

City of Peoria, AZ Pavement Management Program



ISSA Award Application

**Pavement
Management
without a solid
plan of
Pavement
Preservation will
BITE you.**



Prioritizing Pavement Preservation

in the

Sonoran Desert

The desert heat is no joke in the “Valley of the Sun.” As of November, we are still setting records for 2020 (and they’re *not* related to COVID-19):

- Hottest summer on record;
- Record number of 100+ degree days in a year (145);
- 53 days at 110+ degrees;
- 14 days at 115 degrees;
- 118 degrees on July 30, 2020;
- Low temps above 90 degrees for more than 28 days in a row;
- Hottest temp ever recorded in November – still setting records on November 18!

Although we are not dealing with the impacts of snow and ice, it does get cold in the desert (briefly) and the asphalt reactions to these extreme temperatures can be equally extreme.

Asphalt reactions: oxidation, cracking, raveling, rutting and tracking.

Pavement preservation is to asphalt as sunscreen is to skin.

In 2020, AZ is the fourth-fastest growing state in the nation and Peoria is one of the fastest growing cities.

Peoria has:

667 centerline miles of paved roads (and rapidly growing!)

It was critical for us to implement a strong program of pavement management to get ahead of our growing pavement network.

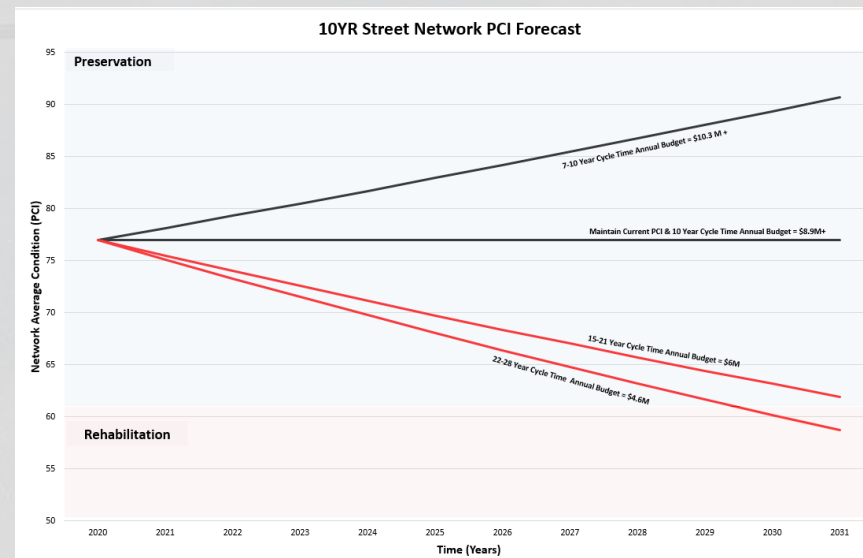
Peoria's PMP Analysis and Plan of Approach:

Peoria has experienced rapid growth in the past decade so we have a significant inventory of newer roads but in 2017, we were in financial recovery mode and even our newer roads were starting to show the effects of early degradation. To combat this trend, we introduced a comprehensive Pavement Management Program.

We started with a technical condition survey conducted by a third-party contractor. Peoria's roads were evaluated as an overall 72/100.

This is a good rating and we were sure our leaders wanted to keep that that going.

We used budget requests as a platform to help explain our program with forecasts of conditions at various rates of funding and we showed trend lines at current and optimal budgets



CITY COUNCIL MEETINGS - 01/09/20

We presented the findings to our Council and we published the reports and plans on the City's webpage and the result...

1. Streets Pavement Management Program

Regular Meeting

2. Acknowledgement, Arizona Division Occupational Safety and Health, Public Entity Partnership

3. Proclamation Recognizing January as "Speak up, Stand up, Save a Life Month"

4. 17th Annual Celebrate the Constitution Contest



DOUBLED OUR BUDGET!

We introduced budget requests as part of a “PAVEMENT MANAGEMENT PROGRAM” in the CIP

- Pavement Preservation (Seal coat, slurry seals, micro seals)
- Rehabilitation (Mill & overlay, major repairs – reconstruction)
- Rural Road Maintenance (Chip Seal)

In 2018, our Council approved a budget that doubled our previous from less than \$5M per year to more than \$10M average for the next three years!

The Program:

Building on a long history of refining work practices and material specifications while building relationships with reliable contractors, we refined pavement management “programs,” defining capital projects by the collective objective of improving the overall network condition and extending its lifecycle.

We employed many products:

- Seal Coats - HA5, TRMSS, PMM;
- Slurry Seal - Latex Modified Slurry Seal, Armor Coat Slurry Seal (RAP-Recycled Asphalt Aggregate);
- Micro Seal - Polymer Modified Micro Seal, Fiber enforced Micro Seal, Armor Coat Micro Seal (RAP-Recycled Asphalt Aggregate);
- Asphalt - D 1/2" Low Volume, D 1/2 High Volume, Asphalt Rubber (ARAC-Wet Process);
- Asphalt Rubber (PMTR-Terminal Blend);
- PMTR SBS - Synthetic Blend (Styrene- Butadiene-Styrene);
- Asphalt Rubber (PMTR-Terminal Blend) Fiber enforced D1/2 High Volume;
- SBS - Synthetic Blend (Styrene- Butadiene-Styrene);
- - C 3/4" Low Volume, C 3/4 High Volume;
- Chip Seal - PMAR High Volume Chip Seal (Polymer Modified Asphalt Rubber);
- Scrub Seal;
- Cape Seal - PMAR Chip Seal covered by Slurry Seal;
- Crack Seal - Crafcro Poly Flex, Deery Crack Seal, Mastic (Large Cracks), Poly Flex (Large Cracks)

Purchased specialty software and technical services

Certified 5 Project Manager/Inspectors through ISSA:
demonstrated professionalism
credentialed qualifications
enhanced/validated credibility of the Program and the Team

Got things done:

Fiscal Year 2018: 95 miles of pavement preservation on residential roads;

Fiscal Year 2019: 33 miles of pavement preservation including arterial & collector roads

Fiscal Year 2020: 61 miles of pavement preservation

For a total of 189 Centerline Miles!!!!

In 2020, we repeated the technical condition survey and learned that our Pavement Condition Index increased to 77/100!
189 miles of pavement preservation projects were completed in just 3 years. The technical survey was repeated.

Survey results indicated:

Pavement preservation was a successful strategy for lifecycle management (but more was needed)

Pavement preservation increases overall network condition
Citizen satisfaction is up and complaints are down

And now, more than 91% of our pavement network is in Good or better condition!

