower than Scenario A except for the first two years and slightly higher than Scenario B.

Table 4.6: Pima County Revenue Projections (In Millions)

County	Year	Scenario A		Scenario B		Scenario C	
		HURF Revenues	VLT Revenues	HURF Revenues	VLT Revenues	HURF Revenues	VLT Revenues
Pima	FY2017	\$44.5	\$14.1	\$44.1	\$13.7	\$45.3	\$14.3
Pima	FY2018	\$46.5	\$15.0	\$45.0	\$14.0	\$46.2	\$14.8
Pima	FY2019	\$48.4	\$16.0	\$45.9	\$14.2	\$47.1	\$15.4
Pima	FY2020	\$49.5	\$17.0	\$46.2	\$14.5	\$48.0	\$16.0
Pima	FY2021	\$51.2	\$18.0	\$47.1	\$14.7	\$49.0	\$16.7
Pima	FY2022	\$53.0	\$19.0	\$48.0	\$15.0	\$50.0	\$17.3
Pima	FY2023	\$54.8	\$20.1	\$48.9	\$15.2	\$51.0	\$18.0
Pima	FY2024	\$56.6	\$21.2	\$49.8	\$15.5	\$52.0	\$18.8
Pima	FY2025	\$58.5	\$22.4	\$50.7	\$15.7	\$53.0	\$19.5
Pima	FY2026	\$60.6	\$23.6	\$51.6	\$16.0	\$54.1	\$20.3
Pima	FY2027	\$62.2	\$24.4	\$52.5	\$16.2	\$55.2	\$21.1

Summary

- The 15-year period from FY2003 to FY2017 has seen an economic boom, recession, and a period of steady growth. During this timeframe, statewide HURF revenues averaged an increase of about 1.8% per year; VLT revenues increased by about 3% per year.
- In Scenario A (ADOT's 10-year projections), the HURF revenues are projected to increase by 35% and VLT revenues by 39%; which represents a 3.5% and 3.9% increase per year of HURF and VLT revenues, respectively.
- In Scenario B (projections based on historical trends), HURF revenues are projected to increase by 17% and VLT revenues by 16%; which represents 1.7% and 1.6% increase per year of HURF and VLT revenues, respectively.

For the purpose of the *AACE Roadway Needs Study*, Scenario B was utilized to determine HURF and VLT revenue projections. Table 4.7 shows the HURF revenue projections by county based on Scenario B projections, while Table 4.8 illustrates the VLT revenue projections by county.

Table 4.7: HURF Revenue Projections (FY 2018 – FY2027)

	HURF Revenue Projections (in Millions)									
	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027
Statewide HURF Revenue	\$1,428.6	\$1,455.7	\$1,482.7	\$1,509.8	\$1,536.8	\$1,563.9	\$1,590.9	\$1,618.0	\$1,645.0	\$1,672.1
All Counties	\$256.0	\$261.2	\$266.3	\$271.5	\$276.6	\$281.7	\$286.9	\$292.0	\$297.2	\$302.3
Apache	\$7.0	\$7.2	\$7.0	\$7.2	\$7.3	\$7.4	\$7.6	\$7.7	\$7.9	\$8.0
Cochise	\$8.4	\$8.6	\$8.5	\$8.6	\$8.8	\$8.9	\$9.1	\$9.3	\$9.4	\$9.6
Coconino	\$9.9	\$10.1	\$10.2	\$10.4	\$10.6	\$10.8	\$11.0	\$11.2	\$11.4	\$11.6
Gila	\$3.9	\$4.0	\$4.0	\$4.0	\$4.1	\$4.2	\$4.3	\$4.3	\$4.4	\$4.5
Graham	\$2.6	\$2.6	\$2.7	\$2.7	\$2.8	\$2.8	\$2.9	\$2.9	\$3.0	\$3.0
Greenlee	\$0.9	\$1.0	\$1.0	\$1.0	\$1.0	\$1.1	\$1.1	\$1.1	\$1.1	\$1.1
La Paz	\$4.1	\$4.2	\$4.2	\$4.3	\$4.4	\$4.5	\$4.5	\$4.6	\$4.7	\$4.8
Maricopa	\$106.9	\$109.0	\$111.5	\$113.7	\$115.8	\$118.0	\$120.1	\$122.3	\$124.4	\$126.6
Mohave	\$12.7	\$12.9	\$13.3	\$13.6	\$13.8	\$14.1	\$14.3	\$14.6	\$14.8	\$15.1
Navajo	\$8.4	\$8.6	\$8.5	\$8.7	\$8.8	\$9.0	\$9.2	\$9.3	\$9.5	\$9.7
Pima	\$45.1	\$46.0	\$46.2	\$47.1	\$48.0	\$48.9	\$49.8	\$50.7	\$51.6	\$52.5
Pinal	\$19.9	\$20.3	\$21.7	\$22.1	\$22.5	\$23.0	\$23.4	\$23.8	\$24.2	\$24.6
Santa Cruz	\$3.4	\$3.4	\$3.6	\$3.6	\$3.7	\$3.8	\$3.8	\$3.9	\$4.0	\$4.0
Yavapai	\$12.0	\$12.2	\$12.7	\$13.0	\$13.2	\$13.5	\$13.7	\$14.0	\$14.2	\$14.5
Yuma	\$10.8	\$11.0	\$11.2	\$11.4	\$11.7	\$11.9	\$12.1	\$12.3	\$12.5	\$12.7

Table 4.8: VLT Revenue Projections (FY 2018 – FY2027)

	VLT Revenue Projections (in Millions)									
	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027
Total VLT Revenue	\$939.6	\$956.6	\$973.6	\$990.6	\$1,007.5	\$1,024.5	\$1,041.5	\$1,058.5	\$1,075.4	\$1,092.4
All Counties	\$54.8	\$55.8	\$56.8	\$57.7	\$58.7	\$59.7	\$60.7	\$61.7	\$62.7	\$63.7
Apache	\$2.4	\$2.5	\$2.5	\$2.6	\$2.6	\$2.7	\$2.7	\$2.8	\$2.8	\$2.8
Cochise	\$2.1	\$2.1	\$2.2	\$2.2	\$2.2	\$2.3	\$2.3	\$2.4	\$2.4	\$2.4
Coconino	\$2.1	\$2.2	\$2.2	\$2.3	\$2.3	\$2.3	\$2.4	\$2.4	\$2.5	\$2.5
Gila	\$1.0	\$1.0	\$1.1	\$1.1	\$1.1	\$1.1	\$1.1	\$1.2	\$1.2	\$1.2
Graham	\$0.8	\$0.8	\$0.8	\$0.9	\$0.9	\$0.9	\$0.9	\$0.9	\$0.9	\$0.9
Greenlee	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2
La Paz	\$0.5	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6
Maricopa	\$11.4	\$11.6	\$11.8	\$12.0	\$12.2	\$12.4	\$12.6	\$12.8	\$13.0	\$13.2
Mohave	\$3.0	\$3.1	\$3.1	\$3.2	\$3.2	\$3.3	\$3.3	\$3.4	\$3.4	\$3.5
Navajo	\$2.7	\$2.8	\$2.8	\$2.9	\$2.9	\$3.0	\$3.0	\$3.1	\$3.1	\$3.2
Pima	\$14.1	\$14.4	\$14.6	\$14.9	\$15.2	\$15.4	\$15.7	\$15.9	\$16.2	\$16.4
Pinal	\$7.5	\$7.6	\$7.8	\$7.9	\$8.0	\$8.2	\$8.3	\$8.5	\$8.6	\$8.7
Santa Cruz	\$1.0	\$1.0	\$1.1	\$1.1	\$1.1	\$1.1	\$1.1	\$1.2	\$1.2	\$1.2
Yavapai	\$3.4	\$3.4	\$3.5	\$3.5	\$3.6	\$3.7	\$3.7	\$3.8	\$3.8	\$3.9
Yuma	\$2.4	\$2.4	\$2.5	\$2.5	\$2.6	\$2.6	\$2.7	\$2.7	\$2.7	\$2.8



5. EXPENDITURES

Chapter 3 presented a summary of estimated costs to repair and maintain roadways and bridges; and safety costs for the next 10 years. In addition to these expenditures, counties also incur personnel, operations, and administration costs.

Personnel costs typically include expenditures related to employee salaries, retirement, healthcare, and other benefits costs. Individual counties' recent CAFR, budget reports, and data provided by the counties were utilized as a resource to determine these costs. A 2% per year escalation rate was used to forecast personnel costs for the next 10-year period. Table 5.1 is a summary of estimated and projected personnel costs; indicating that an estimated \$1.3 Billion is needed in personnel costs for the next 10 years for all counties combined.

Operations costs generally include fleet/equipment purchases and maintenance, etc. Administration costs are generally non-labor related overhead costs. Detailed expenditure data was provided by some of the counties. Operation costs ranged between 25-35 percent of the total expenditures and administration costs ranged between 2-5 percent. In order to normalize costs for the purpose of this study, operation and administrative costs were assumed as 30 percent and 3 percent, respectively, of the overall expenditures. A 2% per year escalation rate was used to forecast costs for the next 10-year period. Table 5.1 summarizes the estimated personnel, operations, and administrative costs for each county for the next 10-year period.

Table 5.1: Estimated Expenditures (10-Year Period)

County	Personnel Costs	Operation Costs	Administration Costs
Apache	\$45,217,762	\$54,261,314	\$5,426,131
Cochise	\$46,656,616	\$55,987,939	\$5,598,794
Coconino	\$87,407,919	\$104,889,503	\$10,488,950
Gila	\$40,073,061	\$48,087,673	\$4,808,767
Graham	\$19,490,023	\$23,388,027	\$2,338,803
Greenlee	\$16,960,398	\$20,352,478	\$2,035,248
La Paz	\$15,590,153	\$18,708,184	\$1,870,818
Maricopa	\$358,682,391	\$430,418,869	\$43,041,887
Mohave	\$107,989,304	\$129,587,165	\$12,958,717
Navajo	\$53,812,278	\$64,574,734	\$6,457,473
Pima	\$220,483,074	\$264,579,689	\$26,457,969
Pinal	\$160,420,459	\$192,504,551	\$19,250,455
Santa Cruz	\$15,888,179	\$19,065,815	\$1,906,581
Yavapai	\$82,258,438	\$98,710,125	\$9,871,013
Yuma	\$41,473,305	\$49,767,966	\$4,976,797
Total	\$1,312,403,360	\$1,574,884,032	\$157,488,403



6. FUNDING GAP

Failure to meet the current maintenance investment needs of the State will result in the rapid deterioration of Arizona's transportation system over the next 10 years. It is imperative that counties receive a stable revenue stream for cost-effective maintenance of the county transportation system in order to reverse this crisis.

Table 6.1 presents the projected 10-year revenues, 10-year costs to maintain the county roadway system, and the discrepancy between projected funding and roadway needs. In the next 10-years, Arizona counties will need an additional \$2.2 billion in revenues to maintain and bring the system to a state-of-good-repair.

Table 6.1: Projected Revenue, Expenditure Needs, and Funding Gap (10-Year Period)

County	Revenue	Expenditure Needs	Funding Gap
Apache	\$100,804,846	\$181,684,454	\$80,879,607
Cochise	\$111,823,599	\$263,636,724	\$151,813,125
Coconino	\$226,382,320	\$385,019,478	\$158,637,158
Gila	\$66,466,714	\$188,785,459	\$122,318,745
Graham	\$36,783,141	\$86,461,242	\$49,678,102
Greenlee	\$12,421,039	\$64,211,476	\$51,790,437
La Paz	\$50,269,083	\$130,445,509	\$80,176,426
Maricopa	\$1,291,299,816	\$1,394,387,060	\$103,087,244
Mohave	\$171,735,053	\$479,263,569	\$307,528,516
Navajo	\$119,139,521	\$201,622,619	\$82,483,098
Pima	\$736,420,805	\$1,019,802,136	\$283,381,331
Pinal	\$388,743,359	\$587,387,800	\$198,644,441
Santa Cruz	\$48,337,051	\$87,656,422	\$39,319,370
Yavapai	\$256,037,072	\$351,859,558	\$95,822,486
Yuma	\$143,619,373	\$537,594,350	\$393,974,977
Total	\$3,760,282,792	\$5,959,817,855	\$2,199,535,062



STATEWIDE SNAPSHOT

County roads are the backbone of Arizona's roadway network. They provide essential links for commerce and economic development, connections from homes to schools, access to recreational areas and for tourism, connectivity between city streets and state highways, and routes for emergency services. Funding shortfalls, however, have left the county road system in an increasing state of disrepair.

Summary of Unincorporated County Population



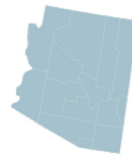
1.43 MILLION
2016 UNINCORPORATED
POPULATION



1.67 MILLION
2027 UNINCORPORATED
COUNTY POPULATION



17 PERCENT
POPULATION INCREASE



21 PERCENT
OF ARIZONA'S POPULATION
LIVES IN UNINCORPORATED

Source: Arizona Office of Economic Opportunity

County Maintained Roadways

- 45 percent of county maintained roads are paved and 55 percent are unpaved.
- Per FHWA approved functional classification, the County road system consists of primarily collectors (20 percent) and locals (77 percent). Arterials account for 3 percent.
- Many counties have intergovernmental agreements with Tribal governments to maintain roads on Indian reservations.

Current Roadway Conditions

The public judges the effectiveness of a road agency by the condition of its roadways; however, reduced budgets have forced counties' to delay pavement preservation and maintenance.

ARIZONA COUNTIES →

COUNTY MILEAGE*	20,800 MI
PAVED ROAD MILEAGE	9,300 MI
UNPAVED ROAD MILEAGE	11,500 MI

* County owned and maintained roads



35 PERCENT
COUNTY MAINTAINED ROADS ARE IN
POOR TO VERY POOR CONDITION



\$1.65 BILLION
COST TO BRING ROADS TO A STATE-
OF-GOOD-REPAIR

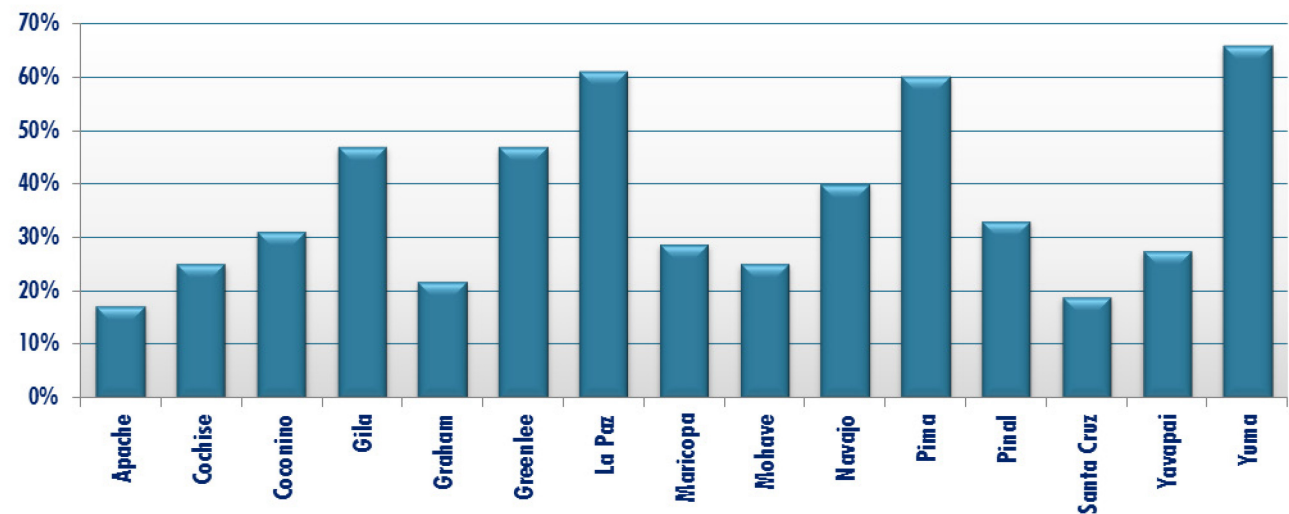


\$885 MILLION
COST TO MAINTAIN ROADWAYS FOR
THE NEXT 10 YEARS

To determine the current condition of the County roadway system, a sample set of County roads were evaluated. The sample dataset included a mixture of roadway types to reflect each County’s entire roadway system. Based on the results of the sample datasets, the condition of the remaining 90 percent of the roadways was prorated. Key findings show:

- 35 percent of County roads are in poor to very poor condition.
- 57 percent in fair condition.
- 8 percent in good to excellent condition.

Percent of Surveyed Roads in Poor Condition



Based on the condition of the roadway, the table below lists the potential costs needed to bring the roads to a state-of-good-repair and maintain the system for the next 5- and 10-year periods.

Costs to Bring Roads to a State-of-Good-Repair

Costs (in thousands)	
State-of-Good-Repair Costs	\$1,652,445
Total 10 Year Maintenance Costs	\$885,118
Total Maintenance Costs (2018-2022)	\$360,691
Total Maintenance Costs (2023-2027)	\$524,427
Total Roadway Costs (State-of-Good-Repair & Maintenance Costs)	\$2,537,563

Current Bridge Conditions

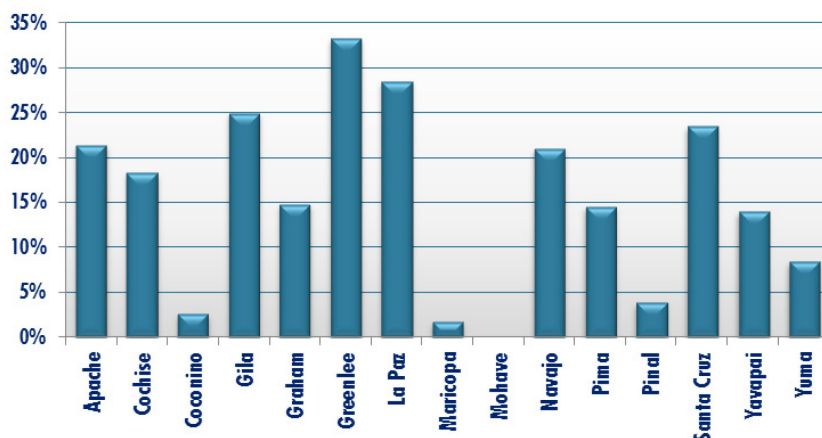
There are 1,101 county maintained bridges and structures in Arizona. Structurally deficient bridges are structures found to be in poor condition due to deterioration or damage and require significant maintenance, rehabilitation, or replacement. Functionally obsolete bridges are those that do not have adequate lanes, lane widths, shoulder widths, or vertical clearances to serve current traffic demand. The table below summarizes deficient bridges by type.

Overview of Structures in Apache County

Bridge Type	Total Bridges	Structurally Deficient	Functionally Obsolete
Concrete	332	22	27
Culvert	674	3	17
Steel	81	22	12
Timber	14	4	3
Total	1,101	51	59

Source: ADOT Bridge Group

Percent of County Maintained Bridges Deemed Structurally Deficient or Functionally Obsolete



The table below summarizes the costs to bring County bridges to a state-of-good-repair and maintain for the next ten years.

Bridge Repair and Maintenance Costs (10-Year Period)*

Bridge Costs (in millions)	
Bridge Replacement Costs*	\$156,743
Inspection Costs	\$16,508
Maintenance Costs	\$30,892
Total Bridge Costs	\$204,144

*Bridges classified as structurally deficient or functionally obsolete were assumed to be replaced within 10 years



1,101
COUNTY OWNED
BRIDGES/STRUCTURES

10 PERCENT
COUNTY MAINTAINED BRIDGES ARE
STRUCTURALLY DEFICIENT OR
FUNCTIONALLY OBSOLETE



36 YEARS
AVERAGE AGE OF BRIDGES



24 PERCENT
AGE 50 YEARS OR OLDER



18.8 MILES
AVERAGE DETOUR LENGTH



\$204
MILLION
COST TO BRING BRIDGES
TO A STATE-OF-GOOD-
REPAIR AND MAINTAIN FOR
THE NEXT 10 YEARS

Highway User Revenue Fund (HURF)

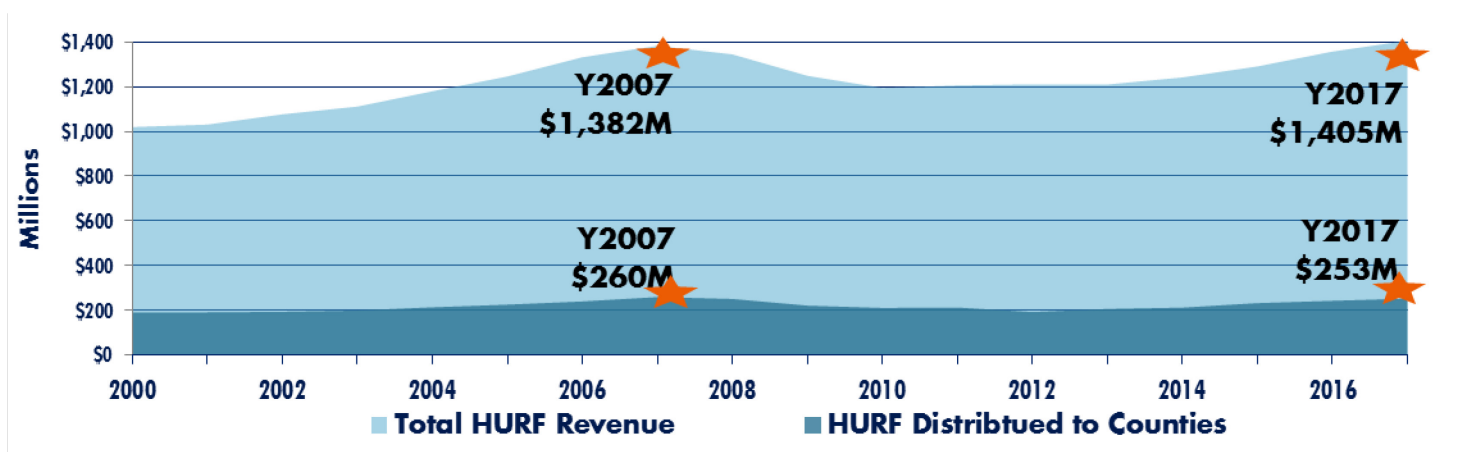
Highway User Revenue Fund (HURF) is the primary transportation funding source for counties. HURF is funded through a variety of taxes and fees that are collected and distributed to cities, towns, counties, and the State Highway Fund for transportation purposes. The distribution formula allots 19 percent of revenues to counties.

Historical Revenues

Revenue data was compiled from ADOT’s HURF/VLT distribution reports, each county’s Comprehensive Annual Financial Reports (CAFR), Annual Budget Reports, and information provided by county staff. Key highlights include:

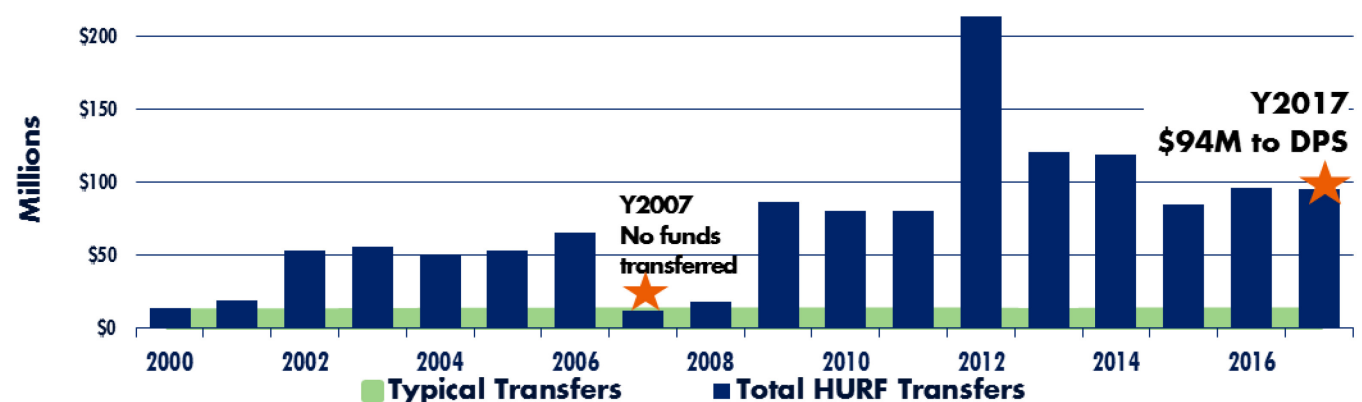
- Statewide revenues are just now returning to the peak 2007 levels.
- County HURF distributions are still 2.7 percent lower than the peak 2007 levels.

Historical HURF Revenue



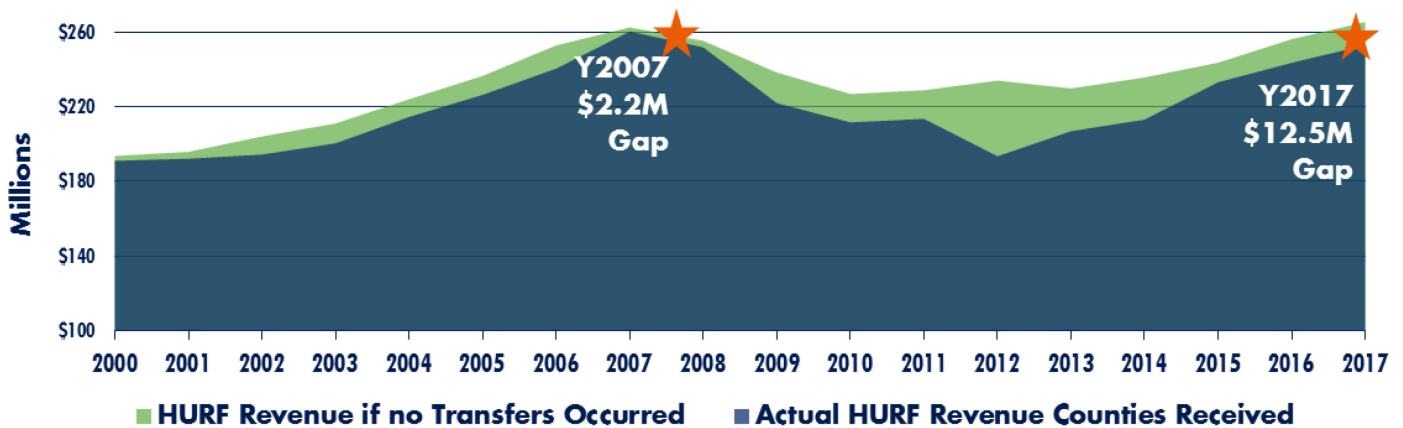
HURF Transfers/Diversions to Support State Programs

Each year, the state transfers/diverts HURF roadway improvement funds to support other state programs (such as DPS). The following chart illustrates the actual HURF funds distributed to county versus the estimated share if no HURF transfers occurred.



Impact of HURF Transfers/Diversions on the County

Since 2000, 233 million of HURF revenues have been transferred/diverted to support the Motor Vehicle Division (MVD) and DPS. In 2012 alone, \$40.5 million of funds that would have been allocated to counties was transferred.



Gasoline Excise Tax

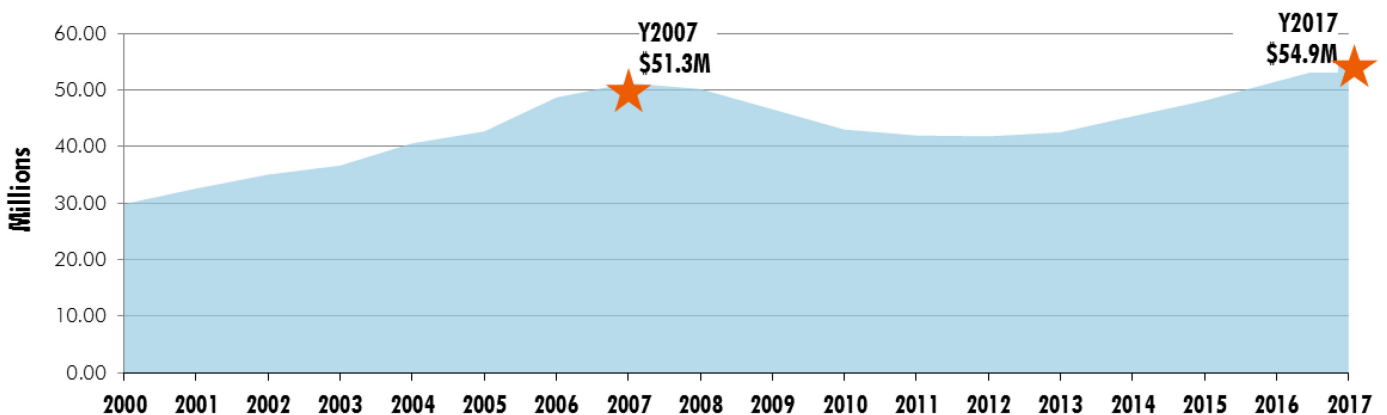
Gasoline excise tax is the primary source of HURF funds. Arizona has the 7th lowest gasoline tax with 19 cents per gallon:

- State Excise Tax: 18 cents per gallon
- Other State Taxes/Fees: 1 cent per gallon



Vehicle License Tax

Every year the state imposes a Vehicle License Tax (VLT) based on the value of a resident's vehicles. Revenue generated by the VLT is distributed to fund numerous programs, including HURF, the County General Fund, cities/towns, and counties for transportation purposes.



Revenue Projections

In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated revenues for the 10-year period.

Revenue Source	Estimated 10-Year Recurring Revenues (in millions)
HURF	\$2,791.8
VLT	\$592.3
Other	\$376.1
Total	\$3,760.2

Expenditures

Counties utilize transportation funds to support a variety of needs, including:

- New roadway and structure construction
- Pavement preservation
- Routine roadway maintenance (i.e. filling potholes, grading roads, clearing roadside vegetation, etc.)
- Bridge maintenance and repair
- Installing and maintaining traffic control devices
- Storm event/emergency response

Expenditure Projections

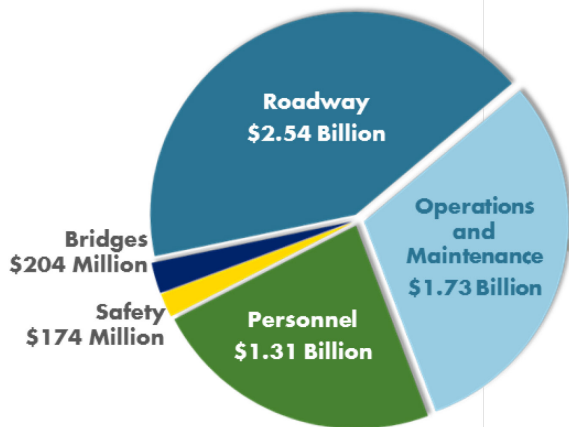
In order to assess the funding gap for each county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated expenditures for the 10-year period.

Expenditures (in millions)	Arizona
Roadway Repair and Maintenance	\$2,537.3
Bridge Repair and Maintenance	\$204.1
Safety Improvements	\$173.5
Personnel	\$1,312.4
Operations	\$1,574.9
Administration	\$157.5
Total	\$5,959.7

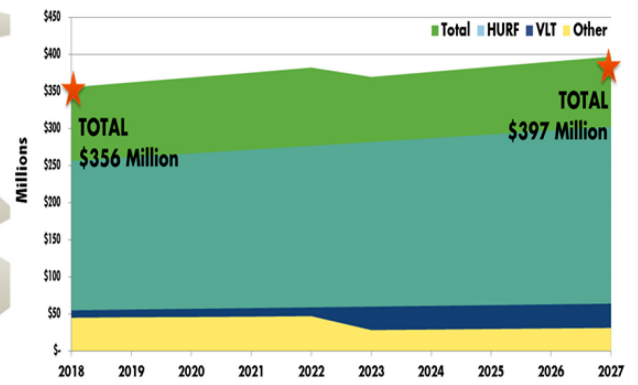
The Bottom Line

Failure to meet the current maintenance investment needs of the state will result in the rapid deterioration of its transportation system over the next 10 years. It is imperative that counties receive a stable revenue stream for cost-effective maintenance of the county transportation system in order to reverse this crisis.

COST TO MAINTAIN SYSTEM OVER 10 YEARS



PROJECTED 10 YEAR REVENUES



EXPENDITURES

 **\$5.96 Billion**

REVENUE

 **\$3.76 Billion**

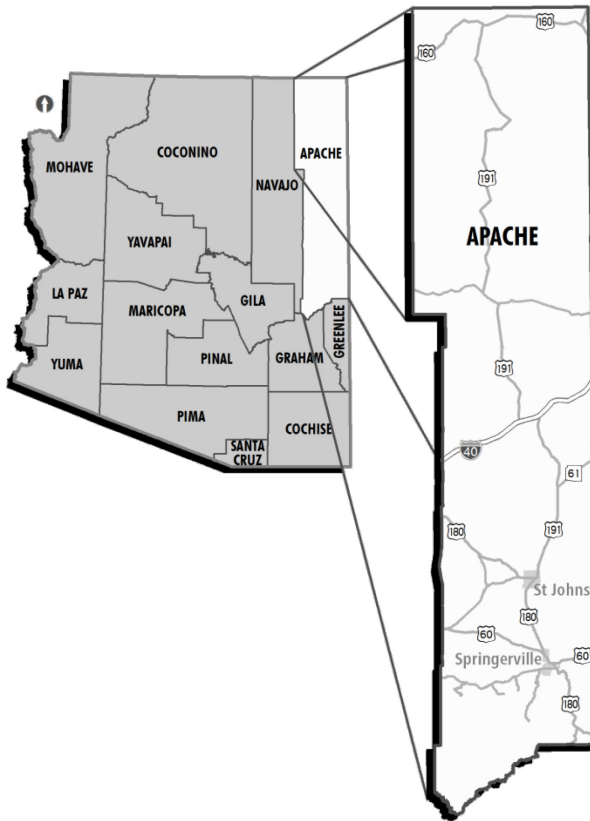


FUNDING GAP
-\$2.2 Billion

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APACHE COUNTY SNAPSHOT



Adjacent to the four corners of New Mexico, Colorado, and Utah, Apache County is located in northeastern Arizona. The county has sharp contrasts in terrain ranging from the forested White Mountains near Alpine to the dry, high plateau region of northern Arizona. As the third largest county in the state, Apache County experiences a wide range of weather conditions that impacts roadway conditions and maintenance needs.

The Apache and Navajo Indian reservations cover 67 percent of the County. Approximately 2 percent of the county is public land and 13 percent is privately owned.

The median age of residents in the County is 33.4 years; median household income is \$32,000. The most common employment sectors for those who live in Apache County are Healthcare & Social Assistance (20.7 percent), Educational Services (17 percent), and Public Administration (11.4 percent).

Area (sq miles): 11,174	County Seat: St. Johns
Congressional District: 1st	Elevation: 4,200 – 1,590 FT
Avg. Annual Snowfall: 40 in	Avg. Annual Rainfall: 21 in
Avg. Low Temp: 15-21°F	Avg. High Temp: 83-90°F

Summary of Unincorporated County Population



2016 POPULATION
61,755



2027 POPULATION
59,793
-3.2% decrease



Source: Arizona Office of Economic Opportunity

County Maintained Roadways

- Apache County owns and maintains approximately 1,595 miles of roadways.
- Only 7 percent are paved roads and 93 percent are unpaved.
- Per FHWA approved functional classification, the County road system consists of primarily collectors (25 percent) and locals (75 percent). Arterials account for less than one percent.
- Apache County assists the Navajo Nation with the maintenance of Tribal roads.

Current Roadway Conditions

To determine the current condition of Apache County’s roadway system, a sample set consisting of 11 percent of County roads were evaluated. The sample dataset included a mixture of roadway types to reflect the County’s entire roadway system. Based on the results of the sample datasets, the condition of the remaining 89 percent of the roadways was prorated. Key findings show:

- 17 percent of County roads are in poor to very poor condition.
- 80 percent in fair condition.
- 3 percent in good to excellent condition.

Based on the condition of the roadway, the table below lists the potential costs needed to bring the roads to a state-of-good-repair and maintain the system for the next 5- and 10-year periods.

Costs to Bring Roads to a State-of-Good-Repair

	Costs (in thousands)
State-of-Good-Repair Costs	\$21,283
Total 10 Year Maintenance Costs	\$52,202
Total Maintenance Costs (2018-2022)	\$22,507
Total Maintenance Costs (2023-2027)	\$29,695
Total Roadway Costs (State-of-Good-Repair & Maintenance Costs)	\$73,485

APACHE COUNTY



COUNTY MILEAGE*	1,595 mi
PAVED ROAD MILEAGE**	106 mi
UNPAVED ROAD MILEAGE	1,489 mi

* County owned and maintained roads
 ** Includes chip sealed roads



15-20 PERCENT
 COUNTY MAINTAINED ROADS ARE IN
 POOR TO VERY POOR CONDITION



\$52.2 MILLION
 COST TO MAINTAIN ROADWAYS FOR
 THE NEXT 10 YEARS



\$21.3 MILLION
 COST TO BRING ROADS TO A STATE-
 OF-GOOD-REPAIR

Current Bridge Conditions

ADOT’s comprehensive bridge data was obtained to evaluate the County bridge conditions. Key findings show:

- 14 bridge structures on Apache County’s roadways.
- One bridge is rated structurally deficient.
- Two bridges are deemed functionally obsolete.

The table below summarizes deficient bridges by type.

Overview of Structures in Apache County

Bridge Type	Total Bridges	Structurally Deficient	Functionally Obsolete
Concrete	3	0	2
Culvert	9	0	0
Steel	2	1	0
Timber	0	0	0
Total	14	1	2

Source: ADOT Bridge Group

The table below summarizes the costs to bring the County bridges to a state-of-good-repair and maintain for the next ten years.

Bridge Repair and Maintenance Costs (10-Year Period)*

Bridge Costs (in Thousands)	
Bridge Replacement Costs*	\$1,876
Inspection Costs	\$179
Maintenance Costs	\$240
Total Bridge Costs	\$2,295

*Bridges classified as structurally deficient or functionally obsolete were assumed to be replaced within 10 years

Safety Improvements

To assess potential safety needs, the study team followed a three step approach:

- 1) Reviewed each county’s Transportation Improvement Program (TIP) to identify safety projects.
- 2) Conducted a high-level spatial review of crash locations to identify roadway segments and intersections that have a high density of historical crashes. For locations with high density of crashes, an aerial and Google Streetview evaluation was conducted to identify potential issues and mitigation measures. Cost estimates were developed for potential improvements.
- 3) Costs from the TIP and aerial review were combined to calculate overall safety improvement costs. For good measure, a minimum of \$1 million was assumed for safety improvements.

For Apache County, \$1 million was assumed for safety improvements for the 10-year period.

 **FOURTEEN**
COUNTY OWNED BRIDGES/STRUCTURES

 **21 PERCENT**
COUNTY MAINTAINED BRIDGES ARE
STRUCTURALLY DEFICIENT OR
FUNCTIONALLY OBSOLETE

 **59 YEARS**
AVERAGE AGE OF BRIDGES

 **57 PERCENT**
AGE 50 YEARS OR OLDER

 **33 MILES**
AVERAGE DETOUR LENGTH

 **\$2.3 MILLION**
COST TO BRING BRIDGES TO A
STATE-OF-GOOD-REPAIR AND
MAINTAIN FOR THE NEXT 10 YEARS

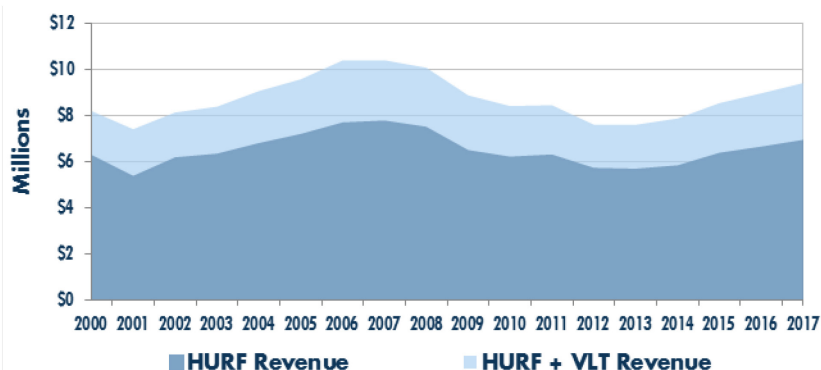
Summary of County Revenues

The county's transportation revenue sources include HURF, VLT, and federal/state/local grants. Since grant receipts vary significantly each year, only recurring (dependable) revenue sources were analyzed.

Historical Revenues

Revenue data was compiled from ADOT's HURF/VLT distribution reports, the county's Comprehensive Annual Financial Reports (CAFR), Annual Budget Reports, and information provided by county staff. Key highlights include:

- The county's total *recurring* revenues have decreased by 10 percent since the peak level in 2007.
- HURF revenues have decreased by 10 percent since the peak level in 2007.
- In 2017, 74 percent of the county's recurring transportation funds came from HURF.



2017 County Recurring Revenue Sources

Recurring Revenue Source	2017
HURF Funds	\$6,956,483
VLT Funds	\$2,457,980
Local Tax Initiative Funds	\$0
Total Recurring Revenue	\$9,414,463

Source: ADOT HURF/VLT Distribution Reports; County CAFR Report; County Annual Budget Report

HURF Transfers to Support State Programs

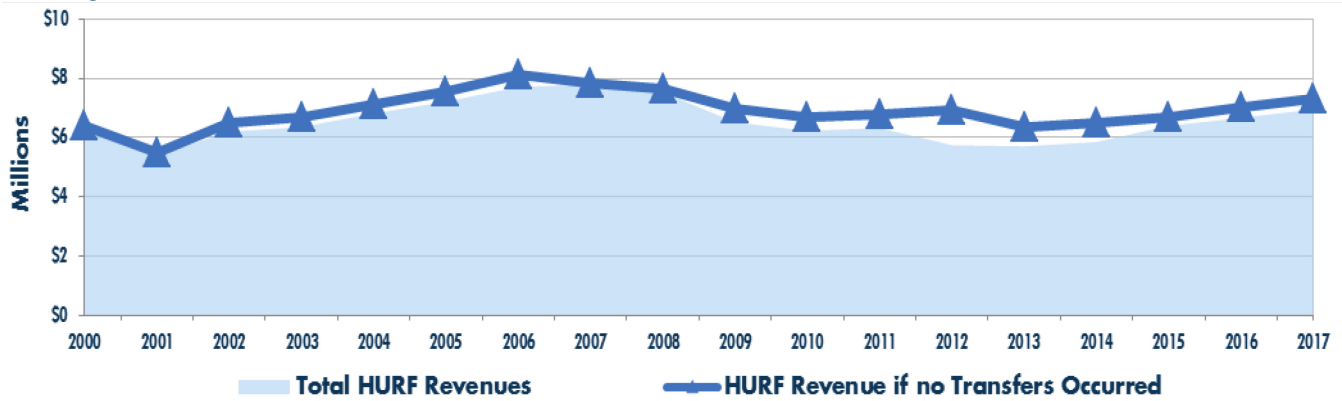
Each year, the state transfers HURF roadway improvement funds to support other state programs (such as DPS). The following table and chart illustrates the actual HURF funds distributed to county versus the estimated share if no HURF transfers occurred.

- Since 2000, a total of \$6.9 million of HURF funds have been distributed to other programs that the county would have otherwise received.
- In 2017, HURF revenue loss per capita was \$5.50.

Impact of HURF Transfers on the County

HURF Revenue Transfers	2005	2010	2015	2017
HURF Revenue Loss Due to Transfers	\$324,358	\$448,426	\$288,161	\$342,527
HURF Revenue if no Transfers Occurred	\$7,537,196	\$6,678,158	\$6,684,930	\$7,299,010
Percent Loss of HURF Revenue	4.5%	7.2%	4.5%	4.9%
HURF Revenue Loss Per Capita	\$5.29	\$7.33	\$4.66	\$5.50

Funding Levels if No HURF Transfers Occurred



Revenue Projections

In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated revenues for the 10-year period.

Revenue Source	Estimated 10-Year Recurring Revenues (in millions)
HURF	\$74.3
VLT	\$26.5
Other	\$0.0
Total	\$100.8

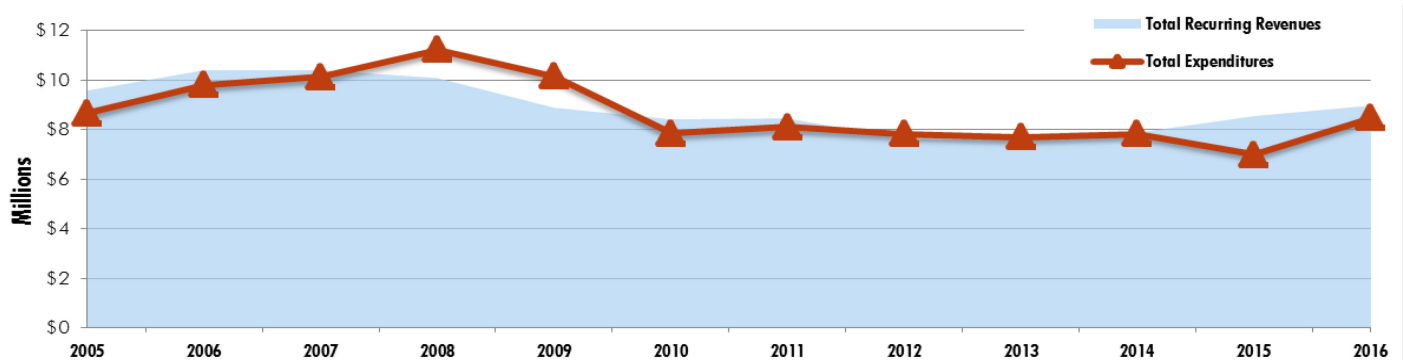
Summary of Expenditures

Historical county CAFRs, budget reports, and information provided by staff were utilized to compile expenditures related to transportation uses.

- Apache County has intergovernmental agreements to maintain over 828 miles of roadways on the Navajo Nation.
- In 2009, roadway expenditures were 14.1 percent more than the county's recurring revenues.



Historical County Transportation Expenditures



Source: County CAFR Report; County Annual Budget Report

Expenditure Projections

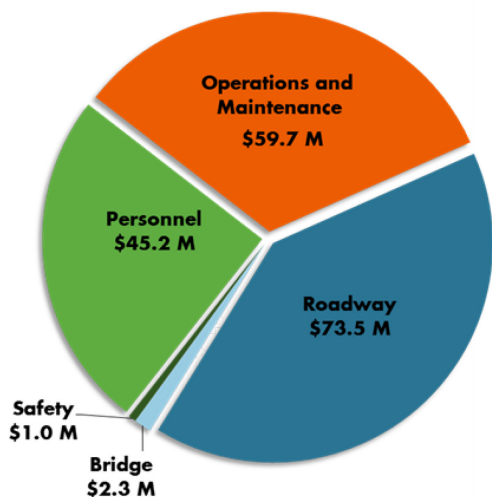
In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated expenditures for the 10-year period.

Expenditures (in millions)	Apache County
Roadway Repair and Maintenance	\$73.5
Bridge Repair and Maintenance	\$2.3
Safety Improvements	\$1.0
Personnel	\$45.2
Operations	\$54.3
Administration	\$5.4
Total	\$181.7

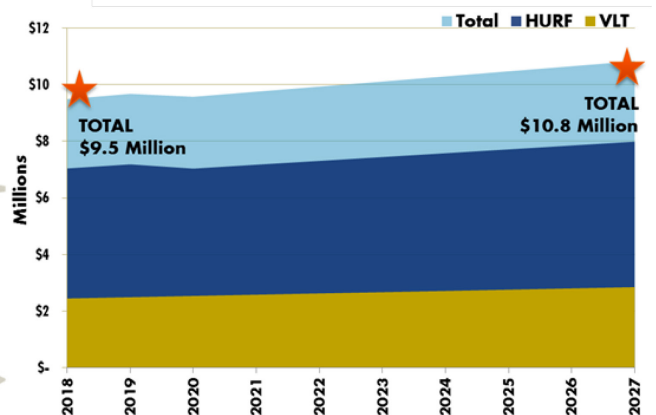
The Bottom Line

Failure to meet the current maintenance investment needs of the County will result in the rapid deterioration of its transportation system over the next 10 years. It is imperative that Apache County receive a stable revenue stream for cost-effective maintenance of the county transportation system in order to reverse this crisis.

COST TO MAINTAIN SYSTEM OVER 10 YEARS



PROJECTED 10 YEAR REVENUES



EXPENDITURES



\$181.7 Million

REVENUE



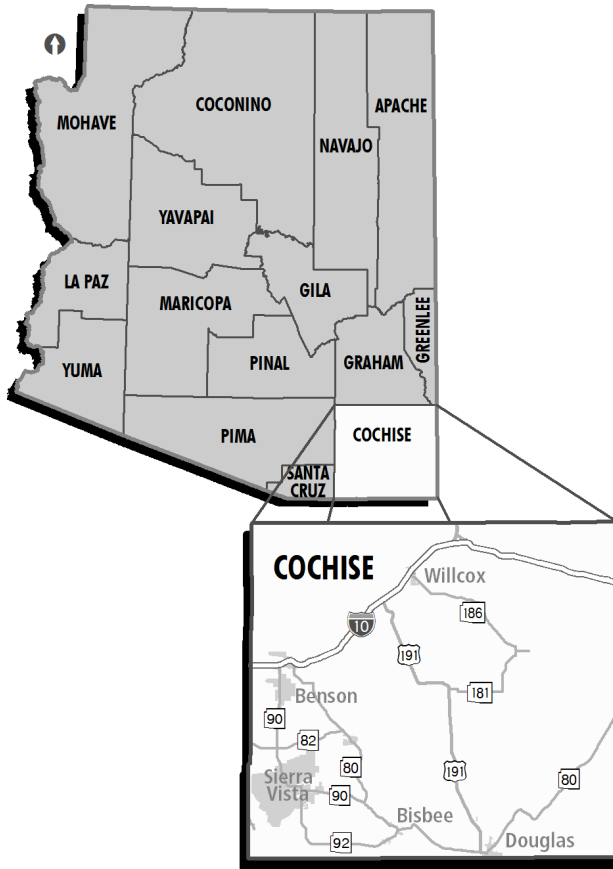
\$100.8 Million



**FUNDING GAP
-\$80.9 Million**



COCHISE COUNTY SNAPSHOT



Located in southeastern Arizona, Cochise County is an important agricultural area. Cochise County is a mix of rural landscapes and urban crossroad communities, with a long history of farming, ranching, and mining. Weather and roadway conditions vary greatly throughout the County. A number of roads were even established prior to Arizona statehood and have remained in continuous usage for over a hundred years.

Cochise County is one of only three counties in Arizona without an Indian reservation. Private lands account for 40 percent of the county, while State Land (35 percent), the U.S. Forest Service and Bureau of Land Management (23 percent), and other public lands (2 percent) own/manage the rest of the county.

The median age in the County is 40 years, median household income is \$45,000. The most common employment sectors for those who live in Cochise County are Healthcare & Social Assistance (12.1 percent), Retail Trade (11.6 percent), and Public Administration (16.4 percent).

Area (sq miles): 6,219

County Seat: Bisbee

Congressional District: 2nd

Elevation: 2,900 – 9,800 FT

Avg. Annual Snowfall: 1 in

Avg. Annual Rainfall: 15 in

Avg. Low Temp: 31-37°F

Avg. High Temp: 93-95°F

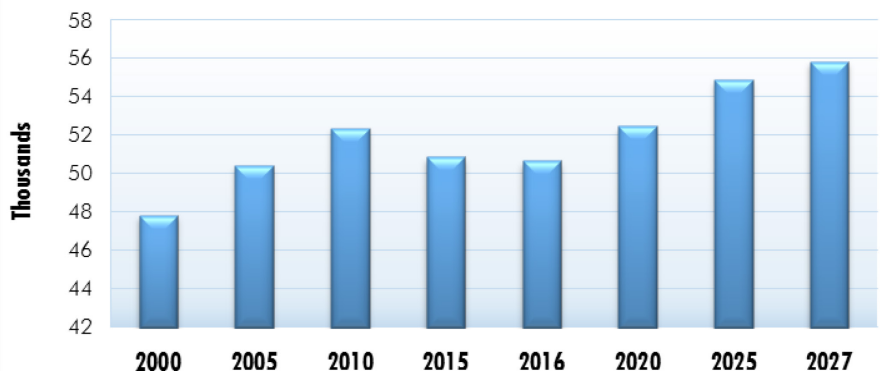
Summary of Unincorporated County Population



2016 POPULATION
50,914



2027 POPULATION
55,859
9.7% increase



Source: Arizona Office of Economic Opportunity

County Maintained Roadways

- Cochise County owns and maintains approximately 1,435 miles of roadways.
- 46 percent are paved roads and 54 percent are unpaved.
- Per FHWA approved functional classification, the County road system consists of primarily collectors (24 percent) and locals (76 percent).

Current Roadway Conditions

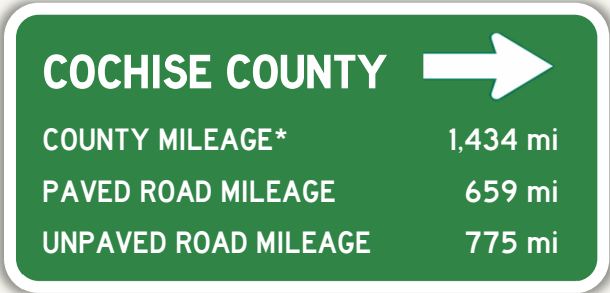
To determine the current condition of Cochise County’s roadway system, a sample set consisting of 13 percent of County roads were evaluated. The sample dataset included a mixture of roadway types to reflect the County’s entire roadway system. Methodology utilized for evaluation is presented in Chapter 3. Based on the results of the sample datasets, the condition of the remaining 87 percent of the roadways was prorated. Key findings show:

- 25 percent of County roads are in poor to very poor condition.
- 69 percent in fair condition.
- 6 percent in good to excellent condition.

Based on the condition of the roadway, the table below lists the potential costs needed to bring the roads to a state-of-good-repair and maintain the system for the next 5- and 10-year periods.

Costs to Bring Roads to a State-of-Good-Repair

	Costs (in thousands)
State-of-Good-Repair Costs	\$99,219
Total 10 Year Maintenance Costs	\$49,149
Total Maintenance Costs (2018-2022)	\$22,088
Total Maintenance Costs (2023-2027)	\$27,061
Total Roadway Costs (State-of-Good-Repair & Maintenance Costs)	\$148,368



* County owned and maintained roads



20-25 PERCENT
COUNTY MAINTAINED ROADS ARE IN
POOR TO VERY POOR CONDITION



\$49.1 MILLION
COST TO MAINTAIN ROADWAYS FOR
THE NEXT 10 YEARS



\$99.2 MILLION
COST TO BRING ROADS TO A STATE-
OF-GOOD-REPAIR

Current Bridge Conditions

ADOT’s comprehensive bridge data was obtained to evaluate the County bridge conditions. Key findings show:

- 60 bridge structures on Cochise County’s roadways.
- Eight bridges are rated structurally deficient.
- Three bridges are deemed functionally obsolete.

The table below summarizes deficient bridges by type.

Overview of Structures in Cochise County

Bridge Type	Total Bridges	Structurally Deficient	Functionally Obsolete
Concrete	21	3	2
Culvert	32	0	0
Steel	5	3	1
Timber	2	2	0
Total	60	8	3

Source: ADOT Bridge Group

The table below summarizes the costs to bring the County bridges to a state-of-good-repair and maintain for the next ten years.

Bridge Repair and Maintenance Costs (10-Year Period)*

Bridge Costs (in Thousands)	
Bridge Replacement Costs*	\$3,739
Inspection Costs	\$831
Maintenance Costs	\$1,016
Total Bridge Costs	\$5,586

*Bridges classified as structurally deficient or functionally obsolete were assumed to be replaced within 10 years

Safety Improvements

To assess potential safety needs, the study team followed a three step approach:

- 1) Reviewed each county’s 2040 Long-Range Transportation Plan to identify safety projects.
- 2) Conducted a high-level spatial review of crash locations to identify roadway segments and intersections that have a high density of historical crashes. For locations with high density of crashes, an aerial and Google Streetview evaluation was conducted to identify potential issues and mitigation measures. Cost estimates were developed for potential improvements.
- 3) Costs from the TIP and aerial review were combined to calculate overall safety improvement costs. For good measure, a minimum of \$1 million was assumed for safety improvements.

An estimated \$1.4 million in safety improvements are needed for Cochise County for the 10-year period.



SIXTY
COUNTY OWNED BRIDGES/STRUCTURES



18 PERCENT
COUNTY MAINTAINED BRIDGES ARE
STRUCTURALLY DEFICIENT OR
FUNCTIONALLY OBSOLETE



53 PERCENT
AGE 50 YEARS OR OLDER



52 YEARS
AVERAGE AGE OF BRIDGES



30.2 MILES
AVERAGE DETOUR LENGTH



\$5.6 MILLION
COST TO BRING BRIDGES TO A
STATE-OF-GOOD-REPAIR AND
MAINTAIN FOR THE NEXT 10 YEARS

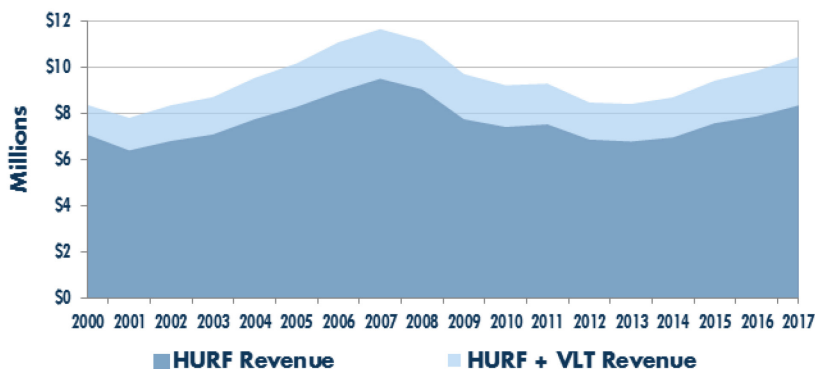
Summary of County Revenues

The county's transportation revenue sources include HURF, VLT, and federal/state/local grants. Since grant receipts vary significantly each year, only recurring (dependable) revenue sources were analyzed.

Historical Revenues

Revenue data was compiled from ADOT's HURF/VLT distribution reports, the county's Comprehensive Annual Financial Reports (CAFR), Annual Budget Reports, and information provided by county staff. Key highlights include:

- The county's total *recurring* revenues have decreased by 10 percent since the peak level in 2007.
- HURF revenues have decreased by 12 percent since the peak level in 2007.
- In 2017, 79 percent of the county's recurring transportation funds came from HURF.



2017 County Recurring Revenue Sources

Recurring Revenue Source	2017
HURF Funds	\$8,354,198
VLT Funds	\$2,100,326
Local Tax Initiative Funds	\$0
Total Recurring Revenue	\$10,454,524

Source: ADOT HURF/VLT Distribution Reports; County CAFR Report; County Annual Budget Report

HURF Transfers to Support State Programs

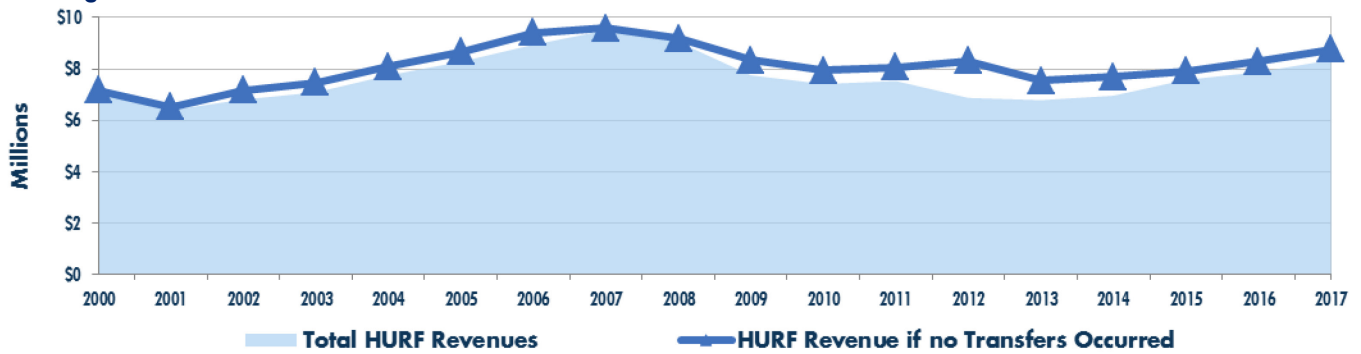
Each year, the state transfers HURF roadway improvement funds to support other state programs (such as DPS). The following table and chart illustrates the actual HURF funds distributed to county versus the estimated share if no HURF transfers occurred.

- Since 2000, a total of \$8.1 million of HURF funds have been distributed to other programs that the county would have otherwise received.
- In 2017, HURF revenue loss per capita was \$8.10.

Impact of HURF Transfers on the County

HURF Revenue Transfers	2005	2010	2015	2017
HURF Revenue Loss Due to Transfers	\$372,775	\$534,305	\$341,771	\$411,349
HURF Revenue if no Transfers Occurred	\$8,662,264	\$7,957,106	\$7,928,615	\$8,765,547
Percent Loss of HURF Revenue	4.5%	7.2%	4.5%	11.2%
HURF Revenue Loss Per Capita	\$7.39	\$10.19	\$6.71	\$8.10

Funding Levels if No HURF Transfers Occurred



Revenue Projections

In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated revenues for the 10-year period.

Revenue Source	Estimated 10-Year Recurring Revenues (in millions)
HURF	\$89.2
VLT	\$22.6
Other	\$0.0
Total	\$111.8

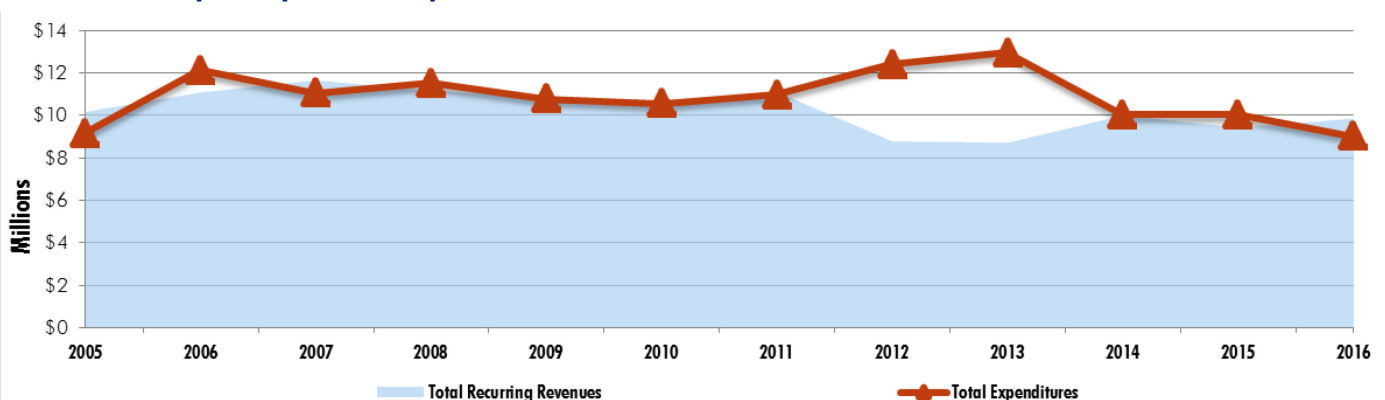
Summary of Expenditures

Historical county CAFRs, budget reports, and information provided by staff were utilized to compile expenditures related to transportation uses. In 2013, roadway expenditures were 48 percent more than the county's recurring revenues.



CURRENT FULL-TIME EMPLOYEES
75+

Historical County Transportation Expenditures



Source: County CAFR Report; County Annual Budget Report

Expenditure Projections

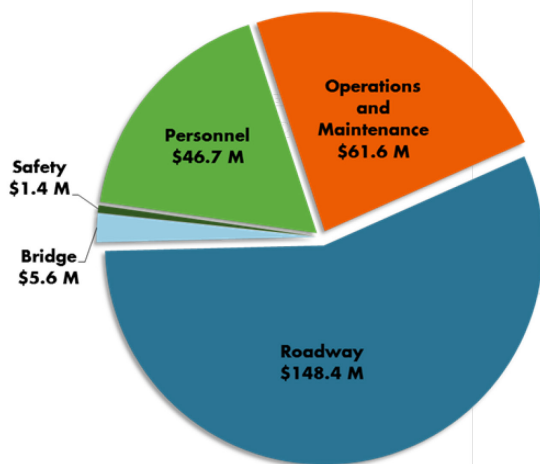
In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated expenditures for the 10-year period.

Expenditures (in millions)	Cochise County
Roadway Repair and Maintenance	\$148.4
Bridge Repair and Maintenance	\$5.6
Safety Improvements	\$1.4
Personnel	\$46.7
Operations	\$56.0
Administration	\$5.5
Total	\$263.6

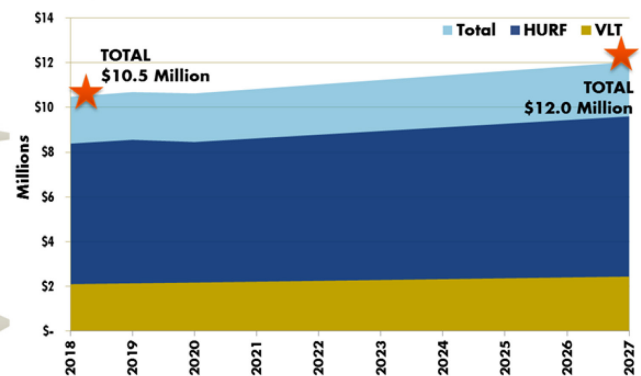
The Bottom Line

Failure to meet the current maintenance investment needs of the County will result in the rapid deterioration of its transportation system over the next 10 years. It is imperative that Cochise County receive a stable revenue stream for cost-effective maintenance of the county transportation system in order to reverse this crisis.

COST TO MAINTAIN SYSTEM OVER 10 YEARS



PROJECTED 10 YEAR REVENUES



EXPENDITURES



\$263.6 Million

REVENUE



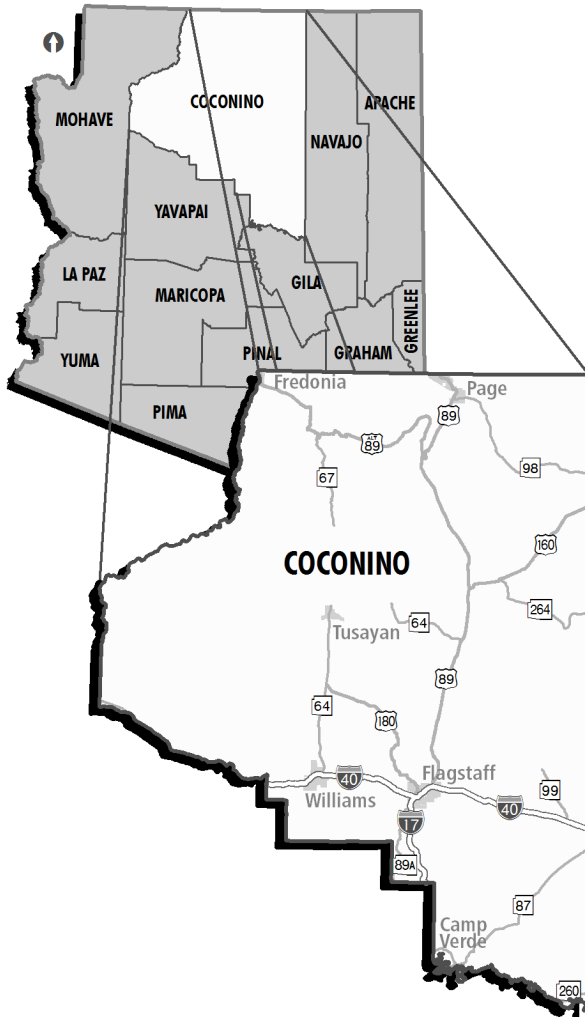
\$111.8 Million



**FUNDING GAP
-\$151.8 Million**



COCONINO COUNTY SNAPSHOT



Coconino County lies in the central region of northern Arizona and is the second largest county in the United States. Due to the large size of the county, the landscape varies greatly – ranging from thick forests, rugged mountains, and scenic sites such as the Grand Canyon and Oak Creek Canyon. Because of the county’s vast size and contrasting terrain, roadway maintenance needs varies greatly.

Indian reservations comprise 38 percent of the land in the County and is home to the Navajo, Hopi, Paiute, Havasupai and Hualapai tribes. The U.S. Forest Service and Bureau of Land Management control 32 percent of the land; the state of Arizona owns 10 percent; other public lands comprise 7 percent; and the remaining 13 percent is owned by individuals or corporations.

The median age in the County is 30.8 years; median household income is \$50,000. The most common employment sectors for those who live in Coconino County are Healthcare & Social Assistance (12.7 percent), Educational Services (14.9 percent), and Accommodation and Food Service (15.5 percent).

Area (sq miles): 18,653	County Seat: Flagstaff
Congressional District: 1st	Elevation: 2,100–12,600 FT
Avg. Annual Snowfall: 24 in	Avg. Annual Rainfall: 28 in
Avg. Low Temp: 19-35°F	Avg. High Temp: 81-97°F

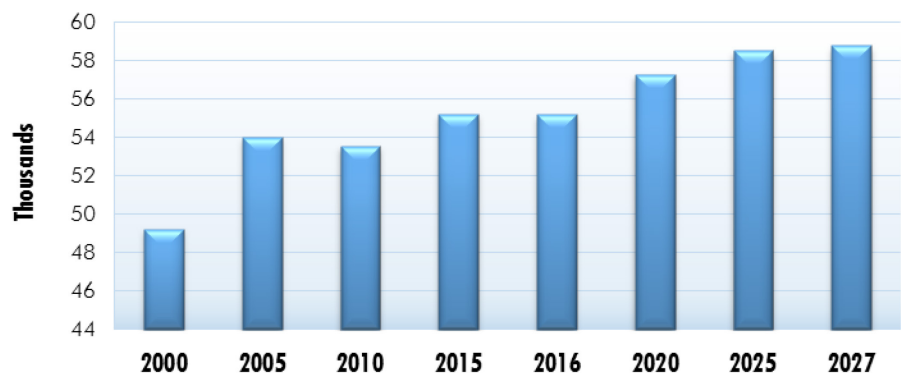
Summary of Unincorporated County Population



2016 POPULATION
55,223



2027 POPULATION
58,809
6.5% increase



Source: Arizona Office of Economic Opportunity

County Maintained Roadways

- Coconino County owns and maintains approximately 1,012 miles of roadways.
- Only 33 percent are paved roads and 67 percent are unpaved.
- Per FHWA approved functional classification, the County road system consists of primarily collectors (32 percent) and locals (65 percent). Arterials account for 3 percent.

Current Roadway Conditions

To determine the current condition of Coconino County’s roadway system, a sample set consisting of 10 percent of County roads were evaluated. The sample dataset included a mixture of roadway types to reflect the County’s entire roadway system. Based on the results of the sample datasets, the condition of the remaining 90 percent of the roadways was prorated. Key findings show:

- 31 percent of County roads are in poor to very poor condition.
- 56 percent in fair condition.
- 13 percent in good to excellent condition.

Based on the condition of the roadway, the table below lists the potential costs needed to bring the roads to a state-of-good-repair and maintain the system for the next 5- and 10-year periods.

Costs to Bring Roads to a State-of-Good-Repair

	Costs (in thousands)
State-of-Good-Repair Costs	\$68,569
Total 10 Year Maintenance Costs	\$46,025
Total Maintenance Costs (2018-2022)	\$17,461
Total Maintenance Costs (2023-2027)	\$28,564
Total Roadway Costs (State-of-Good-Repair & Maintenance Costs)	\$114,594



* County owned and maintained roads



30-35 PERCENT
COUNTY MAINTAINED ROADS ARE IN
POOR TO VERY POOR CONDITION



\$46.0 MILLION
COST TO MAINTAIN ROADWAYS FOR
THE NEXT 10 YEARS



\$68.6 MILLION
COST TO BRING ROADS TO A STATE-
OF-GOOD-REPAIR

Current Bridge Conditions

ADOT’s comprehensive bridge data was obtained to evaluate the County bridge conditions. Key findings show:

- 39 bridge structures on Coconino County’s roadways.
- One bridge is rated structurally deficient.
- No bridges are deemed functionally obsolete.

The table below summarizes deficient bridges by type.

Overview of Structures in Coconino County

Bridge Type	Total Bridges	Structurally Deficient	Functionally Obsolete
Concrete	8	0	0
Culvert	29	1	0
Steel	2	0	0
Timber	0	0	0
Total	39	1	0

Source: ADOT Bridge Group

The table below summarizes the costs to bring the County bridges to a state-of-good-repair and maintain for the next ten years.

Bridge Repair and Maintenance Costs (10-Year Period)*

Bridge Costs (in Thousands)	
Bridge Replacement Costs*	\$407
Inspection Costs	\$403
Maintenance Costs	\$303
Total Bridge Costs	\$1,113

*Bridges classified as structurally deficient or functionally obsolete were assumed to be replaced within 10 years

Safety Improvements

To assess potential safety needs, the study team followed a three step approach:

- 1) Reviewed each county’s Transportation Improvement Program (TIP) to identify safety projects.
- 2) Conducted a high-level spatial review of crash locations to identify roadway segments and intersections that have a high density of historical crashes. For locations with high density of crashes, an aerial and Google Streetview evaluation was conducted to identify potential issues and mitigation measures. Cost estimates were developed for potential improvements.
- 3) Costs from the TIP and aerial review were combined to calculate overall safety improvement costs. For good measure, a minimum of \$1 million was assumed for safety improvements.

An estimated \$66.5 million is needed for Coconino County for safety improvements for the 10-year period.



39
COUNTY OWNED BRIDGES/STRUCTURES

3 PERCENT
COUNTY MAINTAINED BRIDGES ARE
STRUCTURALLY DEFICIENT OR
FUNCTIONALLY OBSOLETE



44 PERCENT
AGE 50 YEARS OR OLDER



42 YEARS
AVERAGE AGE OF BRIDGES



38 MILES
AVERAGE DETOUR LENGTH



\$1.1 MILLION
COST TO BRING BRIDGES TO A
STATE-OF-GOOD-REPAIR AND
MAINTAIN FOR THE NEXT 10 YEARS

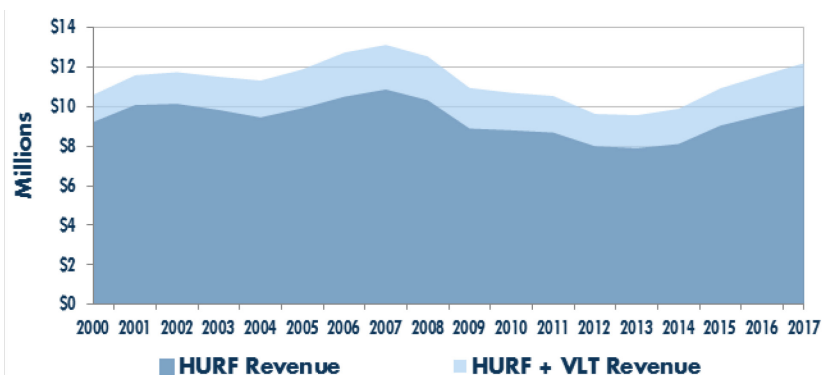
Summary of County Revenues

The county's transportation revenue sources include HURF, VLT, and federal/state/local grants. Since grant receipts vary significantly each year, only recurring (dependable) revenue sources were analyzed.

Historical Revenues

Revenue data was compiled from ADOT's HURF/VLT distribution reports, the county's Comprehensive Annual Financial Reports (CAFR), Annual Budget Reports, and information provided by county staff. Key highlights include:

- The county's total *recurring* revenues have decreased by 7 percent since the peak level in 2007.
- HURF revenues have decreased by 8 percent since the peak level in 2007.
- In 2017, 50 percent of the county's recurring transportation funds came from HURF.



2017 County Recurring Revenue Sources

Recurring Revenue Source	2017
HURF Funds	\$10,046,469
VLT Funds	\$2,151,968
Local Tax Initiative Funds	\$8,066,843
Total Recurring Revenue	\$20,265,280

Source: ADOT HURF/VLT Distribution Reports; County CAFR Report; County Annual Budget Report

HURF Transfers to Support State Programs

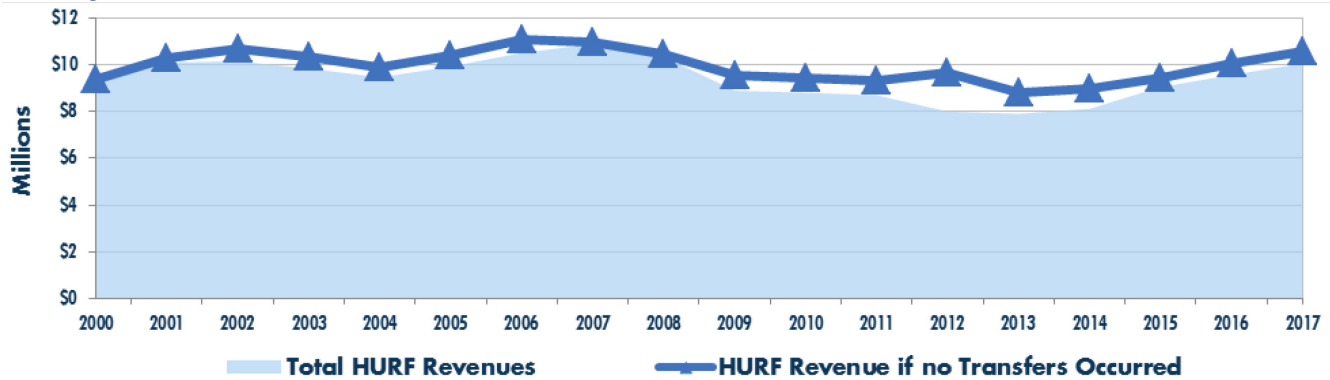
Each year, the state transfers HURF roadway improvement funds to support other state programs (such as DPS). The following table and chart illustrates the actual HURF funds distributed to county versus the estimated share if no HURF transfers occurred.

- Since 2000, a total of \$9.7 million of HURF funds have been distributed to other programs that the county would have otherwise received.
- In 2017, HURF revenue loss per capita was \$8.80.

Impact of HURF Transfers on the County

HURF Revenue Transfers	2005	2010	2015	2017
HURF Revenue Loss Due to Transfers	\$446,114	\$633,589	\$407,249	\$494,674
HURF Revenue if no Transfers Occurred	\$10,366,455	\$9,435,678	\$9,447,605	\$10,541,143
Percent Loss of HURF Revenue	4.5%	7.2%	4.5%	4.9%
HURF Revenue Loss Per Capita	\$8.25	\$11.83	\$7.37	\$8.80

Funding Levels if No HURF Transfers Occurred



Revenue Projections

In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated revenues for the 10-year period.

Revenue Source	Estimated 10-Year Recurring Revenues (in millions)
HURF	\$107.1
VLT	\$23.2
Other	\$96.1
Total	\$226.4

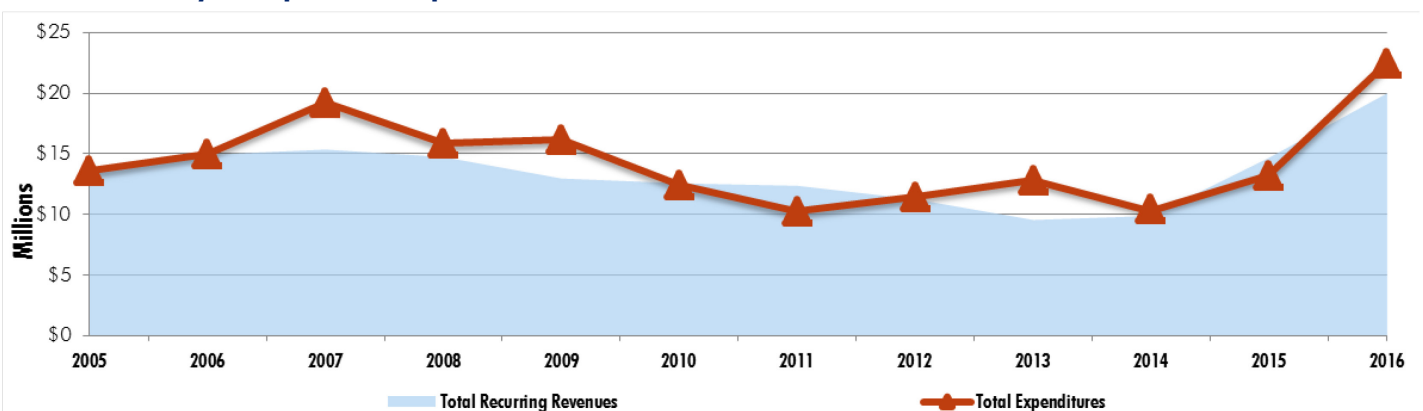
Summary of Expenditures

Historical county CAFRs, budget reports, and information provided by staff were utilized to compile expenditures related to transportation uses. In 2013, roadway expenditures were 33 percent more than the county's recurring revenues.



CURRENT FULL-TIME EMPLOYEES
110+

Historical County Transportation Expenditures



Source: County CAFR Report; County Annual Budget Report

Expenditure Projections

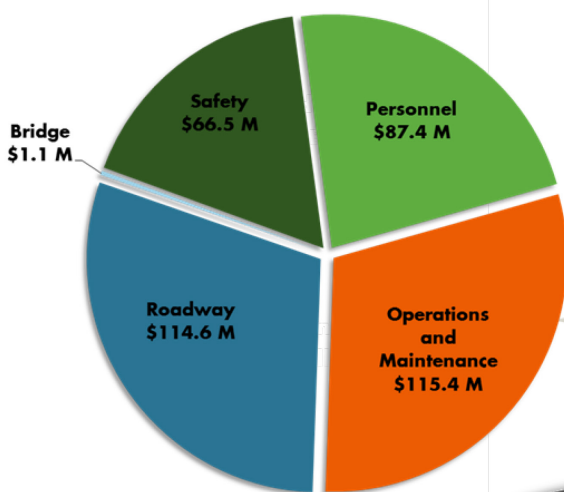
In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated expenditures for the 10-year period.

Expenditures (in millions)	Coconino County
Roadway Repair and Maintenance	\$114.6
Bridge Repair and Maintenance	\$1.1
Safety Improvements	\$66.5
Personnel	\$87.4
Operations	\$104.9
Administration	\$10.5
Total	\$385.0

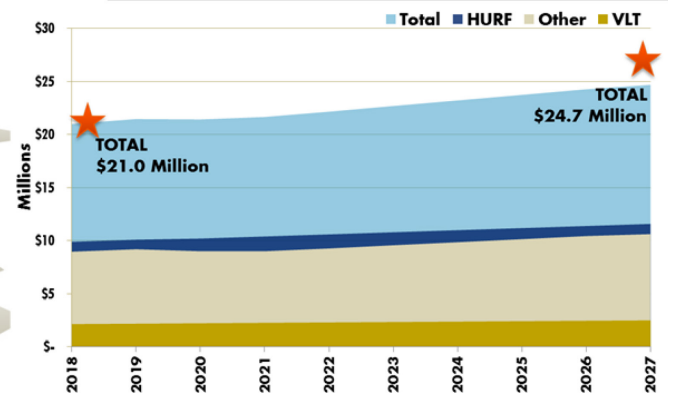
The Bottom Line

Failure to meet the current maintenance investment needs of the County will result in the rapid deterioration of its transportation system over the next 10 years. It is imperative that Coconino County receive a stable revenue stream for cost-effective maintenance of the county transportation system in order to reverse this crisis.

COST TO MAINTAIN SYSTEM OVER 10 YEARS



PROJECTED 10 YEAR REVENUES



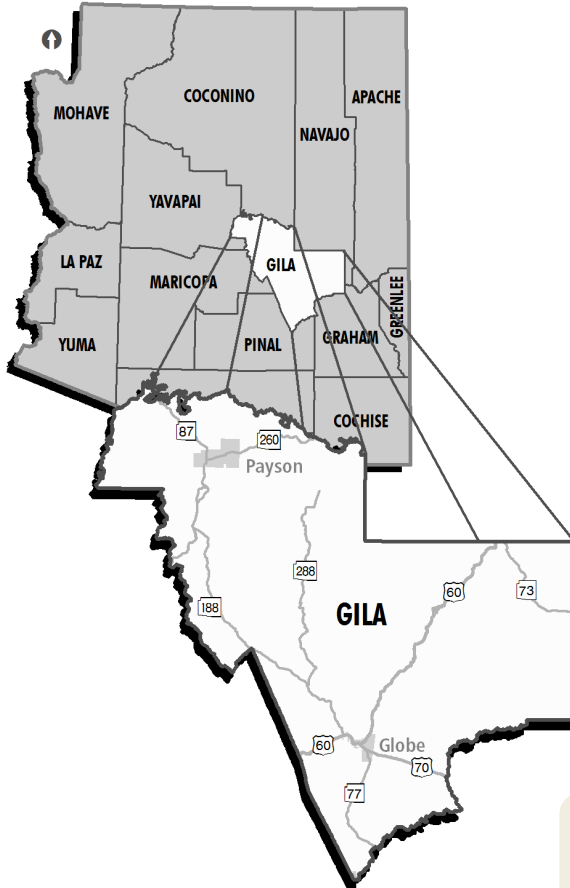
EXPENDITURES
 **\$385.0 Million**

REVENUE
 **\$226.4 Million**

FUNDING GAP
 **-\$158.6 Million**



GILA COUNTY SNAPSHOT



Gila County is located in central Arizona and northeast of the Phoenix metropolitan area. With elevations ranging from 2,200 to 7,900 FT, Gila County's landscape ranges from desert (copper region) to mountainous terrain (timber region). Known for its vast mineral resources, Gila County also has a thriving copper mining industry.

The U.S. Forest Service owns 56 percent of the land in Gila County. Approximately 38 percent belongs to the Apache Tribe. Private lands account for 2 percent; the U.S. Bureau of Land Management, 2 percent; and the state of Arizona, 1 percent; other public lands make up the remaining 1 percent.

The median age in the County is 48.6 years; median household income is \$40,000. The most common employment sectors for those who live in Gila County are Healthcare & Social Assistance (14.1 percent), Educational Services (10.8 percent), and Retail Trade (12.8 percent).

Area (sq miles): 4,795

County Seat: Globe

Congressional District: 1st & 4th

Elevation: 2,200–7,900 FT

Avg. Annual Snowfall: 0.5 in

Avg. Annual Rainfall: 14 in

Avg. Low Temp: 30–40°F

Avg. High Temp: 92–99°F

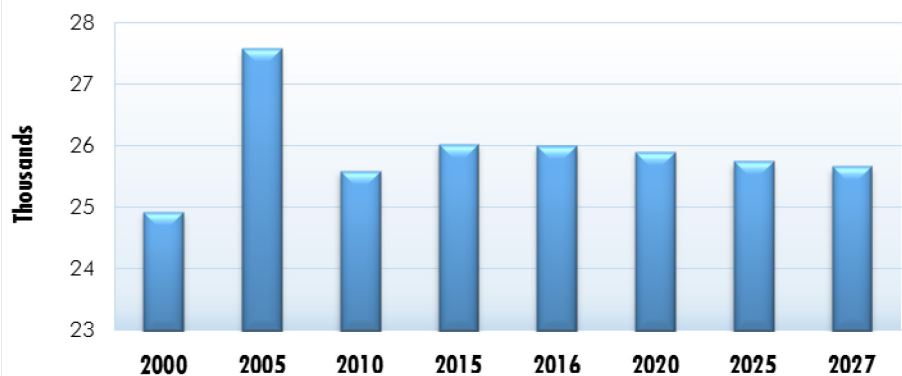
Summary of Unincorporated County Population



2016 POPULATION
26,012



2027 POPULATION
25,674
-1.3% decrease



Source: Arizona Office of Economic Opportunity

County Maintained Roadways

- Gila County owns and maintains approximately 765 miles of roadways.
- Only 22 percent are paved roads and 78 percent are unpaved.
- Per FHWA approved functional classification, the County road system consists of primarily collectors (19 percent) and locals (80 percent). Arterials account for one percent.

Current Roadway Conditions

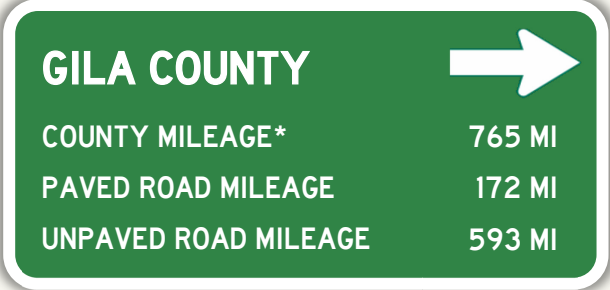
To determine the current condition of Gila County’s roadway system, a sample set consisting of 7 percent of County roads were evaluated. The sample dataset included a mixture of roadway types to reflect the County’s entire roadway system. Based on the results of the sample datasets, the condition of the remaining 93 percent of the roadways was prorated. Key findings show:

- 47 percent of County roads are in poor to very poor condition.
- 47 percent in fair condition.
- 6 percent in good to excellent condition.

Based on the condition of the roadway, the table below lists the potential costs needed to bring the roads to a state-of-good-repair and maintain the system for the next 5- and 10-year periods.

Costs to Bring Roads to a State-of-Good-Repair

	Costs (in thousands)
State-of-Good-Repair Costs	\$56,982
Total 10 Year Maintenance Costs	\$36,599
Total Maintenance Costs (2018-2022)	\$11,623
Total Maintenance Costs (2023-2027)	\$24,976
Total Roadway Costs (State-of-Good-Repair & Maintenance Costs)	\$93,581



* County owned and maintained roads



45-50 PERCENT
COUNTY MAINTAINED ROADS ARE IN
POOR TO VERY POOR CONDITION



\$36.6 MILLION
COST TO MAINTAIN ROADWAYS FOR
THE NEXT 10 YEARS



\$57.0 MILLION
COST TO BRING ROADS TO A STATE-
OF-GOOD-REPAIR

Current Bridge Conditions

ADOT's comprehensive bridge data was obtained to evaluate the County bridge conditions. Key findings show:

- 16 bridge structures on Gila County's roadways.
- 3 bridges are rated structurally deficient.
- 1 bridge is deemed functionally obsolete.

The table below summarizes deficient bridges by type.

Overview of Structures in Gila County

Bridge Type	Total Bridges	Structurally Deficient	Functionally Obsolete
Concrete	10	0	1
Culvert	2	0	0
Steel	3	3	0
Timber	1	0	0
Total	16	3	1

Source: ADOT Bridge Group

The table below summarizes the costs to bring the County bridges to a state-of-good-repair and maintain for the next ten years.

Bridge Repair and Maintenance Costs (10-Year Period)*

Bridge Costs (in Thousands)	
Bridge Replacement Costs*	\$622
Inspection Costs	\$332
Maintenance Costs	\$280
Total Bridge Costs	\$1,234

*Bridges classified as structurally deficient or functionally obsolete were assumed to be replaced within 10 years

Safety Improvements

To assess potential safety needs, the study team followed a three step approach:

- 1) Reviewed each county's Transportation Improvement Program (TIP) to identify safety projects.
- 2) Conducted a high-level spatial review of crash locations to identify roadway segments and intersections that have a high density of historical crashes. For locations with high density of crashes, an aerial and Google Streetview evaluation was conducted to identify potential issues and mitigation measures. Cost estimates were developed for potential improvements.
- 3) Costs from the TIP and aerial review were combined to calculate overall safety improvement costs. For good measure, a minimum of \$1 million was assumed for safety improvements.

For Gila County, \$1.0 million was assumed for safety improvements for the 10-year period.



16
COUNTY OWNED BRIDGES/STRUCTURES

25 PERCENT
COUNTY MAINTAINED BRIDGES ARE
STRUCTURALLY DEFICIENT OR
FUNCTIONALLY OBSOLETE



25 PERCENT
AGE 50 YEARS OR OLDER



40 YEARS
AVERAGE AGE OF BRIDGES



42 MILES
AVERAGE DETOUR LENGTH



\$1.2 MILLION
COST TO BRING BRIDGES TO A
STATE-OF-GOOD-REPAIR AND
MAINTAIN FOR THE NEXT 10 YEARS

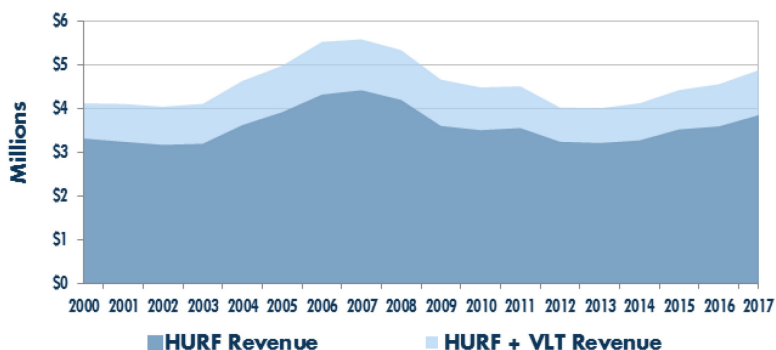
Summary of County Revenues

The county's transportation revenue sources include HURF, VLT, and federal/state/local grants. Since grant receipts vary significantly each year, only recurring (dependable) revenue sources were analyzed.

Historical Revenues

Revenue data was compiled from ADOT's HURF/VLT distribution reports, the county's Comprehensive Annual Financial Reports (CAFR), Annual Budget Reports, and information provided by county staff. Key highlights include:

- The county's total *recurring* revenues have decreased by 13 percent since the peak level in 2007.
- HURF revenues have decreased by 13 percent since the peak level in 2007.
- In 2017, approximately 62 percent of the county's recurring transportation funds came from HURF.



2017 County Recurring Revenue Sources

Recurring Revenue Source	2017
HURF Funds	\$3,853,807
VLT Funds	\$1,028,462
Local Tax Initiative Funds	\$1,365,000
Total Recurring Revenue	\$6,247,269

Source: ADOT HURF/VLT Distribution Reports; County CAFR Report; County Annual Budget Report

HURF Transfers to Support State Programs

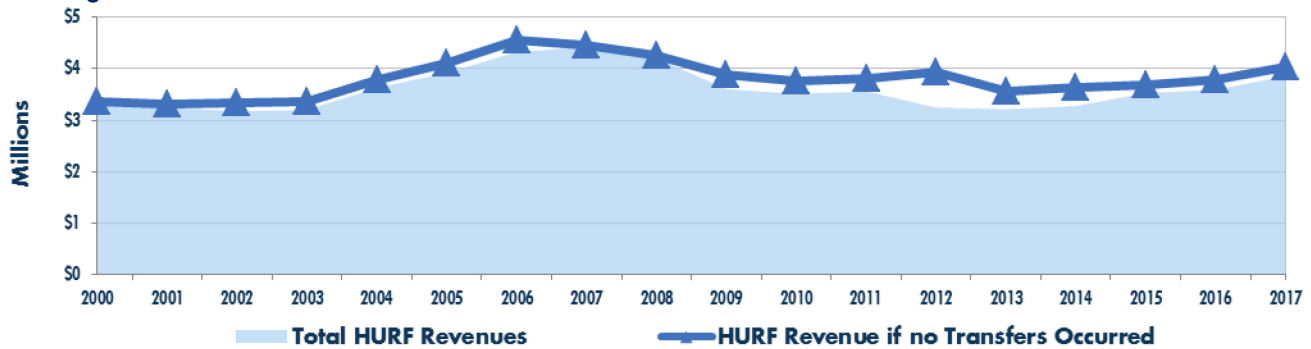
Each year, the state transfers HURF roadway improvement funds to support other state programs (such as DPS). The following table and chart illustrates the actual HURF funds distributed to county versus the estimated share if no HURF transfers occurred.

- Since 2000, a total of \$3.8 million of HURF funds have been distributed to other programs that the county would have otherwise received.
- In 2017, HURF revenue loss per capita was \$ 7.30.

Impact of HURF Transfers on the County

HURF Revenue Transfers	2005	2010	2015	2017
HURF Revenue Loss Due to Transfers	\$176,442	\$252,887	\$158,985	\$189,756
HURF Revenue if no Transfers Occurred	\$4,100,032	\$3,766,102	\$3,688,242	\$4,043,563
Percent Loss of HURF Revenue	4.5%	7.2%	4.5%	4.9%
HURF Revenue Loss Per Capita	\$6.40	\$9.88	\$6.10	\$7.30

Funding Levels if No HURF Transfers Occurred



Revenue Projections

In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated revenues for the 10-year period.

Revenue Source	Estimated 10-Year Recurring Revenues (in millions)
HURF	\$41.7
VLT	\$11.1
Other	\$13.7
Total	\$66.5

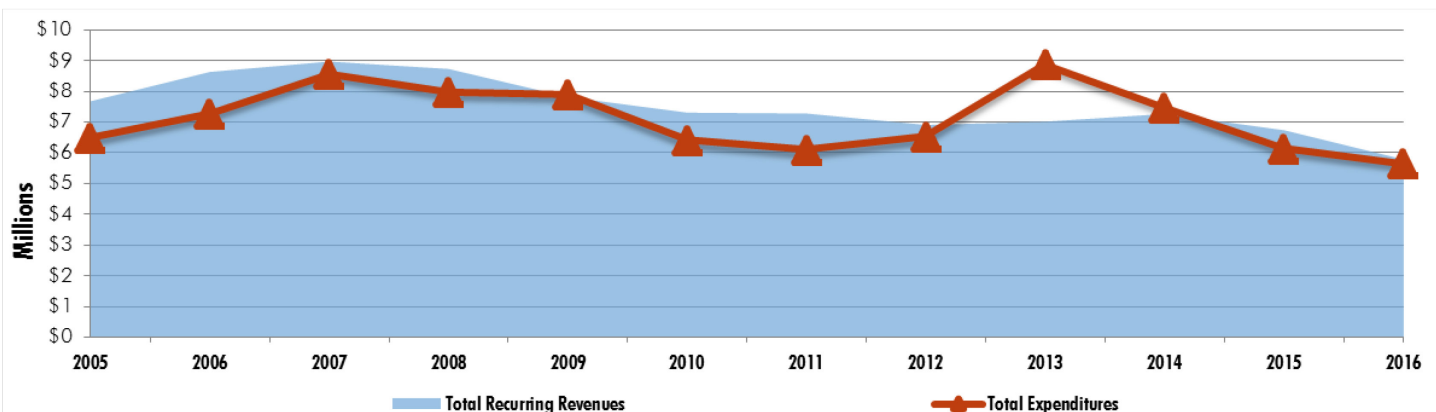
Summary of Expenditures

Historical county CAFRs, budget reports, and information provided by staff were utilized to compile expenditures related to transportation uses. In 2013, roadway expenditures were 26 percent more than the county's recurring revenues



CURRENT FULL-TIME EMPLOYEES
70+

Historical County Transportation Expenditures



Source: County CAFR Report; County Annual Budget Report

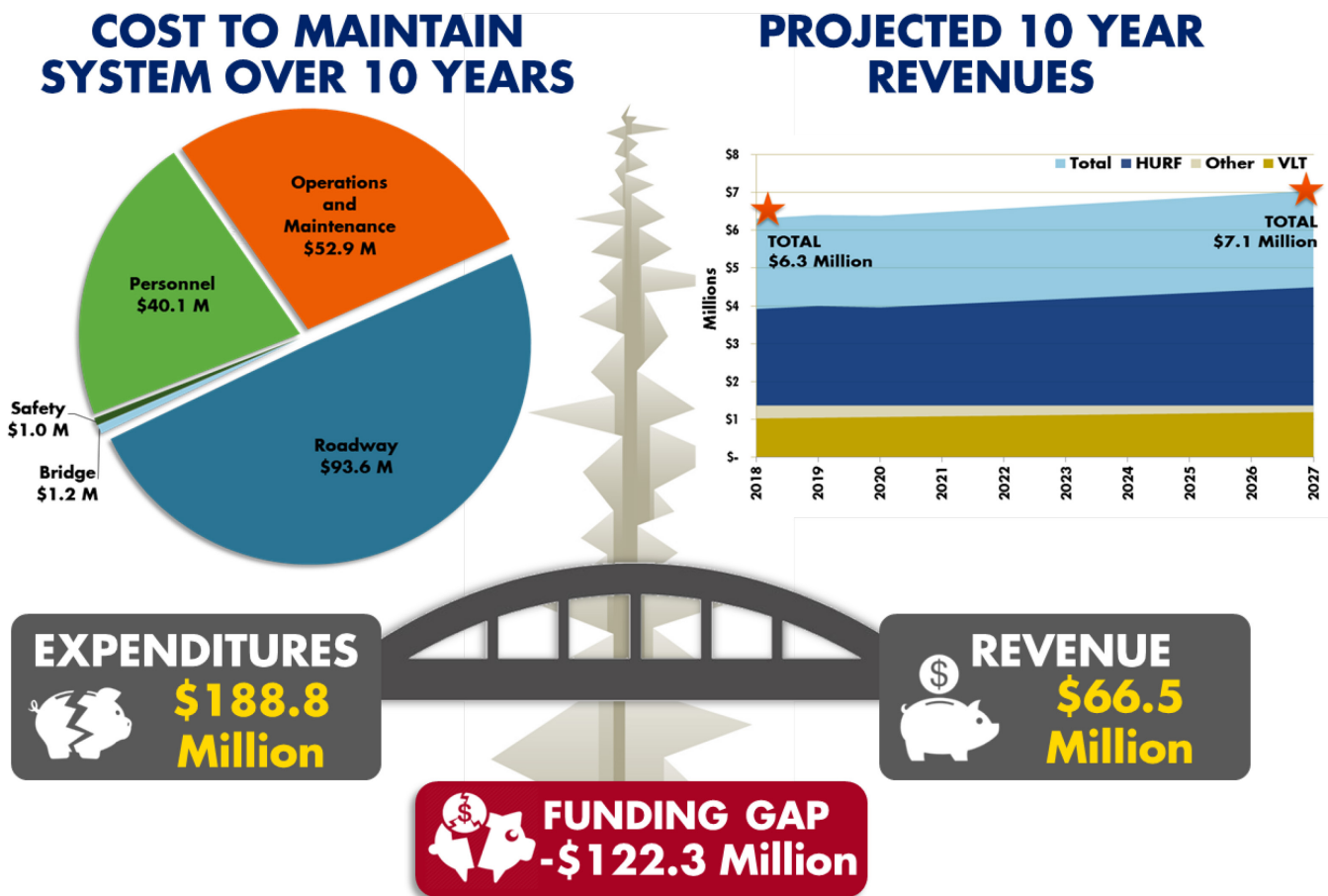
Expenditure Projections

In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated expenditures for the 10-year period.

Expenditures (in millions)	Gila County
Roadway Repair and Maintenance	\$93.6
Bridge Repair and Maintenance	\$1.2
Safety Improvements	\$1.0
Personnel	\$40.1
Operations	\$48.1
Administration	\$4.8
Total	\$188.8

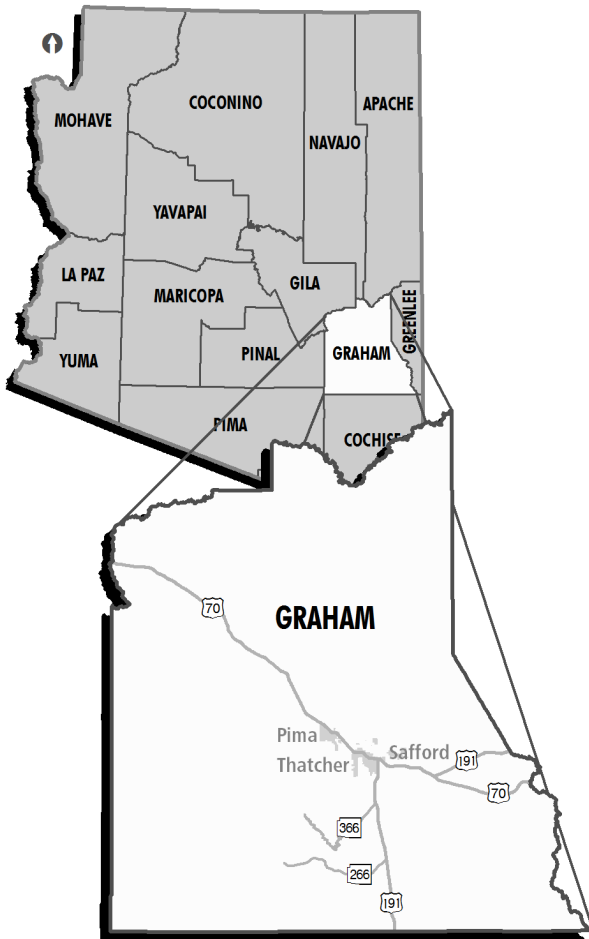
The Bottom Line

Failure to meet the current maintenance investment needs of the County will result in the rapid deterioration of its transportation system over the next 10 years. It is imperative that Gila County receive a stable revenue stream for cost-effective maintenance of the county transportation system in order to reverse this crisis.





GRAHAM COUNTY SNAPSHOT



Located in rural southeastern Arizona, Graham County's landscape ranges from mountainous areas mixed with high desert plains. The San Carlos Indian Reservation covers approximately one-third of the county, while the Bureau of Land Management manages approximately 24% of the County.

Recreation and tourism follow farming and ranching as the principal industries in Graham County. Private lands account for 10 percent; the U.S. Forest Service and Bureau of Land Management, 38 percent; the State of Arizona, 16 percent; Indian reservations, 36 percent.

The median age in the County is 32 years; median household income is \$46,000. The most common employment sectors for those who live in Graham County are Healthcare & Social Assistance (11.6 percent), Educational Services (13.4 percent), and Retail Trade (13.4 percent).

Area (sq miles): 4,641	County Seat: Safford
Congressional District: 1 st	Elevation: 2,400–10,700 FT
Avg. Annual Snowfall: 3-5 in	Avg. Annual Rainfall: 10.5 in
Avg. Low Temp: 34-37°F	Avg. High Temp: 100-101°F

Summary of Unincorporated County Population



2016 POPULATION
21,239



2027 POPULATION
24,816
16.8% increase



Source: Arizona Office of Economic Opportunity

County Maintained Roadways

- Graham County owns and maintains approximately 649 miles of roadways.
- Only 23 percent are paved roads and 77 percent are unpaved.
- Per FHWA approved functional classification, the County road system consists of primarily collectors (47 percent) and locals (53 percent).

Current Roadway Conditions

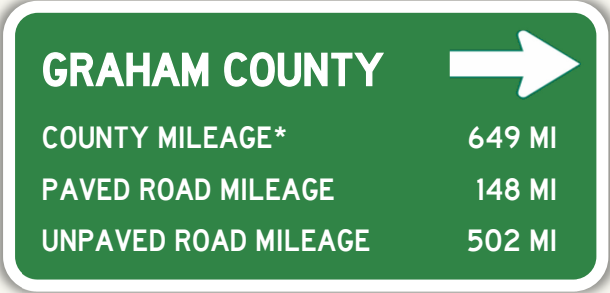
To determine the current condition of Graham County’s roadway system, a sample set consisting of 9 percent of County roads were evaluated. The sample dataset included a mixture of roadway types to reflect the County’s entire roadway system. Based on the results of the sample datasets, the condition of the remaining 91 percent of the roadways was prorated. Key findings show:

- 22 percent of County roads are in poor to very poor condition.
- 68 percent in fair condition.
- 10 percent in good to excellent condition.

Based on the condition of the roadway, the table below lists the potential costs needed to bring the roads to a state-of-good-repair and maintain the system for the next 5- and 10-year periods.

Costs to Bring Roads to a State-of-Good-Repair

	Costs (in thousands)
State-of-Good-Repair Costs	\$18,300
Total 10 Year Maintenance Costs	\$19,670
Total Maintenance Costs (2018-2022)	\$9,354
Total Maintenance Costs (2023-2027)	\$10,316
Total Roadway Costs (State-of-Good-Repair & Maintenance Costs)	\$37,970



* County owned and maintained roads



20-25 PERCENT
COUNTY MAINTAINED ROADS ARE IN
POOR TO VERY POOR CONDITION



\$19.7 MILLION
COST TO MAINTAIN ROADWAYS FOR
THE NEXT 10 YEARS



\$18.3 MILLION
COST TO BRING ROADS TO A STATE-
OF-GOOD-REPAIR

Current Bridge Conditions

ADOT’s comprehensive bridge data was obtained to evaluate the County bridge conditions. Key findings show:

- 27 bridge structures on Graham County’s roadways.
- 3 bridges are rated structurally deficient.
- One bridge is deemed functionally obsolete.

The table below summarizes deficient bridges by type.

Overview of Structures in Graham County

Bridge Type	Total Bridges	Structurally Deficient	Functionally Obsolete
Concrete	10	0	0
Culvert	13	1	1
Steel	4	2	0
Timber	0	0	0
Total	27	3	1

Source: ADOT Bridge Group

The table below summarizes the costs to bring the County bridges to a state-of-good-repair and maintain for the next ten years.

Bridge Repair and Maintenance Costs (10-Year Period)*

Bridge Costs (in Thousands)	
Bridge Replacement Costs*	\$774
Inspection Costs	\$403
Maintenance Costs	\$1,098
Total Bridge Costs	\$2,274

*Bridges classified as structurally deficient or functionally obsolete were assumed to be replaced within 10 years

Safety Improvements

To assess potential safety needs, the study team followed a three step approach:

- 1) Reviewed each county’s Transportation Improvement Program (TIP) to identify safety projects.
- 2) Conducted a high-level spatial review of crash locations to identify roadway segments and intersections that have a high density of historical crashes. For locations with high density of crashes, an aerial and Google Streetview evaluation was conducted to identify potential issues and mitigation measures. Cost estimates were developed for potential improvements.
- 3) Costs from the TIP and aerial review were combined to calculate overall safety improvement costs. For good measure, a minimum of \$1 million was assumed for safety improvements.

For Graham County, \$1.0 million was assumed for safety improvements for the 10-year period.



27
COUNTY OWNED BRIDGES/STRUCTURES

15 PERCENT
COUNTY MAINTAINED BRIDGES ARE
STRUCTURALLY DEFICIENT OR
FUNCTIONALLY OBSOLETE



26 PERCENT
AGE 50 YEARS OR OLDER



46 YEARS
AVERAGE AGE OF BRIDGES



11 MILES
AVERAGE DETOUR LENGTH



\$2.3 MILLION
COST TO BRING BRIDGES TO A
STATE-OF-GOOD-REPAIR AND
MAINTAIN FOR THE NEXT 10 YEARS

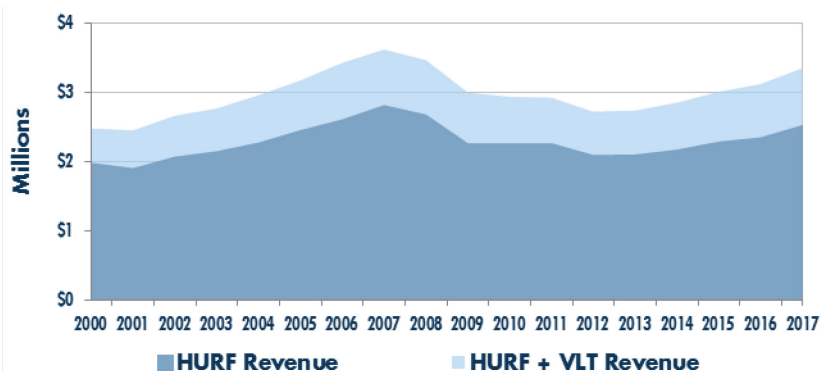
Summary of County Revenues

The county's transportation revenue sources include HURF, VLT, and federal/state/local grants. Since grant receipts vary significantly each year, only recurring (dependable) revenue sources were analyzed.

Historical Revenues

Revenue data was compiled from ADOT's HURF/VLT distribution reports, the county's Comprehensive Annual Financial Reports (CAFR), Annual Budget Reports, and information provided by county staff. Key highlights include:

- The county's total *recurring* revenues have decreased by 7 percent since the peak level in 2007.
- HURF revenues have decreased by 10 percent since the peak level in 2007.
- In 2017, 76 percent of the county's recurring transportation funds came from HURF.



2017 County Recurring Revenue Sources

Recurring Revenue Source	2017
HURF Funds	\$2,534,316
VLT Funds	\$819,693
Local Tax Initiative Funds	\$0
Total Recurring Revenue	\$3,354,009

Source: ADOT HURF/VLT Distribution Reports; County CAFR Report; County Annual Budget Report

HURF Transfers to Support State Programs

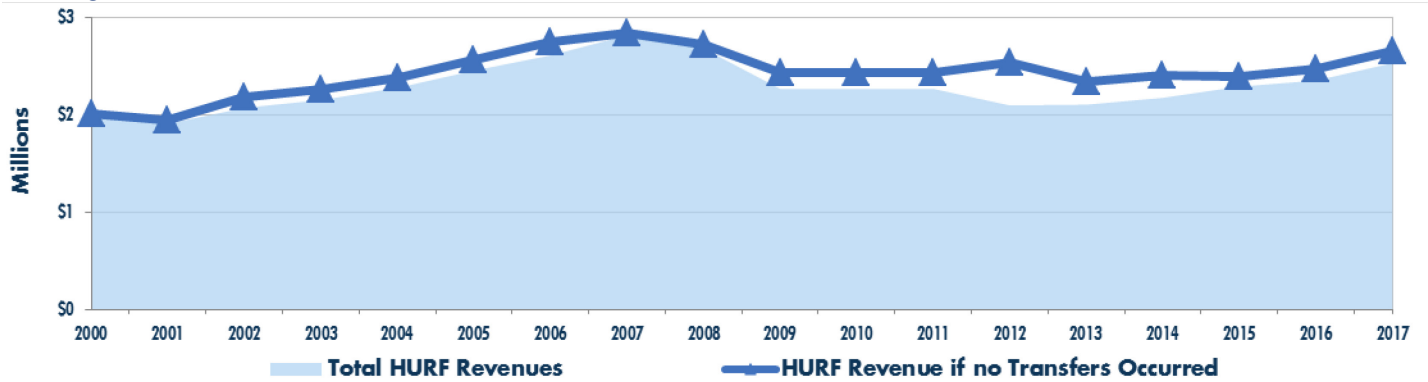
Each year, the state transfers HURF roadway improvement funds to support other state programs (such as DPS). The following table and chart illustrates the actual HURF funds distributed to county versus the estimated share if no HURF transfers occurred.

- Since 2000, a total of \$2.4 million of HURF funds have been distributed to other programs that the county would have otherwise received.
- In 2017, HURF revenue loss per capita was \$7.30.

Impact of HURF Transfers on the County

HURF Revenue Transfers	2005	2010	2015	2017
HURF Revenue Loss Due to Transfers	\$110,543	\$163,241	\$103,303	\$124,786
HURF Revenue if no Transfers Occurred	\$2,568,724	\$2,431,062	\$2,396,497	\$2,659,102
Percent Loss of HURF Revenue	4.5%	7.2%	4.5%	4.9%
HURF Revenue Loss Per Capita	\$5.85	\$8.00	\$4.89	\$5.80

Funding Levels if No HURF Transfers Occurred



Revenue Projections

In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated revenues for the 10-year period.

Revenue Source	Estimated 10-Year Recurring Revenues (in millions)
HURF	\$28.0
VLT	\$8.8
Other	\$0.0
Total	\$36.8

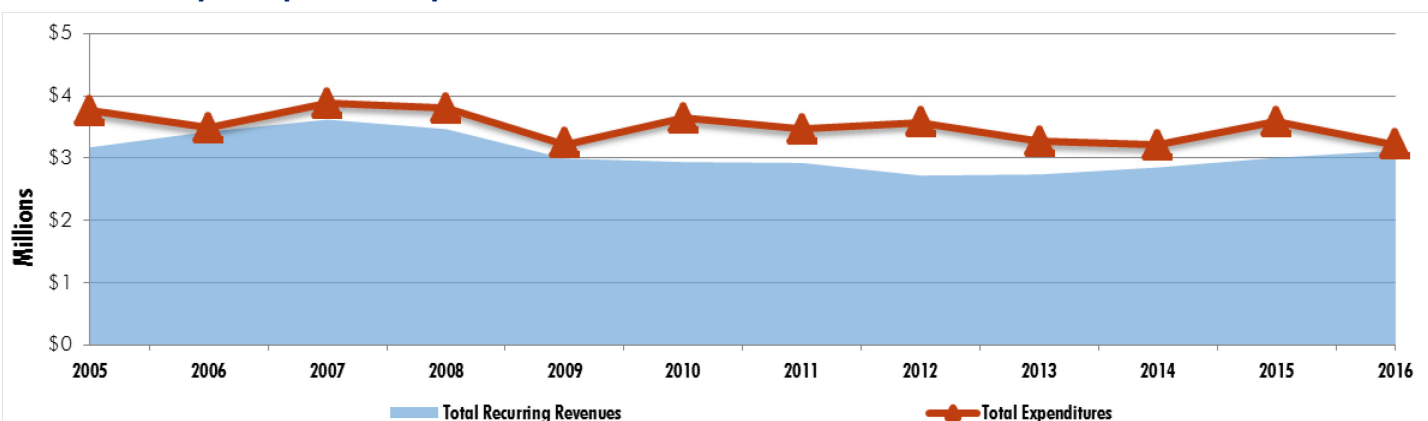
Summary of Expenditures

Historical county CAFRs, budget reports, and information provided by staff were utilized to compile expenditures related to transportation uses. In 2015, roadway expenditures were 19 percent more than the county's recurring revenues.



CURRENT FULL-TIME EMPLOYEES
30+

Historical County Transportation Expenditures



Source: County CAFR Report; County Annual Budget Report

Expenditure Projections

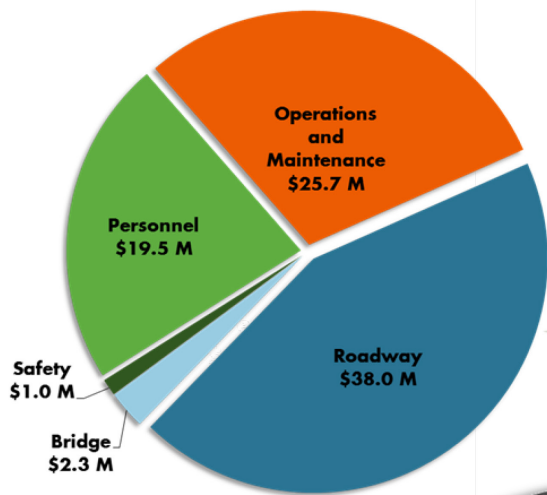
In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated expenditures for the 10-year period.

Expenditures (in millions)	Graham County
Roadway Repair and Maintenance	\$38.0
Bridge Repair and Maintenance	\$2.3
Safety Improvements	\$1.0
Personnel	\$19.5
Operations	\$23.4
Administration	\$2.3
Total	\$86.5

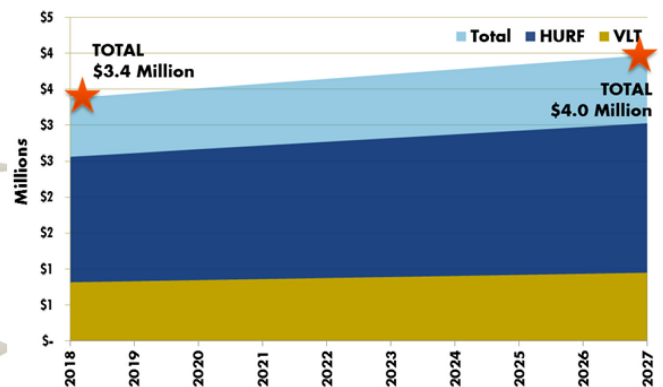
The Bottom Line

Failure to meet the current maintenance investment needs of the County will result in the rapid deterioration of its transportation system over the next 10 years. It is imperative that Graham County receive a stable revenue stream for cost-effective maintenance of the county transportation system in order to reverse this crisis.

COST TO MAINTAIN SYSTEM OVER 10 YEARS



PROJECTED 10 YEAR REVENUES



EXPENDITURES



\$86.5 Million

REVENUE



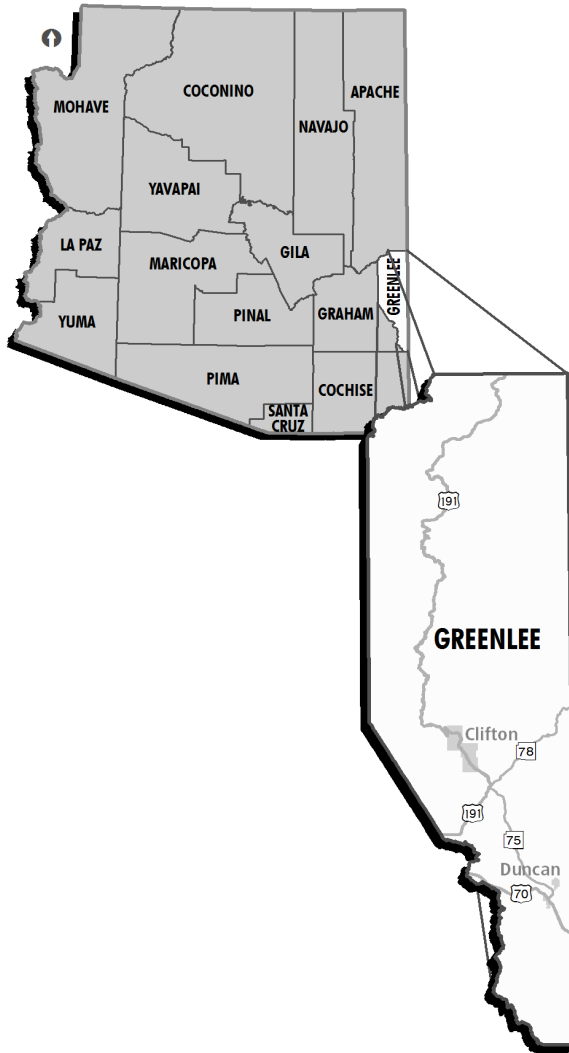
\$36.8 Million



**FUNDING GAP
-\$49.7 Million**



GREENLEE COUNTY SNAPSHOT



Located in eastern Arizona, Greenlee County borders New Mexico. The County's terrain varies from high mountain ranges, river valleys, and desert terrain. The topography in the southern and central parts of the county consists of desert terrain bisected by river valleys. Further north, the County is mountainous and forested.

Greenlee County covers 1,848 square miles and is only one of three counties in Arizona without an Indian Reservation. The vast majority of land is government-owned. The U.S. Forest Service controls 64 percent; the U.S. Bureau of Land Management, 13 percent; the state of Arizona, 15 percent; private lands account for only 7 percent and other public lands make up the remaining 1 percent.

The median age in the County is 33 years; median household income is \$52,000. The most common employment sectors for those who live in Greenlee County are Healthcare & Social Assistance (6.8%), Educational Services (8.1%), and Mining, Quarrying, Oil, Gas Extraction (41.8%).

Area (sq miles): 1,848	County Seat: Clifton
Congressional District: 1st	Elevation: 3,200–9,400 FT
Avg. Annual Snowfall: 0.1 in	Avg. Annual Rainfall: 14.5 in
Avg. Low Temp: 30-32°F	Avg. High Temp: 93-96°F

Summary of Unincorporated County Population



2016 POPULATION
5,198



2027 POPULATION
5,351
2.9% increase



Source: Arizona Office of Economic Opportunity

County Maintained Roadways

- Greenlee County owns and maintains approximately 432 miles of roadways.
- Only 23 percent are paved roads and 77 percent are unpaved.
- Per FHWA approved functional classification, the County road system consists of primarily collectors (4 percent) and locals (96 percent).

Current Roadway Conditions

To determine the current condition of Greenlee County’s roadway system, a sample set consisting of 10 percent of County roads were evaluated. The sample dataset included a mixture of roadway types to reflect the County’s entire roadway system. Based on the results of the sample datasets, the condition of the remaining 90 percent of the roadways was prorated. Key findings show:

- 47 percent of County roads are in poor to very poor condition.
- 47 percent in fair condition.
- 6 percent in good to excellent condition.

Based on the condition of the roadway, the table below lists the potential costs needed to bring the roads to a state-of-good-repair and maintain the system for the next 5- and 10-year periods.

Costs to Bring Roads to a State-of-Good-Repair

	Costs (in thousands)
State-of-Good-Repair Costs	\$6,840
Total 10 Year Maintenance Costs	\$12,265
Total Maintenance Costs (2018-2022)	\$5,830
Total Maintenance Costs (2023-2027)	\$6,435
Total Roadway Costs (State-of-Good-Repair & Maintenance Costs)	\$19,105



* County owned and maintained roads



45-50 PERCENT
COUNTY MAINTAINED ROADS ARE IN
POOR TO VERY POOR CONDITION



\$12.3 MILLION
COST TO MAINTAIN ROADWAYS FOR
THE NEXT 10 YEARS



\$6.8 MILLION
COST TO BRING ROADS TO A STATE-
OF-GOOD-REPAIR

Current Bridge Conditions

ADOT's comprehensive bridge data was obtained to evaluate the County bridge conditions. Key findings show:

- 27 bridge structures on Greenlee County's roadways.
- 3 bridges are rated structurally deficient.
- 6 bridges are deemed functionally obsolete.

The table below summarizes deficient bridges by type.

Overview of Structures in Greenlee County

Bridge Type	Total Bridges	Structurally Deficient	Functionally Obsolete
Concrete	14	1	3
Culvert	7	0	1
Steel	1	1	0
Timber	5	1	2
Total	27	3	6

Source: ADOT Bridge Group

The table below summarizes the costs to bring the County bridges to a state-of-good-repair and maintain for the next ten years.

Bridge Repair and Maintenance Costs (10-Year Period)*

Bridge Costs (in Thousands)	
Bridge Replacement Costs*	\$3,777
Inspection Costs	\$505
Maintenance Costs	\$477
Total Bridge Costs	\$4,759

*Bridges classified as structurally deficient or functionally obsolete were assumed to be replaced within 10 years

Safety Improvements

To assess potential safety needs, the study team followed a three step approach:

- 1) Reviewed each county's Transportation Improvement Program (TIP) to identify safety projects.
- 2) Conducted a high-level spatial review of crash locations to identify roadway segments and intersections that have a high density of historical crashes. For locations with high density of crashes, an aerial and Google Streetview evaluation was conducted to identify potential issues and mitigation measures. Cost estimates were developed for potential improvements.
- 3) Costs from the TIP and aerial review were combined to calculate overall safety improvement costs. For good measure, a minimum of \$1 million was assumed for safety improvements.

For Greenlee County, \$1.0 million was assumed for safety improvements for the 10-year period.



27
COUNTY OWNED BRIDGES/STRUCTURES

33 PERCENT
COUNTY MAINTAINED BRIDGES ARE
STRUCTURALLY DEFICIENT OR
FUNCTIONALLY OBSOLETE



81 PERCENT
AGE 50 YEARS OR OLDER



69 YEARS
AVERAGE AGE OF BRIDGES



49 MILES
AVERAGE DETOUR LENGTH



\$4.8 MILLION
COST TO BRING BRIDGES TO A
STATE-OF-GOOD-REPAIR AND
MAINTAIN FOR THE NEXT 10 YEARS

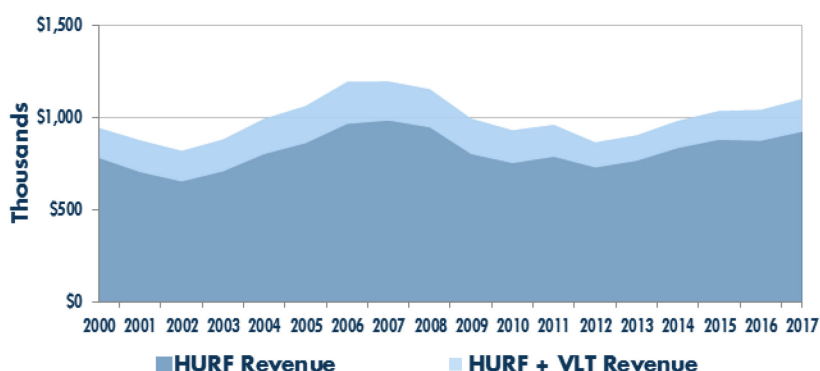
Summary of County Revenues

The county's transportation revenue sources include HURF, VLT, and federal/state/local grants. Since grant receipts vary significantly each year, only recurring (dependable) revenue sources were analyzed.

Historical Revenues

Revenue data was compiled from ADOT's HURF/VLT distribution reports, the county's Comprehensive Annual Financial Reports (CAFR), Annual Budget Reports, and information provided by county staff. Key highlights include:

- The county's total *recurring* revenues have decreased by 8 percent since the peak level in 2007.
- HURF revenues have decreased by 6 percent since the peak level in 2007.
- In 2017, 84 percent of the county's recurring transportation funds came from HURF.



2017 County Recurring Revenue Sources

Recurring Revenue Source	2017
HURF Funds	\$923,682
VLT Funds	\$178,003
Local Tax Initiative Funds	\$0
Total Recurring Revenue	\$1,101,685

Source: ADOT HURF/VLT Distribution Reports; County CAFR Report; County Annual Budget Report

HURF Transfers to Support State Programs

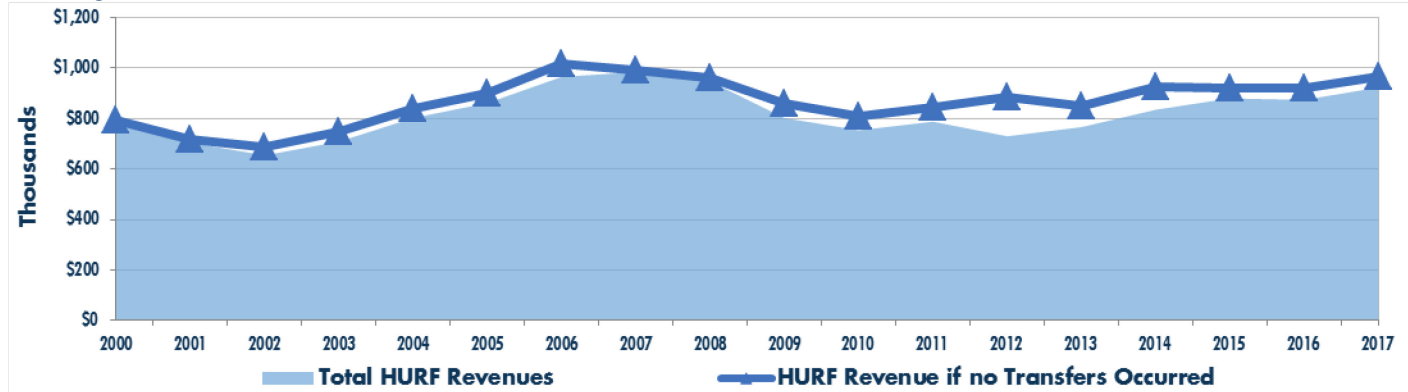
Each year, the state transfers HURF roadway improvement funds to support other state programs (such as DPS). The following table and chart illustrates the actual HURF funds distributed to county versus the estimated share if no HURF transfers occurred.

- Since 2000, a total of \$0.9 million of HURF funds have been distributed to other programs that the county would have otherwise received.
- In 2017, HURF revenue loss per capita was \$ 8.70.

Impact of HURF Transfers on the County

HURF Revenue Transfers	2005	2010	2015	2017
HURF Revenue Loss Due to Transfers	\$38,777	\$54,296	\$39,664	\$45,481
HURF Revenue if no Transfers Occurred	\$901,074	\$808,595	\$920,139	\$969,163
Percent Loss of HURF Revenue	4.5%	7.2%	4.5%	4.9%
HURF Revenue Loss Per Capita	\$8.36	\$12.26	\$7.57	\$8.70

Funding Levels if No HURF Transfers Occurred



Revenue Projections

In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated revenues for the 10-year period.

Revenue Source	Estimated 10-Year Recurring Revenues (in millions)
HURF	\$10.5
VLT	\$1.9
Other	\$0.0
Total	\$12.4

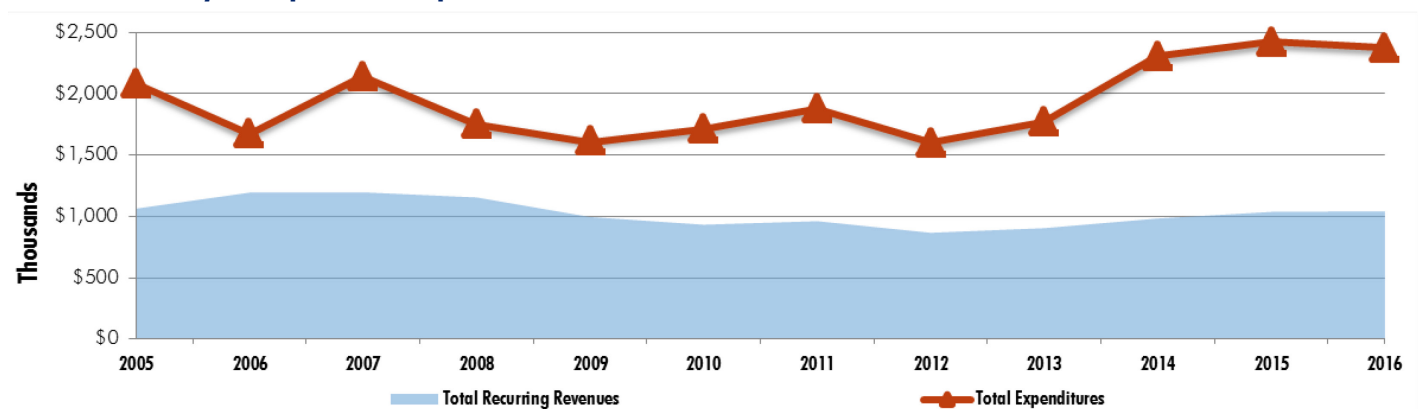
Summary of Expenditures

Historical county CAFRs, budget reports, and information provided by staff were utilized to compile expenditures related to transportation uses. In 2015, roadway expenditures were 133 percent more than the county's recurring revenues



CURRENT FULL-TIME EMPLOYEES
25+

Historical County Transportation Expenditures



Source: County CAFR Report; County Annual Budget Report

Expenditure Projections

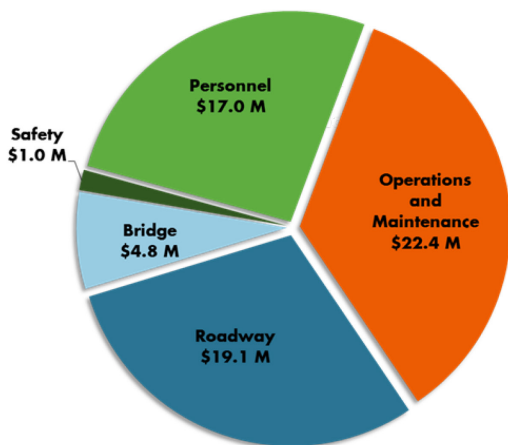
In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated expenditures for the 10-year period.

Expenditures (in millions)	Greenlee County
Roadway Repair and Maintenance	\$19.1
Bridge Repair and Maintenance	\$4.8
Safety Improvements	\$1.0
Personnel	\$17.0
Operations	\$20.4
Administration	\$2.0
Total	\$64.2

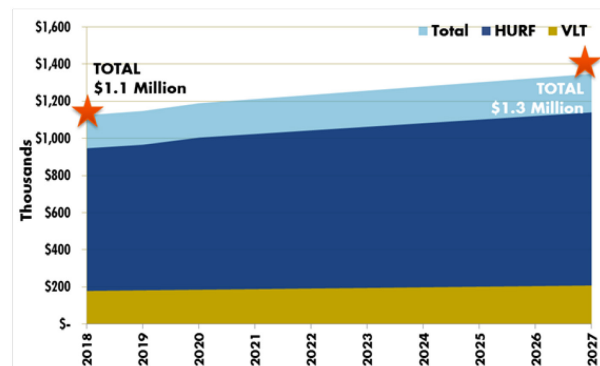
The Bottom Line

Failure to meet the current maintenance investment needs of the County will result in the rapid deterioration of its transportation system over the next 10 years. It is imperative that Greenlee County receive a stable revenue stream for cost-effective maintenance of the county transportation system in order to reverse this crisis.

COST TO MAINTAIN SYSTEM OVER 10 YEARS



PROJECTED 10 YEAR REVENUES



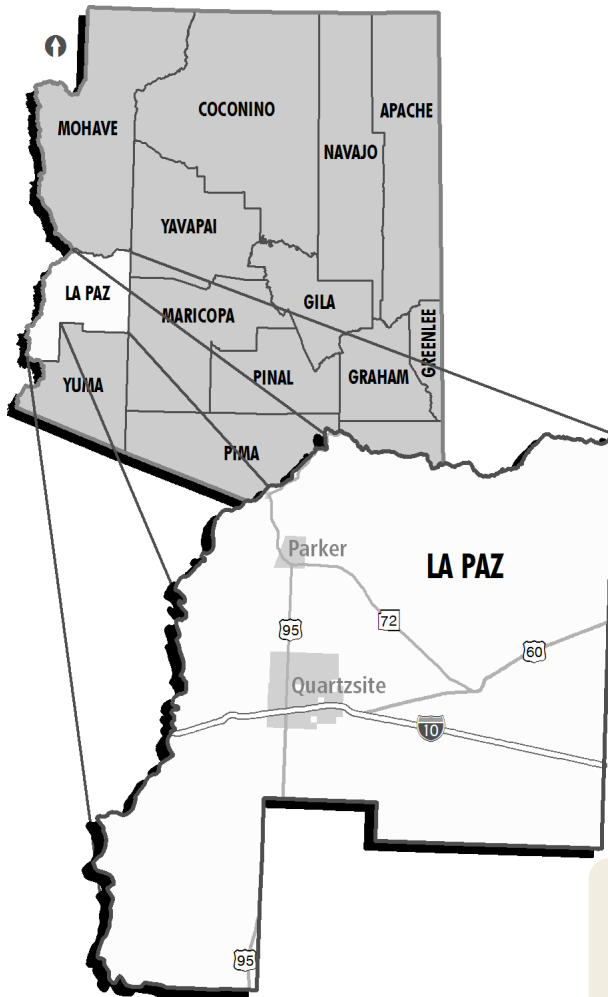
EXPENDITURES
\$64.2 Million

REVENUE
\$12.4 Million

FUNDING GAP
-\$51.8 Million



LA PAZ COUNTY SNAPSHOT



Bound by the Colorado River in western Arizona, La Paz County is uniquely characterized by riverside beaches, rugged mountains, open desert, and vast agricultural lands. The County's rugged landscape, Colorado River recreational areas, the numerous designated wilderness areas, and wildlife refuges attract thousands of visitors annually.

La Paz is the third smallest of Arizona's counties and has the lowest population density with almost five people per square mile. The U.S. Bureau of Land Management controls 58 percent of the land; the state of Arizona, 9 percent; other public lands, 20 percent; and 5 percent of the land is owned private. The Colorado River Indian Tribe owns 8 percent of the land.

The median age in the County is 54.8 years; median household income is \$34,000. The most common employment sectors for those who live in La Paz County are Accommodation & Food Service (14.9 percent), Agriculture, Forestry, Fishing, Hunting (14.6 percent), and Public Administration (12.9 percent).

Area (sq miles): 4,514

County Seat: Parker

Congressional District: 4th

Elevation: 160–5,700 FT

Avg. Annual Snowfall: 0 in

Avg. Annual Rainfall: 5.5 in

Avg. Low Temp: 39-45°F

Avg. High Temp: 103-110°F

Summary of Unincorporated County Population



2016 POPULATION
14,198



2027 POPULATION
13,906
-2.6% decrease



Source: Arizona Office of Economic Opportunity

County Maintained Roadways

- La Paz County owns and maintains approximately 1,089 miles of roadways.
- Only 23 percent are paved roads and 77 percent are unpaved.
- Per FHWA approved functional classification, the County road system consists of primarily collectors (8 percent) and locals (92 percent).

Current Roadway Conditions

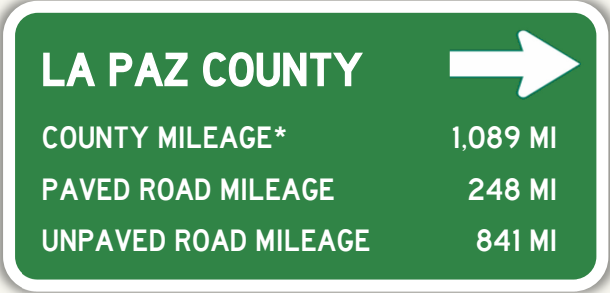
To determine the current condition of La Paz County’s roadway system, a sample set consisting of 10 percent of County roads were evaluated. The sample dataset included a mixture of roadway types to reflect the County’s entire roadway system. Based on the results of the sample datasets, the condition of the remaining 90 percent of the roadways was prorated. Key findings show:

- 61 percent of County roads are in poor to very poor condition.
- 37 percent in fair condition.
- 2 percent in good to excellent condition.

Based on the condition of the roadway, the table below lists the potential costs needed to bring the roads to a state-of-good-repair and maintain the system for the next 5- and 10-year periods.

Costs to Bring Roads to a State-of-Good-Repair

	Costs (in thousands)
State-of-Good-Repair Costs	\$52,645
Total 10 Year Maintenance Costs	\$32,184
Total Maintenance Costs (2018-2022)	\$15,302
Total Maintenance Costs (2023-2027)	\$16,882
Total Roadway Costs (State-of-Good-Repair & Maintenance Costs)	\$84,829



* County owned and maintained roads



60-65 PERCENT
COUNTY MAINTAINED ROADS ARE IN
POOR TO VERY POOR CONDITION



\$32.2 MILLION
COST TO MAINTAIN ROADWAYS FOR
THE NEXT 10 YEARS



\$52.6 MILLION
COST TO BRING ROADS TO A STATE-
OF-GOOD-REPAIR

Current Bridge Conditions

ADOT's comprehensive bridge data was obtained to evaluate the County bridge conditions. Key findings show:

- 7 bridge structures on La Paz County's roadways.
- No bridges are rated structurally deficient.
- 2 bridges are deemed functionally obsolete.

The table below summarizes deficient bridges by type.

Overview of Structures in La Paz County

Bridge Type	Total Bridges	Structurally Deficient	Functionally Obsolete
Concrete	2	0	0
Culvert	3	0	0
Steel	1	0	1
Timber	1	0	1
Total	7	0	2

Source: ADOT Bridge Group

The table below summarizes the costs to bring the County bridges to a state-of-good-repair and maintain for the next ten years.

Bridge Repair and Maintenance Costs (10-Year Period)*

Bridge Costs (in Thousands)	
Bridge Replacement Costs*	\$5,894
Inspection Costs	\$121
Maintenance Costs	\$330
Total Bridge Costs	\$6,346

*Bridges classified as structurally deficient or functionally obsolete were assumed to be replaced within 10 years

Safety Improvements

To assess potential safety needs, the study team followed a three step approach:

- 1) Reviewed each county's Transportation Improvement Program (TIP) to identify safety projects.
- 2) Conducted a high-level spatial review of crash locations to identify roadway segments and intersections that have a high density of historical crashes. For locations with high density of crashes, an aerial and Google Streetview evaluation was conducted to identify potential issues and mitigation measures. Cost estimates were developed for potential improvements.
- 3) Costs from the TIP and aerial review were combined to calculate overall safety improvement costs. For good measure, a minimum of \$1 million was assumed for safety improvements.

For La Paz County, \$3.1 million is needed for safety improvements for the 10-year period.



SEVEN
COUNTY OWNED BRIDGES/STRUCTURES

29 PERCENT
COUNTY MAINTAINED BRIDGES ARE
STRUCTURALLY DEFICIENT OR
FUNCTIONALLY OBSOLETE



0 PERCENT
AGE 50 YEARS OR OLDER



25 YEARS
AVERAGE AGE OF BRIDGES



11 MILES
AVERAGE DETOUR LENGTH



\$6.3 MILLION
COST TO BRING BRIDGES TO A
STATE-OF-GOOD-REPAIR AND
MAINTAIN FOR THE NEXT 10 YEARS

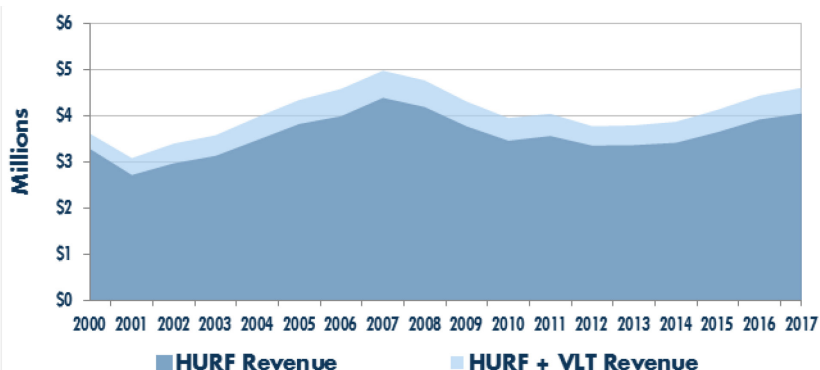
Summary of County Revenues

The county's transportation revenue sources include HURF, VLT, and federal/state/local grants. Since grant receipts vary significantly each year, only recurring (dependable) revenue sources were analyzed.

Historical Revenues

Revenue data was compiled from ADOT's HURF/VLT distribution reports, the county's Comprehensive Annual Financial Reports (CAFR), Annual Budget Reports, and information provided by county staff. Key highlights include:

- The county's total *recurring* revenues have decreased by 8 percent since the peak level in 2007.
- HURF revenues have decreased by 8 percent since the peak level in 2007.
- In 2017, 88 percent of the county's recurring transportation funds came from HURF.



2017 County Recurring Revenue Sources

Recurring Revenue Source	2017
HURF Funds	\$4,057,059
VLT Funds	\$551,590
Local Tax Initiative Funds	\$0
Total Recurring Revenue	\$4,608,649

Source: ADOT HURF/VLT Distribution Reports; County CAFR Report; County Annual Budget Report

HURF Transfers to Support State Programs

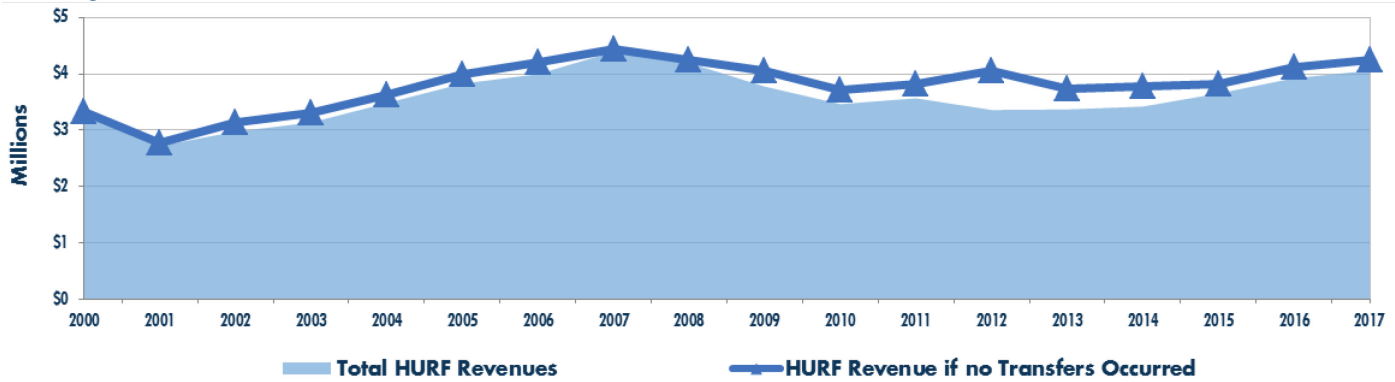
Each year, the state transfers HURF roadway improvement funds to support other state programs (such as DPS). The following table and chart illustrates the actual HURF funds distributed to county versus the estimated share if no HURF transfers occurred.

- Since 2000, a total of \$3.8 million of HURF funds have been distributed to other programs that the county would have otherwise received.
- In 2017, HURF revenue loss per capita was \$14.30.

Impact of HURF Transfers on the County

HURF Revenue Transfers	2005	2010	2015	2017
HURF Revenue Loss Due to Transfers	\$172,149	\$249,429	\$164,604	\$199,764
HURF Revenue if no Transfers Occurred	\$4,000,280	\$3,714,608	\$3,818,592	\$4,256,823
Percent Loss of HURF Revenue	4.5%	7.2%	4.5%	4.9%
HURF Revenue Loss Per Capita	\$12.41	\$18.17	\$11.59	\$14.30

Funding Levels if No HURF Transfers Occurred



Revenue Projections

In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated revenues for the 10-year period.

Revenue Source	Estimated 10-Year Recurring Revenues (in millions)
HURF	\$44.3
VLT	\$5.9
Other	\$0.0
Total	\$50.2

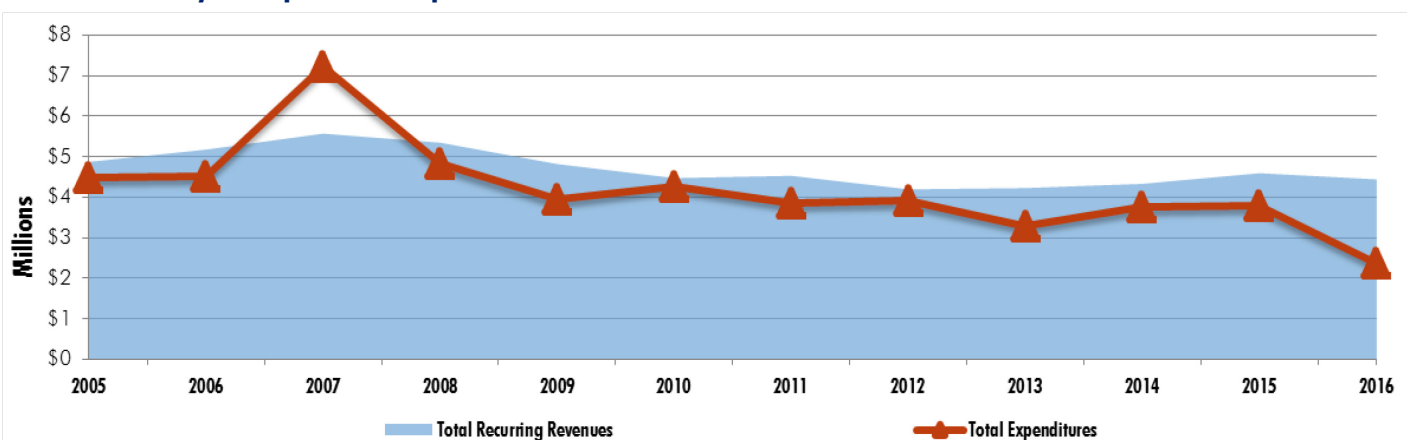
Summary of Expenditures

Historical county CAFRs, budget reports, and information provided by staff were utilized to compile expenditures related to transportation uses. In 2007, roadway expenditures were 29 percent more than the county's recurring revenues



CURRENT FULL-TIME EMPLOYEES
30+

Historical County Transportation Expenditures



Source: County CAFR Report; County Annual Budget Report

Expenditure Projections

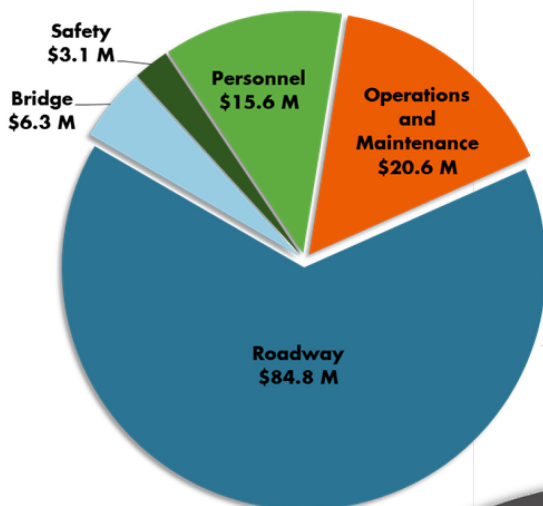
In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated expenditures for the 10-year period.

Expenditures (in millions)	La Paz County
Roadway Repair and Maintenance	\$84.8
Bridge Repair and Maintenance	\$6.3
Safety Improvements	\$3.1
Personnel	\$15.6
Operations	\$18.7
Administration	\$1.9
Total	\$130.4

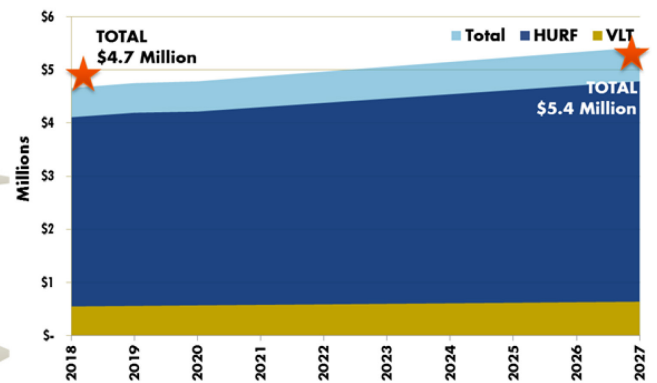
The Bottom Line

Failure to meet the current maintenance investment needs of the County will result in the rapid deterioration of its transportation system over the next 10 years. It is imperative that La Paz County receive a stable revenue stream for cost-effective maintenance of the county transportation system in order to reverse this crisis.

COST TO MAINTAIN SYSTEM OVER 10 YEARS



PROJECTED 10 YEAR REVENUES



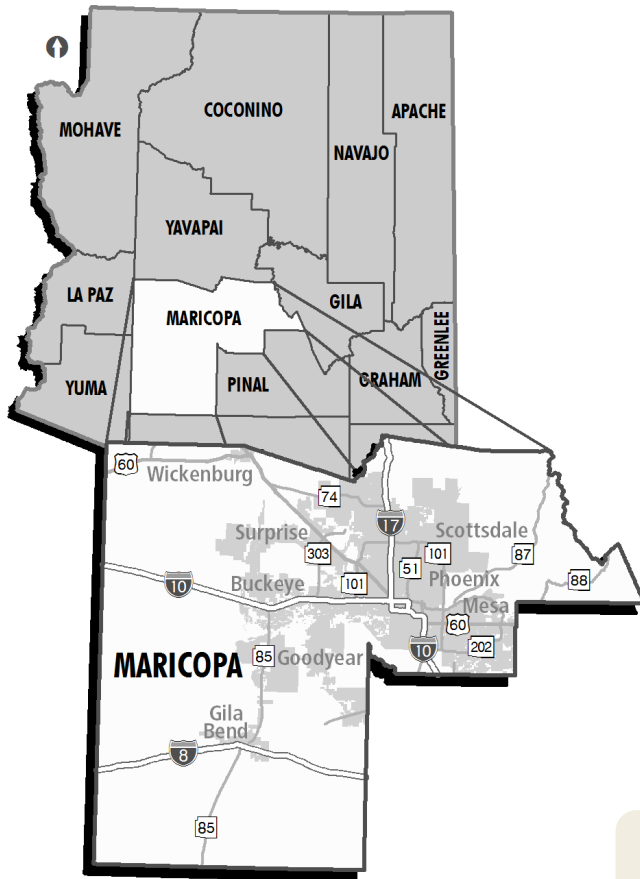
EXPENDITURES
\$130.4 Million

REVENUE
\$50.3 Million

FUNDING GAP
-\$80.2 Million



MARICOPA COUNTY SNAPSHOT



Situated in the heart of the Sonoran Desert in south-central Arizona, Maricopa County is the fourth most populous county in the United States. The County's landscape sharply contrasts between low desert areas to high mountainous region. Elevations range from 400 feet above sea level to over 7,600 feet in the Four Peaks Wilderness Area.

Twenty-nine percent of Maricopa County is private land, and 28 percent is owned by the U.S. Bureau of Land Management. The U.S. Forest Service and the State of Arizona each control 11 percent of the County; an additional 16 percent is owned by other public entities. Almost 5 percent is Indian Reservation land.

The median age in the County is 36.1 years; median household income is \$56,000. The most common employment sectors for those who live in Maricopa County are Healthcare & Social Assistance (12.8 percent), Educational Services (7.9 percent), and Retail Trade (12.5 percent).

Area (sq miles): 9,224	County Seat: Phoenix
Congressional District: 1, 3 – 7	Elevation: 400–7,600 FT
Avg. Annual Snowfall: 0 in	Avg. Annual Rainfall: 8 in
Avg. Low Temp: 38-45°F	Avg. High Temp: 101-107°F

Summary of Unincorporated County Population



2016 POPULATION
297,383



2027 POPULATION
383,100
28.8% increase



Source: Arizona Office of Economic Opportunity

County Maintained Roadways

- Maricopa County owns and maintains approximately 2,482 miles of roadways.
- 83 percent are paved roads and 17 percent are unpaved.

Current Roadway Conditions

To determine the current condition of Maricopa County’s roadway system, a sample set consisting of 10 percent of County roads were evaluated. The sample dataset included a mixture of roadway types to reflect the County’s entire roadway system. Based on the results of the sample datasets, the condition of the remaining 90 percent of the roadways was prorated. Key findings show:

- 29 percent of County roads are in poor to very poor condition.
- 47 percent in fair condition.
- 24 percent in good to excellent condition.

Based on the condition of the roadway, the table below lists the potential costs needed to bring the roads to a state-of-good-repair and maintain the system for the next 5- and 10-year periods.

Costs to Bring Roads to a State-of-Good-Repair

	Costs (in thousands)
State-of-Good-Repair Costs	\$232,594
Total 10 Year Maintenance Costs	\$154,851
Total Maintenance Costs (2018-2022)	\$60,721
Total Maintenance Costs (2023-2027)	\$94,130
Total Roadway Costs (State-of-Good-Repair & Maintenance Costs)	\$387,445

MARICOPA COUNTY

COUNTY MILEAGE*

PAVED ROAD MILEAGE

UNPAVED ROAD MILEAGE

2,482 MI

2,062 MI

420 MI

* County owned and maintained roads



25-30 PERCENT
COUNTY MAINTAINED ROADS ARE IN
POOR TO VERY POOR CONDITION



\$154.9 MILLION
COST TO MAINTAIN ROADWAYS FOR
THE NEXT 10 YEARS



\$232.6 MILLION
COST TO BRING ROADS TO A STATE-
OF-GOOD-REPAIR

Current Bridge Conditions

ADOT's comprehensive bridge data was obtained to evaluate the County bridge conditions. Key findings show:

- 282 bridge structures on Maricopa County's roadways.
- No bridges are rated structurally deficient.
- 5 bridges are deemed functionally obsolete.

The table below summarizes deficient bridges by type.

Overview of Structures in Maricopa County

Bridge Type	Total Bridges	Structurally Deficient	Functionally Obsolete
Concrete	72	0	2
Culvert	207	0	2
Steel	3	0	1
Timber	0	0	0
Total	282	0	5

Source: ADOT Bridge Group

The table below summarizes the costs to bring the County bridges to a state-of-good-repair and maintain for the next ten years.

Bridge Repair and Maintenance Costs (10-Year Period)*

Bridge Costs (in Thousands)	
Bridge Replacement Costs*	\$78,006
Inspection Costs	\$5,599
Maintenance Costs	\$10,590
Total Bridge Costs	\$94,195

*Bridges classified as structurally deficient or functionally obsolete were assumed to be replaced within 10 years

Safety Improvements

To assess potential safety needs, the study team followed a three step approach:

- 1) Reviewed each county's Transportation Improvement Program (TIP) to identify safety projects.
- 2) Conducted a high-level spatial review of crash locations to identify roadway segments and intersections that have a high density of historical crashes. For locations with high density of crashes, an aerial and Google Streetview evaluation was conducted to identify potential issues and mitigation measures. Cost estimates were developed for potential improvements.
- 3) Costs from the TIP and aerial review were combined to calculate overall safety improvement costs. For good measure, a minimum of \$1 million was assumed for safety improvements.

For Maricopa County, \$80.6 million is needed for safety improvements for the 10-year period.



282
COUNTY OWNED BRIDGES/STRUCTURES

2 PERCENT
COUNTY MAINTAINED BRIDGES ARE
STRUCTURALLY DEFICIENT OR
FUNCTIONALLY OBSOLETE



3 PERCENT
AGE 50 YEARS OR OLDER



24 YEARS
AVERAGE AGE OF BRIDGES



14 MILES
AVERAGE DETOUR LENGTH



\$94.2 MILLION
COST TO BRING BRIDGES TO A
STATE-OF-GOOD-REPAIR AND
MAINTAIN FOR THE NEXT 10 YEARS

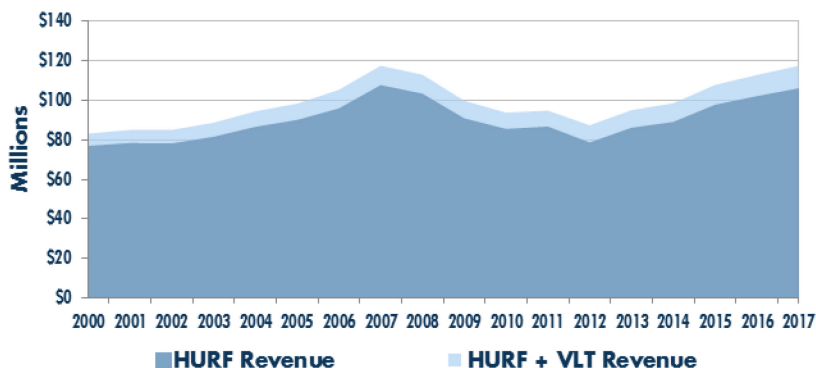
Summary of County Revenues

The county's transportation revenue sources include HURF, VLT, and federal/state/local grants. Since grant receipts vary significantly each year, only recurring (dependable) revenue sources were analyzed.

Historical Revenues

Revenue data was compiled from ADOT's HURF/VLT distribution reports, the county's Comprehensive Annual Financial Reports (CAFR), Annual Budget Reports, and information provided by county staff. Key highlights include:

- Total recurring revenues have just reached the peak 2007 level.
- HURF revenues have decreased by 2 percent since peak levels in 2007.
- In 2017, 90 percent of the county's recurring transportation funds came from HURF.



2017 County Recurring Revenue Sources

Recurring Revenue Source	2017
HURF Funds	\$105,991,581
VLT Funds	\$11,361,426
Total Recurring Revenue	\$117,353,007

Source: ADOT HURF/VLT Distribution Reports; County CAFR Report; County Annual Budget Report

HURF Transfers to Support State Programs

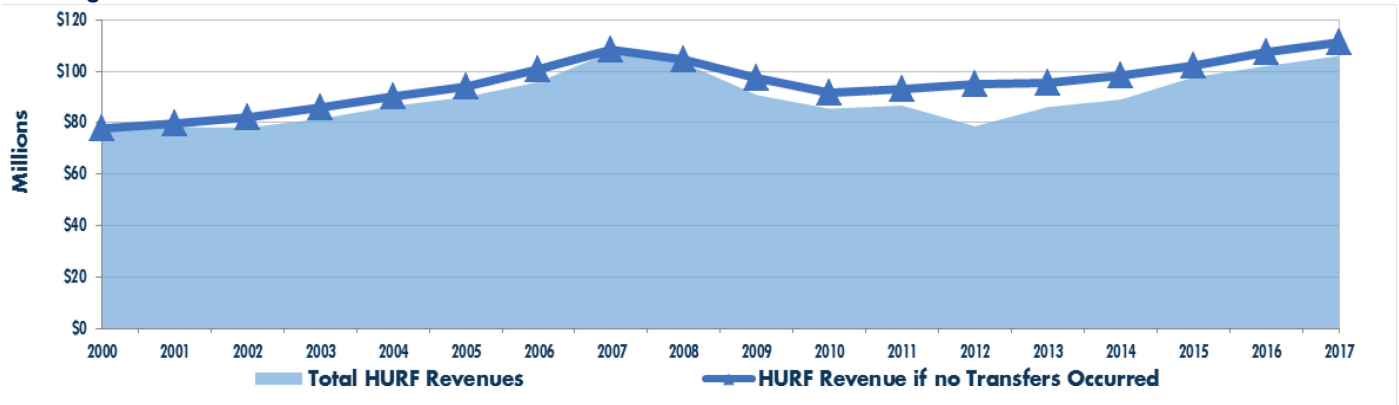
Each year, the state transfers HURF roadway improvement funds to support other state programs (such as DPS). The following table and chart illustrates the actual HURF funds distributed to county versus the estimated share if no HURF transfers occurred.

- Since 2000, a total of \$95.7 million of HURF funds have been distributed to other programs that the county would have otherwise received.
- In 2017, HURF revenue loss per capita was \$17.80.

Impact of HURF Transfers on the County

HURF Revenue Transfers	2005	2010	2015	2017
HURF Revenue Loss Due to Transfers	\$4,048,588	\$6,154,484	\$4,401,109	\$5,218,877
HURF Revenue if no Transfers Occurred	\$94,078,058	\$91,655,257	\$102,099,585	\$111,210,458
Percent Loss of HURF Revenue	4.5%	7.2%	4.5%	4.9%
HURF Revenue Loss Per Capita	\$16.21	\$21.64	\$14.98	\$17.80

Funding Levels if No HURF Transfers Occurred



Revenue Projections

In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated revenues for the 10-year period.

Revenue Source	Estimated 10-Year Recurring Revenues (in millions)
HURF	\$1,168.3
VLT	\$123.0
Other	\$0.0
Total	\$1,291.3

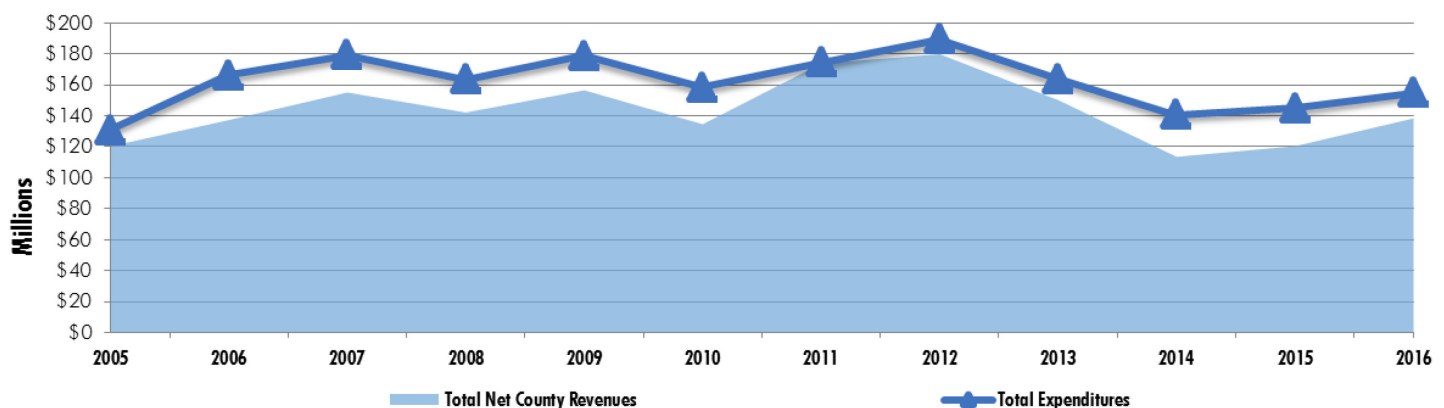
Summary of Expenditures

Historical county CAFRs, budget reports, and information provided by staff were utilized to compile expenditures related to transportation uses. In 2016, roadway expenditures were 37 percent more than the county's recurring revenues.



CURRENT FULL-TIME EMPLOYEES
420+

Historical County Transportation Expenditures



Source: County CAFR Report; County Annual Budget Report

Expenditure Projections

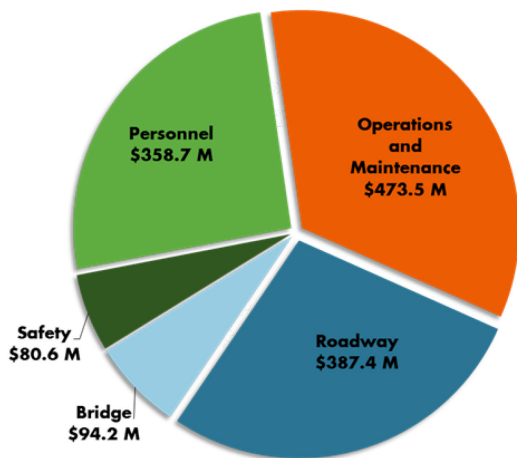
In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated expenditures for the 10-year period.

Expenditures (in millions)	Maricopa County
Roadway Repair and Maintenance	\$387.4
Bridge Repair and Maintenance	\$94.2
Safety Improvements	\$80.6
Personnel	\$358.7
Operations	\$430.4
Administration	\$43.0
Total	\$1,394.4

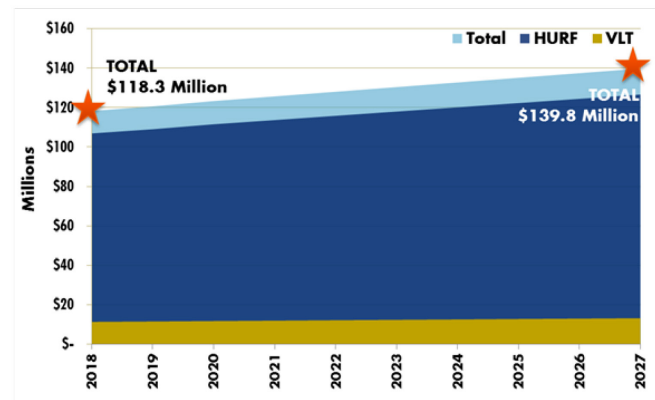
The Bottom Line

Failure to meet the current maintenance investment needs of the County will result in the rapid deterioration of its transportation system over the next 10 years. It is imperative that Maricopa County receive a stable revenue stream for cost-effective maintenance of the county transportation system in order to reverse this crisis.

COST TO MAINTAIN SYSTEM OVER 10 YEARS

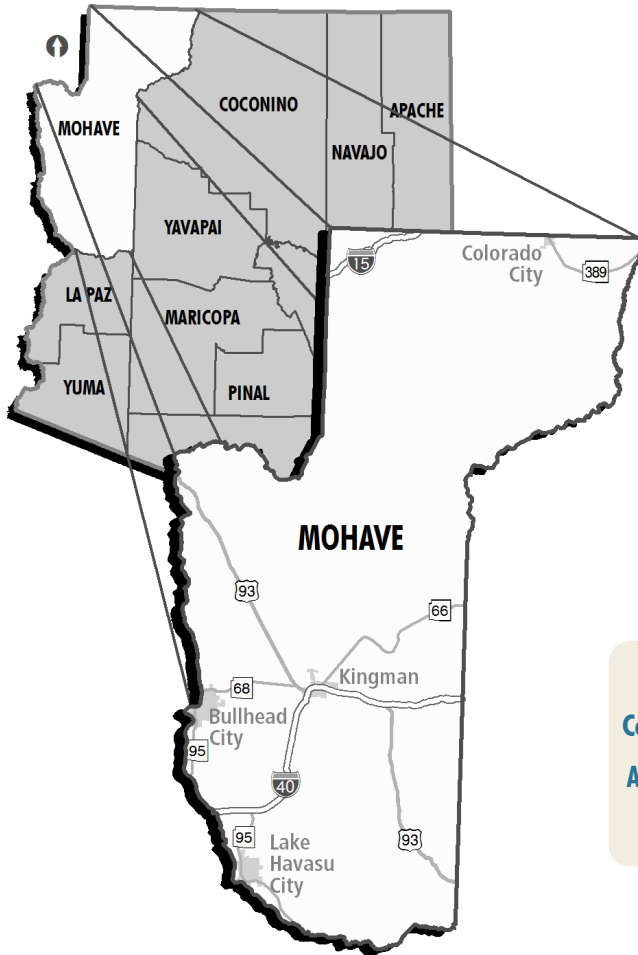


PROJECTED 10 YEAR REVENUES





MOHAVE COUNTY SNAPSHOT



Mohave County is located in the northwestern corner of Arizona and is the fifth largest county in the United States. The U.S. Forest Service and Bureau of Land Management own approximately 61 percent of the county; Indian reservations, 6 percent; the state of Arizona, 7 percent; private lands, 18 percent; and other public lands, 8 percent. The county also contains parts of the Grand Canyon National Park, Lake Mead National Recreation Area, and numerous other recreational areas.

The median age in the County is 49.2 years; median household income is \$38,000. The most common employment sectors for those who live in Mohave County are Healthcare & Social Assistance (13.6 percent), Accommodation & Food Service (13.3 percent), and Retail Trade (14.5 percent).

Area (sq miles): 13,311	County Seat: Kingman
Congressional District: 1st & 4th	Elevation: 400–8,400FT
Avg. Annual Snowfall: 0 in	Avg. Annual Rainfall: 9 in
Avg. Low Temp: 27-45°F	Avg. High Temp: 90-110°F

Summary of Unincorporated County Population



2016 POPULATION
78,135



2027 POPULATION
95,767
22.6% increase



Source: Arizona Office of Economic Opportunity

County Maintained Roadways

- Maricopa County owns and maintains approximately 2,119 miles of roadways.
- Only 38 percent are paved roads and 62 percent are unpaved.
- Per FHWA approved functional classification, the County road system consists of primarily collectors (13 percent) and locals (86 percent). Arterials account for 1 percent.

Current Roadway Conditions

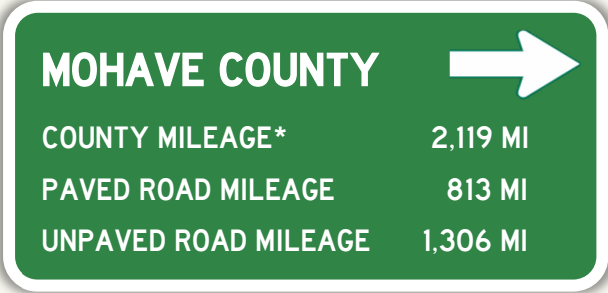
To determine the current condition of Mohave County’s roadway system, a sample set consisting of 9 percent of County roads were evaluated. The sample dataset included a mixture of roadway types to reflect the County’s entire roadway system. Based on the results of the sample datasets, the condition of the remaining 91 percent of the roadways was prorated. Key findings show:

- 25 percent of County roads are in poor to very poor condition.
- 73 percent in fair condition.
- 2 percent in good to excellent condition.

Based on the condition of the roadway, the table below lists the potential costs needed to bring the roads to a state-of-good-repair and maintain the system for the next 5- and 10-year periods.

Costs to Bring Roads to a State-of-Good-Repair

	Costs (in thousands)
State-of-Good-Repair Costs	\$144,812
Total 10 Year Maintenance Costs	\$80,713
Total Maintenance Costs (2018-2022)	\$32,181
Total Maintenance Costs (2023-2027)	\$48,532
Total Roadway Costs (State-of-Good-Repair & Maintenance Costs)	\$225,525



* County owned and maintained roads



20-25 PERCENT
COUNTY MAINTAINED ROADS ARE IN
POOR TO VERY POOR CONDITION



\$80.7 MILLION
COST TO MAINTAIN ROADWAYS FOR
THE NEXT 10 YEARS



\$144.8 MILLION
COST TO BRING ROADS TO A STATE-
OF-GOOD-REPAIR

Current Bridge Conditions

ADOT’s comprehensive bridge data was obtained to evaluate the County bridge conditions. Key findings show:

- 38 bridge/structures on Mohave County’s roadways.
- No bridges are rated structurally deficient.
- No bridges are deemed functionally obsolete.

The table below summarizes deficient bridges by type.

Overview of Structures in Mohave County

Bridge Type	Total Bridges	Structurally Deficient	Functionally Obsolete
Concrete	3	0	0
Culvert	33	0	0
Steel	2	0	0
Timber	0	0	0
Total	38	0	0

Source: ADOT Bridge Group

The table below summarizes the costs to bring the County bridges to a state-of-good-repair and maintain for the next ten years.

Bridge Repair and Maintenance Costs (10-Year Period)*

Bridge Costs (in Thousands)	
Bridge Replacement Costs*	\$0
Inspection Costs	\$332
Maintenance Costs	\$870
Total Bridge Costs	\$1,202

*Bridges classified as structurally deficient or functionally obsolete were assumed to be replaced within 10 years

Safety Improvements

To assess potential safety needs, the study team followed a three step approach:

- 1) Reviewed each county’s Transportation Improvement Program (TIP) to identify safety projects.
- 2) Conducted a high-level spatial review of crash locations to identify roadway segments and intersections that have a high density of historical crashes. For locations with high density of crashes, an aerial and Google Streetview evaluation was conducted to identify potential issues and mitigation measures. Cost estimates were developed for potential improvements.
- 3) Costs from the TIP and aerial review were combined to calculate overall safety improvement costs. For good measure, a minimum of \$1 million was assumed for safety improvements.

For Mohave County, \$2.0 million was assumed for safety improvements for the 10-year period.



38
COUNTY OWNED BRIDGES/STRUCTURES

0 PERCENT
COUNTY MAINTAINED BRIDGES ARE
STRUCTURALLY DEFICIENT OR
FUNCTIONALLY OBSOLETE



11 PERCENT
AGE 50 YEARS OR OLDER



23 YEARS
AVERAGE AGE OF BRIDGES



18 MILES
AVERAGE DETOUR LENGTH



\$1.2 MILLION
COST TO BRING BRIDGES TO A
STATE-OF-GOOD-REPAIR AND
MAINTAIN FOR THE NEXT 10 YEARS

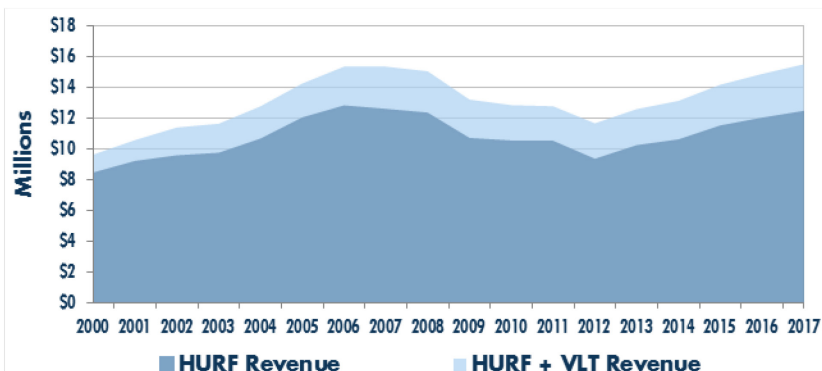
Summary of County Revenues

The county's transportation revenue sources include HURF, VLT, and federal/state/local grants. Since grant receipts vary significantly each year, only recurring (dependable) revenue sources were analyzed.

Historical Revenues

Revenue data was compiled from ADOT's HURF/VLT distribution reports, the county's Comprehensive Annual Financial Reports (CAFR), Annual Budget Reports, and information provided by county staff. Key highlights include:

- Total recurring revenues have just reached the peak 2006 level.
- HURF revenues have decreased by 3 percent since peak levels in 2006.
- In 2017, 81 percent of the county's recurring transportation funds came from HURF.



2017 County Recurring Revenue Sources

Recurring Revenue Source	2017
HURF Funds	\$12,489,860
VLT Funds	\$3,022,205
Local Tax Initiative Funds	\$0
Total Recurring Revenue	\$15,512,065

Source: ADOT HURF/VLT Distribution Reports; County CAFR Report; County Annual Budget Report

HURF Transfers to Support State Programs

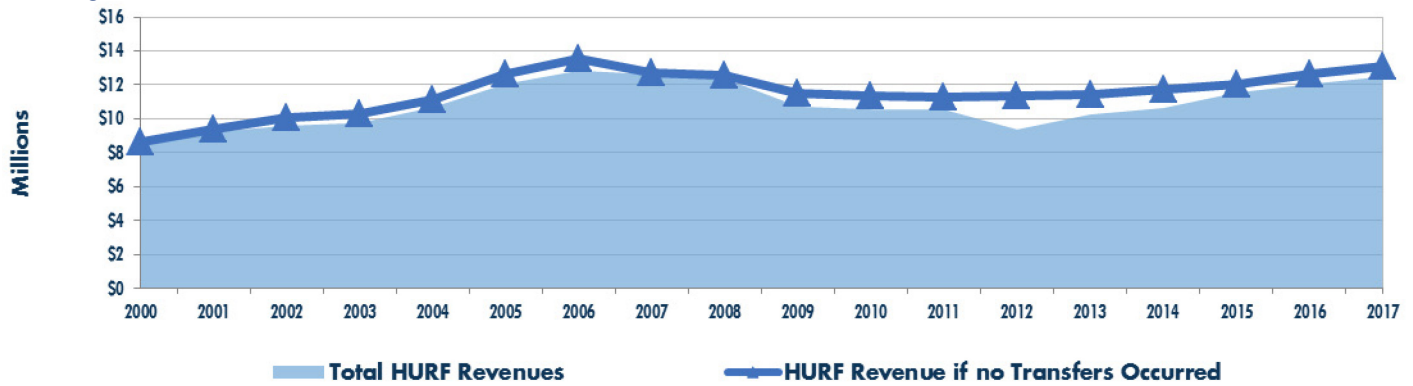
Each year, the state transfers HURF roadway improvement funds to support other state programs (such as DPS). The following table and chart illustrates the actual HURF funds distributed to county versus the estimated share if no HURF transfers occurred.

- Since 2000, a total of \$11.6 million of HURF funds have been distributed to other programs that the county would have otherwise received.
- In 2017, HURF revenue loss per capita was \$7.60.

Impact of HURF Transfers on the County

HURF Revenue Transfers	2005	2010	2015	2017
HURF Revenue Loss Due to Transfers	\$542,558	\$760,432	\$520,007	\$614,983
HURF Revenue if no Transfers Occurred	\$12,607,561	\$11,324,691	\$12,063,444	\$13,104,843
Percent Loss of HURF Revenue	4.5%	7.2%	4.5%	4.9%
HURF Revenue Loss Per Capita	\$8.24	\$10.11	\$6.64	\$7.60

Funding Levels if No HURF Transfers Occurred



Revenue Projections

In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. Procedures used to develop the revenue projections are presented in Chapter 4. The table to the right provides a summary of estimated revenues for the 10-year period.

Revenue Source	Estimated 10-Year Recurring Revenues (in millions)
HURF	\$139.2
VLT	\$32.5
Other	\$0.0
Total	\$171.7

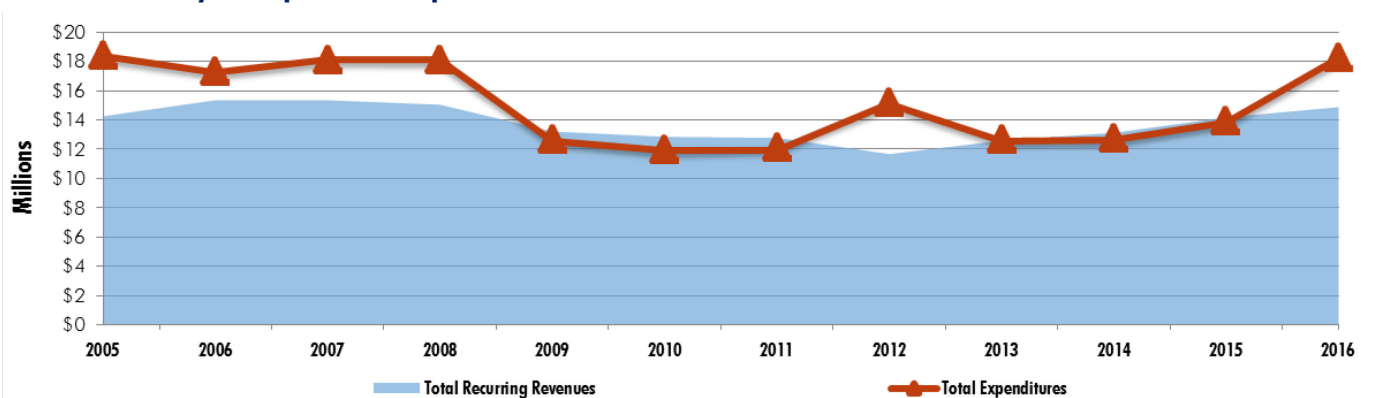
Summary of Expenditures

Historical county CAFRs, budget reports, and information provided by staff were utilized to compile expenditures related to transportation uses. In 2016, roadway expenditures were 22 percent more than the county's recurring revenues



CURRENT FULL-TIME EMPLOYEES
160+

Historical County Transportation Expenditures



Source: County CAFR Report; County Annual Budget Report

Expenditure Projections

In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027.

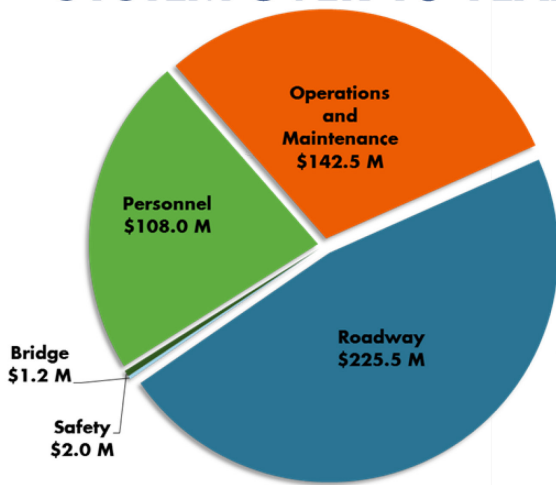
Procedures used to develop the expenditure projections are presented in Chapter 5. The table to the right provides a summary of estimated expenditures for the 10-year period.

Expenditures (in millions)	Mohave County
Roadway Repair and Maintenance	\$225.5
Bridge Repair and Maintenance	\$1.2
Safety Improvements	\$2.0
Personnel	\$108.0
Operations	\$129.6
Administration	\$13.0
Total	\$479.3

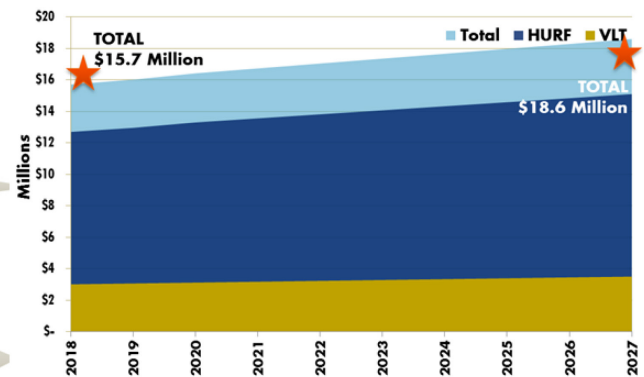
The Bottom Line

Failure to meet the current maintenance investment needs of the County will result in the rapid deterioration of its transportation system over the next 10 years. It is imperative that Mohave County receive a stable revenue stream for cost-effective maintenance of the county transportation system in order to reverse this crisis.

COST TO MAINTAIN SYSTEM OVER 10 YEARS



PROJECTED 10 YEAR REVENUES



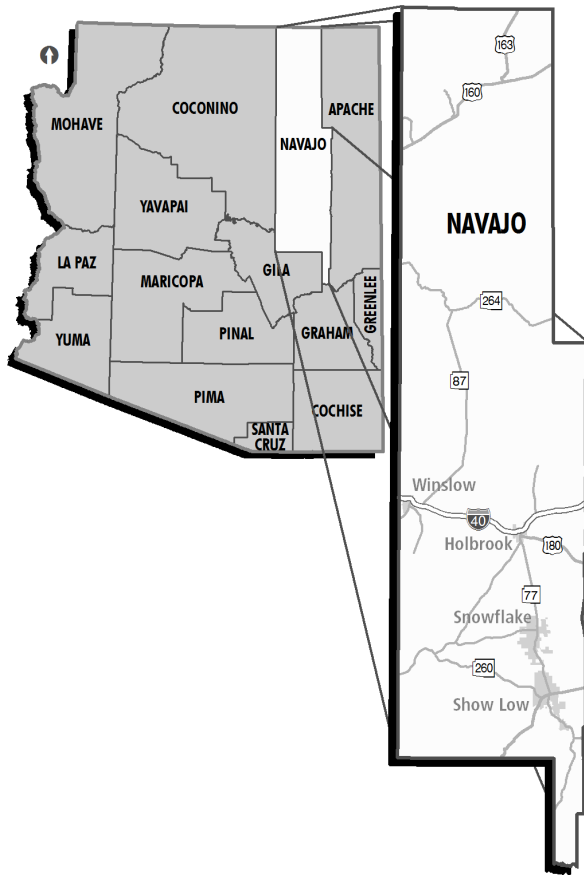
EXPENDITURES
\$479.3 Million

REVENUE
\$171.7 Million

FUNDING GAP
-\$307.6 Million



NAVAJO COUNTY SNAPSHOT



Located in northern Arizona, Navajo County is primarily rural with nearly 67 percent of the County located within the Navajo Nation. The County is divided into two distinct areas by the Mogollon Rim. The high country in the northern part of the County is arid and desert-like, while the southern part is a heavily wooded, mountainous area.

Almost 67 percent of Navajo County's 9,960 square miles is Indian reservation land. Private lands account for 18 percent; the U.S. Forest Service and U.S. Bureau of Land Management together control 9 percent; and the State of Arizona owns 6 percent.

The median age in the County is 35.7 years; median household income is \$36,000. The most common employment sectors for those who live in Navajo County are Healthcare & Social Assistance (16 percent), Educational Services (12.2 percent), and Retail Trade (13.2 percent).

Area (sq miles): 9,960	County Seat: Holbrook
Congressional District: 1st	Elevation: 4,300–8,100 FT
Avg. Annual Snowfall: 35 in	Avg. Annual Rainfall: 17 in
Avg. Low Temp: 21–24°F	Avg. High Temp: 85–93°F

Summary of Unincorporated County Population



2016 POPULATION
69,888



2027 POPULATION
71,443
2.2% increase



Source: Arizona Office of Economic Opportunity

County Maintained Roadways

- Navajo County owns and maintains approximately 732 miles of roadways.
- Only 44 percent are paved roads and 56 percent are unpaved.
- Per FHWA approved functional classification, the County road system consists of primarily collectors (18 percent) and locals (81 percent).

Current Roadway Conditions

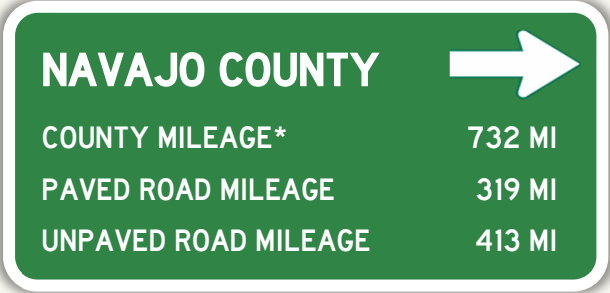
To determine the current condition of Navajo County’s roadway system, a sample set consisting of 10 percent of County roads were evaluated. The sample dataset included a mixture of roadway types to reflect the County’s entire roadway system. Based on the results of the sample datasets, the condition of the remaining 90 percent of the roadways was prorated. Key findings show:

- 40 percent of County roads are in poor to very poor condition.
- 55 percent in fair condition.
- 5 percent in good to excellent condition.

Based on the condition of the roadway, the table below lists the potential costs needed to bring the roads to a state-of-good-repair and maintain the system for the next 5- and 10-year periods.

Costs to Bring Roads to a State-of-Good-Repair

	Costs (in thousands)
State-of-Good-Repair Costs	\$45,452
Total 10 Year Maintenance Costs	\$26,707
Total Maintenance Costs (2018-2022)	\$11,612
Total Maintenance Costs (2023-2027)	\$15,096
Total Roadway Costs (State-of-Good-Repair & Maintenance Costs)	\$72,159



* County owned and maintained roads



35-40 PERCENT
COUNTY MAINTAINED ROADS ARE IN
POOR TO VERY POOR CONDITION



\$26.7 MILLION
COST TO MAINTAIN ROADWAYS FOR
THE NEXT 10 YEARS



\$45.5 MILLION
COST TO BRING ROADS TO A STATE-
OF-GOOD-REPAIR

Current Bridge Conditions

ADOT’s comprehensive bridge data was obtained to evaluate the County bridge conditions. Key findings show:

- 19 bridge structures on Navajo County’s roadways.
- 4 bridges are rated structurally deficient.
- No bridges are deemed functionally obsolete.

The table below summarizes deficient bridges by type.

Overview of Structures in Navajo County

Bridge Type	Total Bridges	Structurally Deficient	Functionally Obsolete
Concrete	8	1	0
Culvert	5	0	0
Steel	6	3	0
Timber	0	0	0
Total	19	4	0

Source: ADOT Bridge Group

The table below summarizes the costs to bring the County bridges to a state-of-good-repair and maintain for the next ten years.

Bridge Repair and Maintenance Costs (10-Year Period)*

Bridge Costs (in Thousands)	
Bridge Replacement Costs*	\$2,560
Inspection Costs	\$377
Maintenance Costs	\$682
Total Bridge Costs	\$3,619

*Bridges classified as structurally deficient or functionally obsolete were assumed to be replaced within 10 years

Safety Improvements

To assess potential safety needs, the study team followed a three step approach:

- 1) Reviewed each county’s Transportation Improvement Program (TIP) to identify safety projects.
- 2) Conducted a high-level spatial review of crash locations to identify roadway segments and intersections that have a high density of historical crashes. For locations with high density of crashes, an aerial and Google Streetview evaluation was conducted to identify potential issues and mitigation measures. Cost estimates were developed for potential improvements.
- 3) Costs from the TIP and aerial review were combined to calculate overall safety improvement costs. For good measure, a minimum of \$1 million was assumed for safety improvements.

For Navajo County, \$1.0 million was assumed for safety improvements for the 10-year period.



19
COUNTY OWNED BRIDGES/STRUCTURES

21 PERCENT
COUNTY MAINTAINED BRIDGES ARE
STRUCTURALLY DEFICIENT OR
FUNCTIONALLY OBSOLETE



16 PERCENT
AGE 50 YEARS OR OLDER



39 YEARS
AVERAGE AGE OF BRIDGES



22 MILES
AVERAGE DETOUR LENGTH



\$3.6 MILLION
COST TO BRING BRIDGES TO A
STATE-OF-GOOD-REPAIR AND
MAINTAIN FOR THE NEXT 10 YEARS

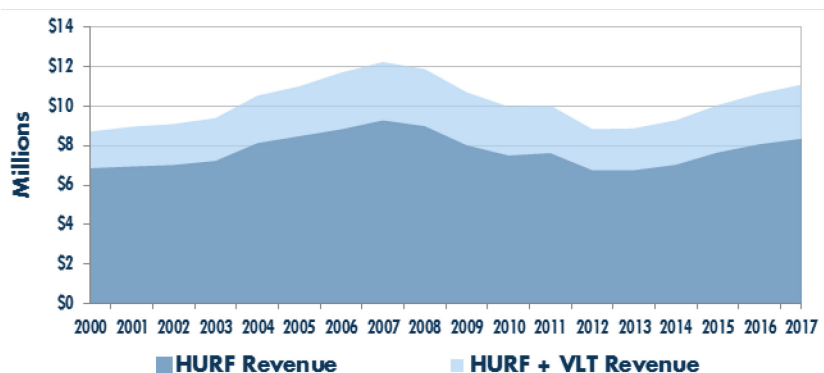
Summary of County Revenues

The county's transportation revenue sources include HURF, VLT, and federal/state/local grants. Since grant receipts vary significantly each year, only recurring (dependable) revenue sources were analyzed.

Historical Revenues

Revenue data was compiled from ADOT's HURF/VLT distribution reports, the county's Comprehensive Annual Financial Reports (CAFR), Annual Budget Reports, and information provided by county staff. Key highlights include:

- The county's total *recurring* revenues have decreased by 9 percent since the peak level in 2007.
- HURF revenues have decreased by 10 percent since the peak level in 2007.
- In 2017, 75 percent of the county's recurring transportation funds came from HURF.



2017 County Recurring Revenue Sources

Recurring Revenue Source	2017
HURF Funds	\$8,346,401
VLT Funds	\$2,735,423
Local Tax Initiative Funds	\$0
Total Recurring Revenue	\$11,081,824

Source: ADOT HURF/VLT Distribution Reports; County CAFR Report; County Annual Budget Report

HURF Transfers to Support State Programs

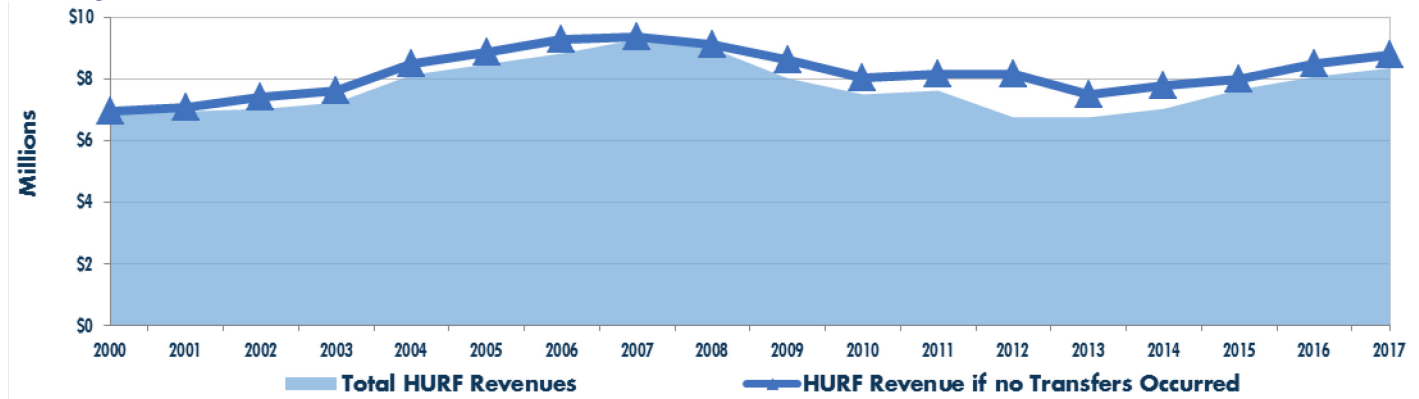
Each year, the state transfers HURF roadway improvement funds to support other state programs (such as DPS). The following table and chart illustrates the actual HURF funds distributed to county versus the estimated share if no HURF transfers occurred.

- Since 2000, a total of \$8.1 million of HURF funds have been distributed to other programs that the county would have otherwise received.
- In 2017, HURF revenue loss per capita was \$5.90.

Impact of HURF Transfers on the County

HURF Revenue Transfers	2005	2010	2015	2016
HURF Revenue Loss Due to Transfers	\$381,113	\$539,788	\$344,761	\$410,965
HURF Revenue if no Transfers Occurred	\$8,856,008	\$8,038,763	\$7,997,982	\$8,757,366
Percent Loss of HURF Revenue	4.5%	7.2%	4.5%	4.9%
HURF Revenue Loss Per Capita	\$5.47	\$7.93	\$4.96	\$5.90

Funding Levels if No HURF Transfers Occurred



Revenue Projections

In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated revenues for the 10-year period.

Revenue Source	Estimated 10-Year Recurring Revenues (in millions)
HURF	\$89.7
VLT	\$29.5
Other	\$0.0
Total	\$119.2

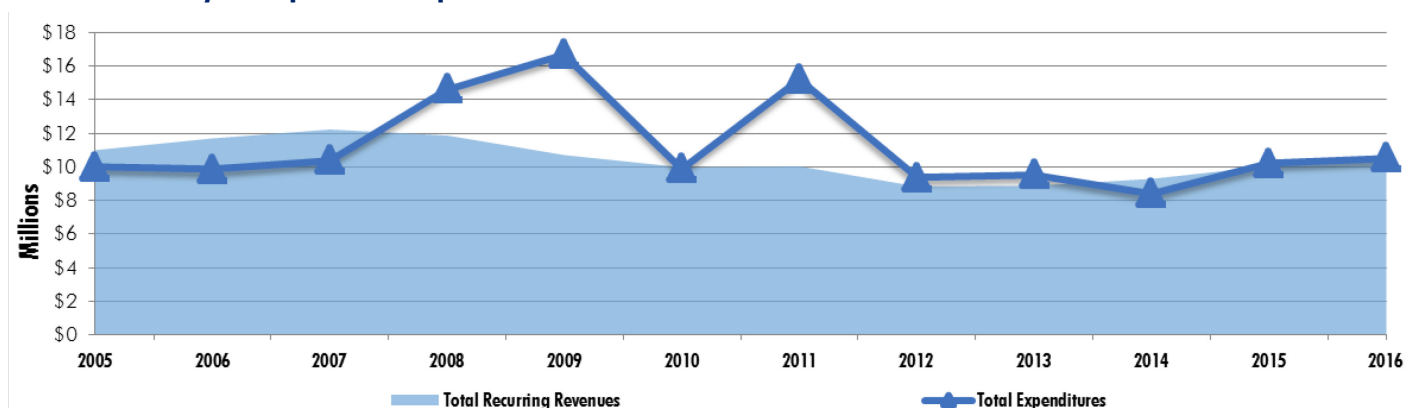
Summary of Expenditures

Historical county CAFRs, budget reports, and information provided by staff were utilized to compile expenditures related to transportation uses. In 2011, roadway expenditures were 52 percent more than the county's recurring revenues.



CURRENT FULL-TIME EMPLOYEES
85+

Historical County Transportation Expenditures



Source: County CAFR Report; County Annual Budget Report

Expenditure Projections

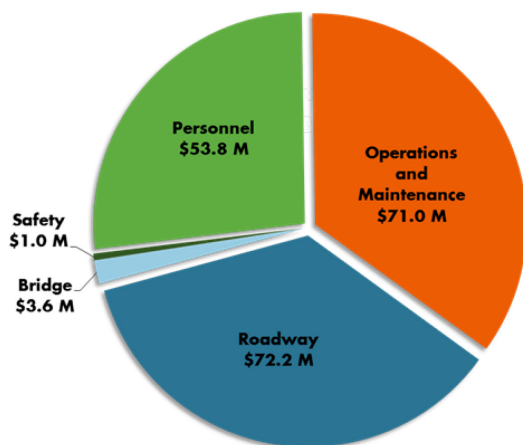
In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated expenditures for the 10-year period.

Expenditures (in millions)	Navajo County
Roadway Repair and Maintenance	\$72.2
Bridge Repair and Maintenance	\$3.6
Safety Improvements	\$1.0
Personnel	\$53.8
Operations	\$64.6
Administration	\$6.5
Total	\$201.6

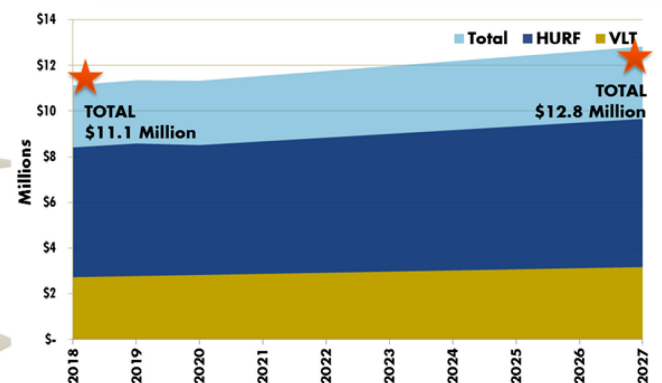
The Bottom Line

Failure to meet the current maintenance investment needs of the County will result in the rapid deterioration of its transportation system over the next 10 years. It is imperative that Navajo County receive a stable revenue stream for cost-effective maintenance of the county transportation system in order to reverse this crisis.

COST TO MAINTAIN SYSTEM OVER 10 YEARS



PROJECTED 10 YEAR REVENUES



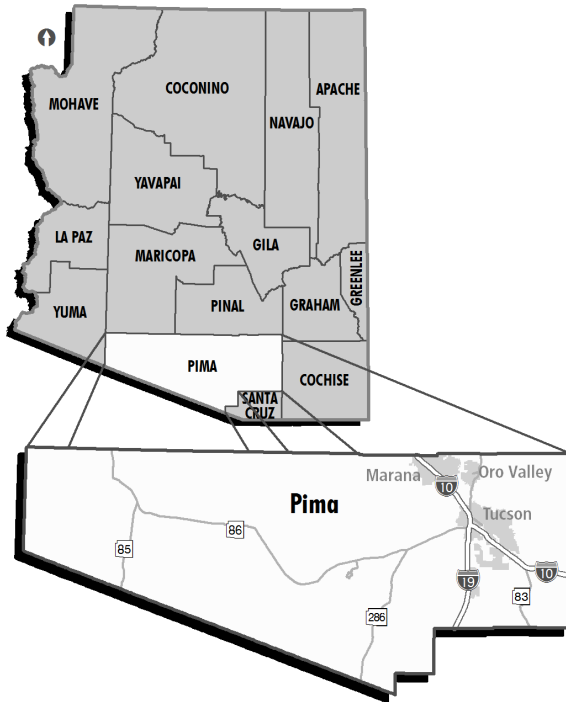
EXPENDITURES
\$201.6 Million

REVENUE
\$119.1 Million

FUNDING GAP
-\$82.5 Million



PIMA COUNTY SNAPSHOT



Covering over 9,100 square miles, Pima County's landscape contrasts greatly from low desert valleys, rolling hills, to rugged canyons and mountains. The San Xavier, Pascua Yaqui, and Tohono O'odham reservations together account for ownership of 42 percent of land located in Pima County. The state of Arizona owns 15 percent; the U.S. Forest Service and Bureau of Land Management, 12 percent; other public lands, 17 percent; and private lands, 14 percent.

The median age in the County is 38.4 years; median household income is \$47,000. The most common employment sectors for those who live in Pima County are Healthcare & Social Assistance (13.8 percent), Educational Services (10.7 percent), and Retail Trade (12.3 percent).

Area (sq miles): 9,189	County Seat: Tucson
Congressional District: 1st-3rd	Elevation: 650–9,100 FT
Avg. Annual Snowfall: 0 in	Avg. Annual Rainfall: 8 in
Avg. Low Temp: 33-40°F	Avg. High Temp: 100-107°F

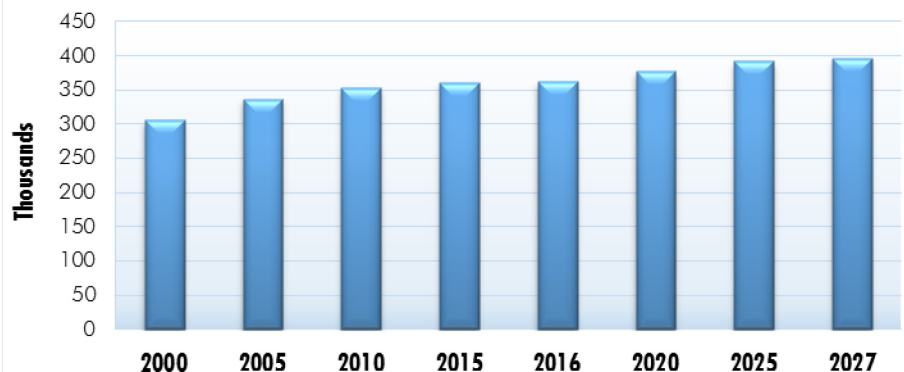
Summary of Unincorporated County Population



2016 POPULATION
361,654



2027 POPULATION
396,739
9.7% increase



Source: Arizona Office of Economic Opportunity

County Maintained Roadways

- Pima County owns and maintains approximately 2,135 miles of roadways.
- 87 percent are paved roads and 13 percent are unpaved.
- Per FHWA approved functional classification, the County road system consists of primarily collectors (35 percent) and locals (58 percent). Arterials account for 10 percent.

Current Roadway Conditions

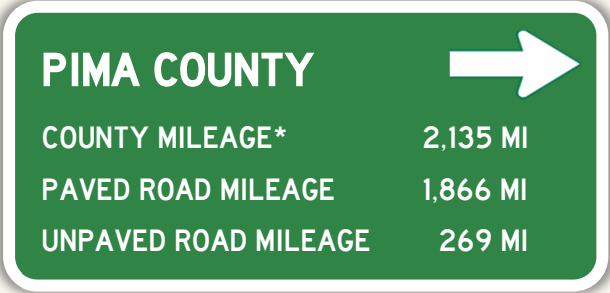
To determine the current condition of Pima County’s roadway system, a sample set consisting of 10 percent of County roads were evaluated. The sample dataset included a mixture of roadway types to reflect the County’s entire roadway system. Based on the results of the sample datasets, the condition of the remaining 90 percent of the roadways was prorated. Key findings show:

- 60 percent of County roads are in poor to very poor condition.
- 36 percent in fair condition.
- 4 percent in good to excellent condition.

Based on the condition of the roadway, the table below lists the potential costs needed to bring the roads to a state-of-good-repair and maintain the system for the next 5- and 10-year periods.

Costs to Bring Roads to a State-of-Good-Repair

	Costs (in thousands)
State-of-Good-Repair Costs	\$334,300
Total 10 Year Maintenance Costs	\$121,775
Total Maintenance Costs (2018-2022)	\$42,805
Total Maintenance Costs (2023-2027)	\$78,970
Total Roadway Costs (State-of-Good-Repair & Maintenance Costs)	\$456,075



* County owned and maintained roads



55-60 PERCENT
COUNTY MAINTAINED ROADS ARE IN
POOR TO VERY POOR CONDITION



\$121.8 MILLION
COST TO MAINTAIN ROADWAYS FOR
THE NEXT 10 YEARS



\$334.1 MILLION
COST TO BRING ROADS TO A STATE-OF-
GOOD-REPAIR

Current Bridge Conditions

ADOT's comprehensive bridge data was obtained to evaluate the County bridge conditions. Key findings show:

- 199 bridge structures on Pima County's roadways.
- 14 bridges are rated structurally deficient.
- 15 bridges are deemed functionally obsolete.

The table below summarizes deficient bridges by type.

Overview of Structures in Pima County

Bridge Type	Total Bridges	Structurally Deficient	Functionally Obsolete
Concrete	50	10	3
Culvert	142	1	10
Steel	6	2	2
Timber	1	1	0
Total	199	14	15

Source: ADOT Bridge Group

The table below summarizes the costs to bring the County bridges to a state-of-good-repair and maintain for the next ten years.

Bridge Repair and Maintenance Costs (10-Year Period)*

Bridge Costs (in Thousands)	
Bridge Replacement Costs*	\$31,976
Inspection Costs	\$2,090
Maintenance Costs	\$7,758
Total Bridge Costs	\$41,825

*Bridges classified as structurally deficient or functionally obsolete were assumed to be replaced within 10 years

Safety Improvements

To assess potential safety needs, the study team followed a three step approach:

- 1) Reviewed each county's Transportation Improvement Program (TIP) to identify safety projects.
- 2) Conducted a high-level spatial review of crash locations to identify roadway segments and intersections that have a high density of historical crashes. For locations with high density of crashes, an aerial and Google Streetview evaluation was conducted to identify potential issues and mitigation measures. Cost estimates were developed for potential improvements.
- 3) Costs from the TIP and aerial review were combined to calculate overall safety improvement costs. For good measure, a minimum of \$1 million was assumed for safety improvements.

For Pima County, \$10.6 million was assumed for safety improvements for the 10-year period.



199

COUNTY OWNED BRIDGES/STRUCTURES

15 PERCENT

COUNTY MAINTAINED BRIDGES ARE STRUCTURALLY DEFICIENT OR FUNCTIONALLY OBSOLETE



19 PERCENT

AGE 50 YEARS OR OLDER



35 YEARS

AVERAGE AGE OF BRIDGES



8 MILES

AVERAGE DETOUR LENGTH



\$41.8 MILLION

COST TO BRING BRIDGES TO A STATE-OF-GOOD-REPAIR AND MAINTAIN FOR THE NEXT 10 YEARS

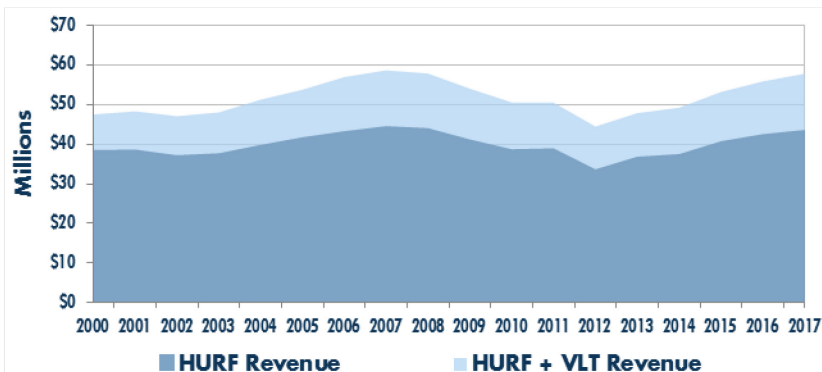
Summary of County Revenues

The county's transportation revenue sources include HURF, VLT, and federal/state/local grants. Since grant receipts vary significantly each year, only recurring (dependable) revenue sources were analyzed.

Historical Revenues

Revenue data was compiled from ADOT's HURF/VLT distribution reports, the county's Comprehensive Annual Financial Reports (CAFR), Annual Budget Reports, and information provided by county staff. Key highlights include:

- Total recurring revenues have decreased by 1 percent since the peak level in 2007.
- HURF revenues have decreased by 2 percent since peak levels in 2007.
- In 2017, 56 percent of the county's recurring transportation funds came from HURF.



2017 County Recurring Revenue Sources

Recurring Revenue Source	2017
HURF Funds	\$43,611,837
VLT Funds	\$14,191,344
Local Tax Initiative Funds	\$19,526,525
Total Recurring Revenue	\$77,329,706

Source: ADOT HURF/VLT Distribution Reports; County CAFR Report; County Annual Budget Report

HURF Transfers to Support State Programs

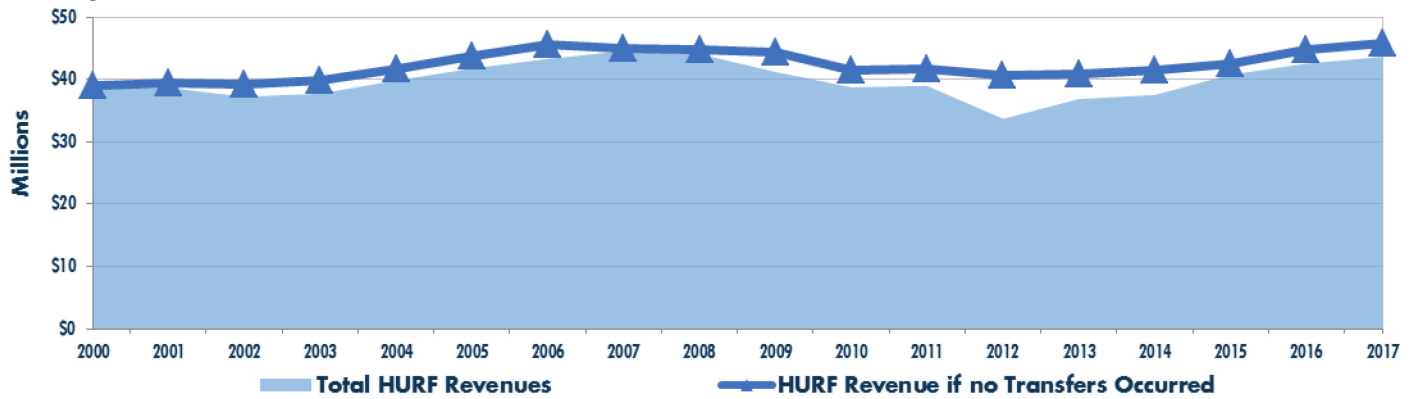
Each year, the state transfers HURF roadway improvement funds to support other state programs (such as DPS). The following table and chart illustrates the actual HURF funds distributed to county versus the estimated share if no HURF transfers occurred.

- Since 2000, a total of \$42.1 million of HURF funds have been distributed to other programs that the county would have otherwise received.
- In 2017, HURF revenue loss per capita was \$5.90.

Impact of HURF Transfers on the County

HURF Revenue Transfers	2005	2010	2015	2017
HURF Revenue Loss Due to Transfers	\$1,877,745	\$2,788,526	\$1,836,258	\$2,147,386
HURF Revenue if no Transfers Occurred	\$55,632,867	\$53,343,172	\$55,018,917	\$45,759,223
Percent Loss of HURF Revenue	3.5%	5.5%	3.5%	4.9%
HURF Revenue Loss Per Capita	\$5.59	\$7.89	\$5.09	\$5.90

Funding Levels if No HURF Transfers Occurred



Revenue Projections

In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated revenues for the 10-year period.

Revenue Source	Estimated 10-Year Recurring Revenues (in millions)
HURF	\$485.9
VLT	\$152.8
Other	\$97.6
Total	\$736.4

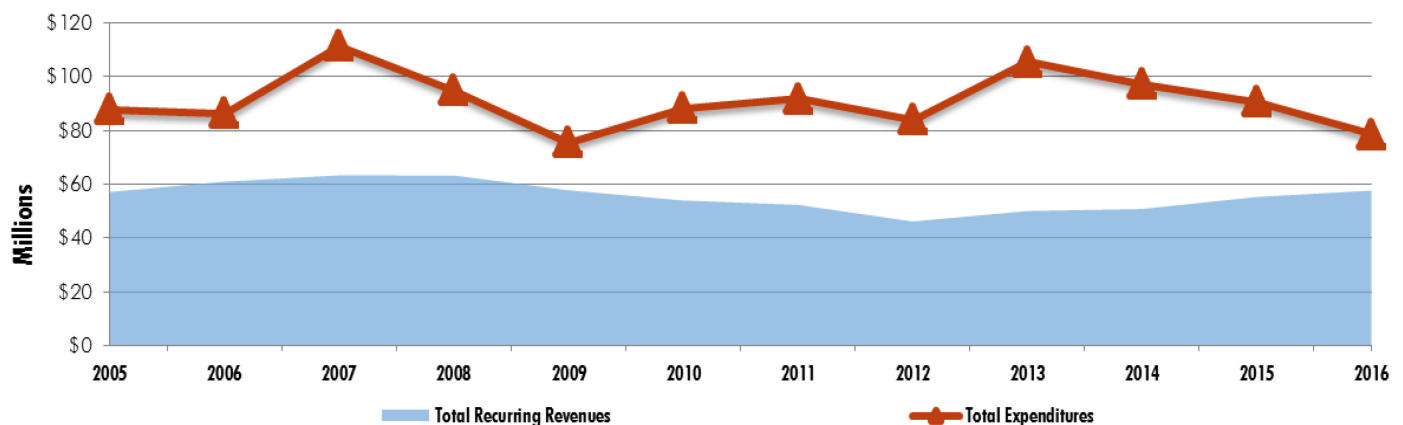
Summary of Expenditures

Historical county CAFRs, budget reports, and information provided by staff were utilized to compile expenditures related to transportation uses. In 2013, roadway expenditures were 110 percent more than the county's recurring revenues.



CURRENT FULL-TIME EMPLOYEES
290+

Historical County Transportation Expenditures



Source: County CAFR Report; County Annual Budget Report

Expenditure Projections

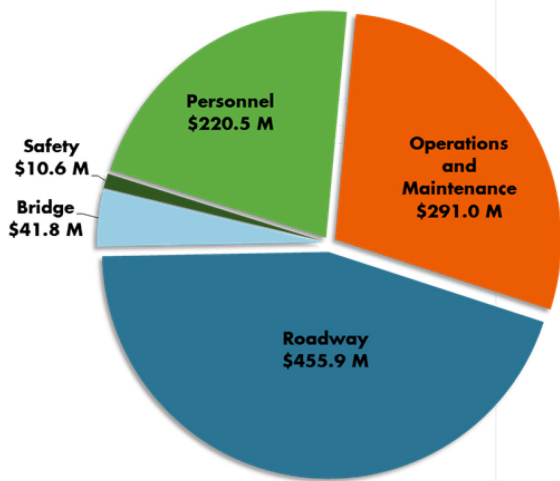
In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated expenditures for the 10-year period.

Expenditures (in millions)	Pima County
Roadway Repair and Maintenance	\$455.9
Bridge Repair and Maintenance	\$41.8
Safety Improvements	\$10.6
Personnel	\$220.5
Operations	\$264.6
Administration	\$26.5
Total	\$1,019.8

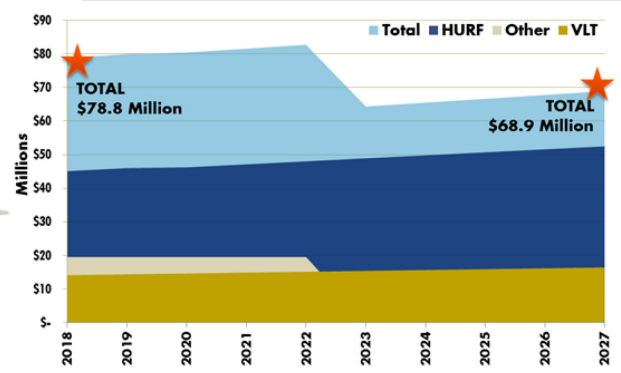
The Bottom Line

Failure to meet the current maintenance investment needs of the County will result in the rapid deterioration of its transportation system over the next 10 years. It is imperative that Pima County receive a stable revenue stream for cost-effective maintenance of the county transportation system in order to reverse this crisis.

COST TO MAINTAIN SYSTEM OVER 10 YEARS



PROJECTED 10 YEAR REVENUES



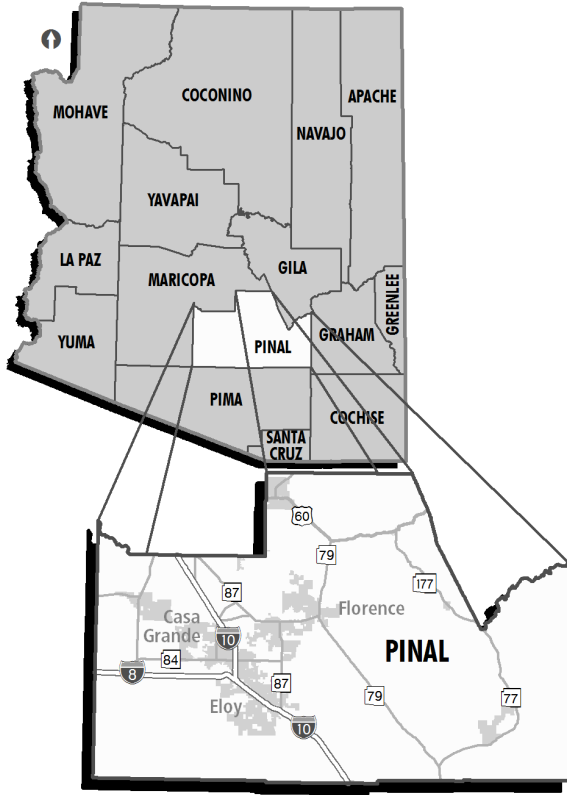
EXPENDITURES
\$1.02 Billion

REVENUE
\$736.4 Million

FUNDING GAP
-\$283.4 Million



PINAL COUNTY SNAPSHOT



Located in south central Arizona, Pinal County is characterized by two distinct areas. The eastern portion of the county is mountain terrain with a long history of copper mining. The western portion of the county is primarily low desert valleys that include the growing communities of Casa Grande, Coolidge, Florence, and Eloy.

The state of Arizona is the county's largest landholder in Pinal County with 35 percent, followed by private lands, 22 percent; Indian reservations, 23 percent; the U.S. Forest Service and Bureau of Land Management, 14 percent, and the remaining 6 percent is other public land.

The median age in the County is 38.5 years; median household income is \$51,000. The most common employment sectors for those who live in Pinal County are Healthcare & Social Assistance (14.8 percent), Accommodation & Food Service (7.9 percent), and Retail Trade (12.7 percent).

Area (sq miles): 5,674	County Seat: Florence
Congressional District: 1,3,4	Elevation: 900–7,300 FT
Avg. Annual Snowfall: 0 in	Avg. Annual Rainfall: 11 in
Avg. Low Temp: 33-41°F	Avg. High Temp: 95-105°F

Summary of Unincorporated County Population



2016 POPULATION
210,933



2027 POPULATION
267,225
26.7% increase



Source: Arizona Office of Economic Opportunity

County Maintained Roadways

- Pinal County owns and maintains approximately 2,053 miles of roadways.
- 48 percent are paved roads and 52 percent are unpaved.
- Per FHWA approved functional classification, the County road system consists of primarily collectors (13 percent) and locals (84 percent). Arterials account for 3 percent.

Current Roadway Conditions

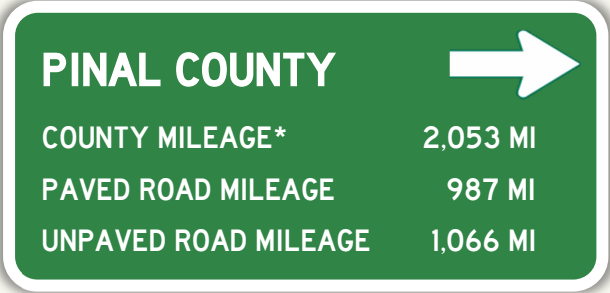
To determine the current condition of Pinal County’s roadway system, a sample set consisting of 11 percent of County roads were evaluated. The sample dataset included a mixture of roadway types to reflect the County’s entire roadway system. Based on the results of the sample datasets, the condition of the remaining 89 percent of the roadways was prorated. Key findings show:

- 33 percent of County roads are in poor to very poor condition.
- 62 percent in fair condition.
- 5 percent in good to excellent condition.

Based on the condition of the roadway, the table below lists the potential costs needed to bring the roads to a state-of-good-repair and maintain the system for the next 5- and 10-year periods.

Costs to Bring Roads to a State-of-Good-Repair

	Costs (in thousands)
State-of-Good-Repair Costs	\$125,552
Total 10 Year Maintenance Costs	\$81,611
Total Maintenance Costs (2018-2022)	\$36,916
Total Maintenance Costs (2023-2027)	\$44,695
Total Roadway Costs (State-of-Good-Repair & Maintenance Costs)	\$207,163



* County owned and maintained roads



30-35 PERCENT
COUNTY MAINTAINED ROADS ARE IN
POOR TO VERY POOR CONDITION



\$81.6 MILLION
COST TO MAINTAIN ROADWAYS FOR
THE NEXT 10 YEARS



\$125.6 MILLION
COST TO BRING ROADS TO A STATE-OF-
GOOD-REPAIR

Current Bridge Conditions

ADOT's comprehensive bridge data was obtained to evaluate the County bridge conditions. Key findings show:

- 104 bridge structures on Pinal County's roadways.
- 2 bridges are rated structurally deficient.
- 2 bridges are deemed functionally obsolete.

The table below summarizes deficient bridges by type.

Overview of Structures in Pinal County

Bridge Type	Total Bridges	Structurally Deficient	Functionally Obsolete
Concrete	29	2	1
Culvert	72	0	1
Steel	3	0	0
Timber	0	0	0
Total	104	2	2

Source: ADOT Bridge Group

The table below summarizes the costs to bring the County bridges to a state-of-good-repair and maintain for the next ten years.

Bridge Repair and Maintenance Costs (10-Year Period)*

Bridge Costs (in Thousands)	
Bridge Replacement Costs*	\$3,898
Inspection Costs	\$1,112
Maintenance Costs	\$1,759
Total Bridge Costs	\$6,769

*Bridges classified as structurally deficient or functionally obsolete were assumed to be replaced within 10 years

Safety Improvements

To assess potential safety needs, the study team followed a three step approach:

- 1) Reviewed each county's Transportation Improvement Program (TIP) to identify safety projects.
- 2) Conducted a high-level spatial review of crash locations to identify roadway segments and intersections that have a high density of historical crashes. For locations with high density of crashes, an aerial and Google Streetview evaluation was conducted to identify potential issues and mitigation measures. Cost estimates were developed for potential improvements.
- 3) Costs from the TIP and aerial review were combined to calculate overall safety improvement costs. For good measure, a minimum of \$1 million was assumed for safety improvements.

For Pinal County, \$1.3 million is needed for safety improvements for the 10-year period.



104

COUNTY OWNED BRIDGES/STRUCTURES

4 PERCENT

COUNTY MAINTAINED BRIDGES ARE STRUCTURALLY DEFICIENT OR FUNCTIONALLY OBSOLETE



23 PERCENT

AGE 50 YEARS OR OLDER



33 YEARS

AVERAGE AGE OF BRIDGES



11 MILES

AVERAGE DETOUR LENGTH



\$6.8 MILLION

COST TO BRING BRIDGES TO A STATE-OF-GOOD-REPAIR AND MAINTAIN FOR THE NEXT 10 YEARS

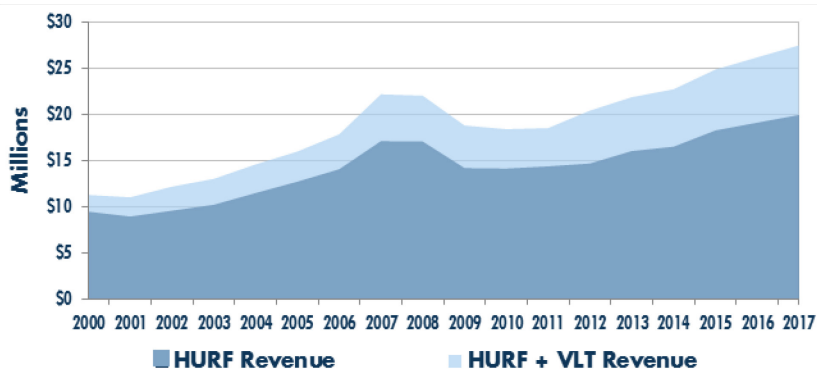
Summary of County Revenues

The county's transportation revenue sources include HURF, VLT, and federal/state/local grants. Since grant receipts vary significantly each year, only recurring (dependable) revenue sources were analyzed.

Historical Revenues

Revenue data was compiled from ADOT's HURF/VLT distribution reports, the county's Comprehensive Annual Financial Reports (CAFR), Annual Budget Reports, and information provided by county staff. Key highlights include:

- The county's total *recurring* revenues have decreased by 24 percent since the peak level in 2007.
- HURF revenues have decreased by 16 percent since the peak level in 2007.
- In 2017, 57 percent of the county's recurring transportation funds came from HURF.



2017 County Recurring Revenue Sources

Recurring Revenue Source	2017
HURF Funds	\$19,967,850
VLT Funds	\$7,533,263
Local Tax Initiative Funds	\$7,650,000
Total Recurring Revenue	\$35,151,113

Source: ADOT HURF/VLT Distribution Reports; County CAFR Report; County Annual Budget Report

HURF Transfers to Support State Programs

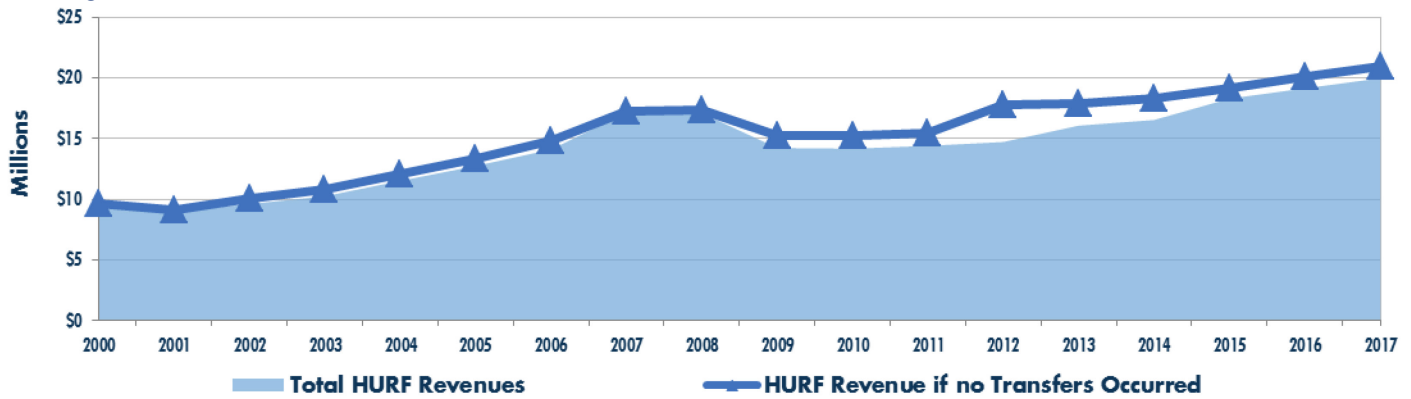
Each year, the state transfers HURF roadway improvement funds to support other state programs (such as DPS). The following table and chart illustrates the actual HURF funds distributed to county versus the estimated share if no HURF transfers occurred.

- Since 2000, a total of \$16.1 million of HURF funds have been distributed to other programs that the county would have otherwise received.
- In 2017, HURF revenue loss per capita was \$4.60.

Impact of HURF Transfers on the County

HURF Revenue Transfers	2005	2010	2015	2017
HURF Revenue Loss Due to Transfers	\$573,170	\$1,020,198	\$823,978	\$983,189
HURF Revenue if no Transfers Occurred	\$13,318,889	\$15,193,240	\$19,115,149	\$20,951,039
Percent Loss of HURF Revenue	4.5%	7.2%	4.5%	4.9%
HURF Revenue Loss Per Capita	\$4.48	\$5.44	\$4.02	\$4.60

Funding Levels if No HURF Transfers Occurred



Revenue Projections

In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated revenues for the 10-year period. Pinal County recently established a countywide Regional Transportation Authority (PRTA) and residents approved a half-cent sales tax ballot measure to fund transportation improvements in the County. Revenue projections from this sales tax are not included since the measure is currently being challenged in courts.

Revenue Source	Estimated 10-Year Recurring Revenues (in millions)
HURF	\$225.6
VLT	\$81.1
Other	\$82.0
Total	\$388.7

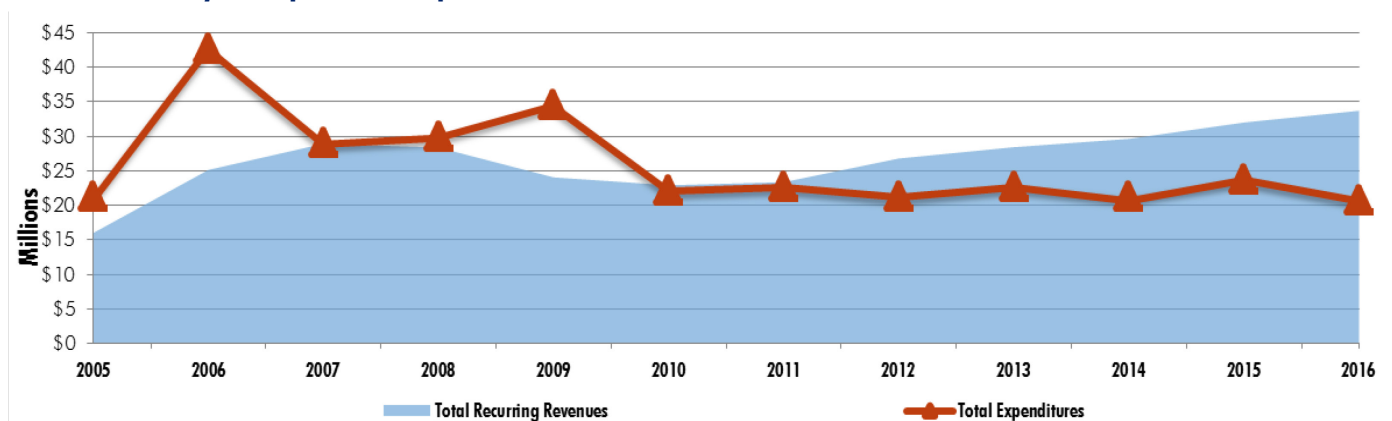
Summary of Expenditures

Historical county CAFRs, budget reports, and information provided by staff were utilized to compile expenditures related to transportation uses. In 2009, roadway expenditures were 43 percent more than the county's recurring revenues.



CURRENT FULL-TIME EMPLOYEES
235+

Historical County Transportation Expenditures



Source: County CAFR Report; County Annual Budget Report

Expenditure Projections

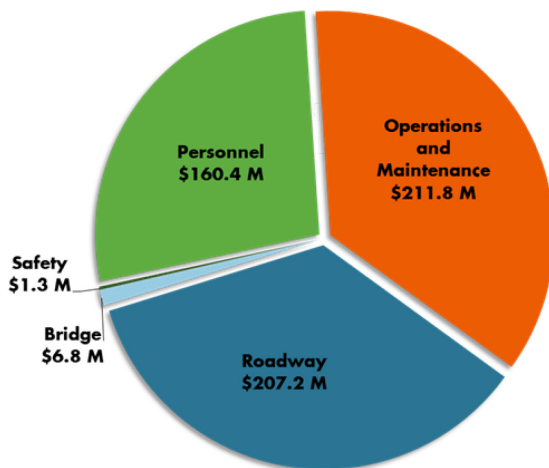
In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated expenditures for the 10-year period.

Expenditures (in millions)	Pinal County
Roadway Repair and Maintenance	\$207.2
Bridge Repair and Maintenance	\$6.8
Safety Improvements	\$1.3
Personnel	\$160.4
Operations	\$192.5
Administration	\$19.3
Total	\$587.4

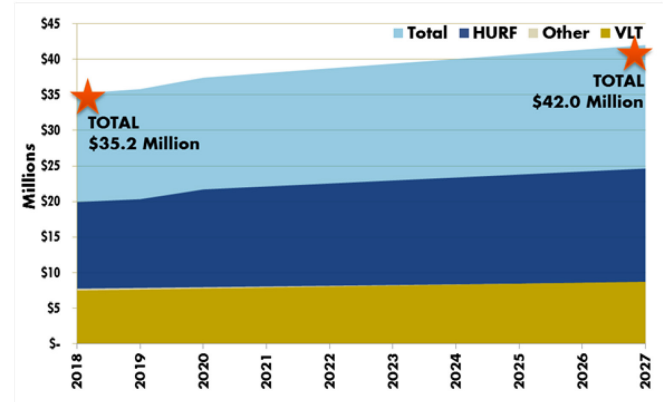
The Bottom Line

Failure to meet the current maintenance investment needs of the County will result in the rapid deterioration of its transportation system over the next 10 years. It is imperative that Pinal County receive a stable revenue stream for cost-effective maintenance of the county transportation system in order to reverse this crisis.

COST TO MAINTAIN SYSTEM OVER 10 YEARS

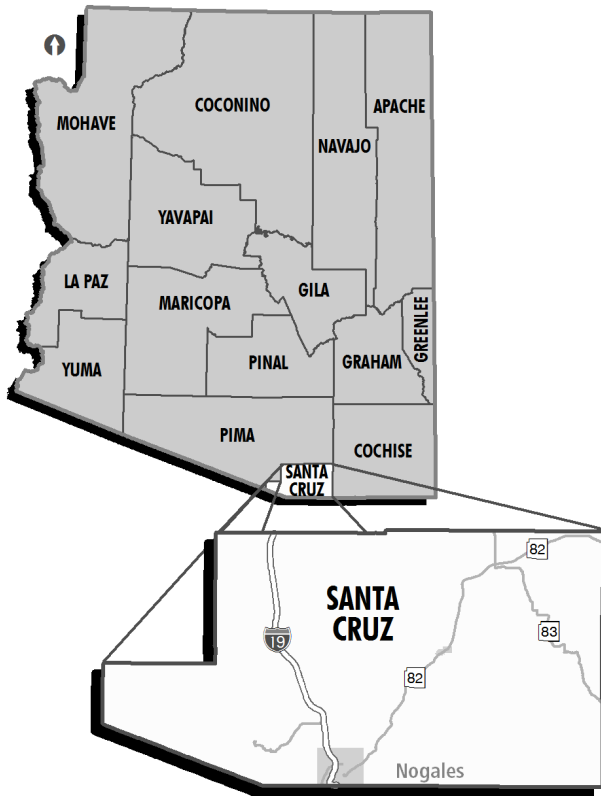


PROJECTED 10 YEAR REVENUES





SANTA CRUZ COUNTY SNAPSHOT



Situated along the Mexico border in south central Arizona, Santa Cruz is Arizona's smallest county. The County's landscape contrasts greatly from low river valleys, developed urban corridors, to pristine forests. Due TO the county's scenic location, encompassing the Santa Cruz River Valley and Coronado National Forest, the county has become a popular tourist destination that attracts numerous visitors.

The U.S. Forest Service and Bureau of Land Management own 54 percent of the land in Santa Cruz County; the state of Arizona, 8 percent; private lands, 36 percent; and other public lands comprise the remaining percent. Santa Cruz is one of the only counties in Arizona without an Indian Reservation.

The median age in the County is 36.5 years; median household income is \$40,000. The most common employment sectors for those who live in Santa Cruz County are Educational Services (10.2 percent), Wholesale Trade (9.6 percent), and Retail Trade (17.5 percent).

Area (sq miles): 1,238	County Seat: Nogales
Congressional District: 3rd	Elevation: 3,000 – 9,500 FT
Avg. Annual Snowfall: 0.5 in	Avg. Annual Rainfall: 16.5 in
Avg. Low Temp: 35-38°F	Avg. High Temp: 95-97°F

Summary of Unincorporated County Population



2016 POPULATION
27,660



2027 POPULATION
31,825
15.1% increase



Source: Arizona Office of Economic Opportunity

County Maintained Roadways

- Santa Cruz County owns and maintains approximately 705 miles of roadways.
- Only 23 percent are paved roads and 77 percent are unpaved.
- Per FHWA approved functional classification, the County road system consists of primarily collectors (15 percent) and locals (84 percent). Arterials account for 1 percent.

Current Roadway Conditions

To determine the current condition of Santa Cruz County’s roadway system, a sample set consisting of 10 percent of County roads were evaluated. The sample dataset included a mixture of roadway types to reflect the County’s entire roadway system. Based on the results of the sample datasets, the condition of the remaining 90 percent of the roadways was prorated. Key findings show:

- 19 percent of County roads are in poor to very poor condition.
- 75 percent in fair condition.
- 6 percent in good to excellent condition.

Based on the condition of the roadway, the table below lists the potential costs needed to bring the roads to a state-of-good-repair and maintain the system for the next 5- and 10-year periods.

Costs to Bring Roads to a State-of-Good-Repair

	Costs (in thousands)
State-of-Good-Repair Costs	\$22,658
Total 10 Year Maintenance Costs	\$21,917
Total Maintenance Costs (2018-2022)	\$10,227
Total Maintenance Costs (2023-2027)	\$11,689
Total Roadway Costs (State-of-Good-Repair & Maintenance Costs)	\$44,575

SANTA CRUZ COUNTY

COUNTY MILEAGE*	705 MI
PAVED ROAD MILEAGE	160 MI
UNPAVED ROAD MILEAGE	545 MI

* County owned and maintained roads



15-20 PERCENT
COUNTY MAINTAINED ROADS ARE IN
POOR TO VERY POOR CONDITION



\$21.9 MILLION
COST TO MAINTAIN ROADWAYS FOR
THE NEXT 10 YEARS



\$22.7 MILLION
COST TO BRING ROADS TO A STATE-
OF-GOOD-REPAIR

Current Bridge Conditions

ADOT’s comprehensive bridge data was obtained to evaluate the County bridge conditions. Key findings show:

- 17 bridge structures on Santa Cruz County’s roadways.
- One bridge is rated structurally deficient.
- 3 bridges are deemed functionally obsolete.

The table below summarizes deficient bridges by type.

Overview of Structures in Santa Cruz County

Bridge Type	Total Bridges	Structurally Deficient	Functionally Obsolete
Concrete	13	0	3
Culvert	2	0	0
Steel	2	1	0
Timber	0	0	0
Total	17	1	3

Source: ADOT Bridge Group

The table below summarizes the costs to bring the County bridges to a state-of-good-repair and maintain for the next ten years.

Bridge Repair and Maintenance Costs (10-Year Period)*

Bridge Costs (in Thousands)	
Bridge Replacement Costs*	\$3,954
Inspection Costs	\$326
Maintenance Costs	\$941
Total Bridge Costs	\$5,221

*Bridges classified as structurally deficient or functionally obsolete were assumed to be replaced within 10 years

Safety Improvements

To assess potential safety needs, the study team followed a three step approach:

- 1) Reviewed each county’s Transportation Improvement Program (TIP) to identify safety projects.
- 2) Conducted a high-level spatial review of crash locations to identify roadway segments and intersections that have a high density of historical crashes. For locations with high density of crashes, an aerial and Google Streetview evaluation was conducted to identify potential issues and mitigation measures. Cost estimates were developed for potential improvements.
- 3) Costs from the TIP and aerial review were combined to calculate overall safety improvement costs. For good measure, a minimum of \$1 million was assumed for safety improvements.

For Santa Cruz County, \$1 million was assumed for safety improvements for the 10-year period.



17
COUNTY OWNED
BRIDGES/STRUCTURES

24 PERCENT
COUNTY MAINTAINED BRIDGES ARE
STRUCTURALLY DEFICIENT OR
FUNCTIONALLY OBSOLETE



18 PERCENT
AGE 50 YEARS OR OLDER



38 YEARS
AVERAGE AGE OF BRIDGES



8 MILES
AVERAGE DETOUR LENGTH



\$5.2 MILLION
COST TO BRING BRIDGES TO A
STATE-OF-GOOD-REPAIR AND
MAINTAIN FOR THE NEXT 10 YEARS

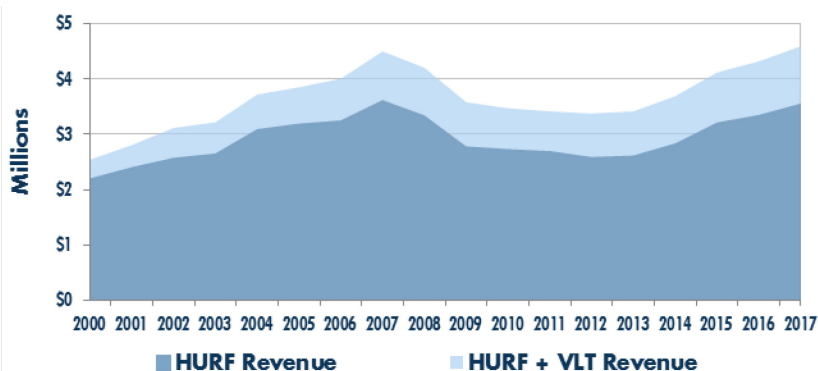
Summary of County Revenues

The county's transportation revenue sources include HURF, VLT, and federal/state/local grants. Since grant receipts vary significantly each year, only recurring (dependable) revenue sources were analyzed.

Historical Revenues

Revenue data was compiled from ADOT's HURF/VLT distribution reports, the county's Comprehensive Annual Financial Reports (CAFR), Annual Budget Reports, and information provided by county staff. Key highlights include:

- The county's total *recurring* revenues have decreased by 2 percent since the peak level in 2007.
- HURF revenues have decreased by 2 percent since the peak level in 2007.
- In 2017, 77 percent of the county's recurring transportation funds came from HURF.



2017 County Recurring Revenue Sources

Recurring Revenue Source	2017
HURF Funds	\$3,557,782
VLT Funds	\$1,031,209
Local Tax Initiative Funds	\$0
Total Recurring Revenue	\$4,588,991

Source: ADOT HURF/VLT Distribution Reports; County CAFR Report; County Annual Budget Report

HURF Transfers to Support State Programs

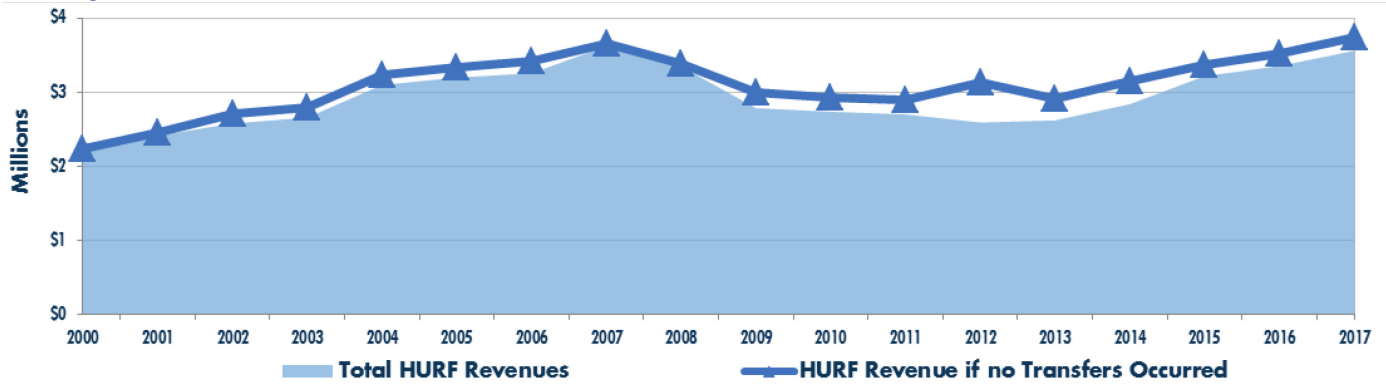
Each year, the state transfers HURF roadway improvement funds to support other state programs (such as DPS). The following table and chart illustrates the actual HURF funds distributed to county versus the estimated share if no HURF transfers occurred.

- Since 2000, a total of \$3.1 million of HURF funds have been distributed to other programs that the county would have otherwise received.
- In 2017, HURF revenue loss per capita was \$6.30.

Impact of HURF Transfers on the County

HURF Revenue Transfers	2005	2010	2015	2017
HURF Revenue Loss Due to Transfers	\$143,754	\$197,008	\$144,891	\$175,180
HURF Revenue if no Transfers Occurred	\$3,340,444	\$2,933,934	\$3,361,265	\$3,732,962
Percent Loss of HURF Revenue	4.5%	7.2%	4.5%	4.9%
HURF Revenue Loss Per Capita	\$6.71	\$7.67	\$5.29	\$6.30

Funding Levels if No HURF Transfers Occurred



Revenue Projections

In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated revenues for the 10-year period.

Revenue Source	Estimated 10-Year Recurring Revenues (in millions)
HURF	\$37.2
VLT	\$11.1
Other	\$0.0
Total	\$48.3

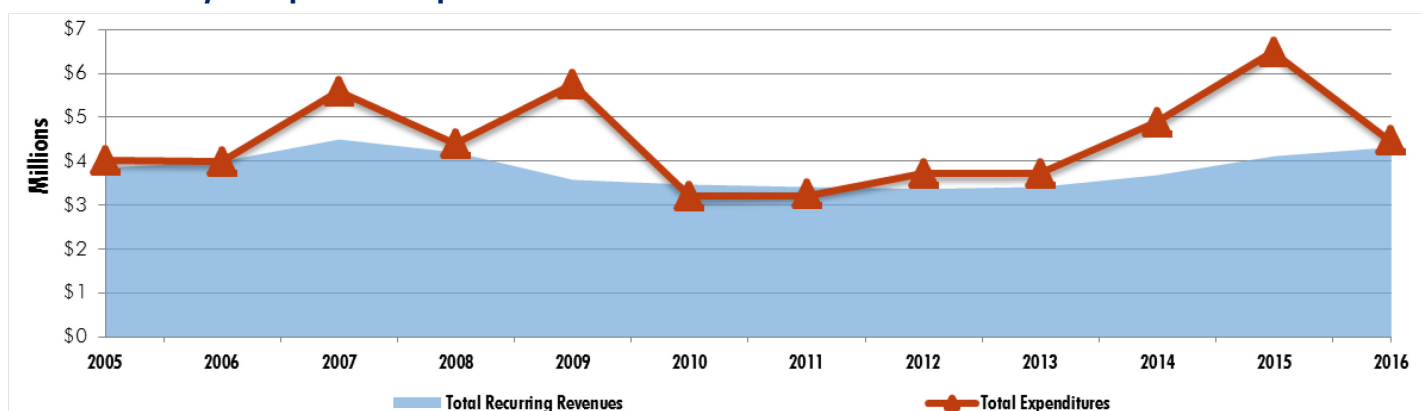
Summary of Expenditures

Historical county CAFRs, budget reports, and information provided by staff were utilized to compile expenditures related to transportation uses. In 2015, roadway expenditures were 57 percent more than the county's recurring revenues.



CURRENT FULL-TIME EMPLOYEES
25+

Historical County Transportation Expenditures



Source: County CAFR Report; County Annual Budget Report

Expenditure Projections

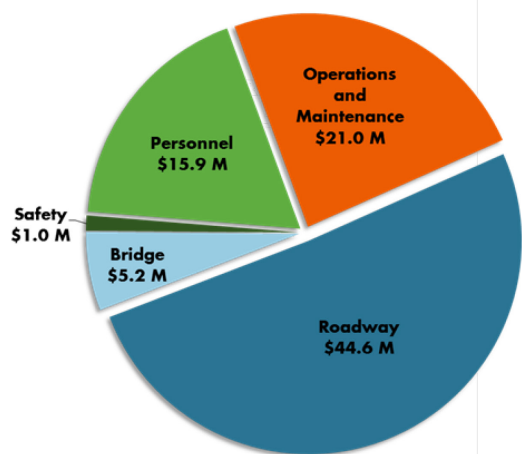
In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated expenditures for the 10-year period.

Expenditures (in millions)	Santa Cruz County
Roadway Repair and Maintenance	\$44.6
Bridge Repair and Maintenance	\$5.2
Safety Improvements	\$1.0
Personnel	\$15.9
Operations	\$19.1
Administration	\$1.9
Total	\$87.7

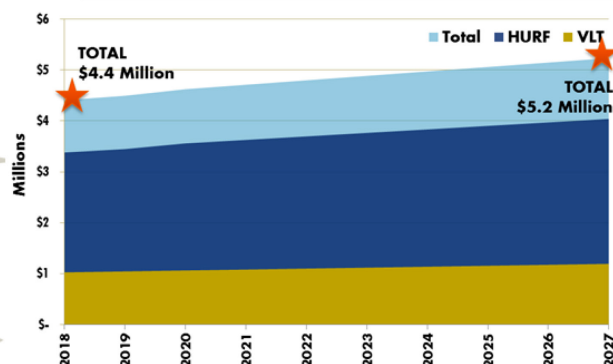
The Bottom Line

Failure to meet the current maintenance investment needs of the County will result in the rapid deterioration of its transportation system over the next 10 years. It is imperative that Santa Cruz County receive a stable revenue stream for cost-effective maintenance of the county transportation system in order to reverse this crisis.

COST TO MAINTAIN SYSTEM OVER 10 YEARS



PROJECTED 10 YEAR REVENUES



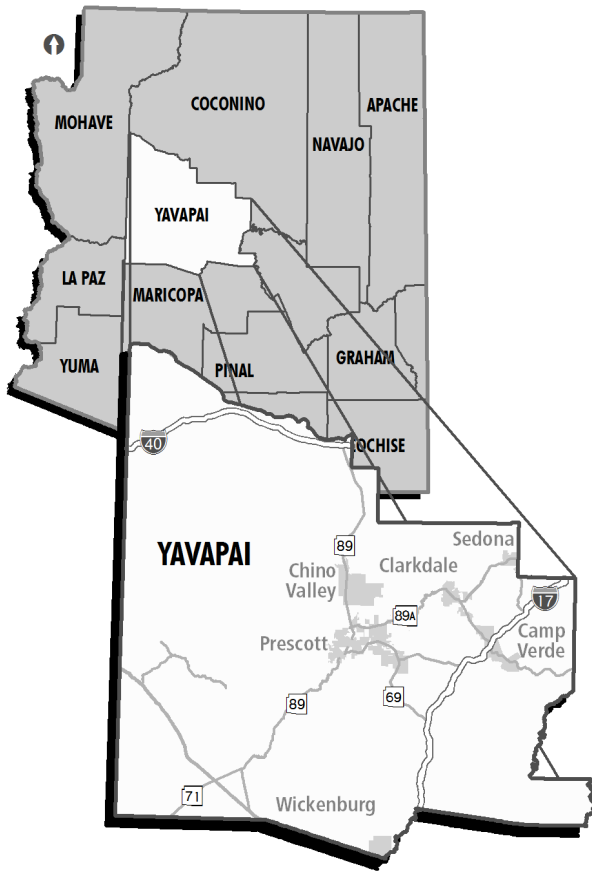
EXPENDITURES
\$87.7 Million

REVENUE
\$48.3 Million

FUNDING GAP
-\$39.4 Million



YAVAPAI COUNTY SNAPSHOT



As large as the state of New Jersey, Yavapai County has extremely varying topographies with low Sonoran Deserts at 1,700 feet above sea level to mountain ranges with peaks reaching almost 8,000 feet above sea level. Yavapai County is one of the fastest growing areas in Arizona and is a major tourist destination, with local roadways experiencing significant congestion during the winter and tourist months.

The U.S. Forest Service owns 38 percent of the land in Yavapai County, including portions of Prescott, Tonto and Coconino national forests, while the State of Arizona owns an additional 24 percent. 25 percent of land in the county is privately owned; and 11 percent is the property of the U.S. Bureau of Land Management. The Yavapai Apache Indian Reservation and other public lands each occupy less than 2 percent of land in the County.

The median age in the County is 51.3 years; median household income is \$45,000. The most common employment sectors for those who live in Yavapai County are Healthcare & Social Assistance (15.8 percent), Educational Services (12.7 percent), and Accommodation & Food Service (11.2 percent).

Area (sq miles): 8,128

County Seat: Prescott

Congressional District: 1st & 4th

Elevation: 1,400–8,000 FT

Avg. Annual Snowfall: 1 in

Avg. Annual Rainfall: 13 in

Avg. Low Temp: 25-41°F

Avg. High Temp: 87-101°F

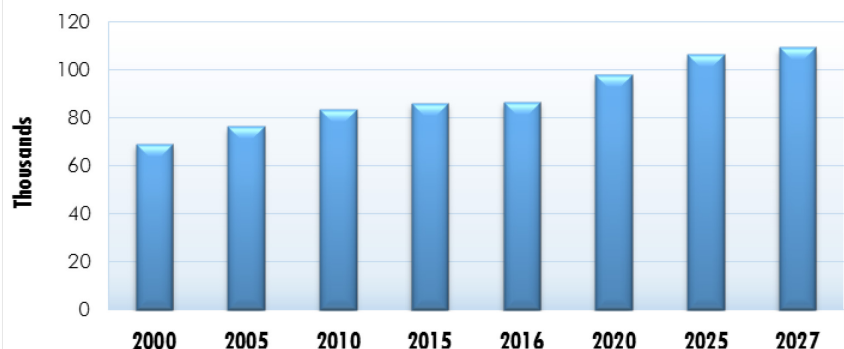
Summary of Unincorporated County Population



2016 POPULATION
86,748



2027 POPULATION
109,598
26.3% increase



Source: Arizona Office of Economic Opportunity

County Maintained Roadways

- Yavapai County owns and maintains approximately 1,528 miles of roadways.
- 52 percent are paved roads and 48 percent are unpaved.
- Per FHWA approved functional classification, the County road system consists of primarily collectors (30 percent) and locals (70 percent).

Current Roadway Conditions

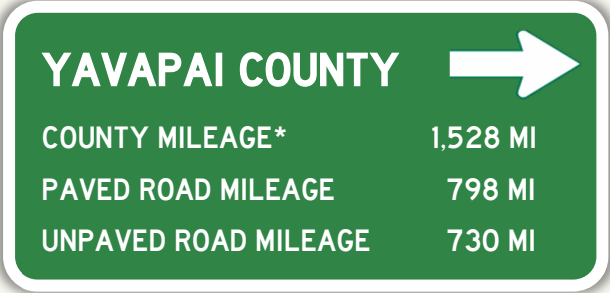
To determine the current condition of Yavapai County’s roadway system, a sample set consisting of 8 percent of County roads were evaluated. The sample dataset included a mixture of roadway types to reflect the County’s entire roadway system. Based on the results of the sample datasets, the condition of the remaining 91 percent of the roadways was prorated. Key findings show:

- 27 percent of County roads are in poor to very poor condition.
- 62 percent in fair condition.
- 11 percent in good to excellent condition.

Based on the condition of the roadway, the table below lists the potential costs needed to bring the roads to a state-of-good-repair and maintain the system for the next 5- and 10-year periods.

Costs to Bring Roads to a State-of-Good-Repair

	Costs (in thousands)
State-of-Good-Repair Costs	\$83,231
Total 10 Year Maintenance Costs	\$60,766
Total Maintenance Costs (2018-2022)	\$24,445
Total Maintenance Costs (2023-2027)	\$36,322
Total Roadway Costs (State-of-Good-Repair & Maintenance Costs)	\$143,997



* County owned and maintained roads



25-30 PERCENT
COUNTY MAINTAINED ROADS ARE IN
POOR TO VERY POOR CONDITION



\$60.8 MILLION
COST TO MAINTAIN ROADWAYS FOR
THE NEXT 10 YEARS



\$83.2 MILLION
COST TO BRING ROADS TO A STATE-
OF-GOOD-REPAIR

Current Bridge Conditions

ADOT’s comprehensive bridge data was obtained to evaluate the County bridge conditions. Key findings show:

- 157 bridge/structures on Yavapai County’s roadways.
- 6 bridges are rated structurally deficient.
- 16 bridges are deemed functionally obsolete.

The table below summarizes deficient bridges by type.

Overview of Structures in Yavapai County

Bridge Type	Total Bridges	Structurally Deficient	Functionally Obsolete
Concrete	38	2	8
Culvert	94	0	2
Steel	25	4	6
Timber	0	0	0
Total	157	6	16

Source: ADOT Bridge Group

The table below summarizes the costs to bring the County bridges to a state-of-good-repair and maintain for the next ten years.

Bridge Repair and Maintenance Costs (10-Year Period)*

Bridge Costs (in Thousands)	
Bridge Replacement Costs*	\$11,083
Inspection Costs	\$2,128
Maintenance Costs	\$2,812
Total Bridge Costs	\$16,023

*Bridges classified as structurally deficient or functionally obsolete were assumed to be replaced within 10 years

Safety Improvements

To assess potential safety needs, the study team followed a three step approach:

- 1) Reviewed each county’s Transportation Improvement Program (TIP) to identify safety projects.
- 2) Conducted a high-level spatial review of crash locations to identify roadway segments and intersections that have a high density of historical crashes. For locations with high density of crashes, an aerial and Google Streetview evaluation was conducted to identify potential issues and mitigation measures. Cost estimates were developed for potential improvements.
- 3) Costs from the TIP and aerial review were combined to calculate overall safety improvement costs. For good measure, a minimum of \$1 million was assumed for safety improvements.

For Yavapai County, \$1 million was assumed for safety improvements for the 10-year period.



157
COUNTY OWNED BRIDGES/STRUCTURES

14 PERCENT
COUNTY MAINTAINED BRIDGES ARE
STRUCTURALLY DEFICIENT OR
FUNCTIONALLY OBSOLETE



41 PERCENT
AGE 50 YEARS OR OLDER



46 YEARS
AVERAGE AGE OF BRIDGES



36 MILES
AVERAGE DETOUR LENGTH



\$16.0 MILLION
COST TO BRING BRIDGES TO A
STATE-OF-GOOD-REPAIR AND
MAINTAIN FOR THE NEXT 10 YEARS

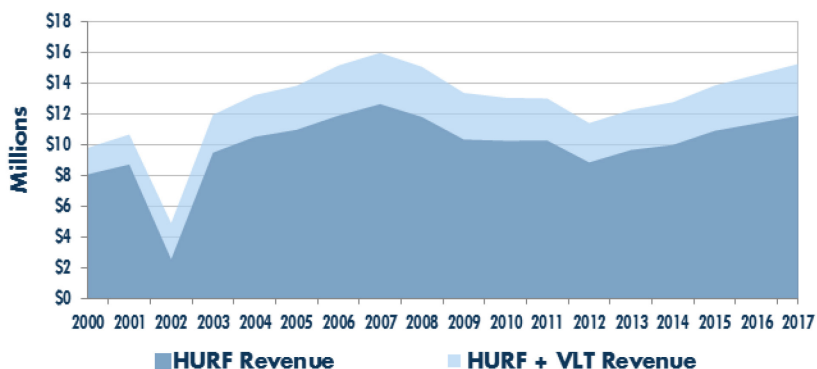
Summary of County Revenues

The county's transportation revenue sources include HURF, VLT, and federal/state/local grants. Since grant receipts vary significantly each year, only recurring (dependable) revenue sources were analyzed.

Historical Revenues

Revenue data was compiled from ADOT's HURF/VLT distribution reports, the county's Comprehensive Annual Financial Reports (CAFR), Annual Budget Reports, and information provided by county staff. Key highlights include:

- The county's total *recurring* revenues have decreased by 4 percent since the peak level in 2007.
- HURF revenues have decreased by 6 percent since the peak level in 2007.
- In 2017, approximately 54 percent of the county's recurring transportation funds came from HURF.



2017 County Recurring Revenue Sources

Recurring Revenue Source	2017
HURF Funds	\$11,900,232
VLT Funds	\$3,365,575
Local Tax Initiative Funds	\$6,724,069
Total Recurring Revenue	\$21,989,876

Source: ADOT HURF/VLT Distribution Reports; County CAFR Report; County Annual Budget Report

HURF Transfers to Support State Programs

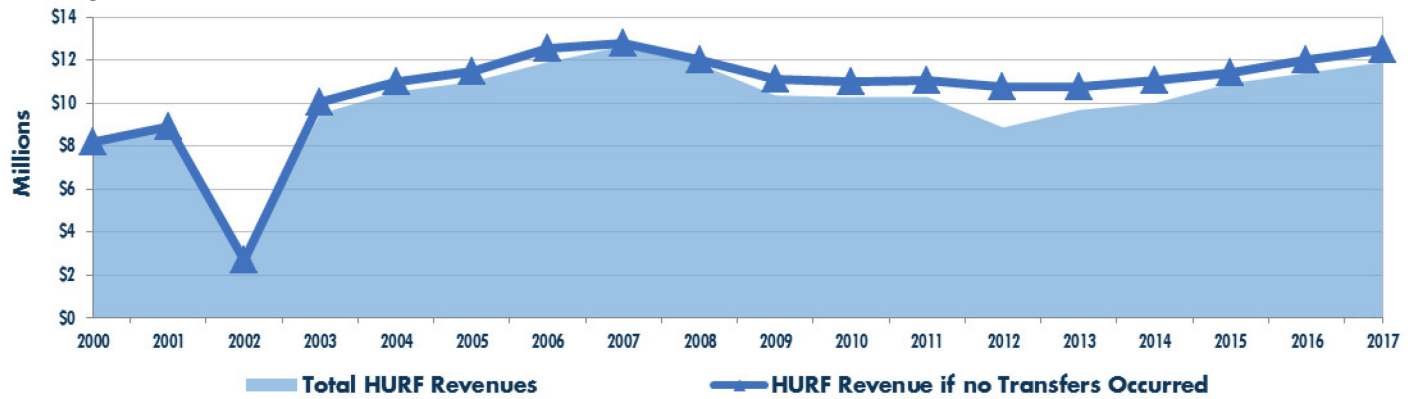
Each year, the state transfers HURF roadway improvement funds to support other state programs (such as DPS). The following table and chart illustrates the actual HURF funds distributed to county versus the estimated share if no HURF transfers occurred.

- Since 2000, a total of \$10.7 million of HURF funds have been distributed to other programs that the county would have otherwise received.
- In 2017, HURF revenue loss per capita was \$6.50.

Impact of HURF Transfers on the County

HURF Revenue Transfers	2005	2010	2015	2017
HURF Revenue Loss Due to Transfers	\$494,067	\$739,533	\$491,875	\$585,951
HURF Revenue if no Transfers Occurred	\$11,480,760	\$11,013,440	\$11,410,811	\$12,486,183
Percent Loss of HURF Revenue	4.5%	7.2%	4.5%	4.9%
HURF Revenue Loss Per Capita	\$6.47	\$8.83	\$5.71	\$6.50

Funding Levels if No HURF Transfers Occurred



Revenue Projections

In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated revenues for the 10-year period.

Revenue Source	Estimated 10-Year Recurring Revenues (in millions)
HURF	\$133.0
VLT	\$36.2
Other	\$86.8
Total	\$256.0

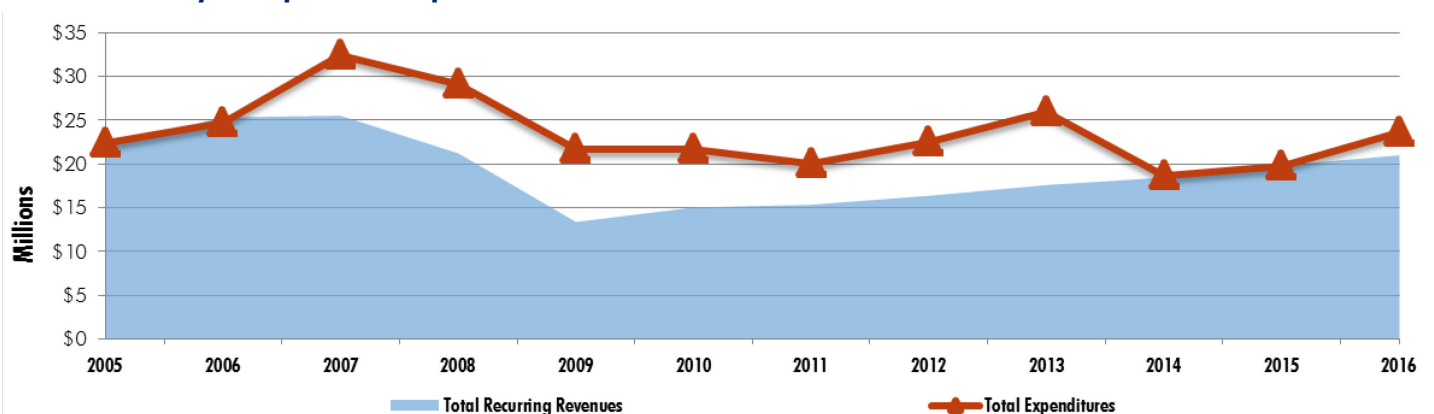
Summary of Expenditures

Historical county CAFRs, budget reports, and information provided by staff were utilized to compile expenditures related to transportation uses. In 2013, roadway expenditures were 47 percent more than the county's recurring revenues.



CURRENT FULL-TIME EMPLOYEES
110+

Historical County Transportation Expenditures



Source: County CAFR Report; County Annual Budget Report

Expenditure Projections

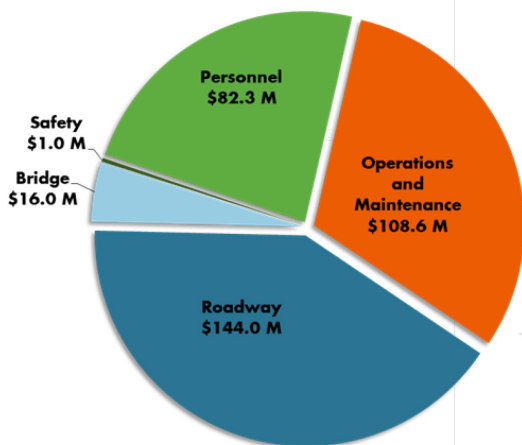
In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated expenditures for the 10-year period.

Expenditures (in millions)	Yavapai County
Roadway Repair and Maintenance	\$144.0
Bridge Repair and Maintenance	\$16.0
Safety Improvements	\$1.0
Personnel	\$82.3
Operations	\$98.7
Administration	\$9.9
Total	\$351.9

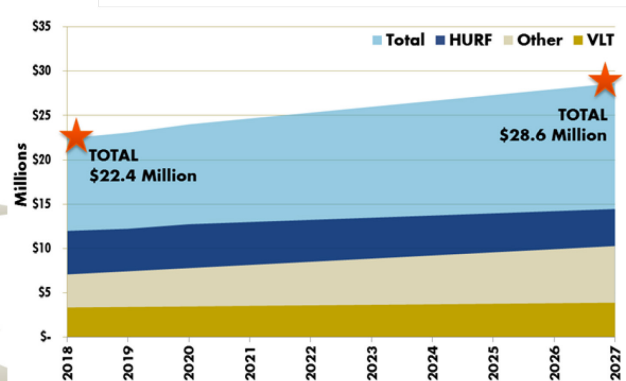
The Bottom Line

Failure to meet the current maintenance investment needs of the County will result in the rapid deterioration of its transportation system over the next 10 years. It is imperative that Yavapai County receive a stable revenue stream for cost-effective maintenance of the county transportation system in order to reverse this crisis.

COST TO MAINTAIN SYSTEM OVER 10 YEARS



PROJECTED 10 YEAR REVENUES



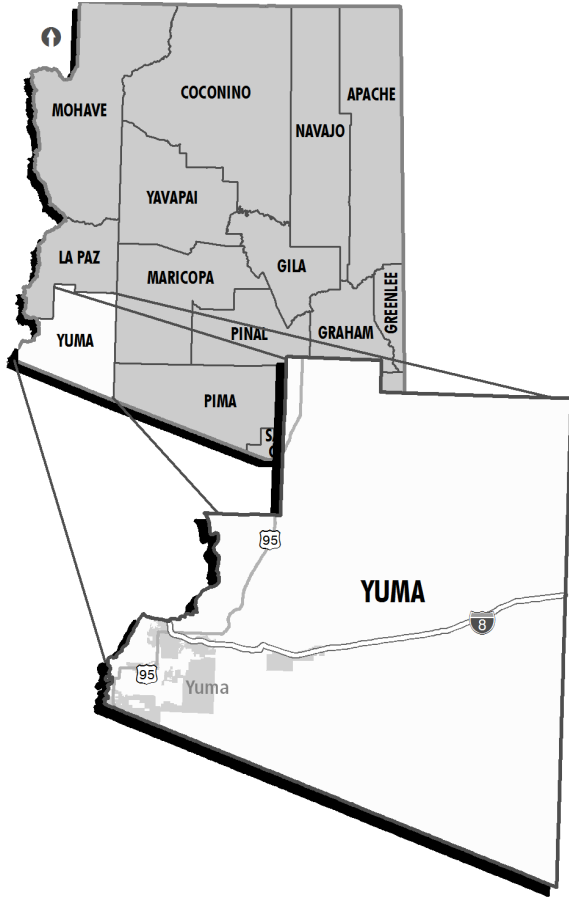
EXPENDITURES
\$351.9 Million

REVENUE
\$256.0 Million

FUNDING GAP
-\$95.9 Million



YUMA COUNTY SNAPSHOT



Larger than the state of Connecticut, much of Yuma County's 5,519 square miles is desert land accented by rugged mountains. Due to the County's temperate winter weather, the County's population booms from sun-seeking "snowbirds" during the winter months. During the summer months, the County experiences extreme heat and monsoon flooding.

The U.S. Bureau of Land Management accounts for 14 percent of land ownership in Yuma County; Indian reservations, less than one percent; the State of Arizona, 5 percent; private lands, 11 percent; and other public lands, 70 percent, including the U.S. Department of Defense and the U.S. Fish and Wildlife Service.

The median age in the County is 33.8 years; median household income is \$41,000. The most common employment sectors for those who live in Yuma County are Healthcare & Social Assistance (11.6 percent), Public Administration (11.8 percent), and Retail Trade (11.5 percent).

Area (sq miles): 5,519	County Seat: Yuma
Congressional District: 3rd & 4th	Elevation: 70–4,800 FT
Avg. Annual Snowfall: 0 in	Avg. Annual Rainfall: 4 in
Avg. Low Temp: 47-48°F	Avg. High Temp: 106-107°F

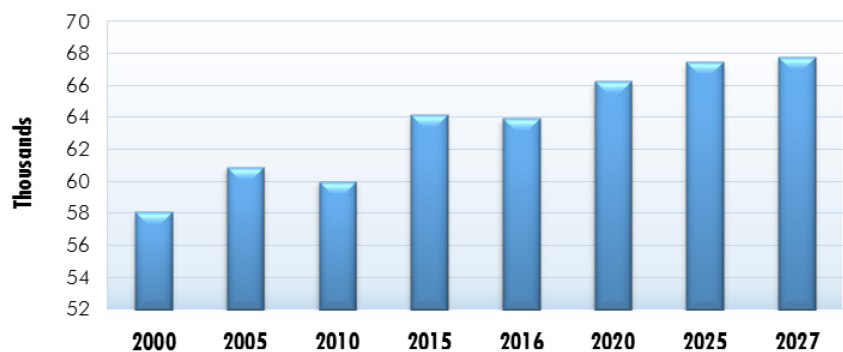
Summary of Unincorporated County Population



2016 POPULATION
64,018



2027 POPULATION
67,836
6.0% increase



Source: Arizona Office of Economic Opportunity

County Maintained Roadways

- Yuma County owns and maintains approximately 2,075 miles of roadways.
- 1,230 miles of gravel roads are only maintained as needed. Rest of the system is maintained regularly.
- Only 28 percent are paved roads and 72 percent are unpaved.
- Per FHWA approved functional classification, the County road system consists of primarily collectors (10 percent) and locals (88 percent). Arterials account for 2 percent.

Current Roadway Conditions

To determine the current condition of Yuma County’s roadway system, a sample set consisting of 4 percent of County roads were evaluated. The sample dataset included a mixture of roadway types to reflect the County’s entire roadway system. Based on the results of the sample datasets, the condition of the remaining 96 percent of the roadways was prorated. Key findings show:

- 66 percent of County roads are in poor to very poor condition.
- 29 percent in fair condition.
- 5 percent in good to excellent condition.

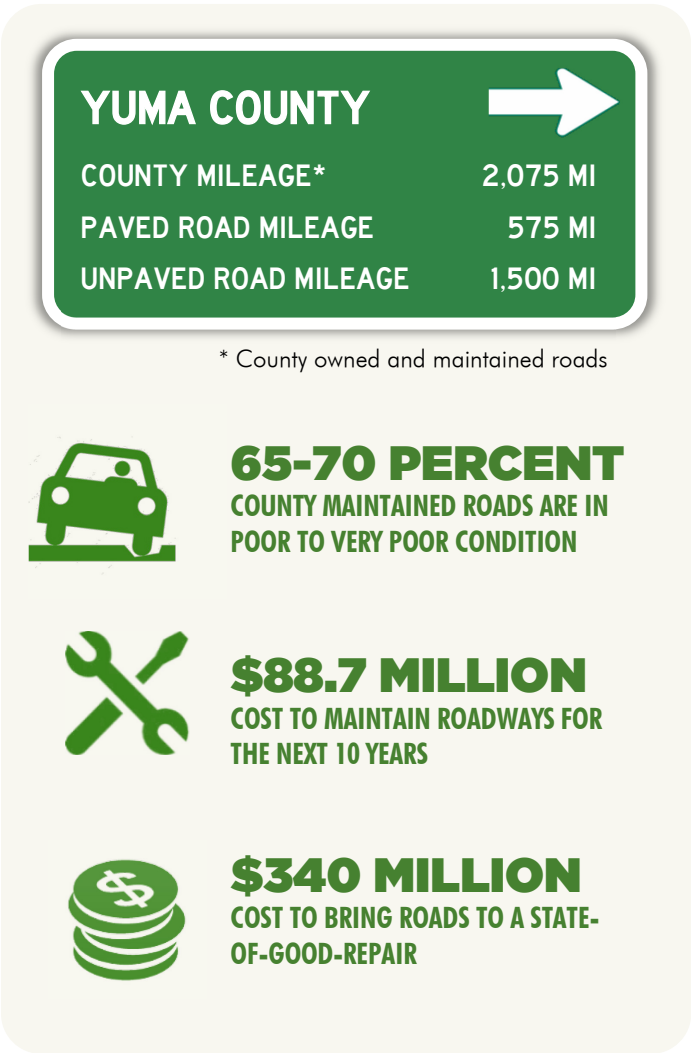
Based on the condition of the roadway, the table below lists the potential costs needed to bring the roads to a state-of-good-repair and maintain the system for the next 5- and 10-year periods.

Costs to Bring Roads to a State-of-Good-Repair

	Costs (in thousands)
State-of-Good-Repair Costs	\$340,007
Total 10 Year Maintenance Costs	\$88,685
Total Maintenance Costs (2018-2022)	\$37,620
Total Maintenance Costs (2023-2027)	\$51,065

Total Roadway Costs
(State-of-Good-Repair & Maintenance Costs)

\$428,692



Current Bridge Conditions

ADOT's comprehensive bridge data was obtained to evaluate the County bridge conditions. Key findings show:

- 95 bridge structures on Yuma County's roadways.
- 5 bridges are rated structurally deficient.
- 3 bridges are deemed functionally obsolete.

The table below summarizes deficient bridges by type.

Overview of Structures in Yuma County

Bridge Type	Total Bridges	Structurally Deficient	Functionally Obsolete
Concrete	51	3	2
Culvert	24	0	0
Steel	16	2	1
Timber	4	0	0
Total	95	5	3

Source: ADOT Bridge Group

The table below summarizes the costs to bring the County bridges to a state-of-good-repair and maintain for the next ten years.

Bridge Repair and Maintenance Costs (10-Year Period)*

Bridge Costs (in Thousands)	
Bridge Replacement Costs*	\$8,177
Inspection Costs	\$1,770
Maintenance Costs	\$1,736
Total Bridge Costs	\$11,683

*Bridges classified as structurally deficient or functionally obsolete were assumed to be replaced within 10 years

Safety Improvements

To assess potential safety needs, the study team followed a three step approach:

- 1) Reviewed each county's Transportation Improvement Program (TIP) to identify safety projects.
- 2) Conducted a high-level spatial review of crash locations to identify roadway segments and intersections that have a high density of historical crashes. For locations with high density of crashes, an aerial and Google Streetview evaluation was conducted to identify potential issues and mitigation measures. Cost estimates were developed for potential improvements.
- 3) Costs from the TIP and aerial review were combined to calculate overall safety improvement costs. For good measure, a minimum of \$1 million was assumed for safety improvements.

For Yuma County, \$1 million was assumed for safety improvements for the 10-year period.



95
COUNTY OWNED BRIDGES/STRUCTURES

8 PERCENT
COUNTY MAINTAINED BRIDGES ARE
STRUCTURALLY DEFICIENT OR
FUNCTIONALLY OBSOLETE



32 PERCENT
AGE 50 YEARS OR OLDER



40 YEARS
AVERAGE AGE OF BRIDGES



10 MILES
AVERAGE DETOUR LENGTH



\$11.7 MILLION
COST TO BRING BRIDGES TO A
STATE-OF-GOOD-REPAIR AND
MAINTAIN FOR THE NEXT 10 YEARS

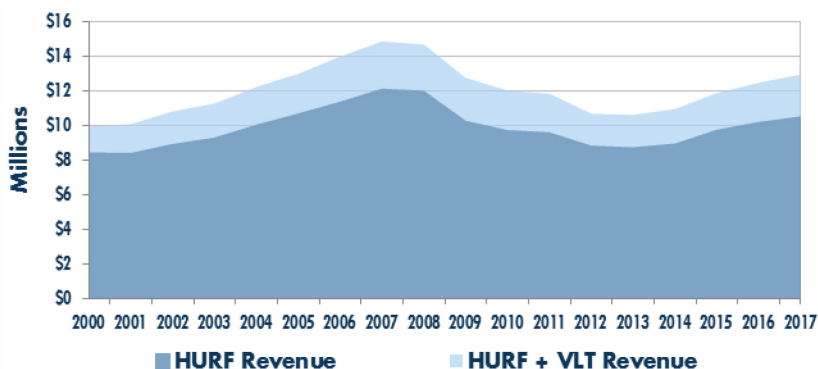
Summary of County Revenues

The county's transportation revenue sources include HURF, VLT, and federal/state/local grants. Since grant receipts vary significantly each year, only recurring (dependable) revenue sources were analyzed.

Historical Revenues

Revenue data was compiled from ADOT's HURF/VLT distribution reports, the county's Comprehensive Annual Financial Reports (CAFR), Annual Budget Reports, and information provided by county staff. Key highlights include:

- The county's total *recurring* revenues have decreased by 13 percent since the peak level in 2007.
- HURF revenues have decreased by 13 percent since the peak level in 2007.
- In 2017, 69 percent of the county's recurring transportation funds came from HURF.



2017 County Recurring Revenue Sources

Recurring Revenue Source	2017
HURF Funds	\$10,543,193
VLT Funds	\$2,410,732
Local Tax Initiative Funds	\$2,286,604
Total Recurring Revenue	\$15,240,529

Source: ADOT HURF/VLT Distribution Reports; County CAFR Report; County Annual Budget Report

HURF Transfers to Support State Programs

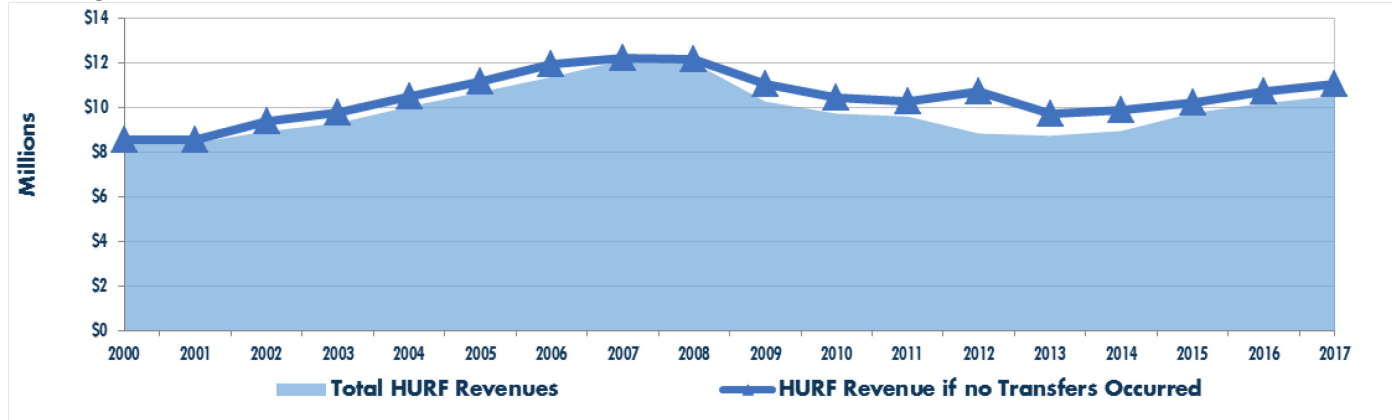
Each year, the state transfers HURF roadway improvement funds to support other state programs (such as DPS). The following table and chart illustrates the actual HURF funds distributed to county versus the estimated share if no HURF transfers occurred.

- Since 2000, a total of \$10.5 million of HURF funds have been distributed to other programs that the county would have otherwise received.
- In 2017, HURF revenue loss per capita was \$7.90.

Impact of HURF Transfers on the County

HURF Revenue Transfers	2005	2010	2015	2017
HURF Revenue Loss Due to Transfers	\$481,846	\$701,857	\$440,382	\$519,132
HURF Revenue if no Transfers Occurred	\$11,196,770	\$10,452,356	\$10,216,255	\$11,062,325
Percent Loss of HURF Revenue	4.5%	7.2%	4.5%	4.9%
HURF Revenue Loss Per Capita	\$7.91	\$11.70	\$6.86	\$7.90

Funding Levels if No HURF Transfers Occurred



Revenue Projections

In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated revenues for the 10-year period.

Revenue Source	Estimated 10-Year Recurring Revenues (in millions)
HURF	\$117.7
VLT	\$26.0
Other	\$0.0
Total	\$143.7

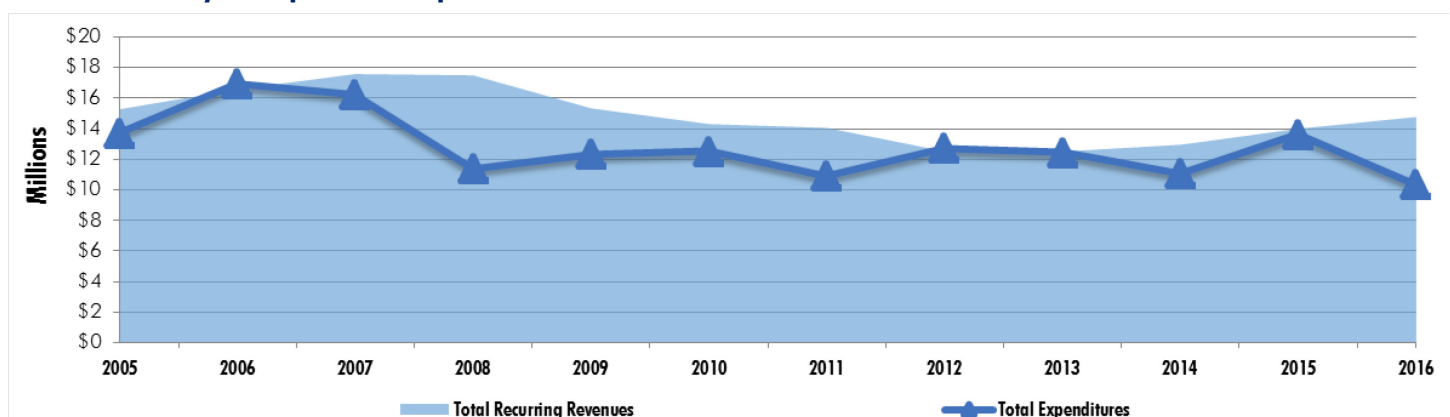
Summary of Expenditures

Historical county CAFRs, budget reports, and information provided by staff were utilized to compile expenditures related to transportation uses. In 2012, roadway expenditures were 1.2 percent more than the county's recurring revenues.



CURRENT FULL-TIME EMPLOYEES
80+

Historical County Transportation Expenditures



Source: County CAFR Report; County Annual Budget Report

Expenditure Projections

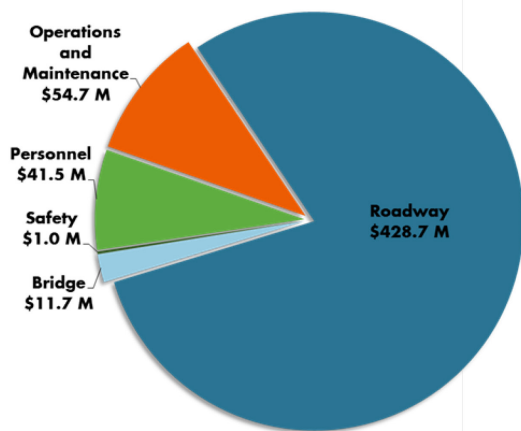
In order to assess the funding gap for the county, revenue projections were developed for the 10-year period of 2018 to 2027. The table to the right provides a summary of estimated expenditures for the 10-year period.

Expenditures (in millions)	Yuma County
Roadway Repair and Maintenance	\$428.7
Bridge Repair and Maintenance	\$11.7
Safety Improvements	\$1.0
Personnel	\$41.5
Operations	\$49.8
Administration	\$5.0
Total	\$537.6

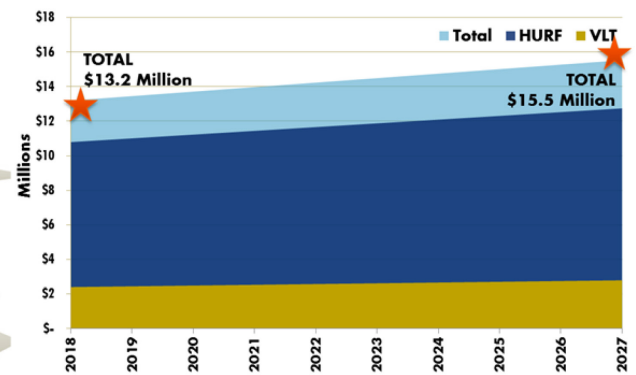
The Bottom Line

Failure to meet the current maintenance investment needs of the County will result in the rapid deterioration of its transportation system over the next 10 years. It is imperative that Yuma County receive a stable revenue stream for cost-effective maintenance of the county transportation system in order to reverse this crisis.

COST TO MAINTAIN SYSTEM OVER 10 YEARS



PROJECTED 10 YEAR REVENUES



EXPENDITURES



**\$537.6
Million**

REVENUE



**\$143.6
Million**



**FUNDING GAP
-\$394.0 Million**



APPENDIX A.

COUNTY ENGINEERS

QUESTIONNAIRE



CURRENT ROADWAY SYSTEM CONDITIONS

How would you characterize your roadway system condition?

- ☐ Poor
- ☐ Adequate
- ☐ Great

How often do you receive complaints in regards to roadway conditions?

- ☐ Daily. How many times a day? _____
- ☐ Few times a week
- ☐ Few times a month
- ☐ Almost never
- ☐ Seasonally
- ☐ Other: _____

What complaints do you hear the most?

- ☐ Roadway Conditions (i.e., pot holes, poor pavement, etc.)
- ☐ Upgrading Roadways (i.e., paving dirt roads, widening roadway, etc.)
- ☐ Safety Issues (i.e., fatalities, high number of crashes, ped/bike issues, etc.)
- ☐ Congestion
- ☐ Other: _____

What typically stands in the way of your maintenance?

- ☐ Budget
- ☐ Staffing
- ☐ Equipment
- ☐ Emergency Situations (derail planned regular maintenance schedule)
- ☐ Other: _____

Additional Comments:



FUNDING

Due to budget constraints do you often have to delay repairs/maintenance, causing more costly maintenance in the future?

- ☐ Yes
- ☐ No

Does your county have a county sales tax that helps in funding roadway improvements?

- ☐ Yes, the sales tax is: _____
- ☐ No
- ☐ No, but the county has discussed the idea
- ☐ Other: _____

On a scale from 1 to 5 (five being very difficult), how difficult is it for you to fund the following?

	1 (not difficult)	2	3	4	5 (very difficult)
Maintaining the current roadway network					
Improving safety features					
Widening roadways to reduce congestion					
Constructing new roadways					
Adding pedestrian and bicycle facilities					
Providing public transportation services					
Improving bridge conditions					
Other:					



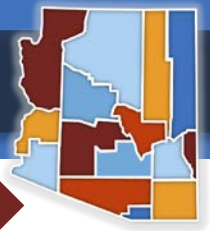
If you have to cut budgets – what program is the first to have cuts? Please rank the following 1 to 5.

	1 (first to cut)	2	3	4	5 (last to cut)
New Roadways Construction					
Pavement Reconstruction or Preservation					
General Maintenance					
Staff					
Equipment					
Other:					

On a scale of 1 to 5 (five being positive), how confident are you that you can maintain your roadway network for the next 10 years with current funding levels?

- ☐ 1 (not confident)
- ☐ 2
- ☐ 3 (neutral)
- ☐ 4
- ☐ 5 (very confident)

Additional Comments:



STAFFING AND RESOURCES

On a scale of 1 to 5 (five being adequate staff), do you have adequate staff to meet your daily maintenance and operational needs?

- ☐ 1 (significantly low staffing levels)
- ☐ 2
- ☐ 3 (low staffing levels)
- ☐ 4
- ☐ 5 (adequate staffing)

What operating or maintenance resources does your county lack?

- ☐ Staff Training
- ☐ Additional Staff
- ☐ Adequate Equipment
 - ☐ If so, what do you need? _____
- ☐ Other: _____

Who oversees your roadway operations and maintenance? (e.g. Public Works, Street Department, Street Superintendent, Community Development, Planning, etc.)

Are Operations and Maintenance separate departments or combined?

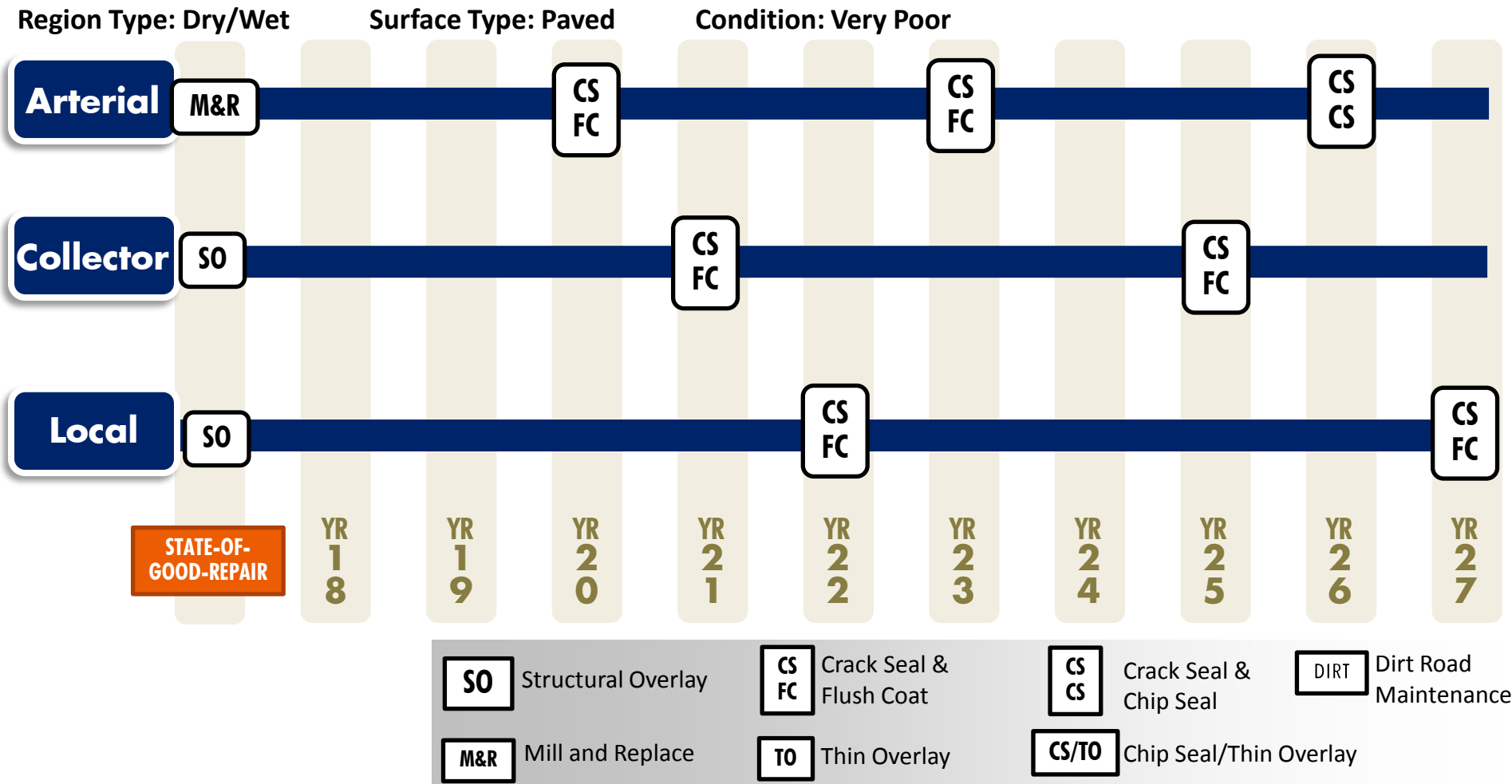
MAINTENANCE

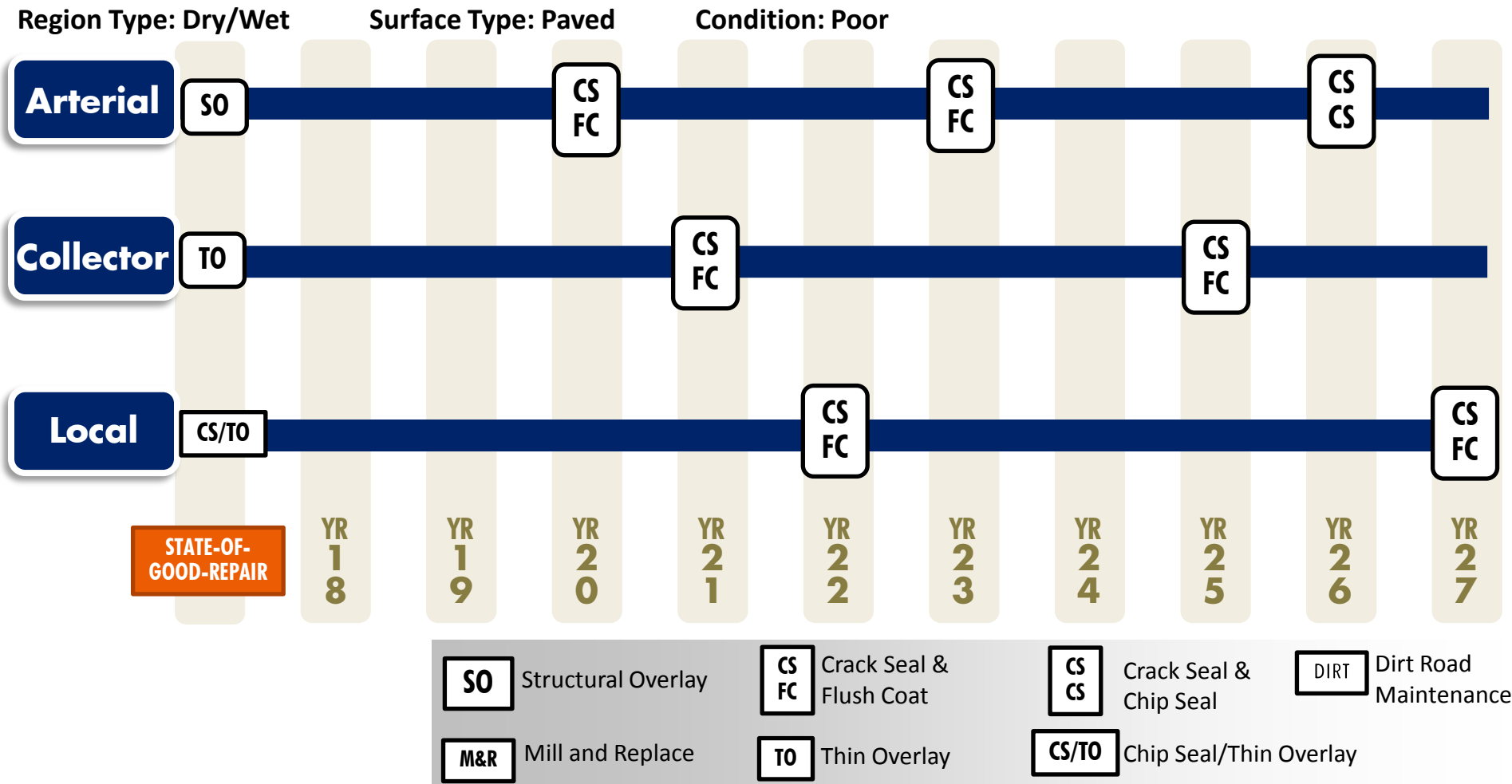
What do you see as your biggest constraint for operations and maintenance?

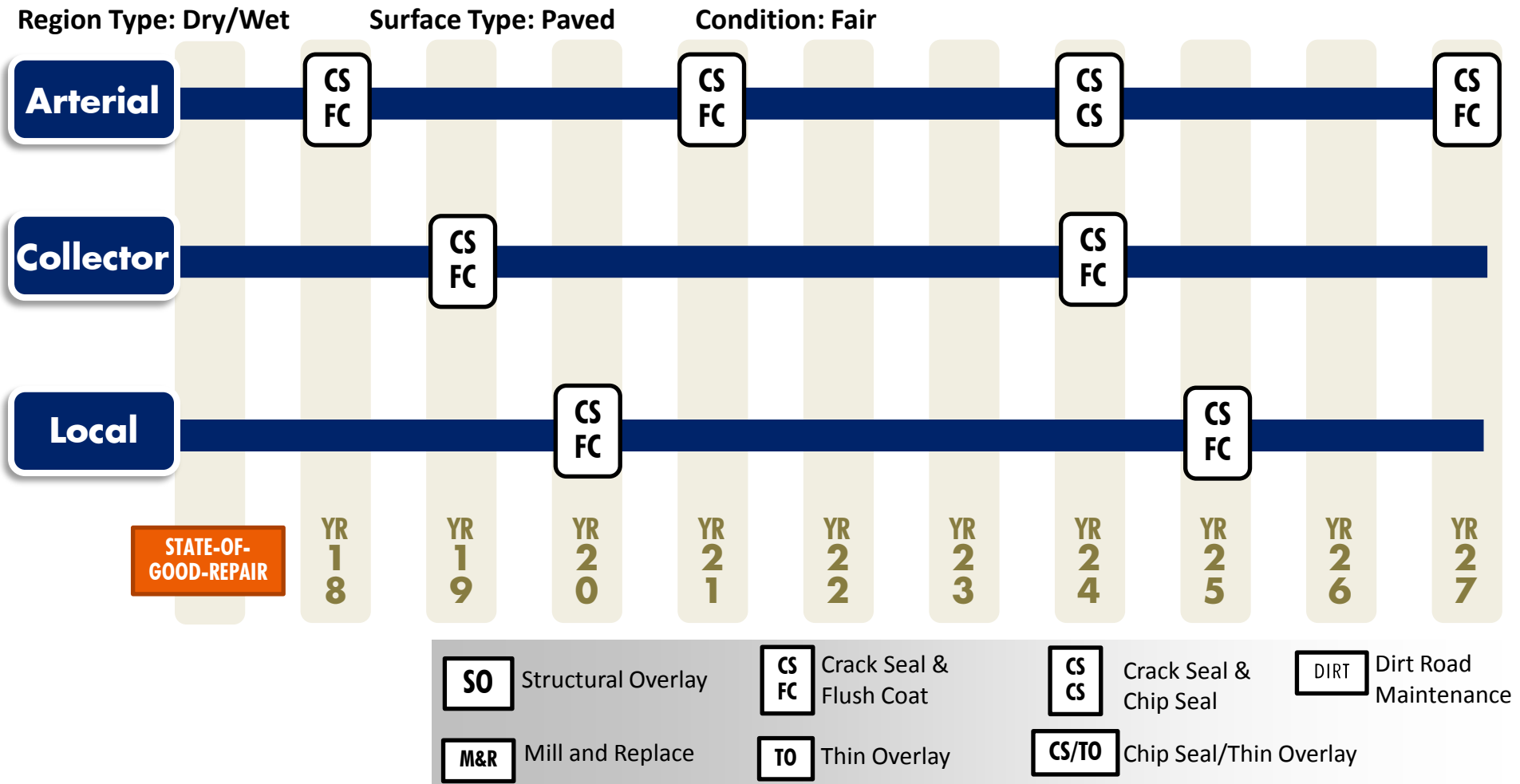


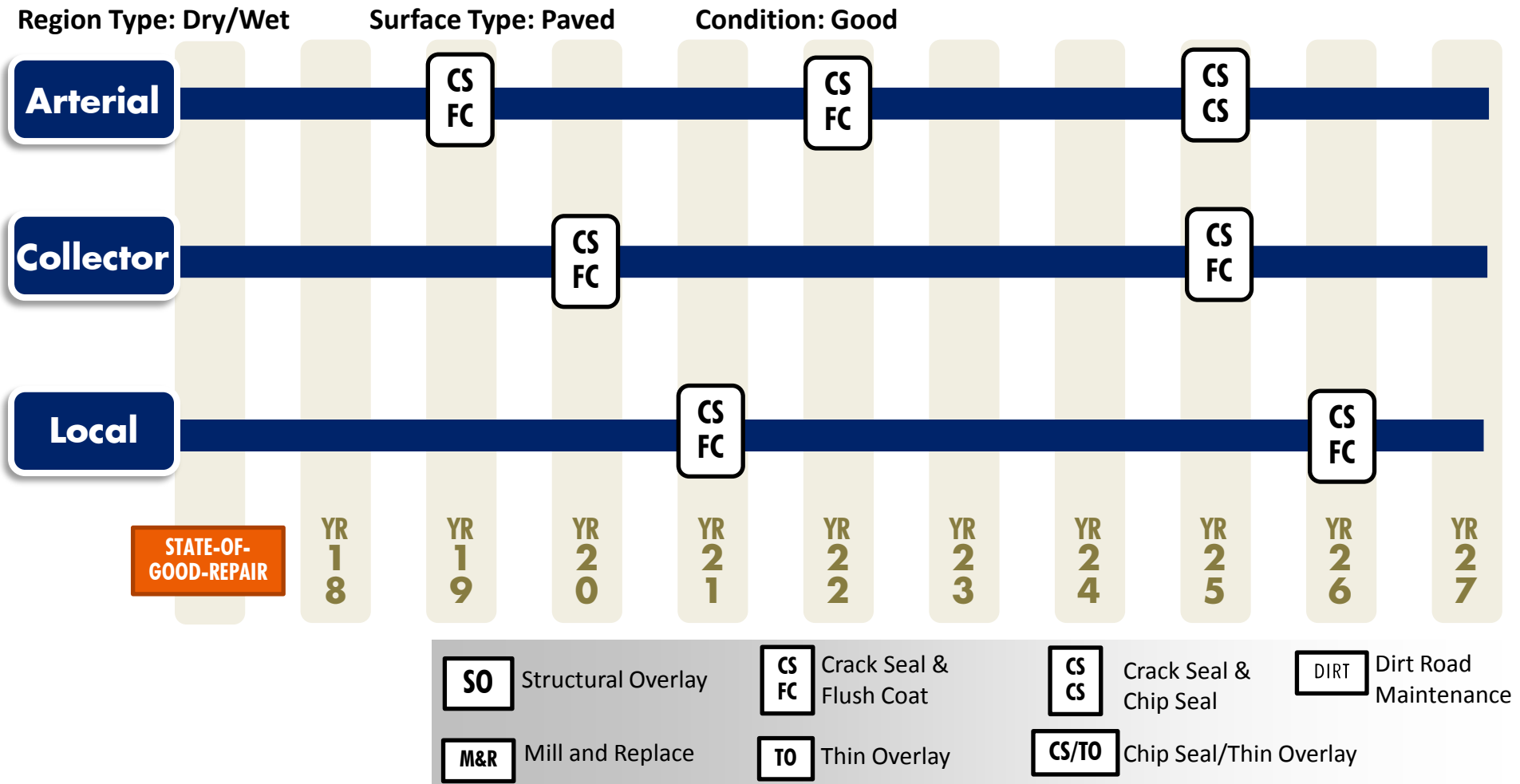
APPENDIX B.

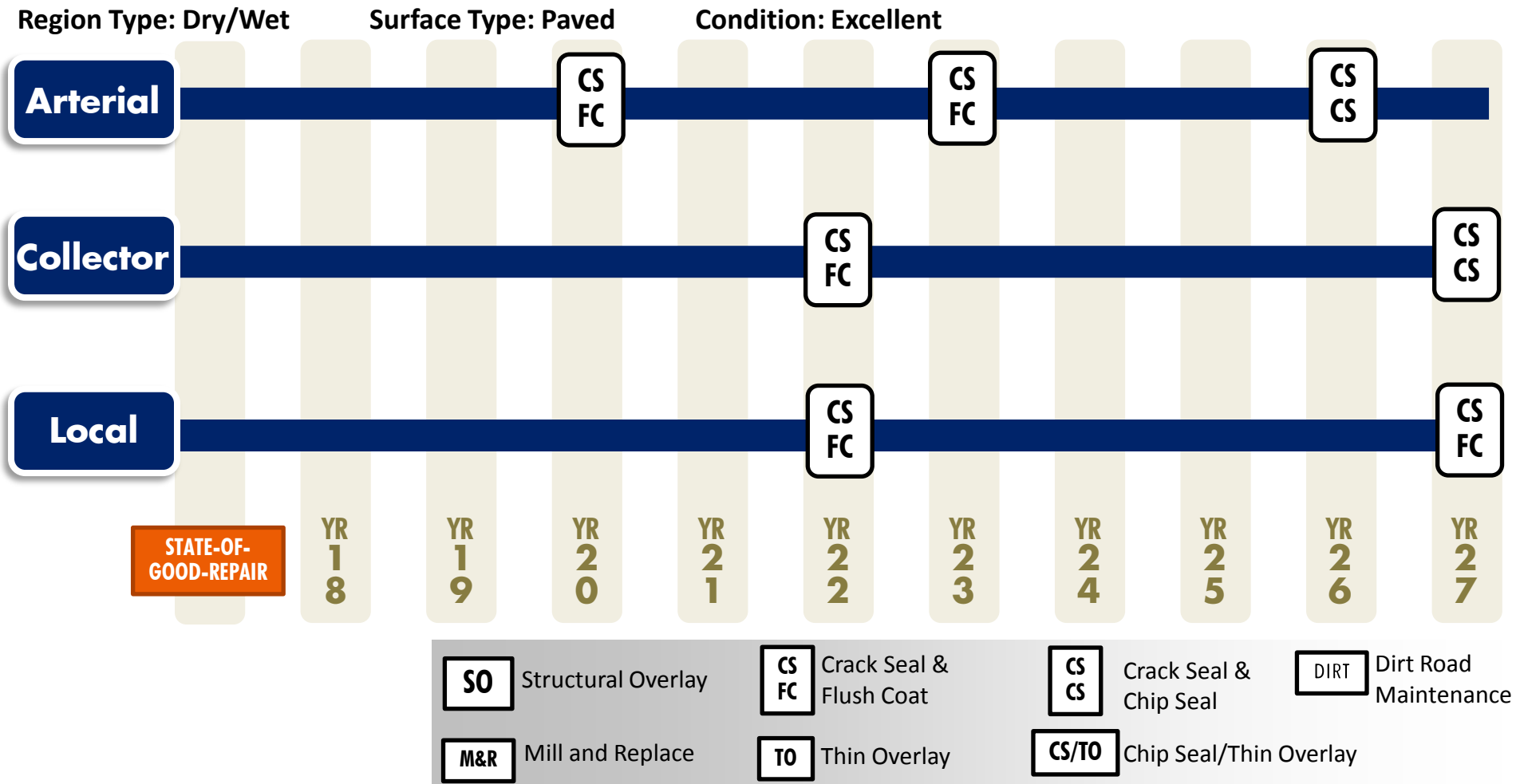
TREATMENT/REPAIR TYPES

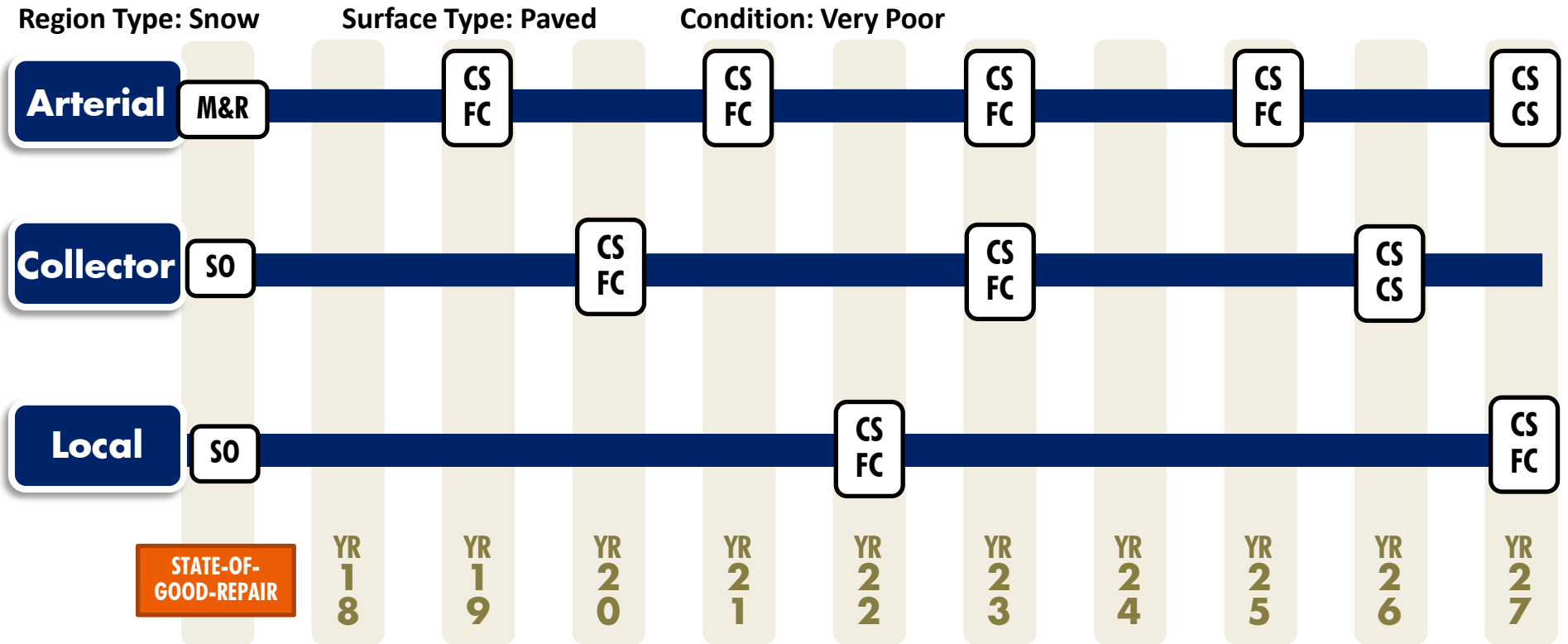






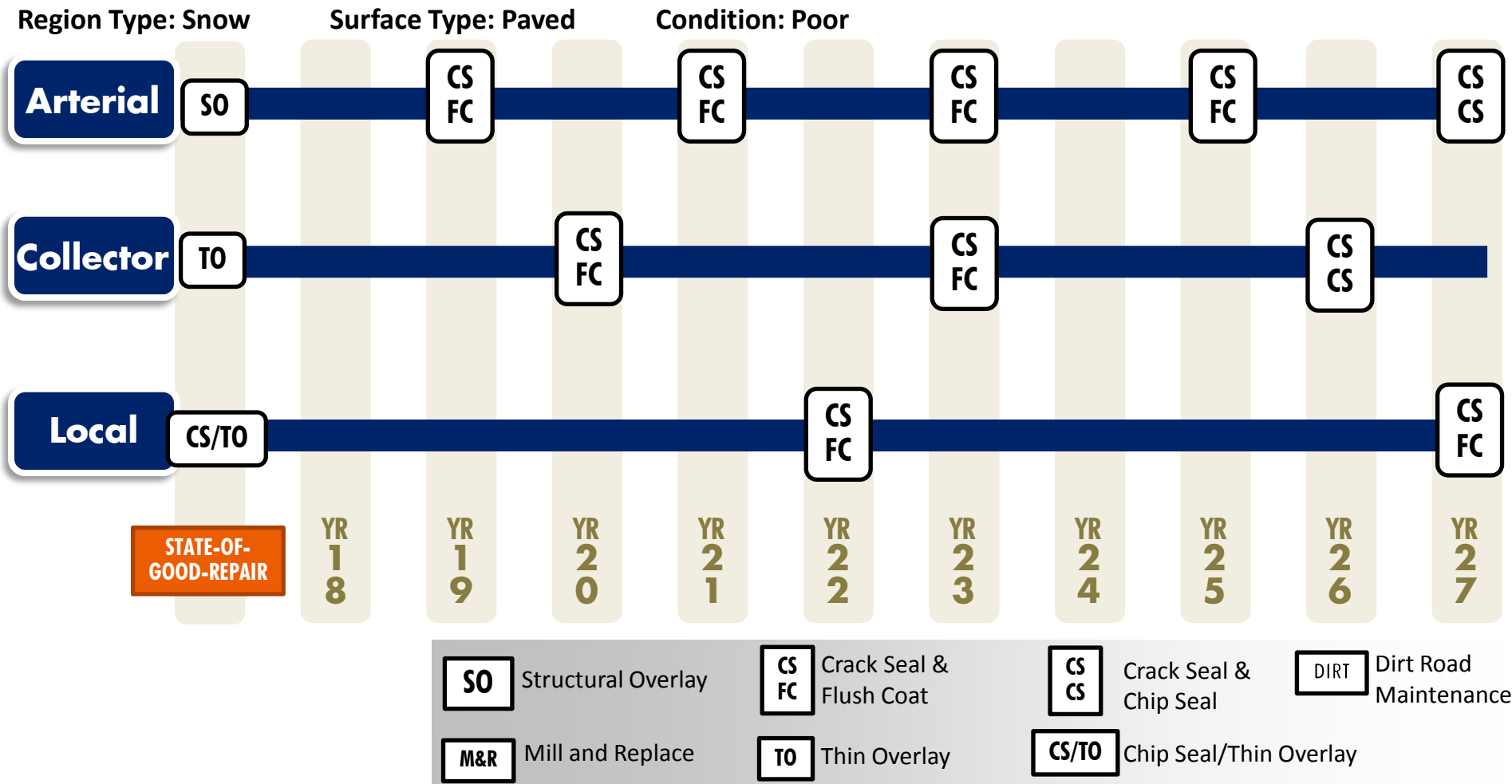


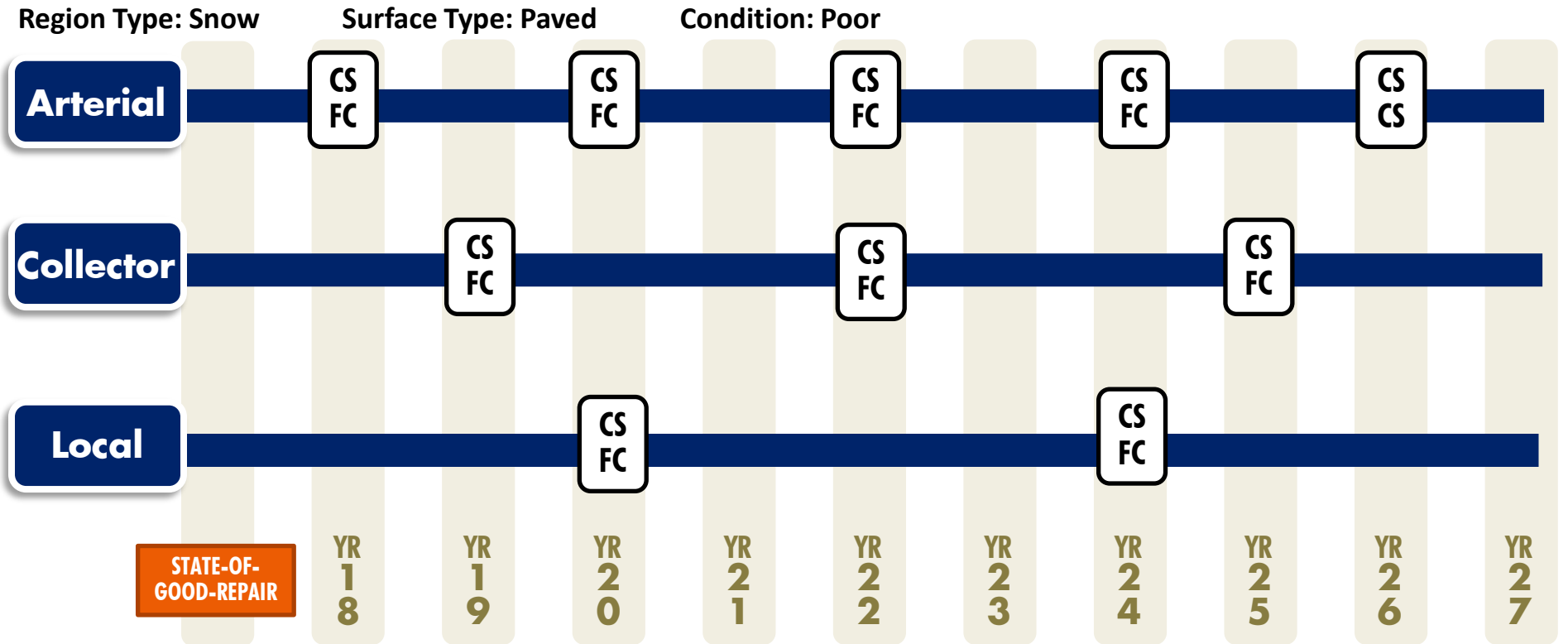




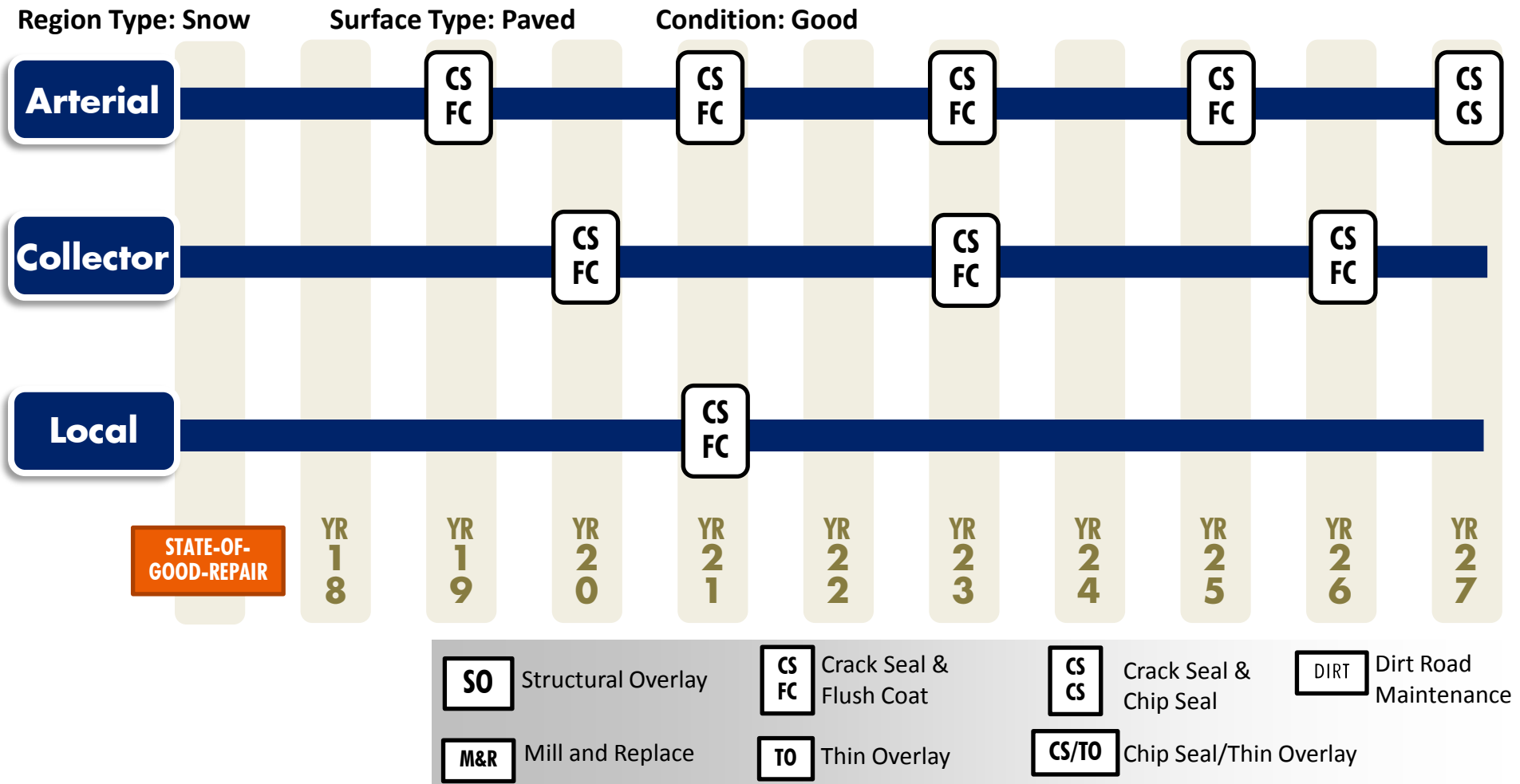
STATE-OF-
GOOD-REPAIR

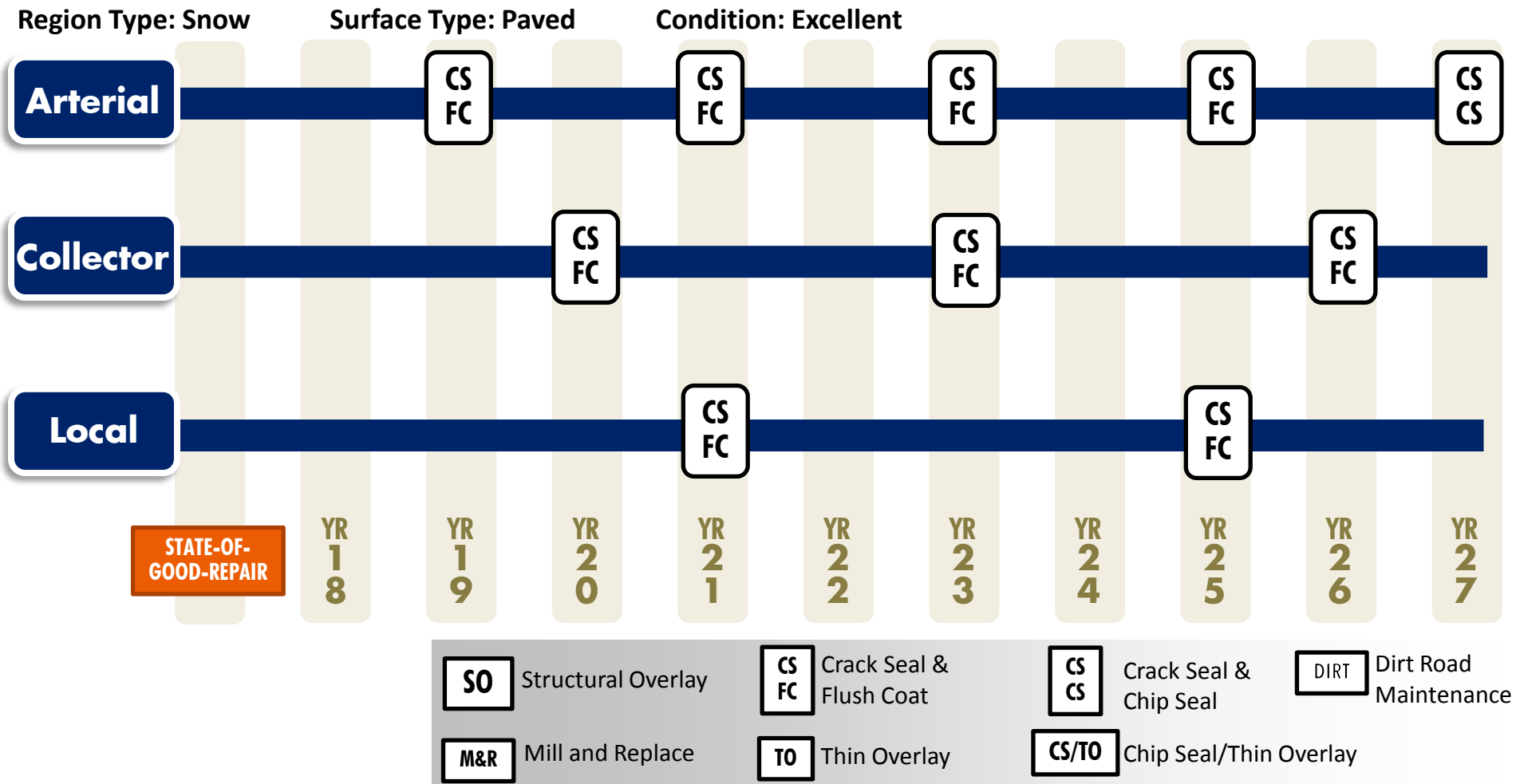
SO	Structural Overlay	CS FC	Crack Seal & Flush Coat	CS CS	Crack Seal & Chip Seal	DIRT	Dirt Road Maintenance
M&R	Mill and Replace	TO	Thin Overlay	CS/TO	Chip Seal/Thin Overlay		





SO	Structural Overlay	CS FC	Crack Seal & Flush Coat	CS CS	Crack Seal & Chip Seal	DIRT	Dirt Road Maintenance
M&R	Mill and Replace	TO	Thin Overlay	CS/TO	Chip Seal/Thin Overlay		







	Region Type: Dry, Wet, or Snow			Surface Type: Dirt			Condition: Any				
Arterial	DIRT	DIRT	DIRT	DIRT	DIRT	DIRT	DIRT	DIRT	DIRT	DIRT	DIRT
Collector	DIRT	DIRT	DIRT	DIRT	DIRT	DIRT	DIRT	DIRT	DIRT	DIRT	DIRT
Local	DIRT	DIRT	DIRT	DIRT	DIRT	DIRT	DIRT	DIRT	DIRT	DIRT	DIRT
	STATE-OF-GOOD-REPAIR	YR 1 8	YR 1 9	YR 2 0	YR 2 1	YR 2 2	YR 2 3	YR 2 4	YR 2 5	YR 2 6	YR 2 7

SO Structural Overlay	CS FC Crack Seal & Flush Coat	CS CS Crack Seal & Chip Seal	DIRT Dirt Road Maintenance
M&R Mill and Replace	TO Thin Overlay	CS/TO Chip Seal/Thin Overlay	



APPENDIX C.

BRIDGE UNIT COSTS

Bridge Replacement Unit Costs Estimate

Unit	Cost	Description
New Bridge Construction Cost (\$/sqft)	\$ 135.00	Average cost for Precast Prestressed Concrete Girder Construction
Bridge Removal and Disposal(\$/sqft)	\$ 33.75	25% of Construction, includes Hazmat and fees
	\$ 168.75	
Engineering (\$/sqft)	\$ 20.25	12% of Construction Costs, Includes geotechnical
Environmental Permitting (\$/sft)	\$ 13.50	8% of Construction Costs
Construction Management and Engineering	\$ 20.25	12% of Construction Costs
Contingency (\$/sqft)	\$ 16.88	10% for environmental, complexity, unknowns
	\$ 70.88	

Estimated Construction Costs (\$/sqft) \$ 239.63 Estimated costs are in 2017 Dollars

Bridge Maintenance Costs Estimate

Unit	(\$/sqft)	Comments
Deck Overlay Cost (\$/sqft)	\$ 32.00	
Guardrail Replacement Cost (\$/sqft)	\$ 22.00	
Expansion Joint Replacement Cost (\$/qsft)	\$ 18.00	
Approach Repair Cost (\$/sqft)	\$ 20.00	
Scour Rehab Costs (\$/sqft)	\$ 35.00	
Average Repair Cost (\$/sft)	\$ 25.40	
Engineering (\$/sqft)	\$ 5.08	20% of Construction Costs
Environmental Permitting (\$/sqft)	\$ 3.05	12% of Construction Costs
Construction Management and Engineering	\$ 5.08	20% of Construction Costs
Contingency (\$/sqft)	\$ 2.54	10%
Average Repair Cost (\$/sft)	\$ 15.75	

Estimated Maintenance Costs (\$/sqft) \$ 41.15

Culvert Maintenance Costs Estimate

Unit	(\$/sqft)	Comments
Crack Repair Cost (\$/sqft)	\$ 18.00	
Apron Repair Cost (\$/sqft)	\$ 32.00	
Silt Removal Cost (\$/sqft)	\$ 7.00	
Scour Repair Costs (\$/sqft)	\$ 18.00	
Average Repair Cost (\$/sqft)	\$ 18.75	
Engineering (\$/sqft)	\$ -	Usually not required
Environmental Permitting (\$/sqft)	\$ -	Usually not required
Construction Management and Engineering	\$ 2.81	15% of Construction Costs
Contingency (\$/sqft)	\$ 1.88	10%
	\$ 4.69	

Estimated Maintenance Costs (\$/sqft) \$ 23.44 Estimated costs are in 2017 Dollars

Bridge Inspection Costs Estimate

Unit	(\$/bridge)
Culvert Inspection Cost (\$/EA)	\$2,097.20
Concrete Bridge Inspection Cost (\$/EA)	\$3,145.80
Steel Bridge Inspection Cost (\$/EA)	\$5,243.00
Timber Bridge Inspection Cost (\$/EA)	\$5,243.00