

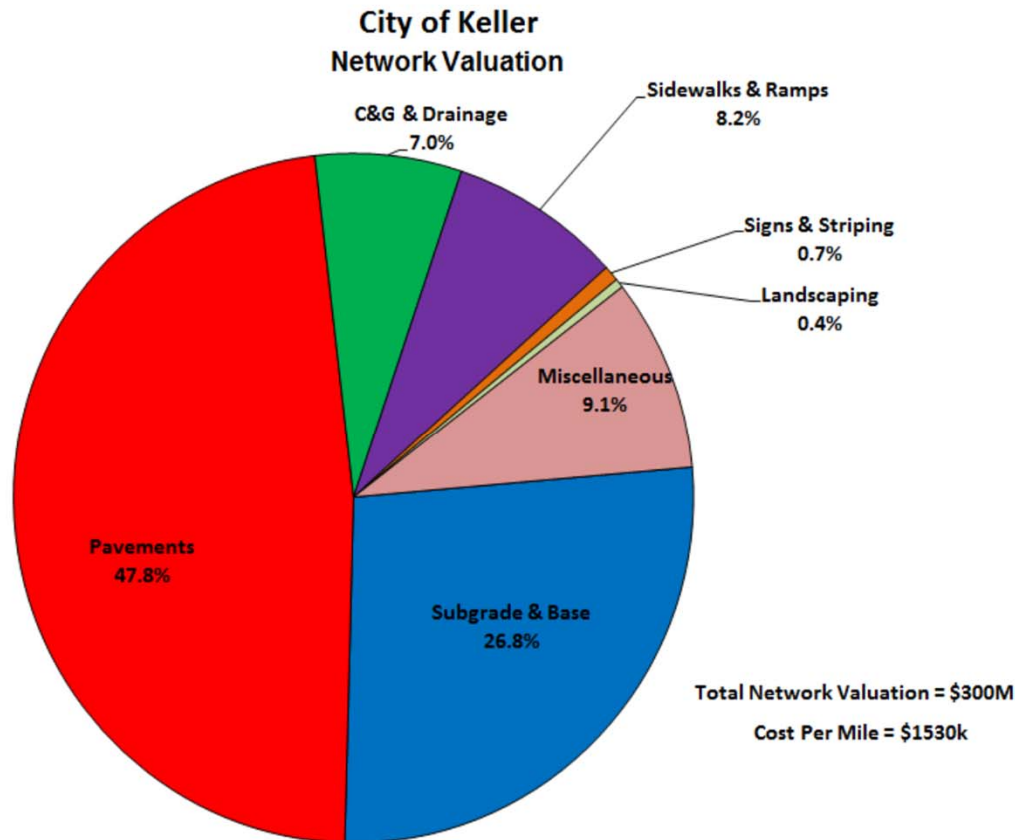
# Citywide Street Condition Inventory Results and 5 Yr. Road Maintenance Priorities



**Alonzo Liñán, PE, PTOE**  
**Director of Public Works**  
**April 6, 2021**

# 2015 Network Valuation

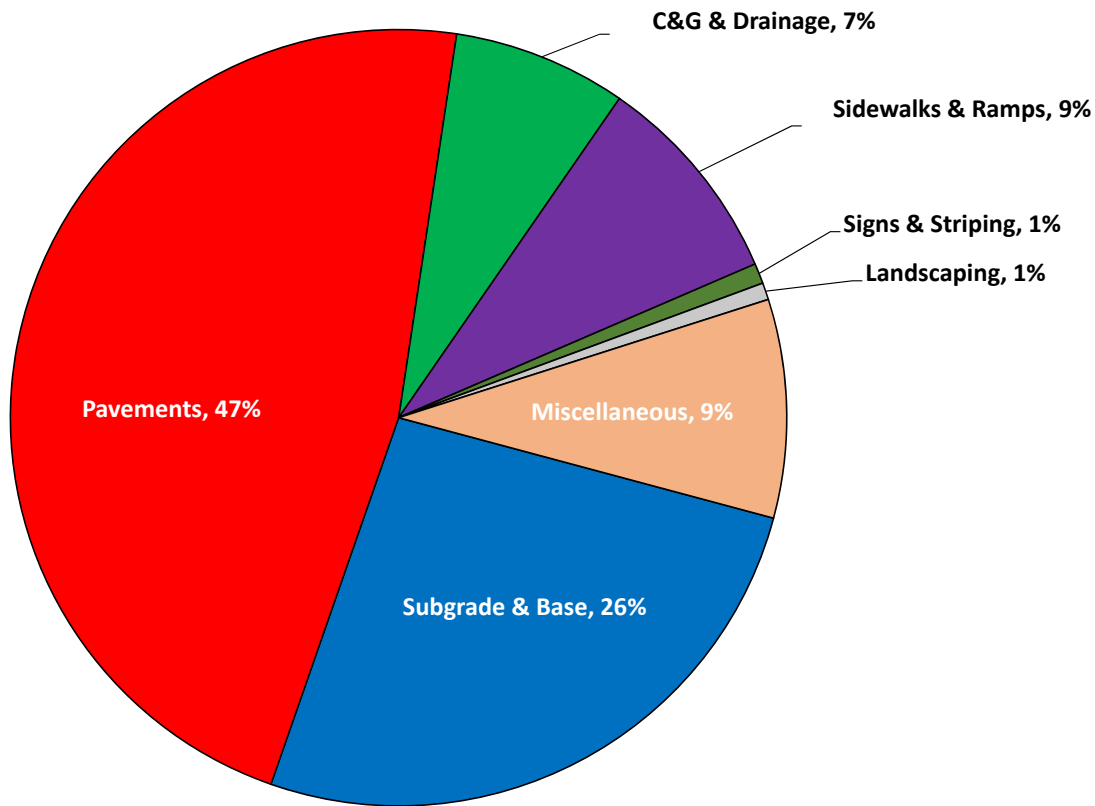
196.7 miles of roadways  
~\$301M in paved network



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# 2020 Network Valuation

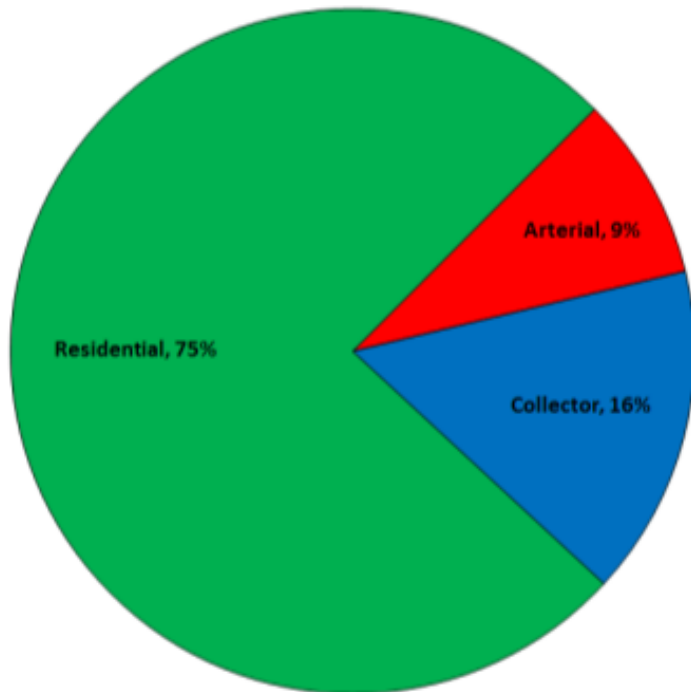
Network Valuation



201.5 miles of roadways  
~ \$340M in paved network

# Functional Classification of Roads

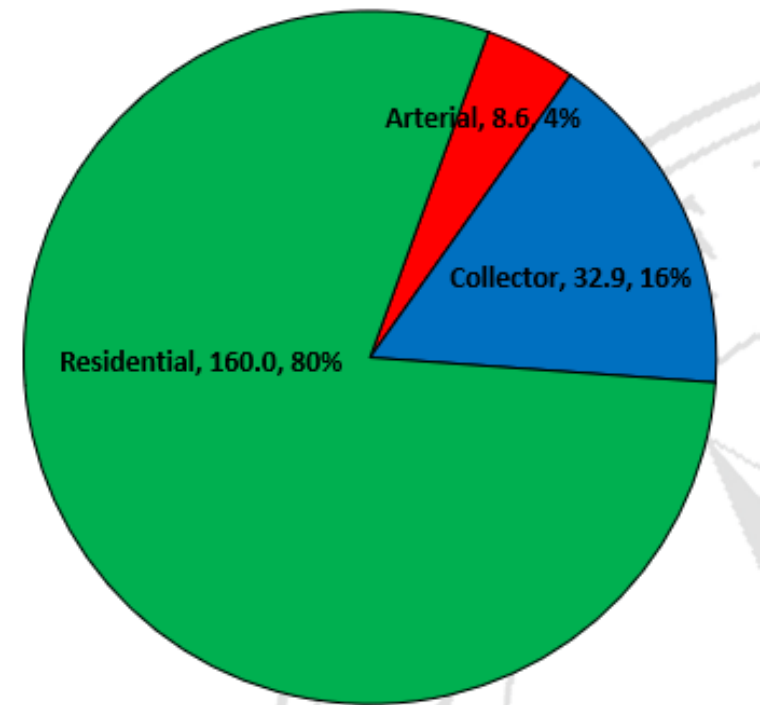
2015



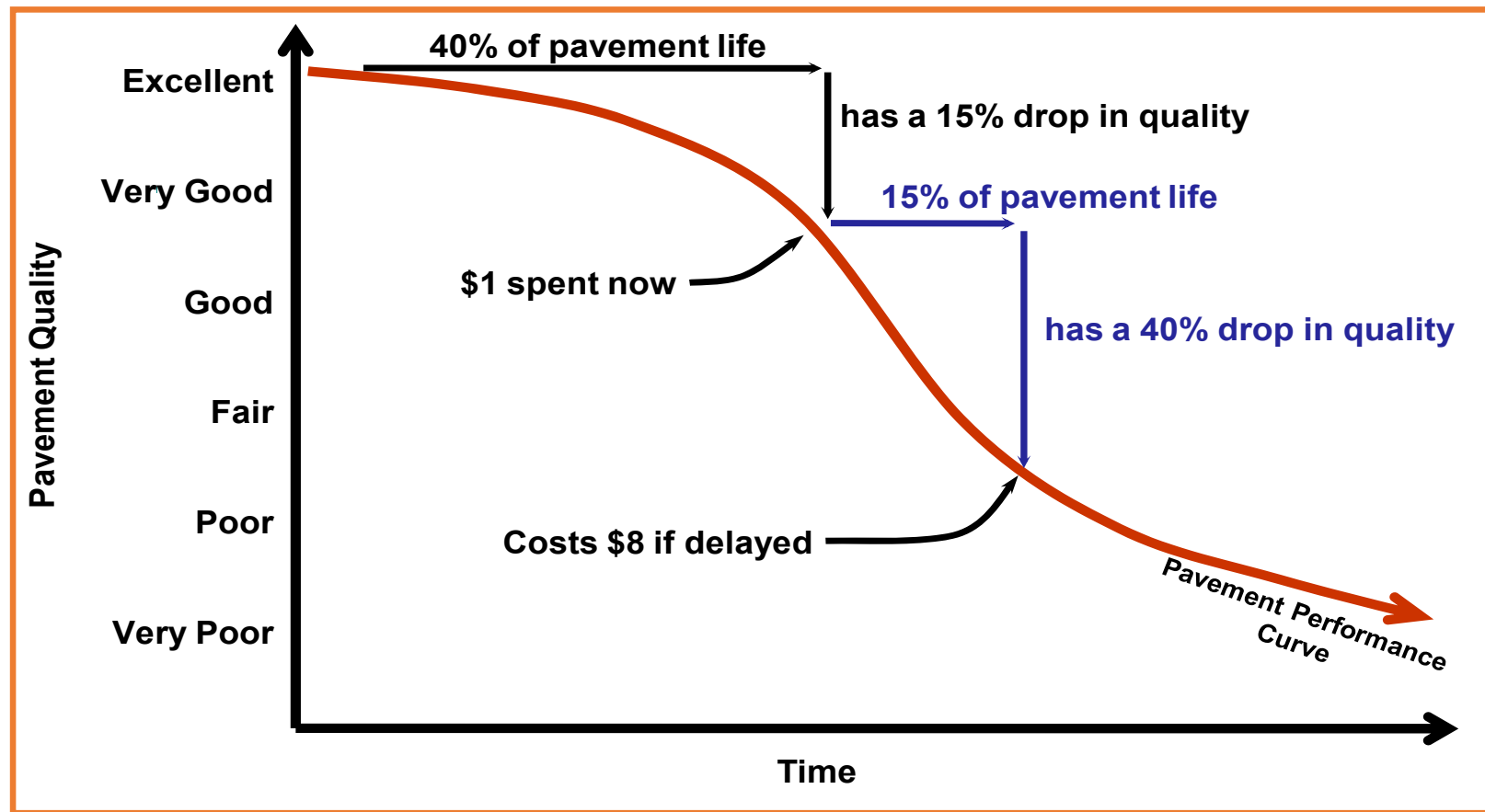
% of Network	2015	2020
Arterial	4%	4%
Collector	17%	16%
Residential	79%	80%
	100%	100%

Lane Miles	2015	2020
Arterial	8.5	8.6
Collector	32.7	32.9
Residential	155.6	160.0
	196.7	201.5

2020

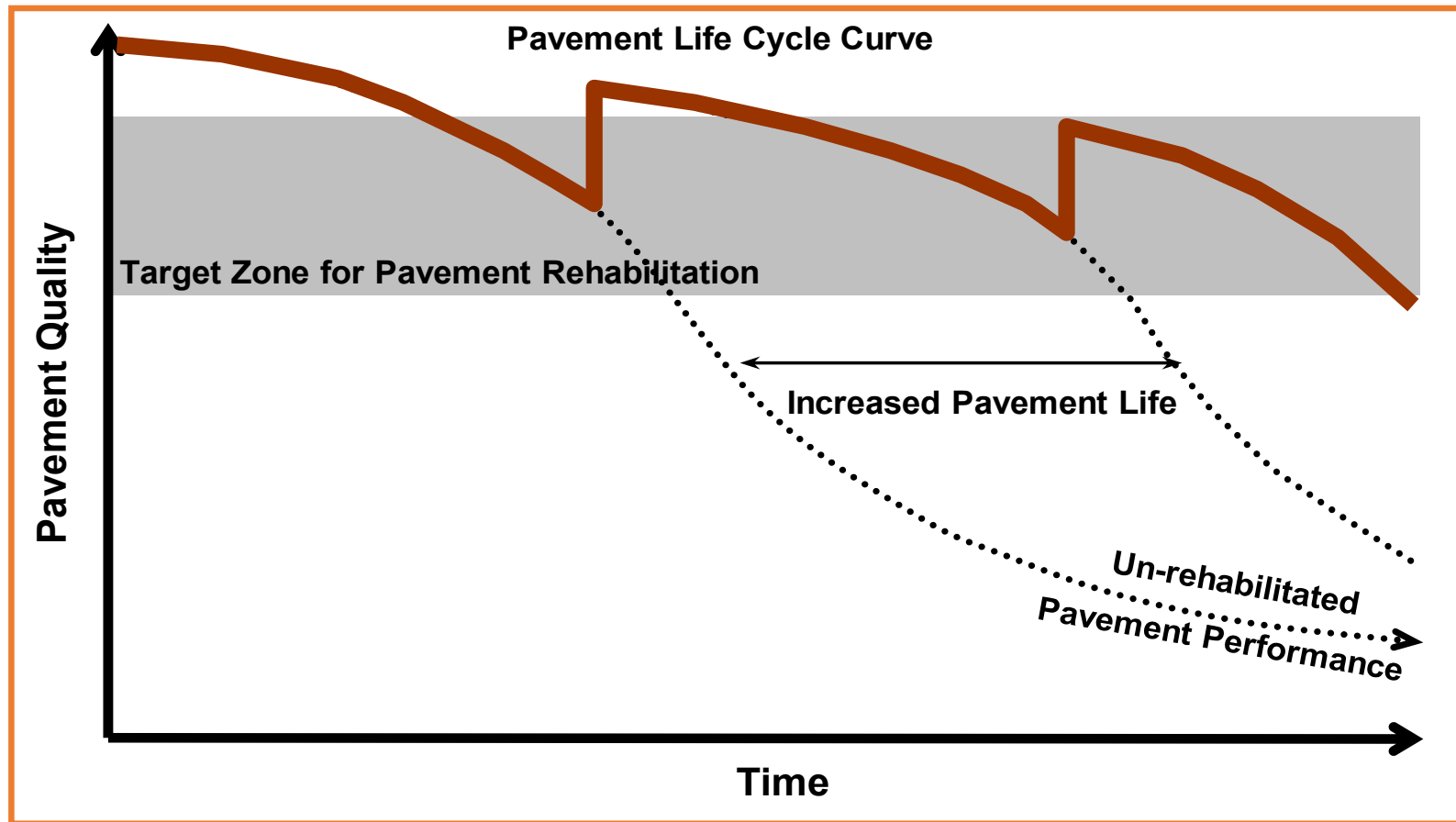


# Why do Pavement Management?



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# Why do Pavement Management?

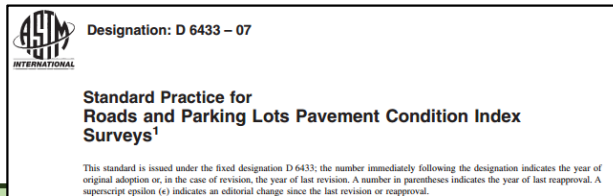


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# Pavement Management System



# Pavement Condition Data Collection



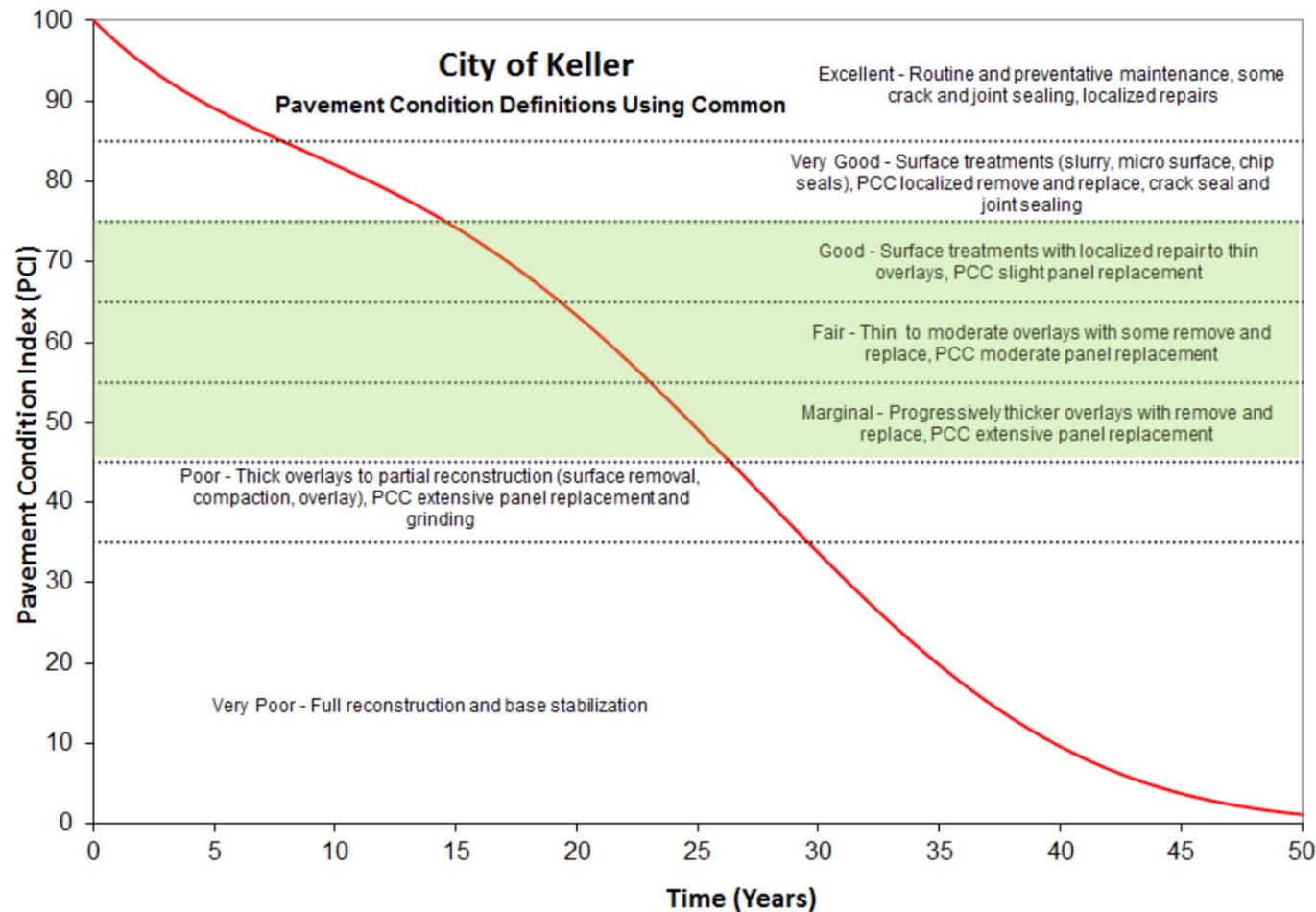
**Roughness**  
**Raveling**  
**Scaling / Spalling**  
**Bleeding / Exposed Aggregate**  
**Joint Spalling / Sealant Damage**  
**Divided / Shattered Slab**  
**Corner Breaks / D Cracking**  
**Edge Cracking**  
**Fatigue / Alligator Cracking**  
**Wheel Path Rutting**  
**Distortions / Weathering**  
**Patching / Potholes**  
**Longitudinal / Transverse Cracking**  
**Structural Testing**



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# Pavement Rehabilitation Target Zone Techniques



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## Very Poor (0 – 35) & Poor (35-45)

Very Poor (PCI = 0 to 35) – Complete Reconstruction

**Extensive base failures**  
As evidenced by severe cracking,  
wheel ruts and patching,  
Marginal drainage



Bates Street

**Past the point of an overlay,**  
Delay in reconstruction will not  
increase costs, Work driven by  
complaints & safety or other

3143, PCI = 33) – Rate

**Localized base failures**  
Rutting at intersections  
Extensive cracking  
Extensive patching



**Thick overlay or mill and OL,**  
Extensive joint, panel  
replacement, and grinding on  
PCC roads

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# Marginal (45 – 55), Fair (55-65) & Good (65-75)

Marginal (PCI = 45 to 55) – Progressively Thicker Overlays

**Some Localized, Moderate Distresses**  
**Progressive cracking**  
**Few Base Failures**



**Few Localized, Moderate Distresses**  
**Non-Load Related**

**Crack Seal and Heavy Surface Treatment Candidate**  
**Occasional Dig Out & Replace**

**Thin to Moderate Overlays**  
**Joint Rehab and Panel Replacement for PCC**

Good (PCI = 65 to 75) – Surface Treat.



**Crack Seal and Heavy Surface Candidate**  
**Occasional Dig Out & Replace**

**Close to New Condition**  
**Small Visual Distresses**  
**Smooth Ride, Strong Base**

Fair (PCI = 55 to 65) – Thin to Moderate Overlays



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## Very Good (75 – 85) & Excellent (85 – 100)

Very Good (PCI = 75 to 85) – Surface Treatments and Localized Rehabilitation

**Close to New Condition**  
**Minor Cracking & Distresses**  
**Smooth Ride, Strong Base**



**Good Candidate for Preventative**  
**Maintenance and Light-Weight**  
**Surface Treatments**

**Like-New Condition**  
**Very Few Minor Distresses**  
**Smooth Ride, Good Drainage**

**Should Provide 5-10 years**  
**Prior to First Rehabilitation**  
**with Routine Maintenance**



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# City of KELLER

2005

Final Report

**City of Keller**

Pavement Management Analysis Report

December, 2005

City of Keller, Public Works  
1110 Bear Creek Parkway, Keller, TX, 76244  
Attention: Ed

68

2010

Final Report

**City of Keller**

2011 Pavement Management Analysis Report

July, 2011

City of Keller, Public Works  
1110 Bear Creek Parkway, Keller, TX, 76244  
Attention: Gregory W. Dickens P.E. (817) 741-4000

76



2015

**City of Keller, TX**

Pavement Management Analysis Report

February 2017

City of Keller  
Attn.: Alonzo Linan, P.E., Director of Public Works  
1100 Bear Creek Parkway  
K

77

2020

**Keller, TX**

Pavement Management Analysis Report

February, 2021

City of Keller, Texas  
Attn.: Alonzo Linan, Director of Public Works  
1100 Bear Creek Parkway P.O. Box 770  
City of Keller, TX 76248

74



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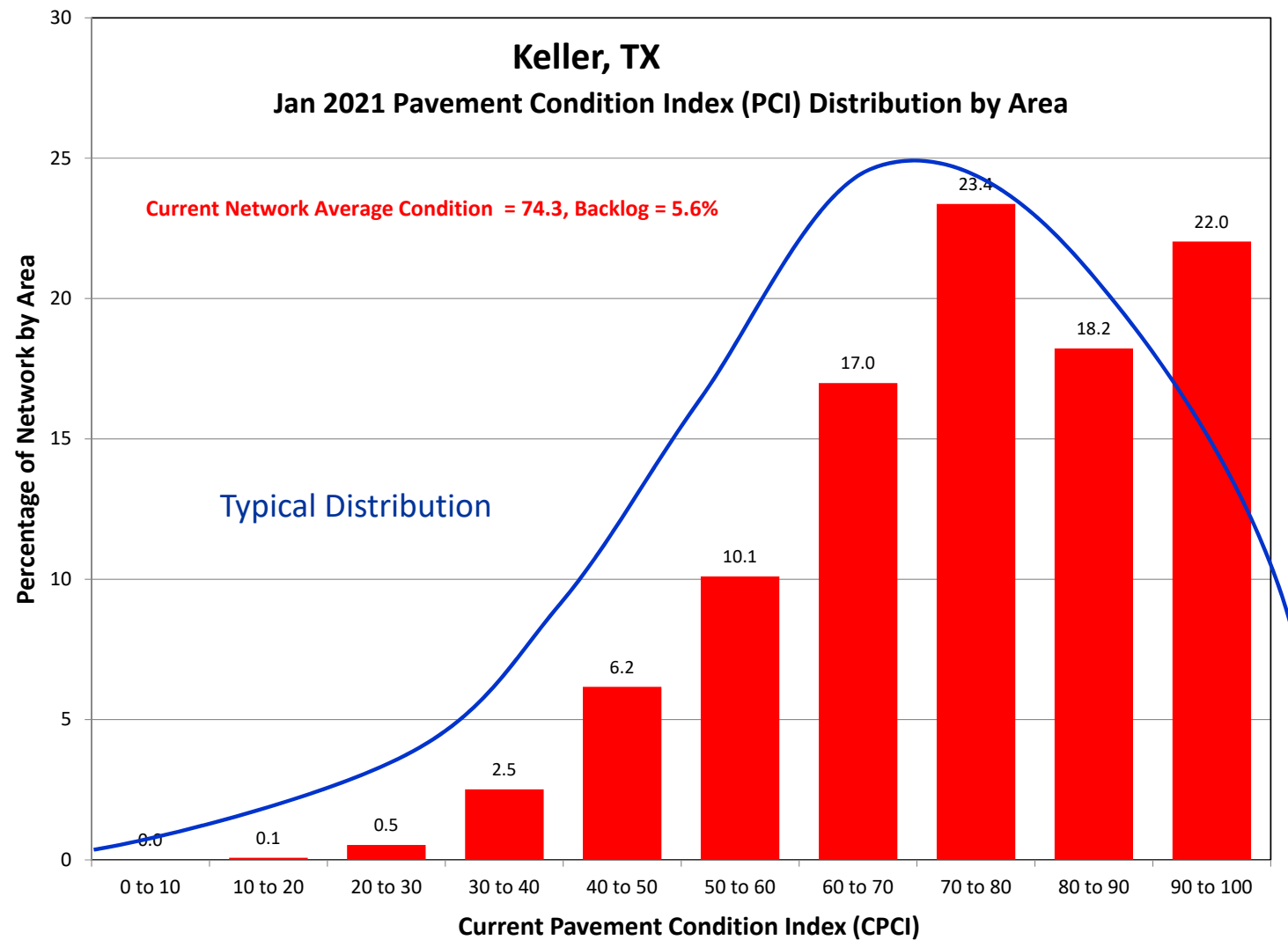
## Keller, TX

### Network Summary by Functional Class

	Pavetype	Network	Arterial	Collector	Residential
Segment (Block) Count	All Streets	2247	71	314	1862
	Asphalt	893	2	240	651
	Concrete	1354	69	74	1211
Network Area (yd2)	All Streets	3,444,512	247,588	539,421	2,657,504
	Asphalt	1,378,834	9,683	370,801	998,349
	Concrete	2,065,678	237,904	168,620	1,659,154
Pavement Condition Index (PCI)	All Streets	75.1*	84	74	75
	Asphalt	64	70	68	62
	Concrete	83	84	85	82

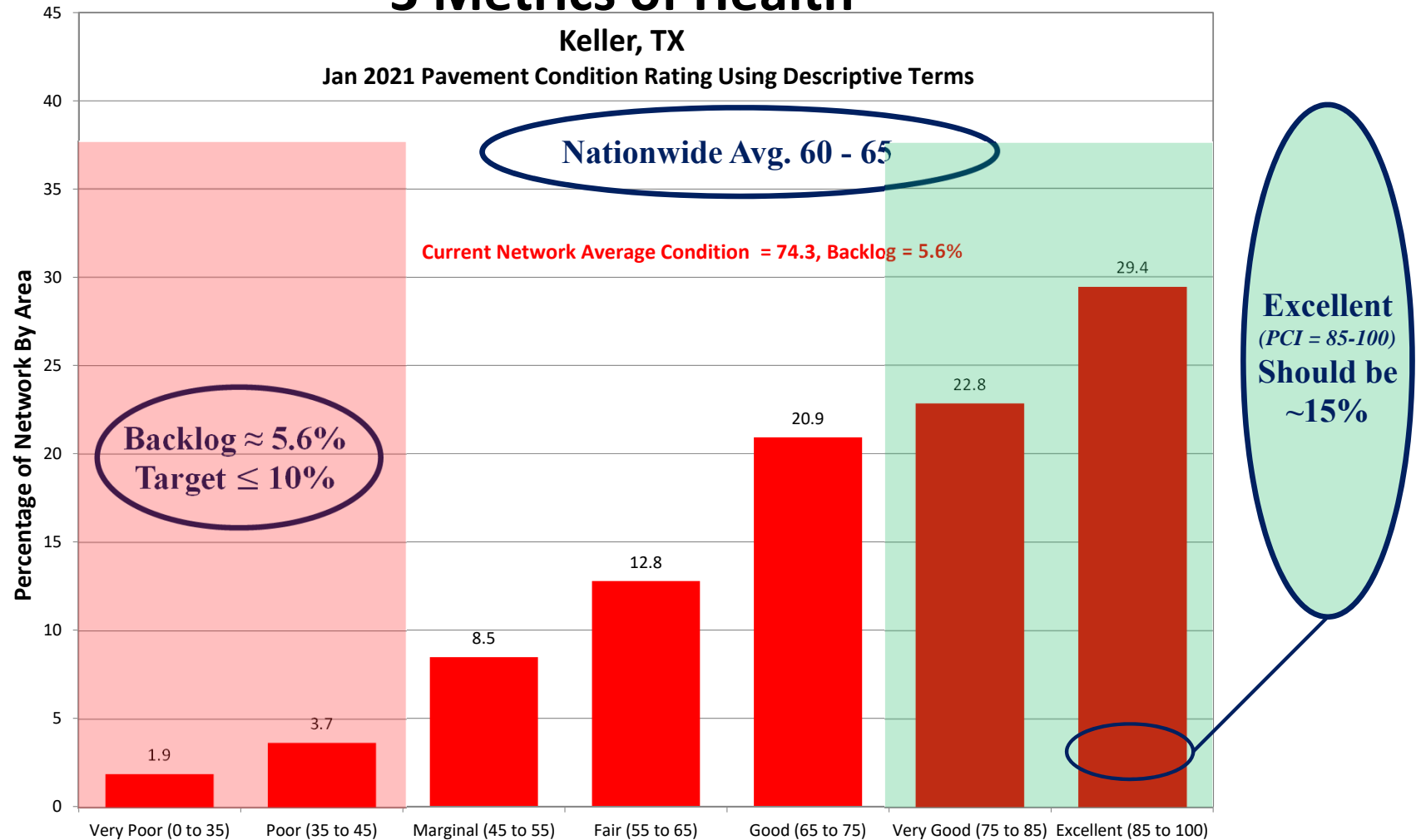
\* - Summer of 2020 Rating

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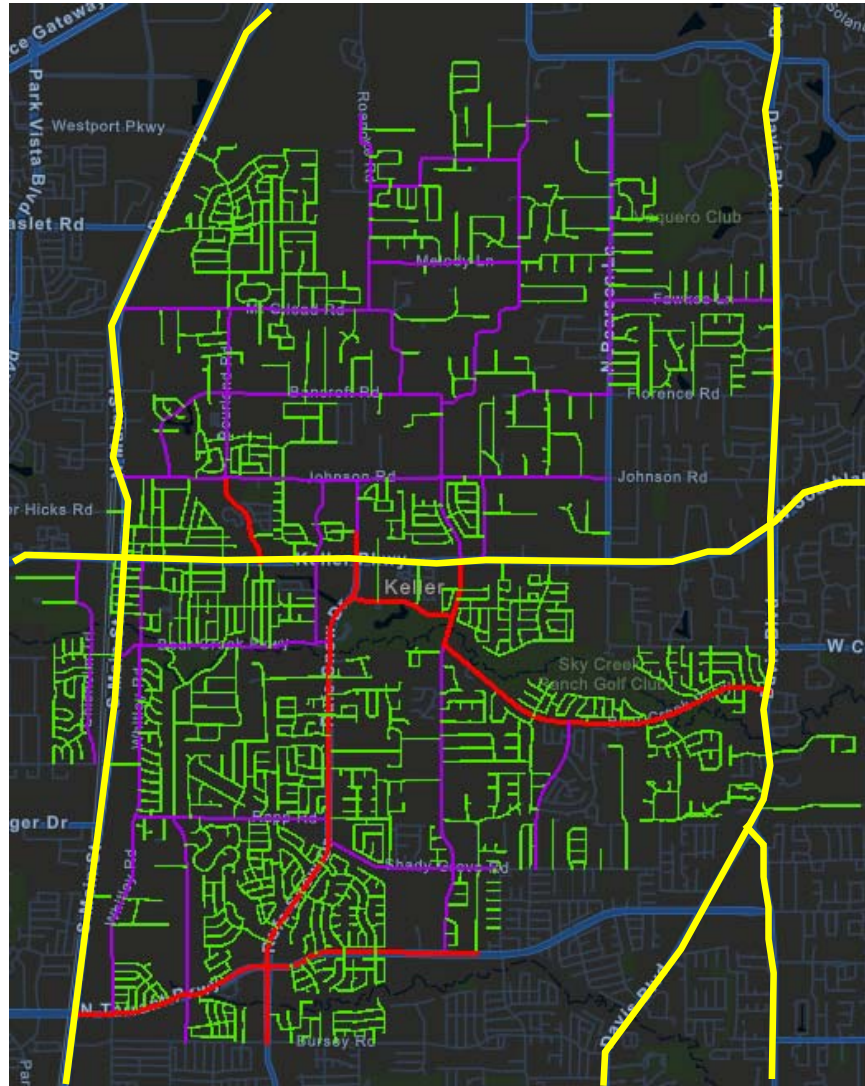
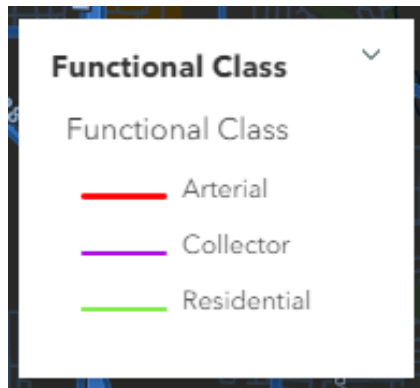
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# 3 Metrics of Health



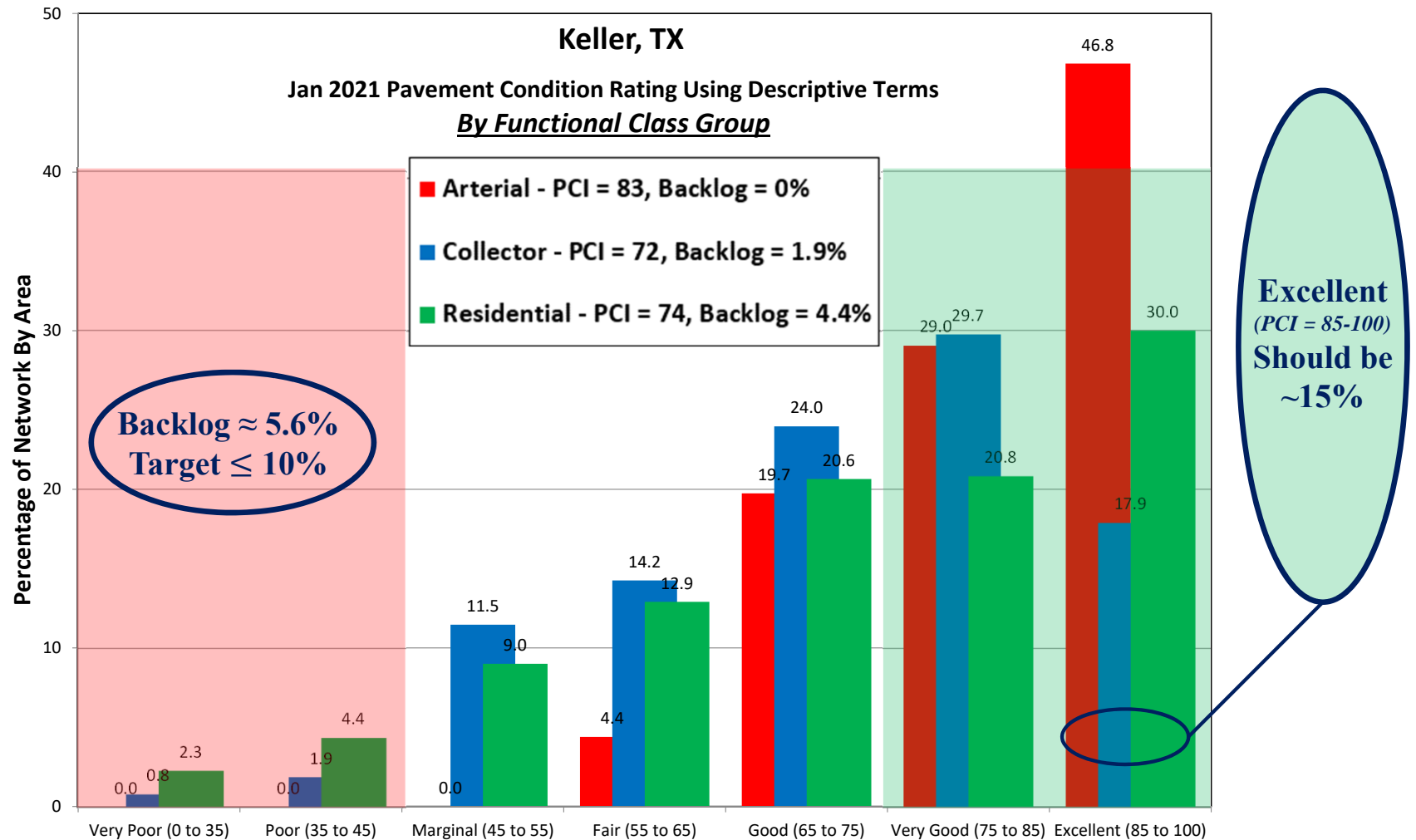
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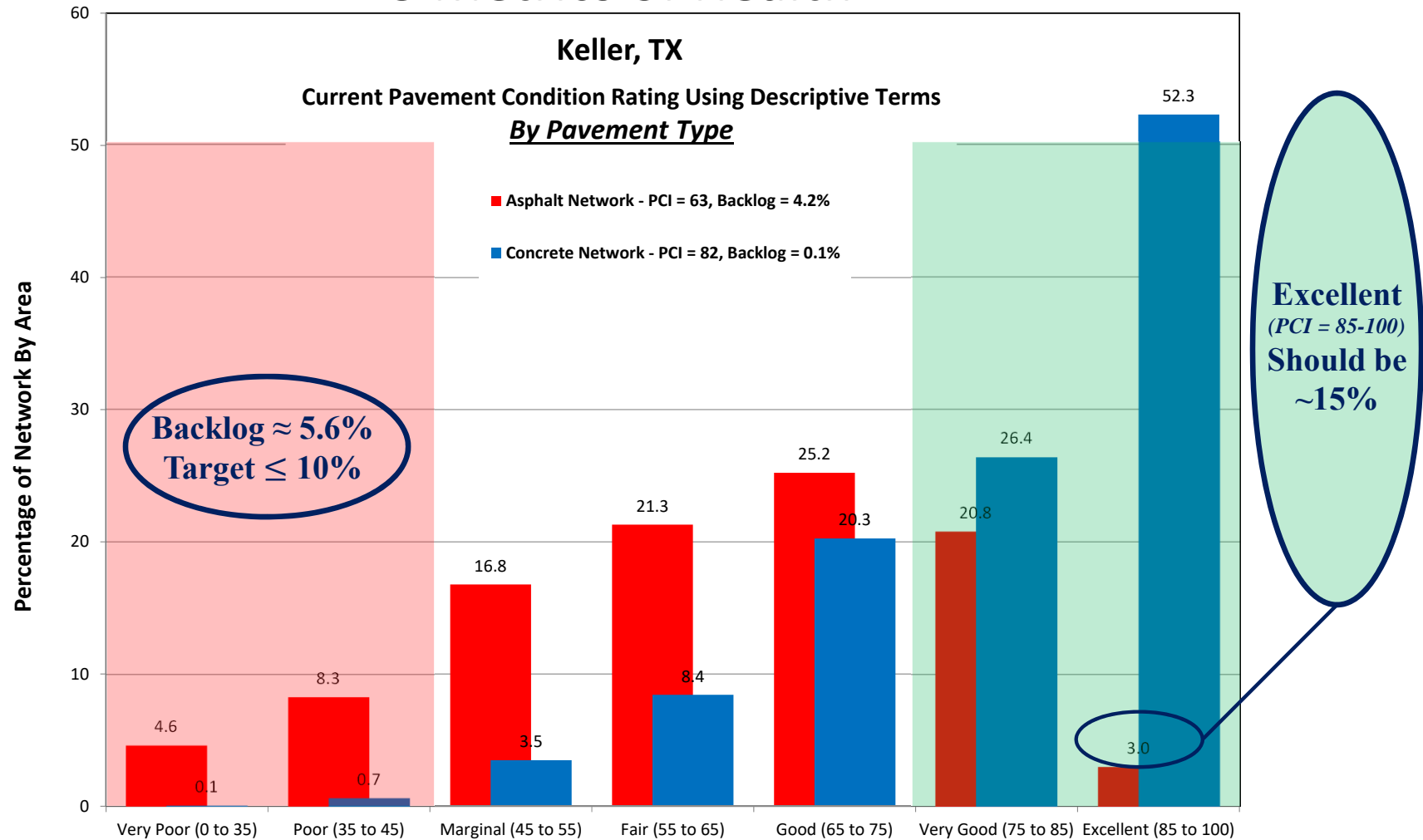
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# 3 Metrics of Health



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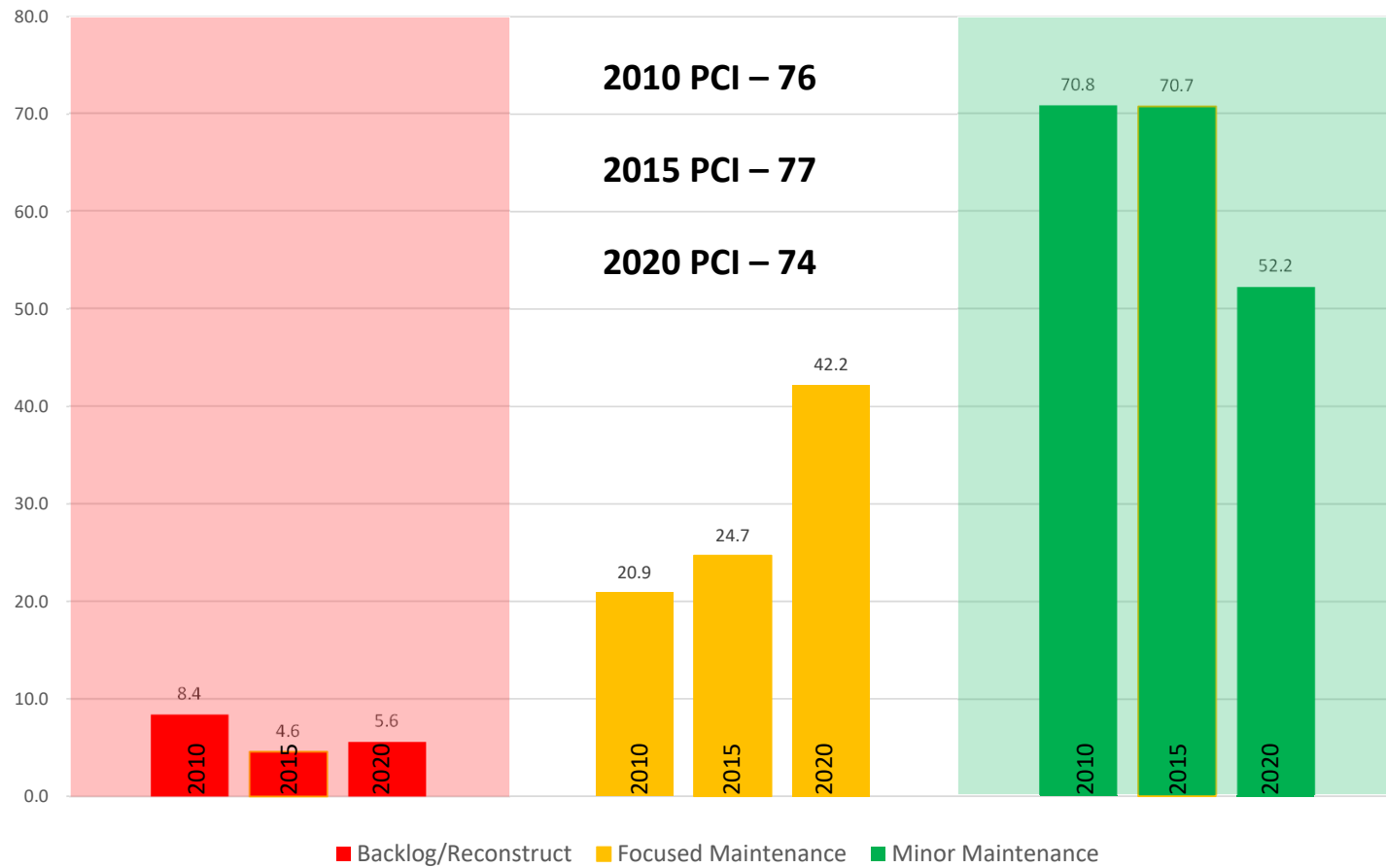
# 3 Metrics of Health



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# Historical Trend

## By Maintenance Category



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## Next Steps

- Staff will use this data to develop upcoming street maintenance packages and capital improvement recommendations
- Annual maintenance packages will continue to be evaluated by City Council during each year's budget process, and again at the bidding stage



**Questions?**  
**Alonzo Liñán**  
**817-743-4081**

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