



City of Hutto

Agenda

City Council Work Session

Thursday, January 19, 2023 at 6:00 PM

Executive Conference Room

Hutto City Hall

500 W. Live Oak Street

In accordance with the Texas Open Meetings Act this meeting agenda is posted for public information, continuously, for at least 72 hours prior to the scheduled time of the meeting on the bulletin board located on the exterior wall of the City Hall building at 500 West Live Oak, Hutto, Texas. This meeting agenda is also accessible via the Internet at huttotx.gov

1. CALL SESSION TO ORDER

2. ROLL CALL

3. AGENDA ITEMS

- 3.1. Presentation of Alternate Delivery Options for expansion of the South Wastewater Treatment Plant (WWTP) by Garver
- 3.2. Presentation and possible action of the draft Pavement Assessment and Management Plan by Roadway Asset Services (RAS)

4. ADJOURNMENT

5. CERTIFICATION

I certify that this notice of the Work Session City Council Meeting, January 19, 2023 was posted on the City of Hutto website and the City Hall bulletin board of the City of Hutto on January 13, 2023 before 5:00 P.M.



Angela Lewis

The City of Hutto is committed to comply with the Americans Disability Act. The Hutto City Council Chamber is wheelchair accessible. Request for reasonable special accommodations must be made 48 hours prior to the meeting. Please email the City Secretary's office at Angela.Lewis@huttotx.gov or call (512) 759-4839 for assistance.

DRAFT PAVEMENT CONDITION EVALUATION RESULTS HUTTO, TX

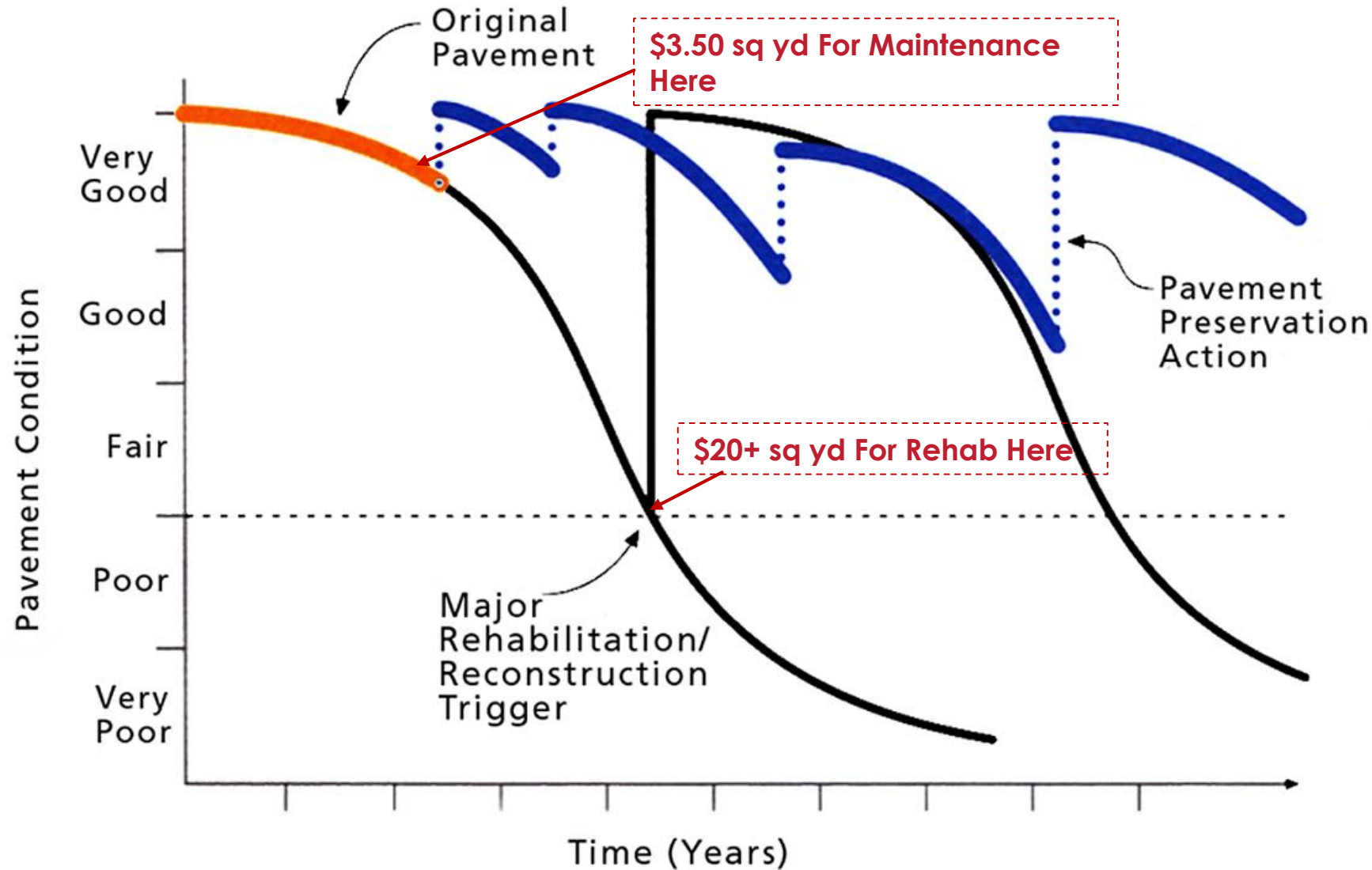


- **Centerline Miles** – City maintains appx. 143 centerline miles of paved roadway
- **Test Miles** – The Roadway Asset Collection van drove 181 test miles for the evaluation. (two directions for arterials and collectors, one direction for local)
- **Lane mile (LM)** – 5,280 ft long x 12 ft wide
- **Pavement condition index (PCI)** – score 0 to 100
- **Preservation** – Light weight and cost-effective treatment to extend design life
- **ASTM D 6433** – National guideline for evaluation of pavements

Terminology

Pavement Condition Index (PCI)	Condition Description
86 – 100	GOOD
71 – 85	SATISFACTORY
56 – 70	FAIR
41 – 55	POOR
26-40	VERY POOR
11-25	SERIOUS
0 – 10	FAILED

Purpose of Pavement Management



Benefits of Active Maintenance

- Extend pavement design life at lowest possible cost
- Reduce the cost of roadway ownership
- Improve the level of service over the roadway's life
- Delay costly rehabilitation for as long as possible

Roadway Asset Collection Van

Ladybug 360° Right-of-Way Camera

- Panoramic 360 degree video
- proven Ladybug camera technology
- 32 mega pixel resolution.
- Integrated with onboard DMI to increase relative accuracy
- Processed every 15 feet
- Utilized for asset extraction.

Global Positioning System (GPS)

NCAT Certified 3-Laser Profiler -Roughness -Rutting

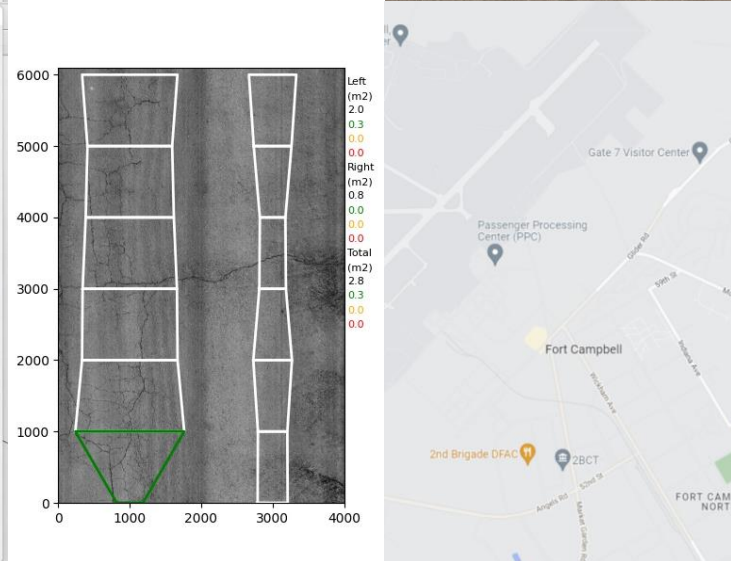
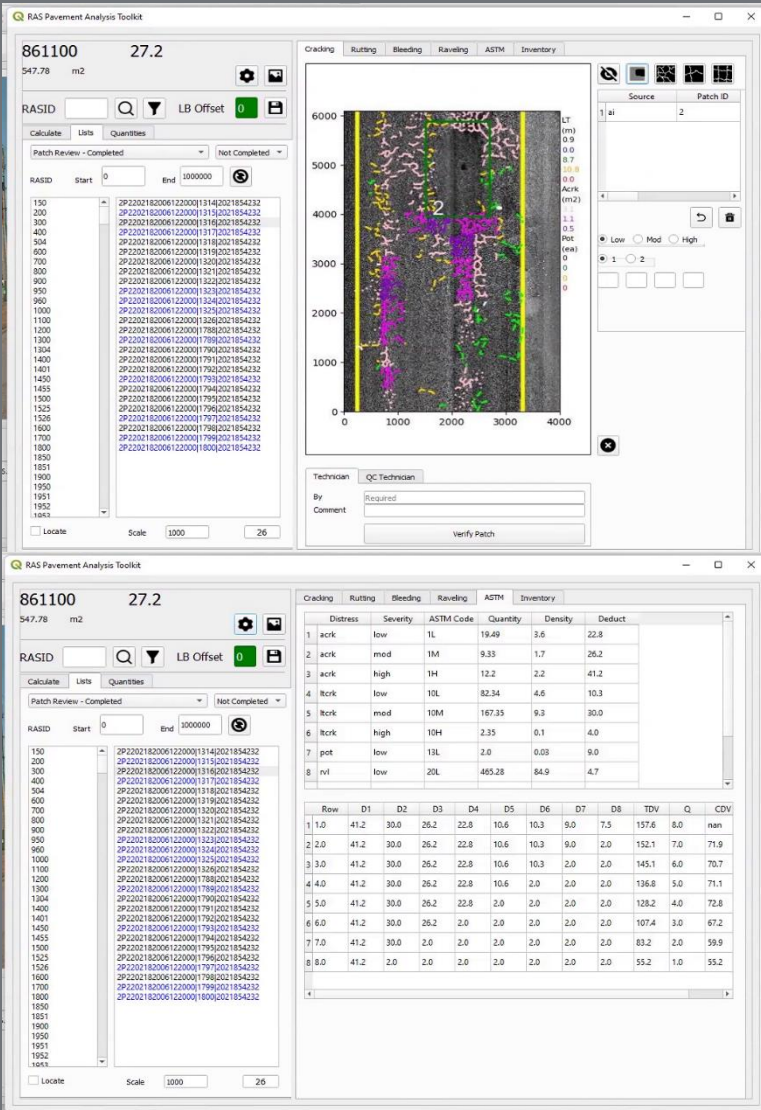
Laser Crack Measuring System (LCMS-2)

- two 1-millimeter resolution line scan cameras.
- 1mm resolution is equivalent to over 4,000 dedicated laser points.
- 32MP HD imagery
- 100% contiguous survey & processing
- Objective ASTM D6433 assessment

Internal Inertial Measuring Unit (IMU) Distance Measuring Instrument (DMI)

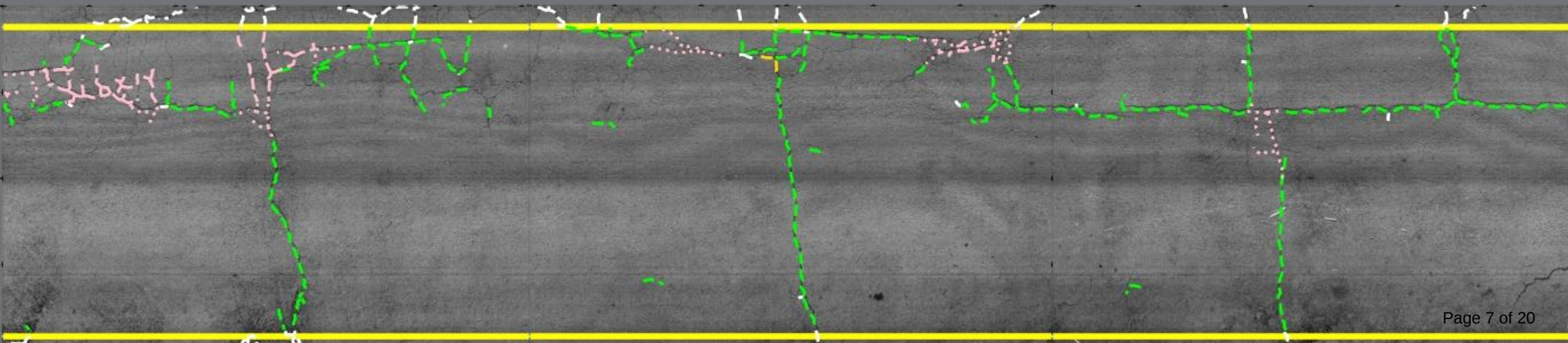
Road TRIP™ – Technical Rating Intelligence Program

- Sensor processing enhanced with AI to detect, classify, and quantify ASTM D6433 distresses
- Detected distresses measured and overlaid on images
- Distresses classified based upon geometry and density algorithm
- GIS coordinates for each distress ties to images for location
- Images available for QC and verification

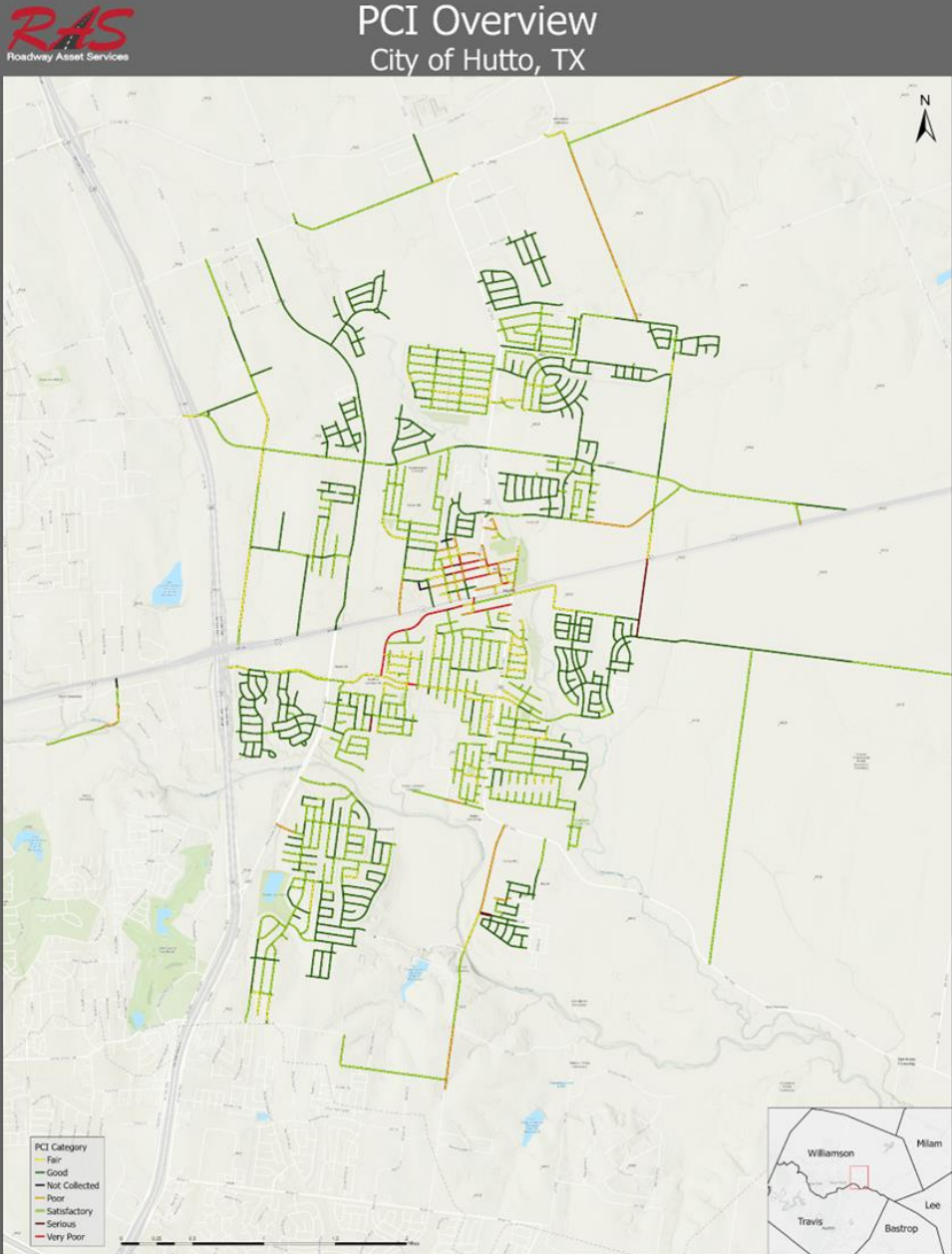


Onsite Pilot Field Review

- Perform field visit with City staff to review pilot data and results
- Select Good / Fair / Poor roads for pilot
 - Perform QC on collected data in the field
- Discuss conditions and expectations with Staff
- Evaluate changes to historical data (if any)



Draft Pavement Condition Results



Pavement Condition Index (PCI) Range	Condition Description	Total Distance (Centerline Miles)	Percent of Network Miles
86 - 100	Good	61.96	43.4%
71 - 85	Satisfactory	59.65	41.8%
56 - 70	Fair	11.72	8.2%
41 - 55	Poor	6.35	4.5%
26 - 40	Very Poor	2.06	1.5%
11 - 25	Serious	0.87	0.6%
0 - 10	Failed	0.00	0.0%
Total of Rated Segments		142.61	100.0%

Pavement Condition Results & Health Metrics



Network Average PCI

The average we see is a 60-65. Less than 1 in 20 score above an 80



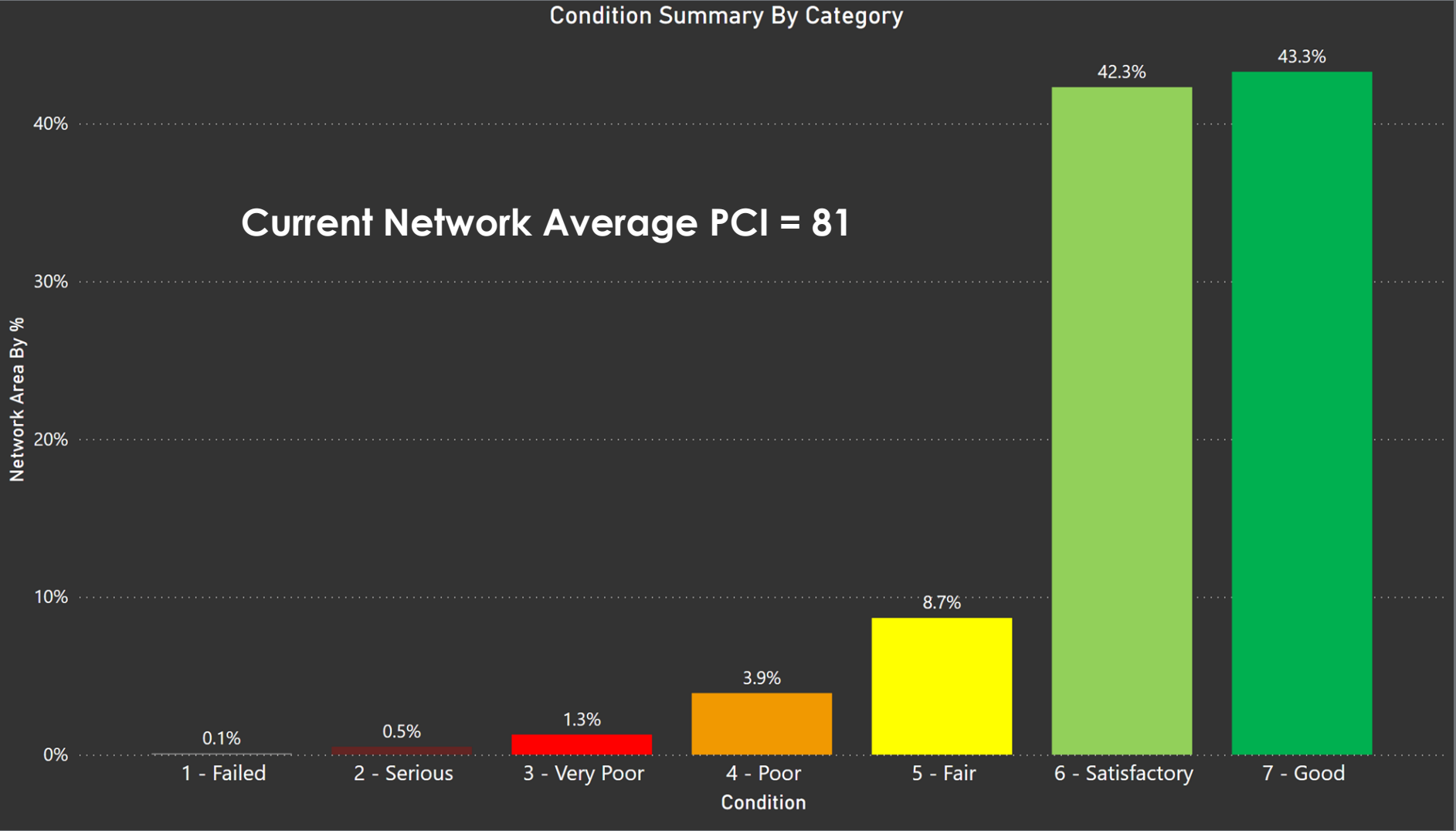
Percent of Good Roads

15% is about the average we see across the nation

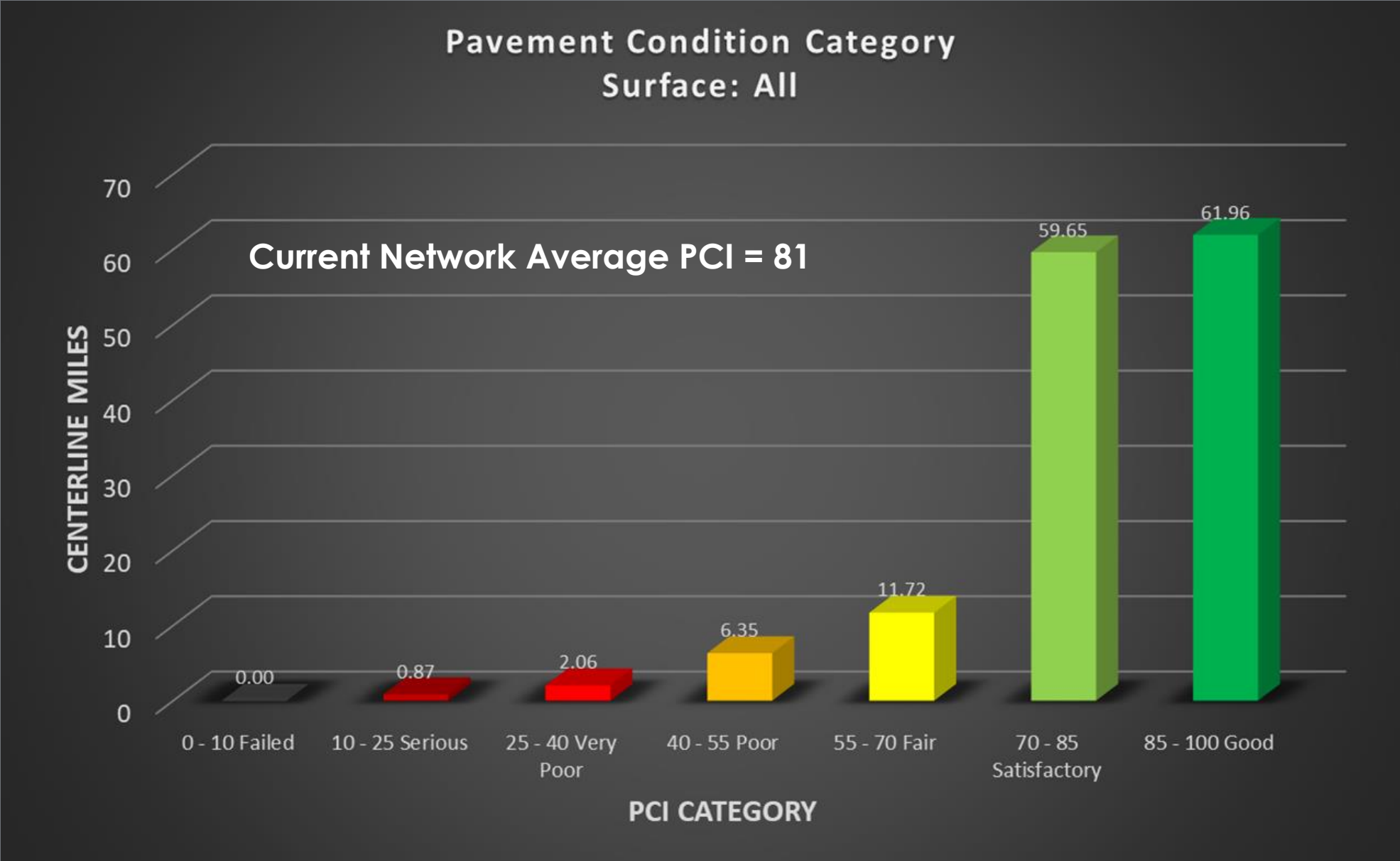


Percent of Backlog

These are the Poor, Serious, & Failed roads. Less than 10% is ideal and 15% is a maximum recommended mark. 20% and greater is difficult to catch up from



Pavement Condition Results & Health Metrics



Maintenance & Rehabilitation Treatment Options



Treatment Type	Activity	Categories	Impact	PCI Range	Cost Per SY
	Do Nothing			95-100	
PRESERVE PREVENT	Crack Seal	PRESERVE - SURFACE SEAL	5 Points	86-94	\$1.00
PRESERVE CORRECT	Surface Preservation	REHAB/CORRECT	10 Points	71-85	\$3.50
PRESERVE CORRECT	Surface Preservation with 2% patching	REHAB/CORRECT	10 Points	71-85	\$4.00
PRESERVE CORRECT	Micro Seal	REHAB/CORRECT	20 Points	61-70	\$5.00
PRESERVE CORRECT	Micro Seal + 5% patching	REHAB/CORRECT	20 Points	61-70	\$7.00
REHABILITATION	Thin Mill & Overlay - Local	MINOR REBUILD	90 Fixed	31-60	\$11.50
REHABILITATION	Thin Overlay/ Patching 10%	MINOR REBUILD	95 Fixed	31-60	\$15.00
REHABILITATION	2" Mill & Overlay- Art/Coll	MINOR REBUILD	90 Fixed	31-60	\$20.00
REHABILITATION	2" Mill & Overlay- Art/Coll/ 10% Patching	MINOR REBUILD	95 Fixed	31-60	\$32.50
RECONSTRUCT	Full Depth Rebuild	MAJOR REBUILD	100 Fixed	0-30	\$80.00

Why This Road And Not That One???

WHAAAAA?!?!?



Let's define selection criteria commonly used:

Prioritization = Order of Priority
Arrange from highest to lowest

Financial Optimization = Maximum Financial Benefit
Arrange from maximum to minimum



Prioritization = Order of Priority
Arrange from highest to lowest



PCI / Condition — Typical uses in prioritization are “Worst First” or “Best First”

Traffic/Classification — Higher volume roadways have higher priority

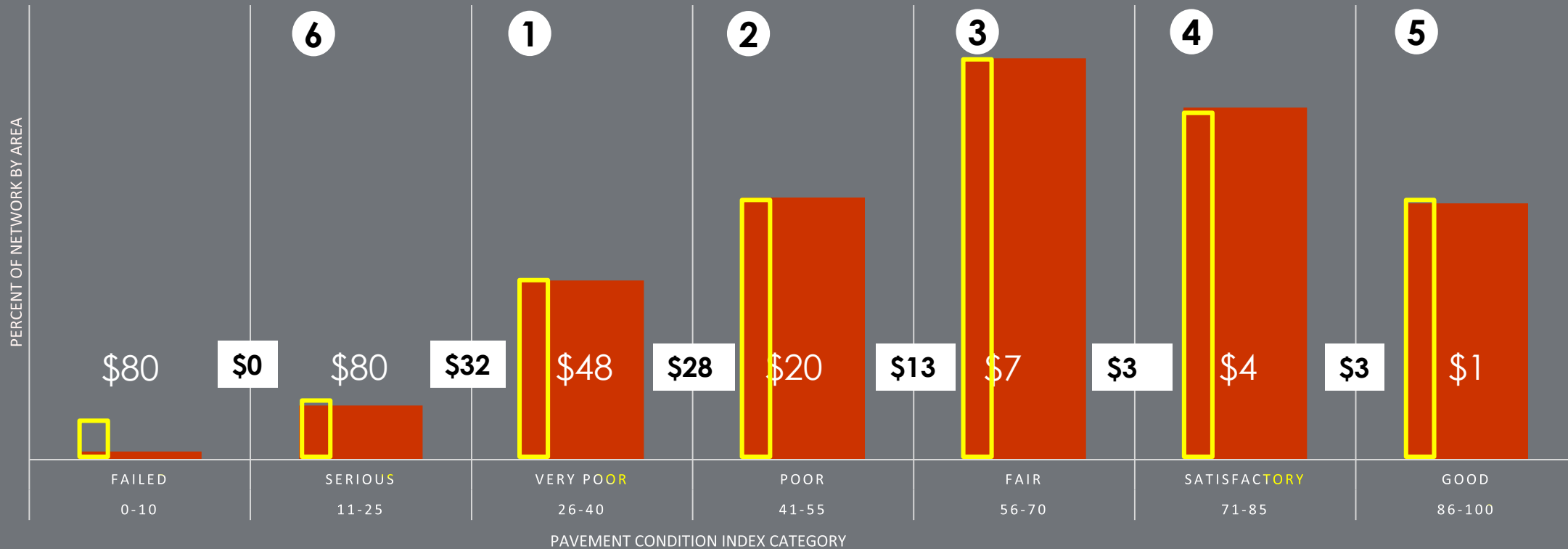
Pavement Type — Asphalt typically a higher priority as it deteriorates more rapidly

Strength — Weak roads have a higher priority than strong roads

CRITICAL — Roads that will drop into a more costly rehabilitation category next year

WHAT IS COST OF DEFERRAL & NEED YEAR PRIORITIZATION LOOKS LIKE...

PCI DISTRIBUTION GRAPH



Cost Of Deferral Explained



PCI = 71
Rehab = Surface Seal
\$5.00 SQYD

Critical roadways in this category (2-4 points from dropping into next rehab activity), represent the 4th highest priority from a financial perspective in our example. This particular road was in the low 70's and critical.



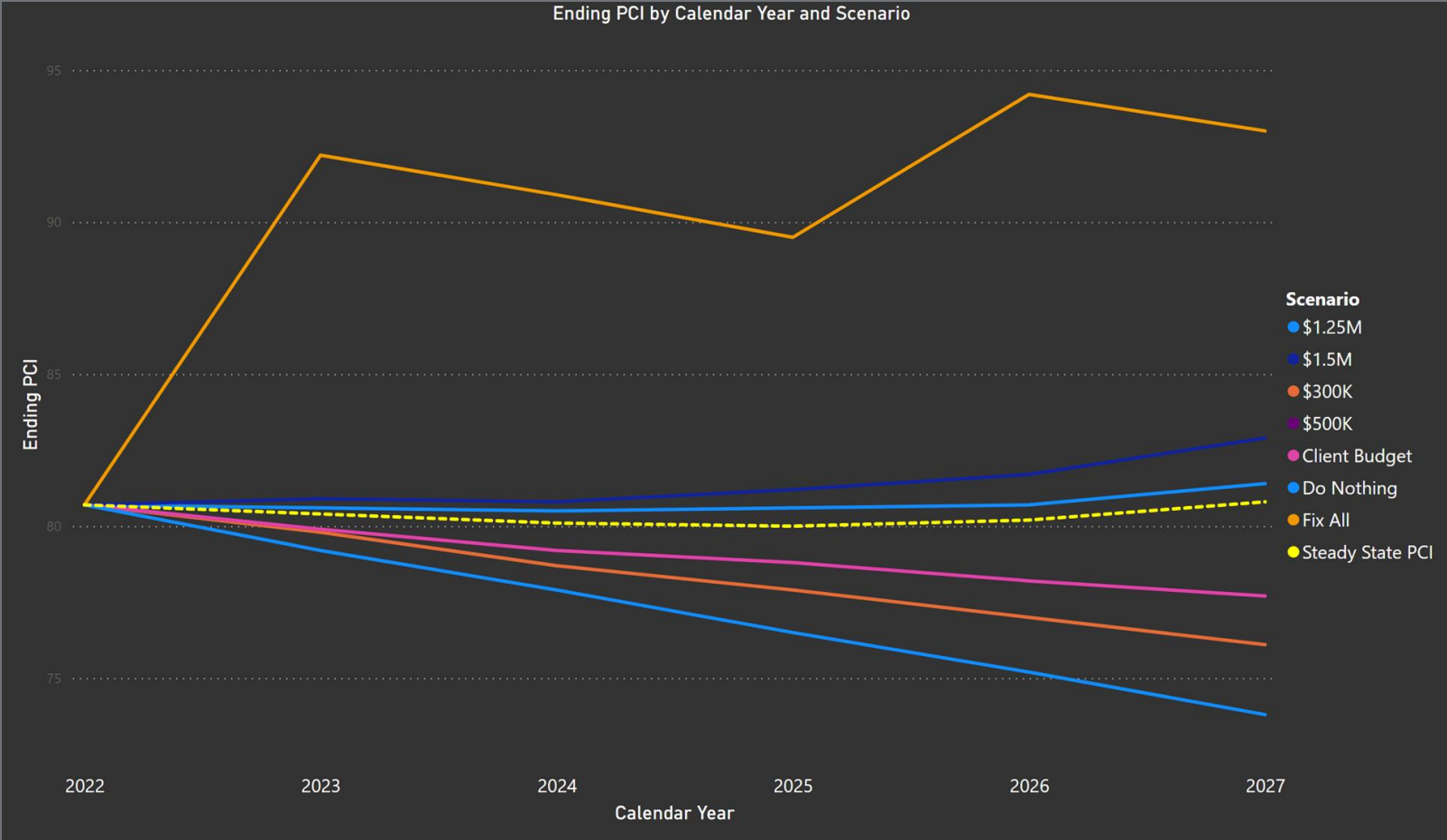
PCI = 48
Rehab = Mill & 2" Overlay
\$26.00 SQYD

Non-critical roadways have more life in their current rehab zone. While currently non-critical, once this road does become critical it will have the 2nd highest priority from a financial perspective.

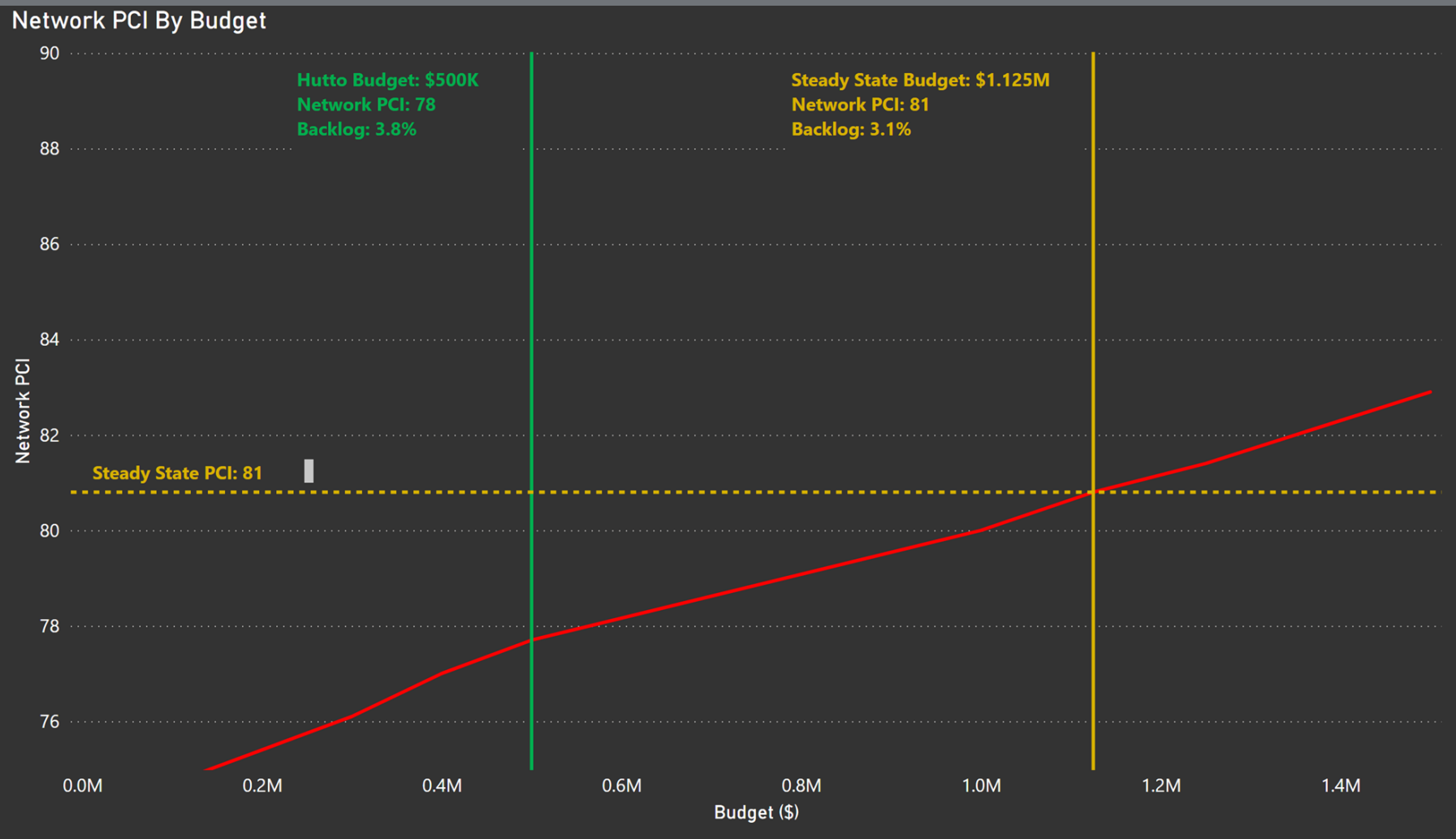
Budget Requirements & Needs

City Budget = \$500k (pavements only)

Scenario	Budget	Calendar Year	Fiscal Year	Ending PCI	Ending Backlog (%)
Client Budget	0	2022	2023	80.70	1.60
Client Budget	500,000	2023	2023	79.90	1.70
Client Budget	500,000	2024	2024	79.20	2.10
Client Budget	500,000	2025	2025	78.80	2.80
Client Budget	500,000	2026	2026	78.20	3.90
Client Budget	500,000	2027	2027	77.70	3.80
Total	2,500,000				



Budget Requirements & Needs...

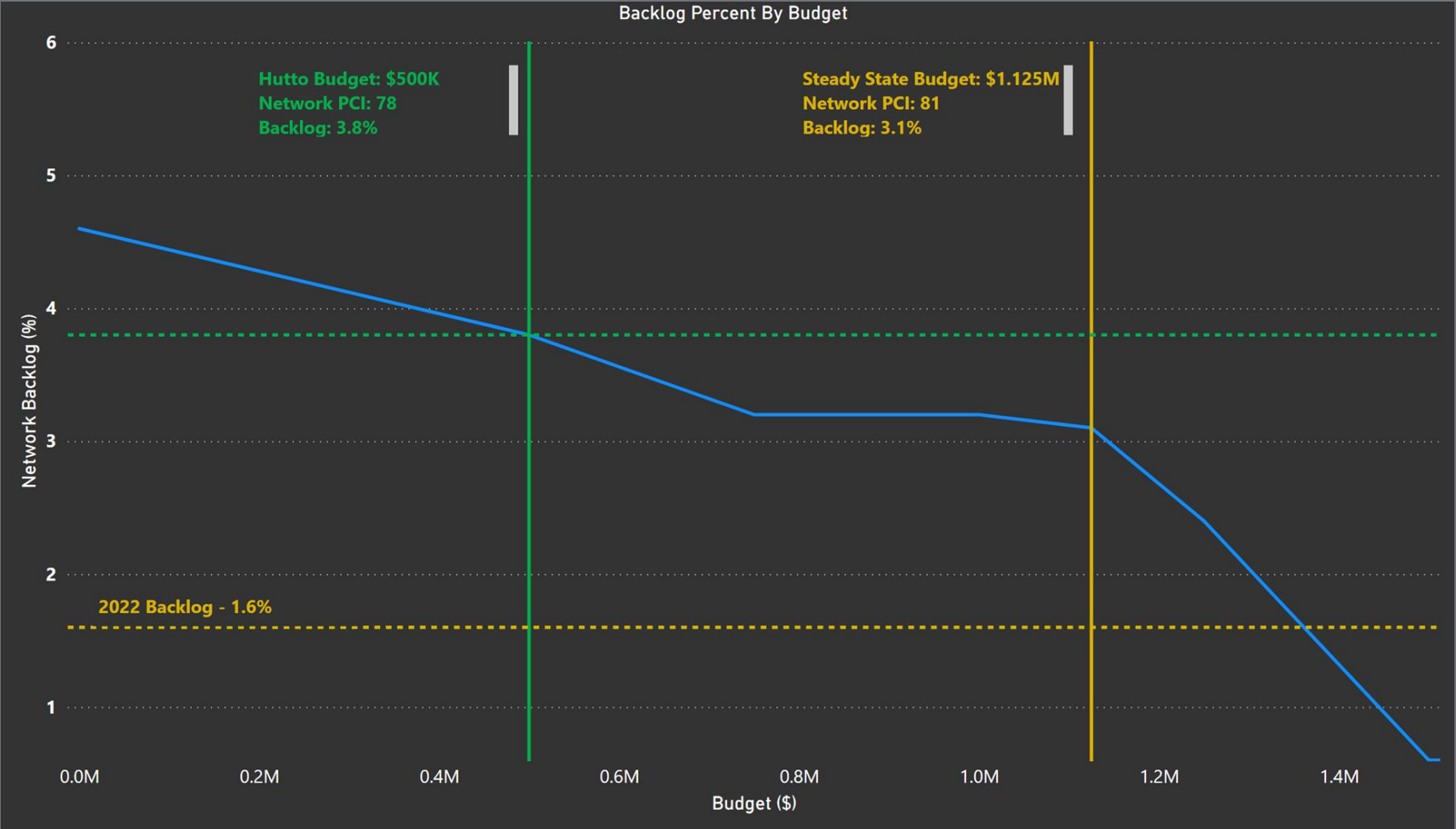


Pavements Only

\$500K is for pavements only and does not include:

- Curb and Gutter repairs
- Safety alignments
- Additional width
- Signage, striping, etc.

Budget Requirements & Needs...



Backlog Needs

\$500K Budget:

- Sections requiring Reconstruction grows from 1.6% of network to 3.8% of network
- Steady State Budget results in growth of Reconstruction to 3.1% of network
- Close to \$1.4M Budget is required to limit the growth of Reconstruction miles

Budget Scenario Activity

A financially optimized 5-year maintenance and rehabilitation plan was developed for FY23 through FY27

SCENARIO

CALENDAR YEAR

RASID

Client Budget

2025

1

2174

RASID	Mgt Section	Calendar Year	On Street	From Street	To Street	Length (ft)	Width (ft)	Segment Area (yd2)	Mgt Section Area (yd2)	Pavement Type	Classification
1183	4660	2025	JIM CAGE LN			200	30	667	667	Asphalt	LOCAL
116	1880	2025	INNOVATION BLVD			1,358	38	5,735	16,182	Asphalt	MINOR ARTER
522	1880	2025	INNOVATION BLVD			751	44	3,671	16,182	Asphalt	MINOR ARTER
825	1880	2025	INNOVATION BLVD			623	39	2,699	16,182	Asphalt	MINOR ARTER
1046	1880	2025	INNOVATION BLVD			61	48	323	16,182	Asphalt	MINOR ARTER
1249	1880	2025	CONNECTOR TO INNOVATION BLVD			32	50	176	16,182	Asphalt	MINOR ARTER
1332	1880	2025	INNOVATION BLVD			848	38	3,578	16,182	Asphalt	MINOR ARTER
1515	3260	2025	LIMMER LOOP			181	40	803	4,941	Asphalt	MINOR COLLEC
1546	2060	2025	CR 123			128	22	314	9,272	Asphalt	MINOR COLLEC
1568	2060	2025	CR 123			311	19	656	9,272	Asphalt	MINOR COLLEC
1686	3260	2025	LIMMER LOOP			584	40	2,595	4,941	Asphalt	MINOR COLLEC
1785	2060	2025	CR 123			366	20	813	9,272	Asphalt	MINOR COLLEC
1801	3260	2025	CONNECTOR TO LIMMER LOOP			176	30	585	4,941	Asphalt	MINOR COLLEC
1816	2060	2025	CR 123			350	22	854	9,272	Asphalt	MINOR COLLEC
1947	3260	2025	LIMMER LOOP			98	88	959	4,941	Asphalt	MINOR COLLEC
1974	2060	2025	CR 123			488	19	1,031	9,272	Asphalt	MINOR COLLEC
2066	2060	2025	CR 123			588	20	1,307	9,272	Asphalt	MINOR COLLEC
2120	2060	2025	CR 123			2,149	18	4,297	9,272	Asphalt	MINOR COLLEC
772	5620	2025	MARJORIE DR			347	28	1,079	3,654	Asphalt	LOCAL
1430	5620	2025	ESTATE CV			828	28	2,575	3,654	Asphalt	LOCAL
180	5240	2025	ROSS ST			205	24	548	2,872	Asphalt	LOCAL
181	5240	2025	REDBUD			306	24	816	2,872	Asphalt	LOCAL
314	5240	2025	TAYLOR ST			249	22	608	2,872	Asphalt	LOCAL
339	3180	2025	CARL STERN DR			340	57	2,154	12,019	Asphalt	LOCAL
671	3180	2025	CARL STERN DR			555	40	2,469	12,019	Asphalt	LOCAL
693	5640	2025	S PAULEY DR			200	36	802	4,468	Asphalt	LOCAL
Total						754,006	29	2,371,037			

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Next Steps and Questions

