

TulStat

Streets & Stormwater and Engineering

Well-Being
Opportunity
The City Experience

June 23, 2017



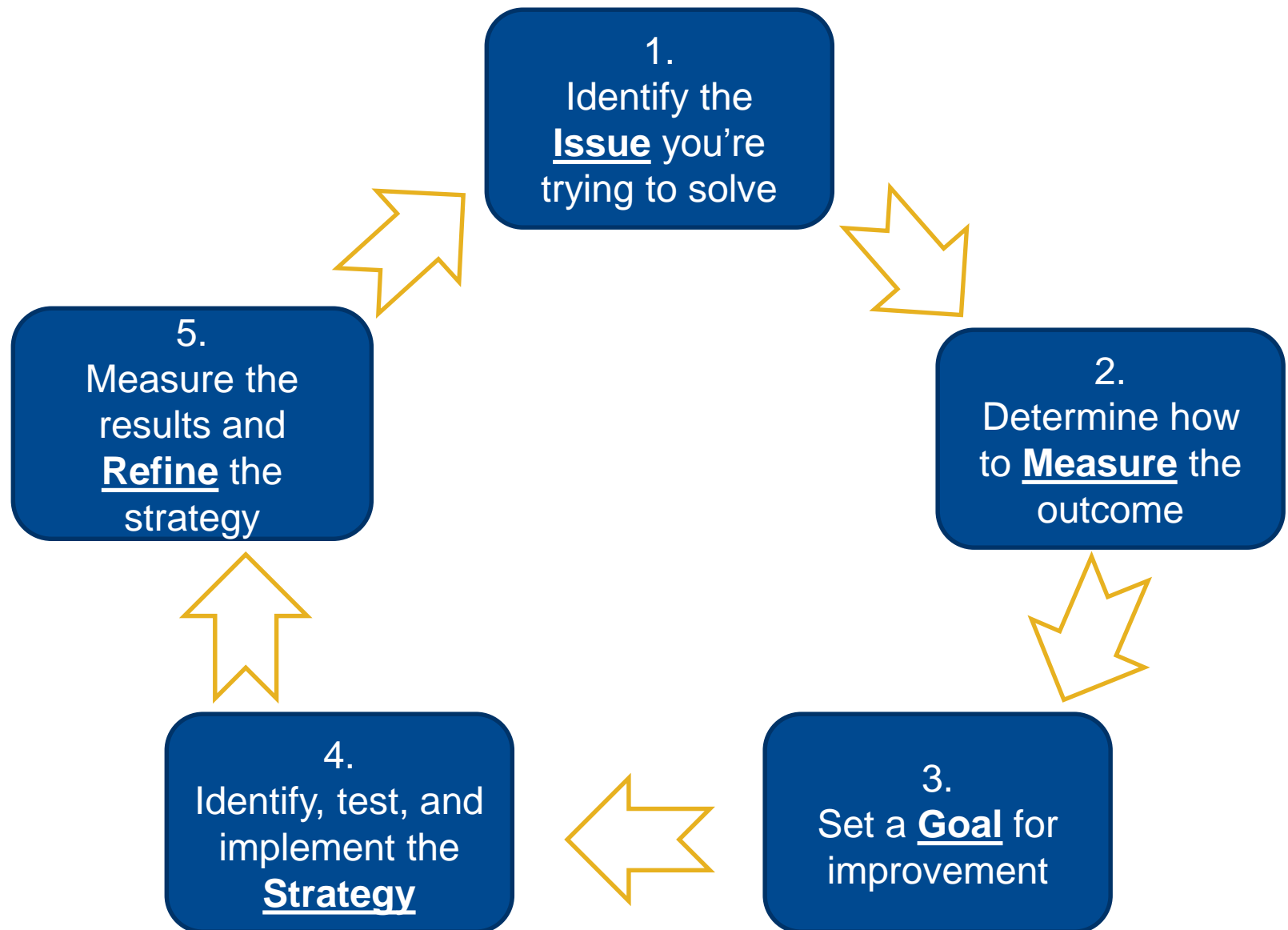
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Tulsa
A New Kind of *Energy*®

Mission Statement

The Mission of TulStat is to create a platform for department leaders to share **accurate information, create strategies**, deploy **resources** and provide for regular **follow-up** on progress **toward goals**.



How Do We Accomplish this Mission?



New Schedule

Every 2nd and 4th Friday, 1:00, 10 North

Date	Focus area
Friday, June 23, 2017	Engineering Services and Streets / Stormwater
Friday, July 28, 2017	Fire
Friday, August 11, 2017	BlightStat
Friday, August 25, 2017	Police/911/Municipal Court
Friday, September 08, 2017	Planning/Parks/WIN/MOED
Friday, September 22, 2017	Engineering Services and Streets / Stormwater
Friday, October 06, 2017	Fire
Friday, October 20, 2017	BlightStat
Friday, November 10, 2017	Police/911/Municipal Court
Friday, December 01, 2017	Planning/Parks/WIN/MOED
Friday, December 15, 2017	Engineering Services and Streets / Stormwater



TulStat

Streets and Stormwater – Recycling Contamination

Well-Being
Opportunity
The City Experience

June 23, 2017



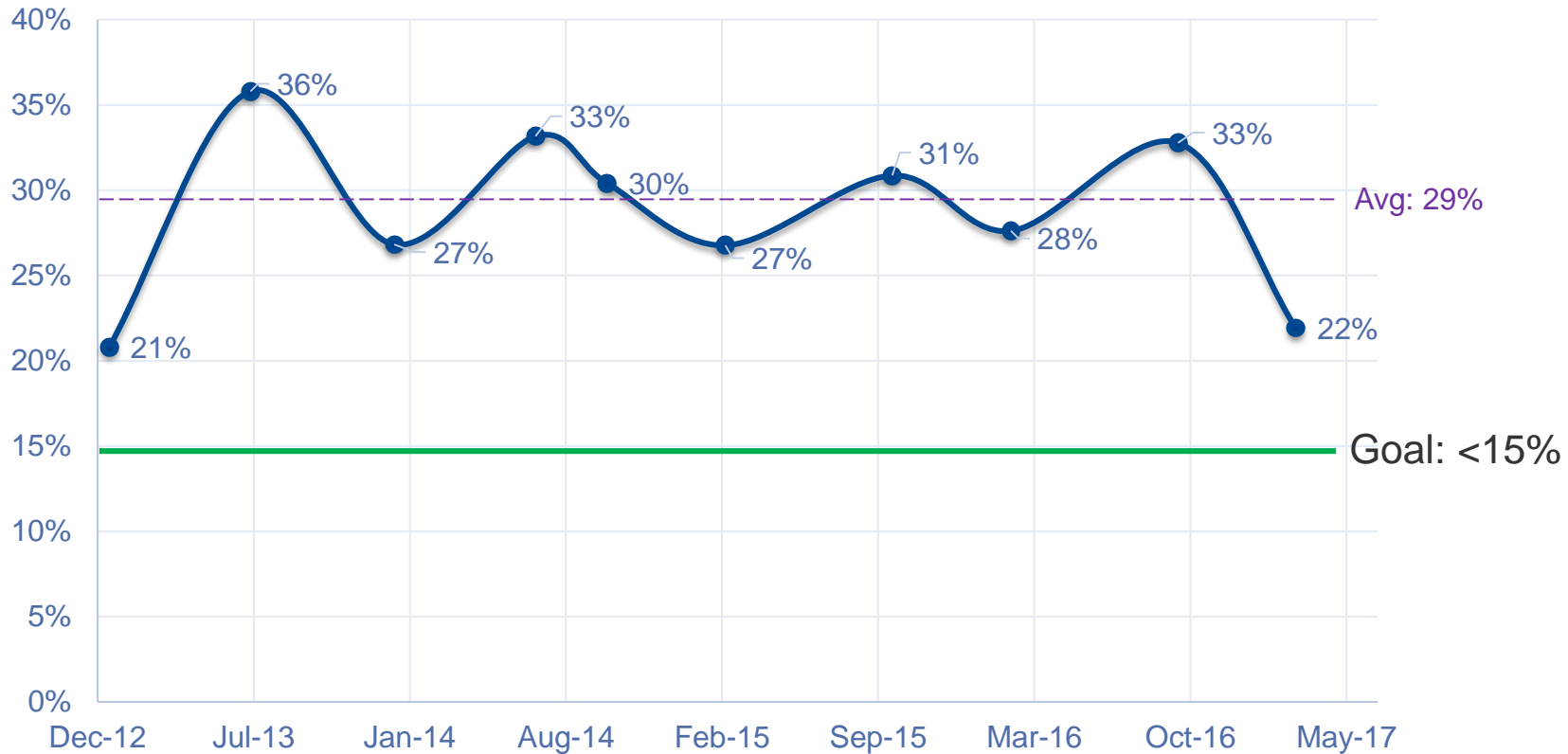
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Issue & Context

- The **issue**
 - Recycling contamination rates have averaged 29% since the program began in 2013. TARE pays extra processing costs for anything over 15%.
- Our **goal**
 - Reduce contamination rates to <15%, which is the amount allowed in the contract.
- How we connect to the **Mayor's goals**
 - Rates are based on the costs to dispose refuse and offset by recycling rebate checks. The higher the contamination rate, the more our ratepayers will have to pay for service.



Recycling Contamination Rate 2013-2017



Status



What it means

Contamination within the recycling stream reduces the dollar amount of rebate checks. This affects overall costs of the entire Refuse & Recycling system.

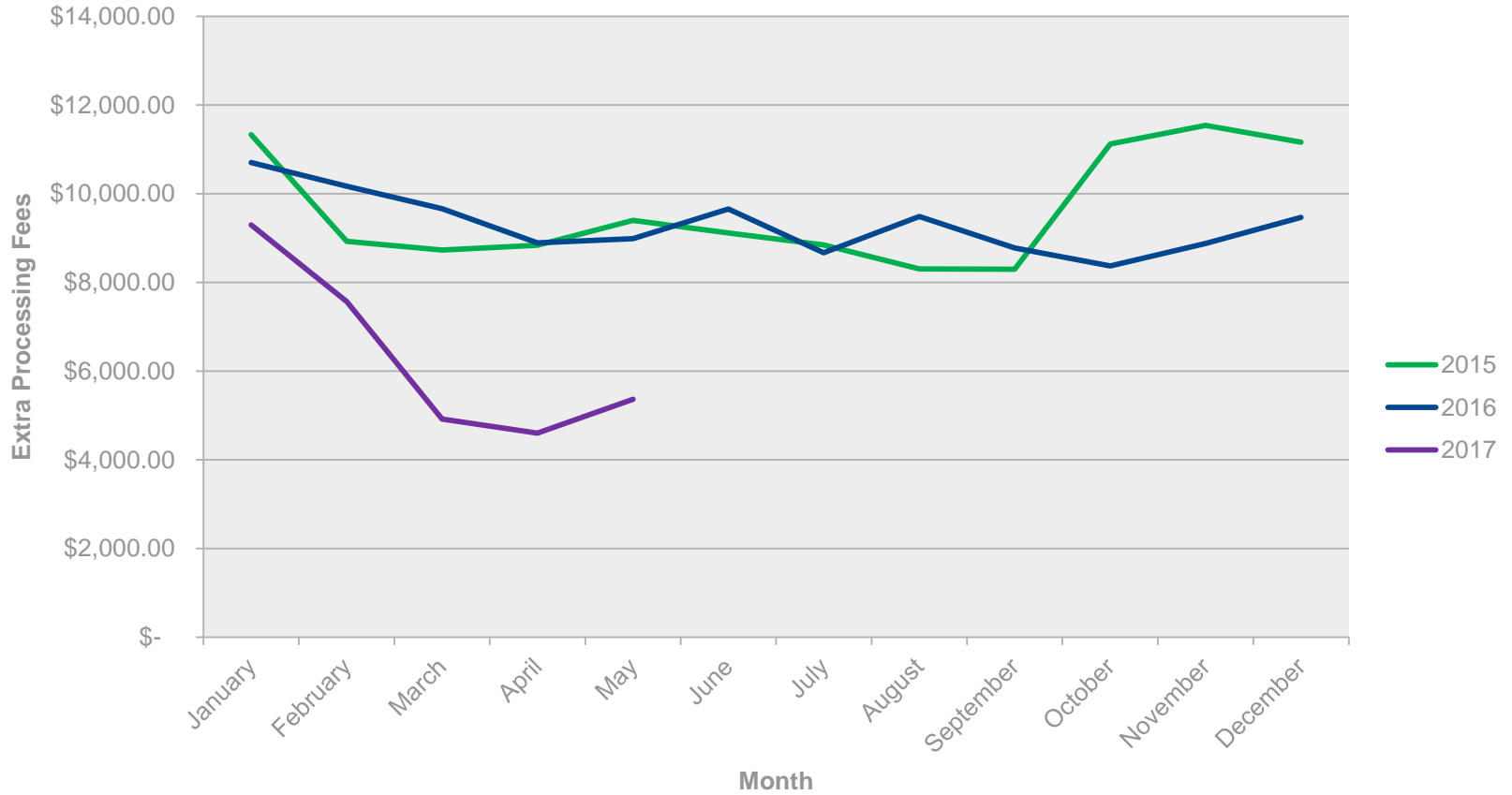
Mayor/Council Goals

Well-Being

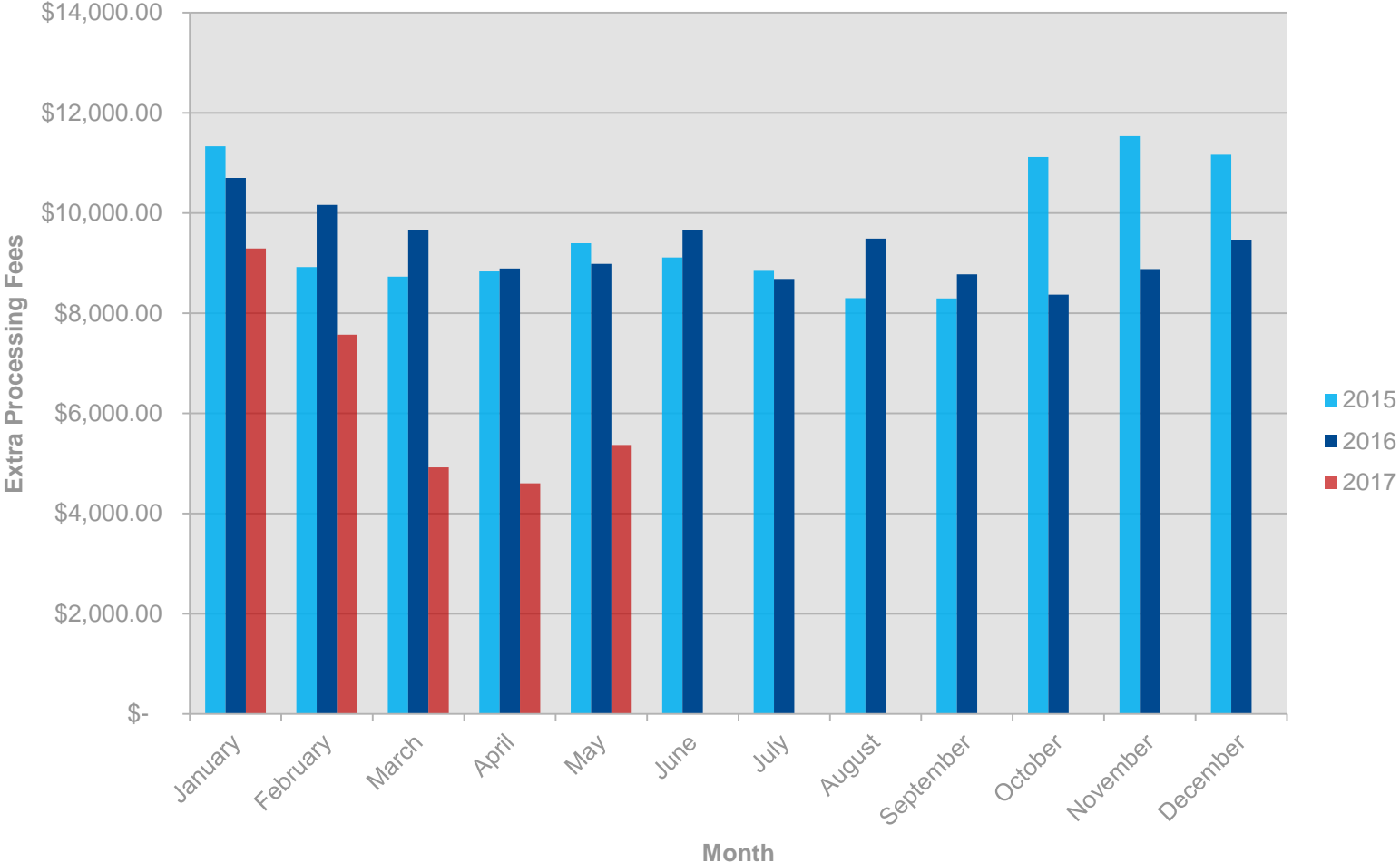
Housing and Transportation Cost



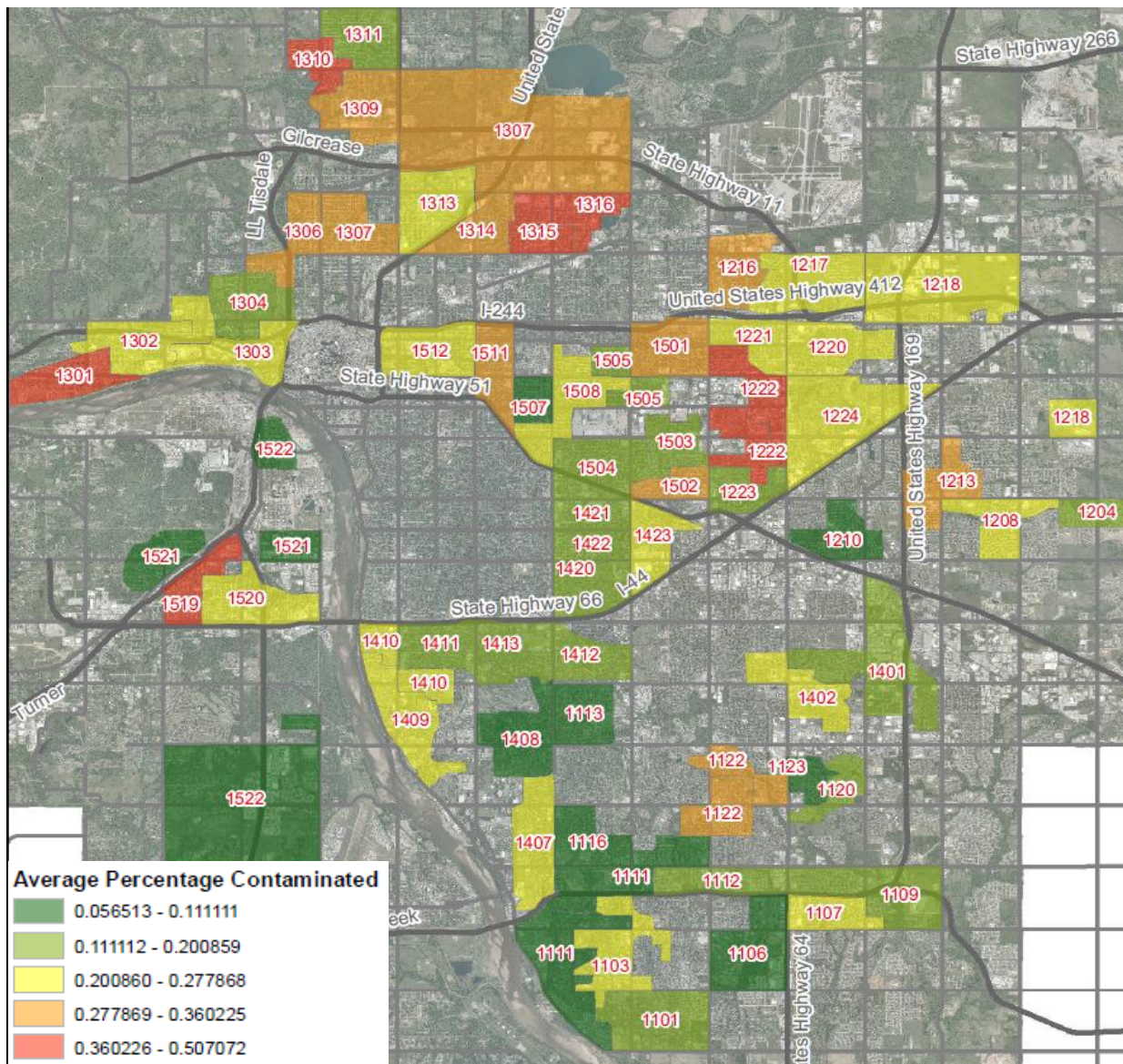
Extra Processing Fees Cost



Extra Processing Fees Cost



Bringing Precision to Recycling Contamination



Strategic Direction

Strategy	Action Plan / Next Steps	By When	Hurdles
Employ Human Centered Design team to assist and recommend how to deploy \$681,000 in marketing / educational resources	Form Human Centered Design team	July 2017	None
	Make recommendations on “nudges” to reduce contamination	August 2017	None
	Test 3 strategies and measure results	October 2017	None
Scale up strategy that proves best results	New Community Involvement Coordinator Position in FY18 budget	November 2017	None



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Streets and Stormwater - Illegal Dumping

Well-Being
Opportunity
The City Experience

June 23, 2017



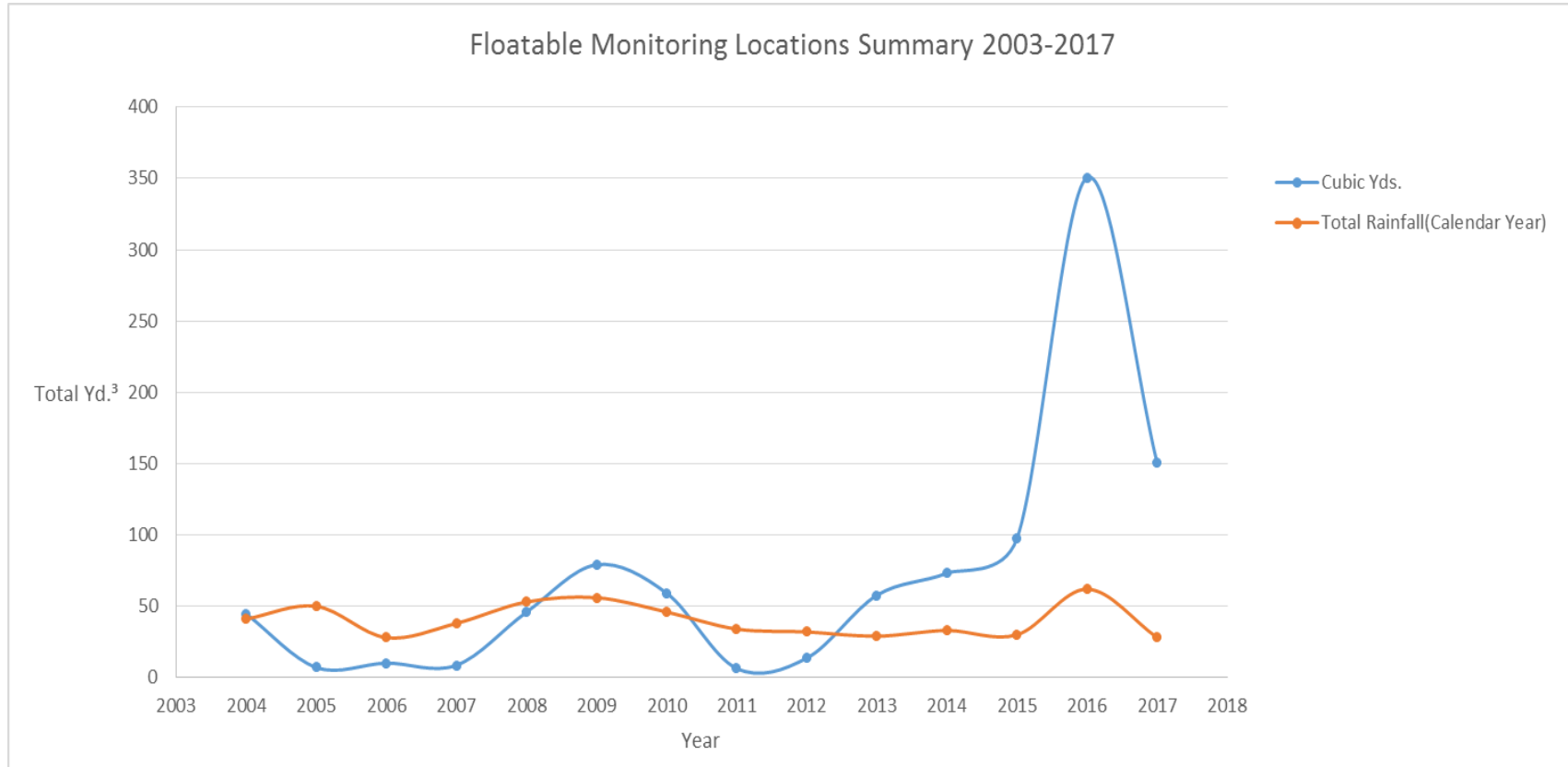
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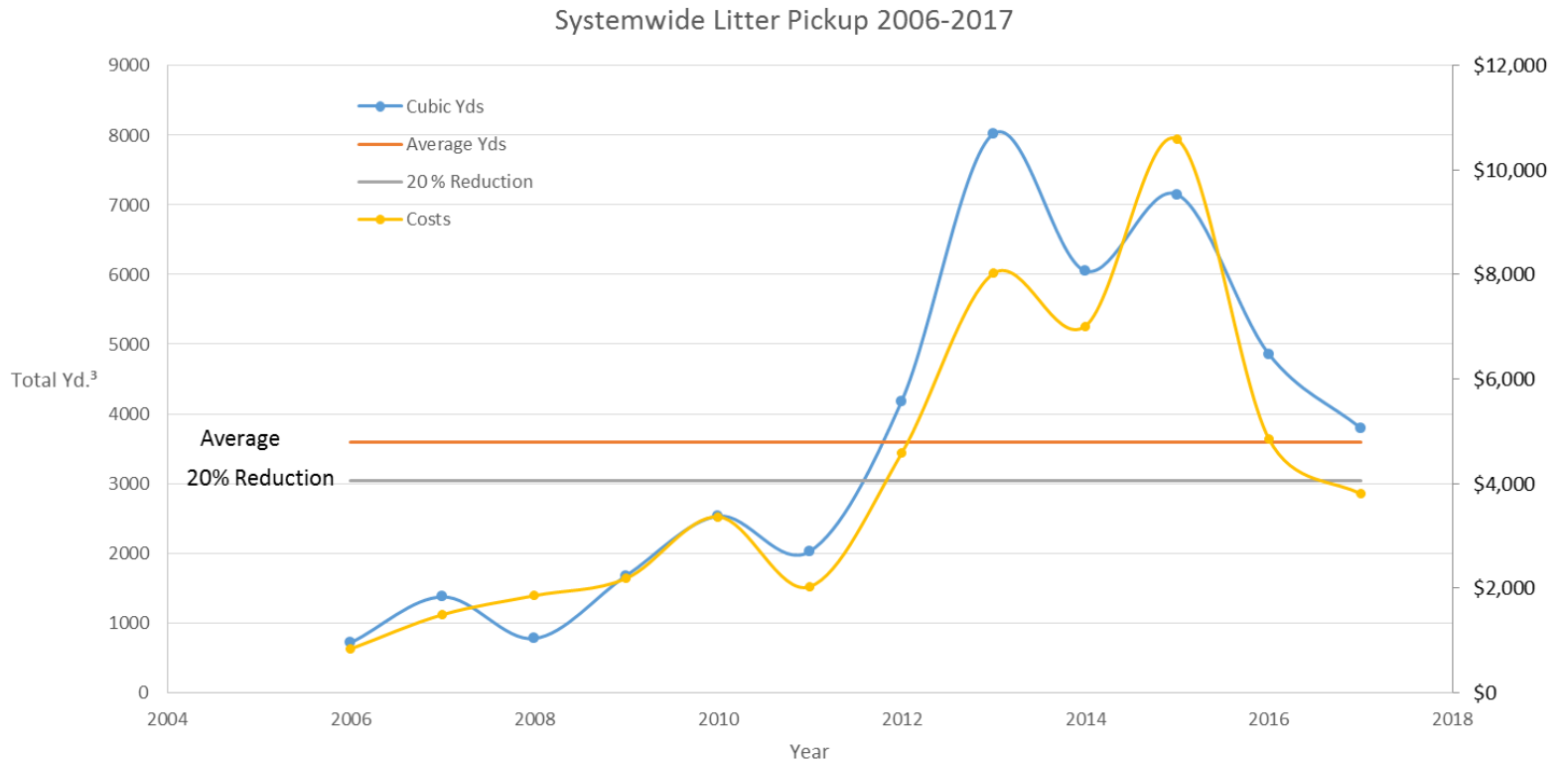
Issue & Context

- The **issue**
 - Illegal dumping and litter related to water quality has increased 488% over the last 10 years. The impact of this increase to storm water quality is being looked at by ODEQ/EPA. These increases are affecting our permit goals and the cost to meet these new and future requirements.
- Our **goal**
 - Reduce illegal dumping and litter by 20% over the next 5 years.
- How we connect to the **Mayor's goals**
 - Improving both Well-Being and The City Experience by improved water quality and the overall appearance of the City of Tulsa.



Identifying the Litter Issue





The amount and cost of litter has increased over the years affecting our water quality and overall appearance of the City.

Mayor/Council Goals

Well-Being

Housing and Transportation Cost



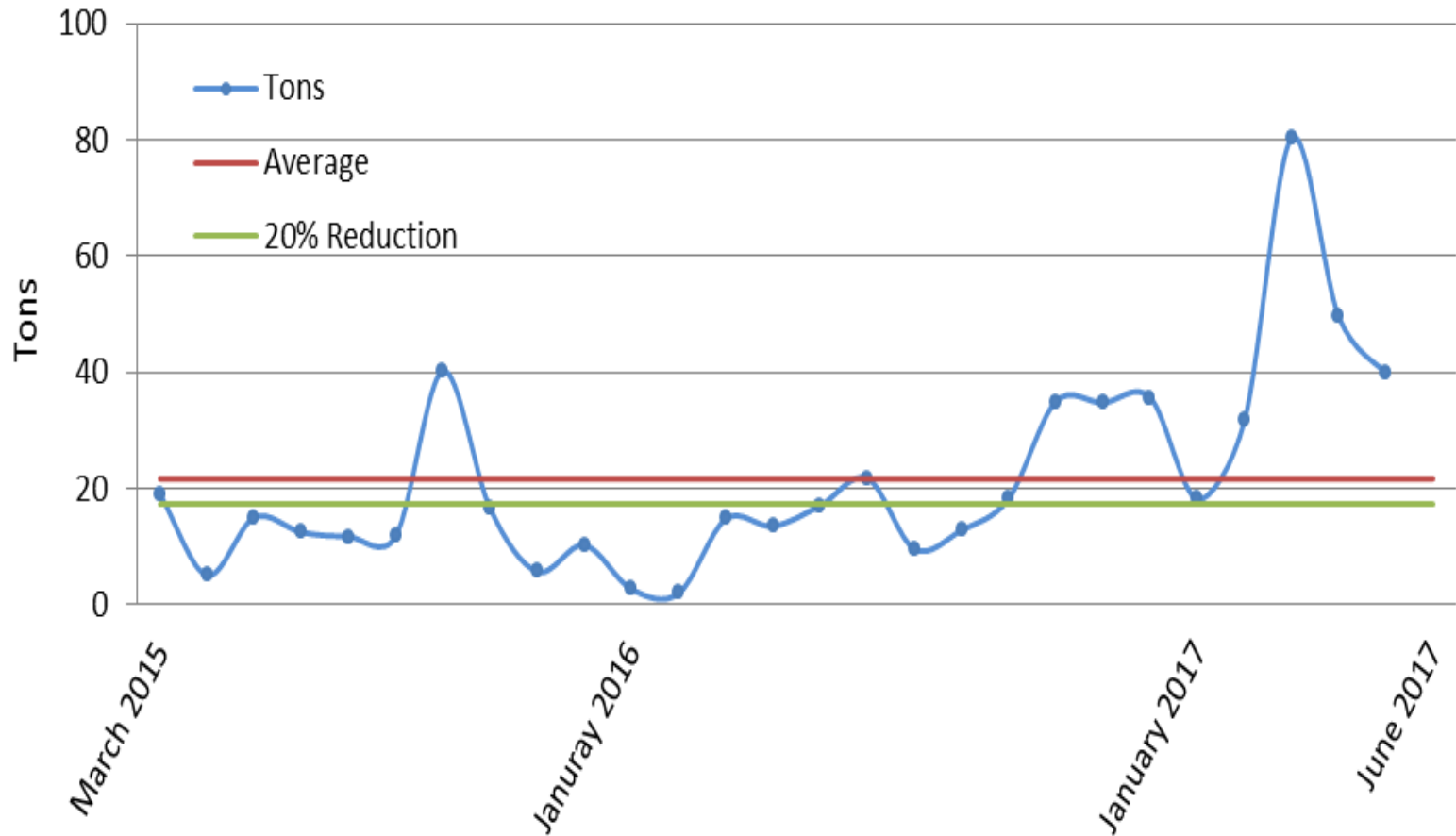
Illegal Dumping



Illegal Dumping

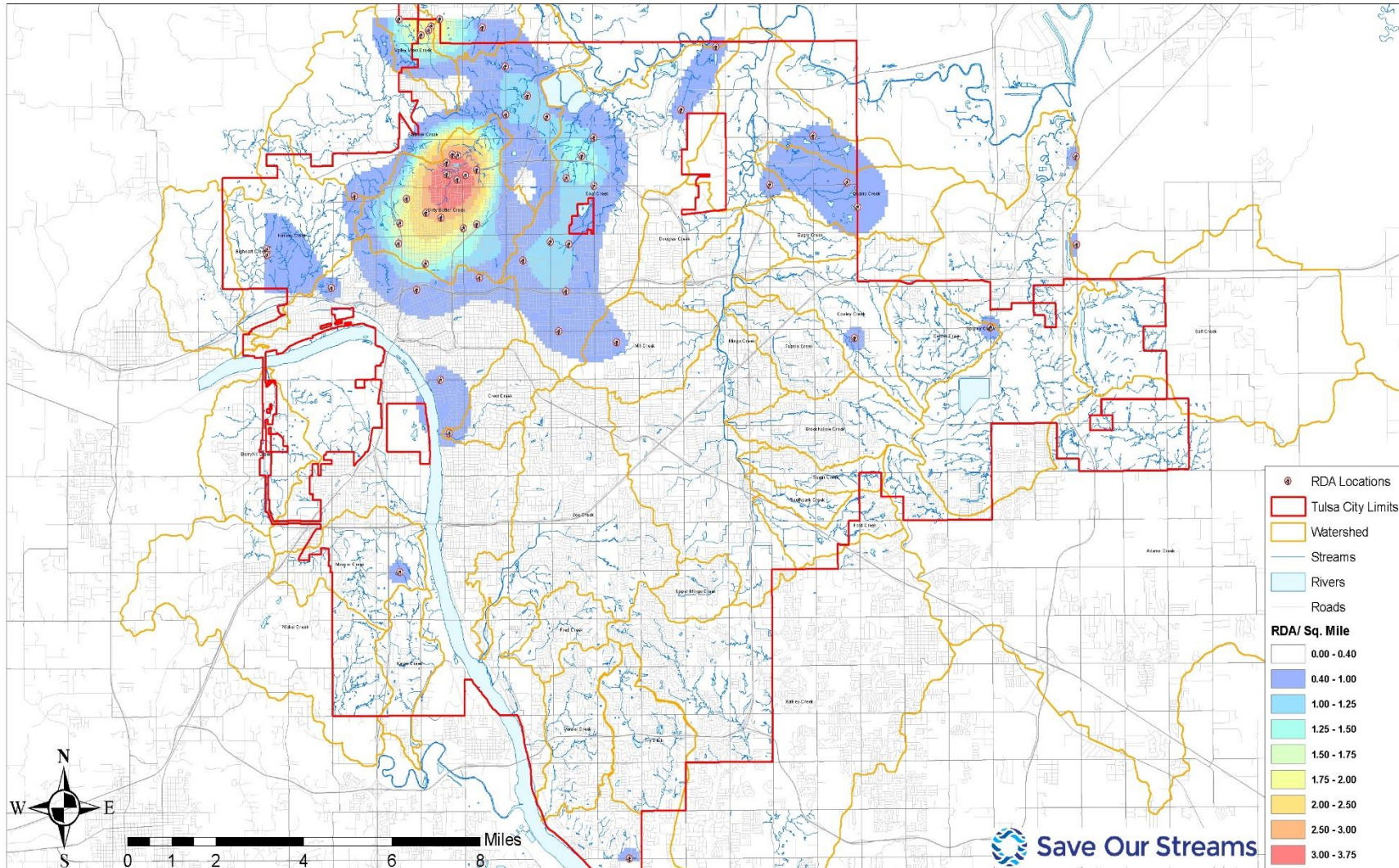


Illegal Dumping



Illegal Dump Locations

Routine Dump Areas



Strategic Direction

Strategy	Action Plan / Next Steps	By When	Hurdles
Employ better tracking and enforcement	Two new positions in Refuse & Recycling	September 2017	None
	Redirect Stormwater efforts to tracking point source for litter.	June 2017	None
	Increase monitoring and locations	November 2017	None
Scale up public education and strategy that proves best results	Review potential strategies in Streets and Stormwater to develop an education program	October 2017	None



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Streets and Stormwater – Traffic Fatalities



Well-Being
Opportunity
The City Experience

June 23, 2017

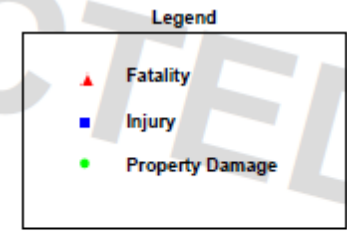
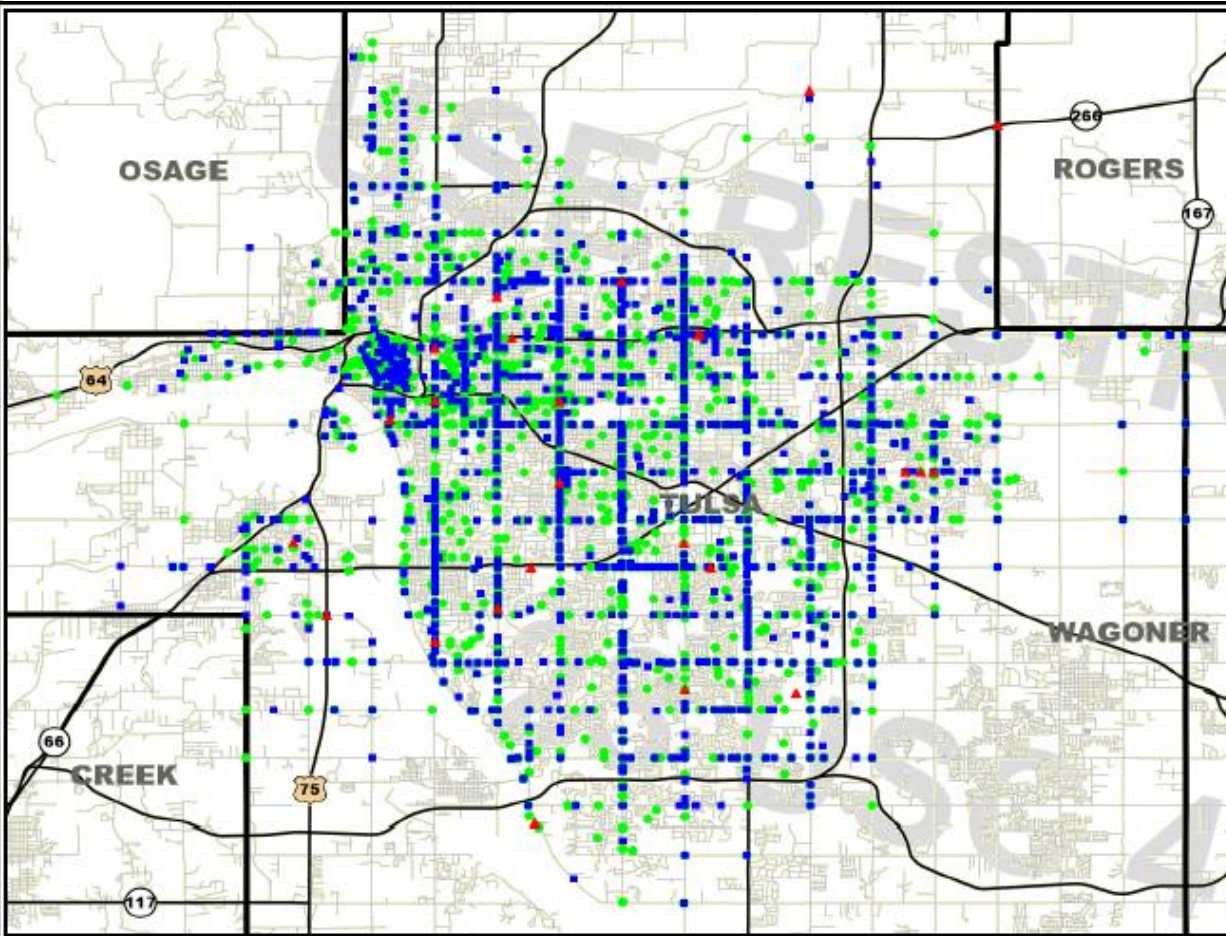


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Issue & Context

- The **issue**
 - Traffic crashes at intersections and commercial driveways result in property damage, injury and sometimes fatalities. They also increase traffic congestion and delay while increasing air pollution.
- Our **goal**
 - Reduce crashes rates by 15% at high crash locations
- How we **connect** to strategic outcomes
 - Connected to City Experience – Reducing traffic crashes per 100,000 population.





488 NONMAPPABLE COLLISIONS **

Status



What it means

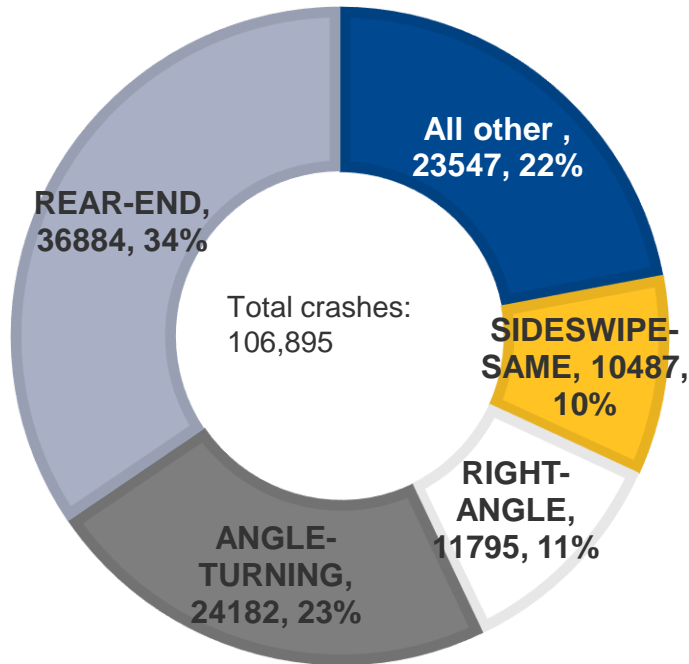
Traffic crashes plotted for 2015. Crashes can be plotted yearly and high crash locations tracked.

Mayor/Council Goals

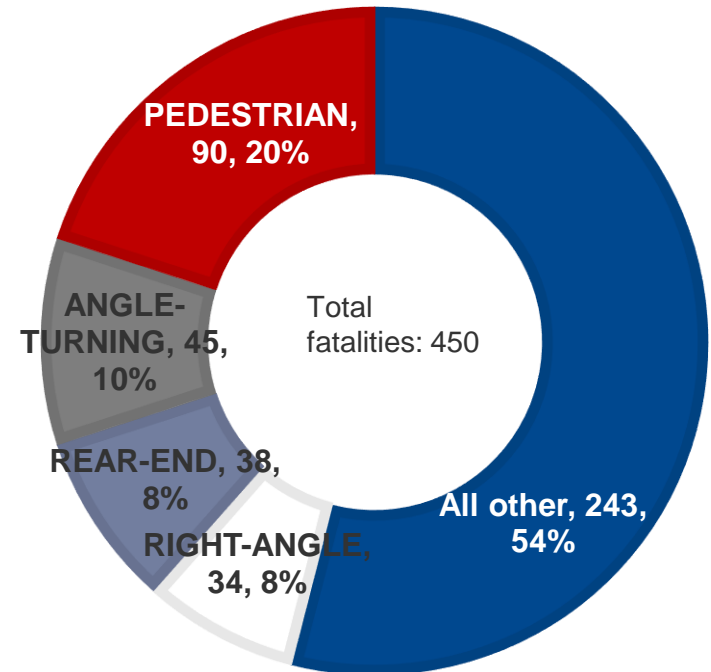
City Experience
Decrease Traffic Crashes per 100,000 pop.



ALL CRASHES CITY OF TULSA | 2006-2015



FATALITY CRASHES CITY OF TULSA | 2006 - 2015



Status



What it means

When comparing all crashes to crashes with fatal crashes, the top three crash types are the same *except* pedestrians. When considering fatalities, pedestrians make up 1 in 5 fatalities.

Mayor/Council Goals

City Experience
Decrease Traffic Fatalities



Strategic Direction & Actions

Strategy	Action Plan / Next Steps	By When	Hurdles
Employ multidisciplinary team to reduce traffic crashes	Rank top 50 high crash locations	September 2017	None
	Analyze locations for possible solutions	November 2017	Available staff resources
	Develop implementation plan for low cost solutions	March 2018	Available funding Available staff resources
Work with Engineering on projects requiring a CIP	Identify projects to go on needs list for future funding	March 2018	Competition with other priorities for future funding



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Engineering Services

**Mayor/Council Goals Areas:
The City Experience
Opportunity
Well-Being**

June 23, 2017



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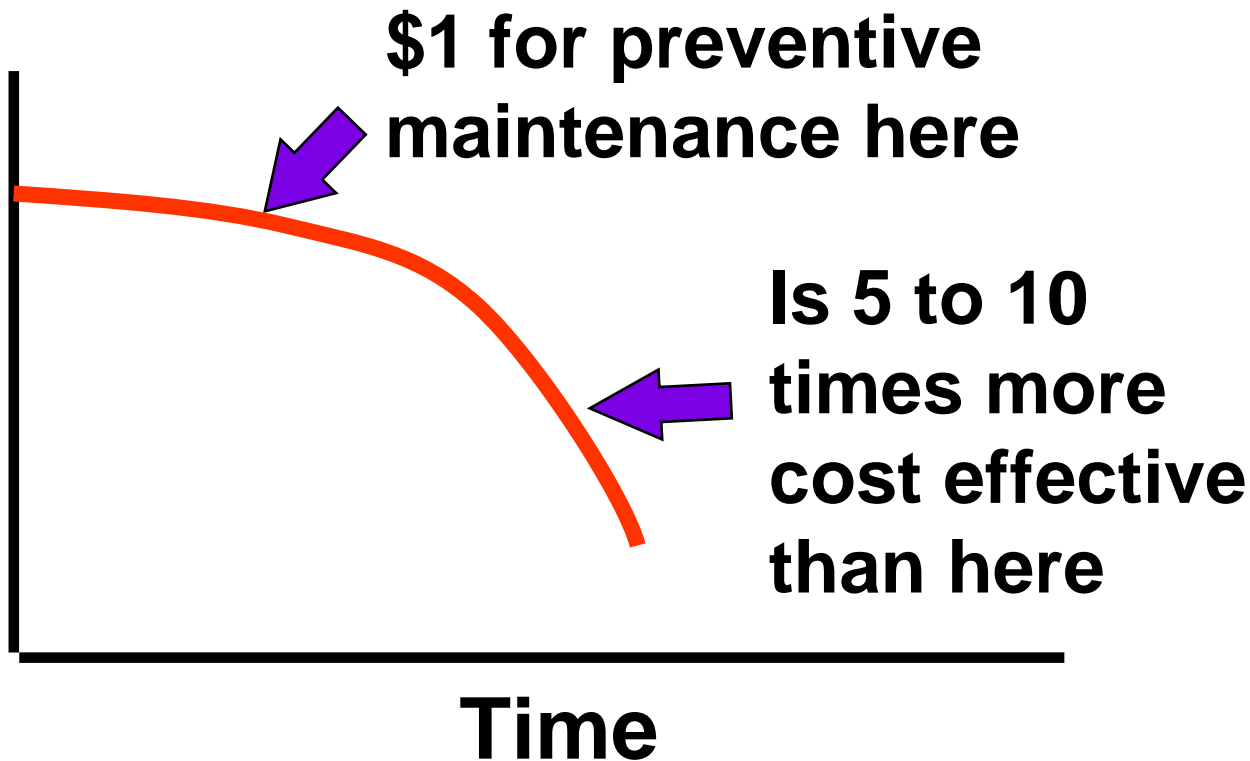
Issue & Context

- What's the **issue** you're trying to solve?
 - Improve the City's overall pavement condition index (PCI)
 - 1273 Arterial Lane Miles
 - 3075 Non-arterial Lane Miles
 - 95 Central Business District Lane Miles
- What is your *measurable goal*?
 - Achieve and maintain a citywide network PCI value of 65 by 2020 for arterial and non-arterial streets.
- How does it **connect** to strategic outcomes
 - Provide a quality transportation network of streets and sidewalks. Decrease traffic fatalities.

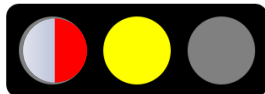


DETERIORATION OR PERFORMANCE CURVE

Pavement Condition



Status



What it means

Performing the right treatment at the right time on the right street reduces maintenance costs.

Mayor/Council Goals

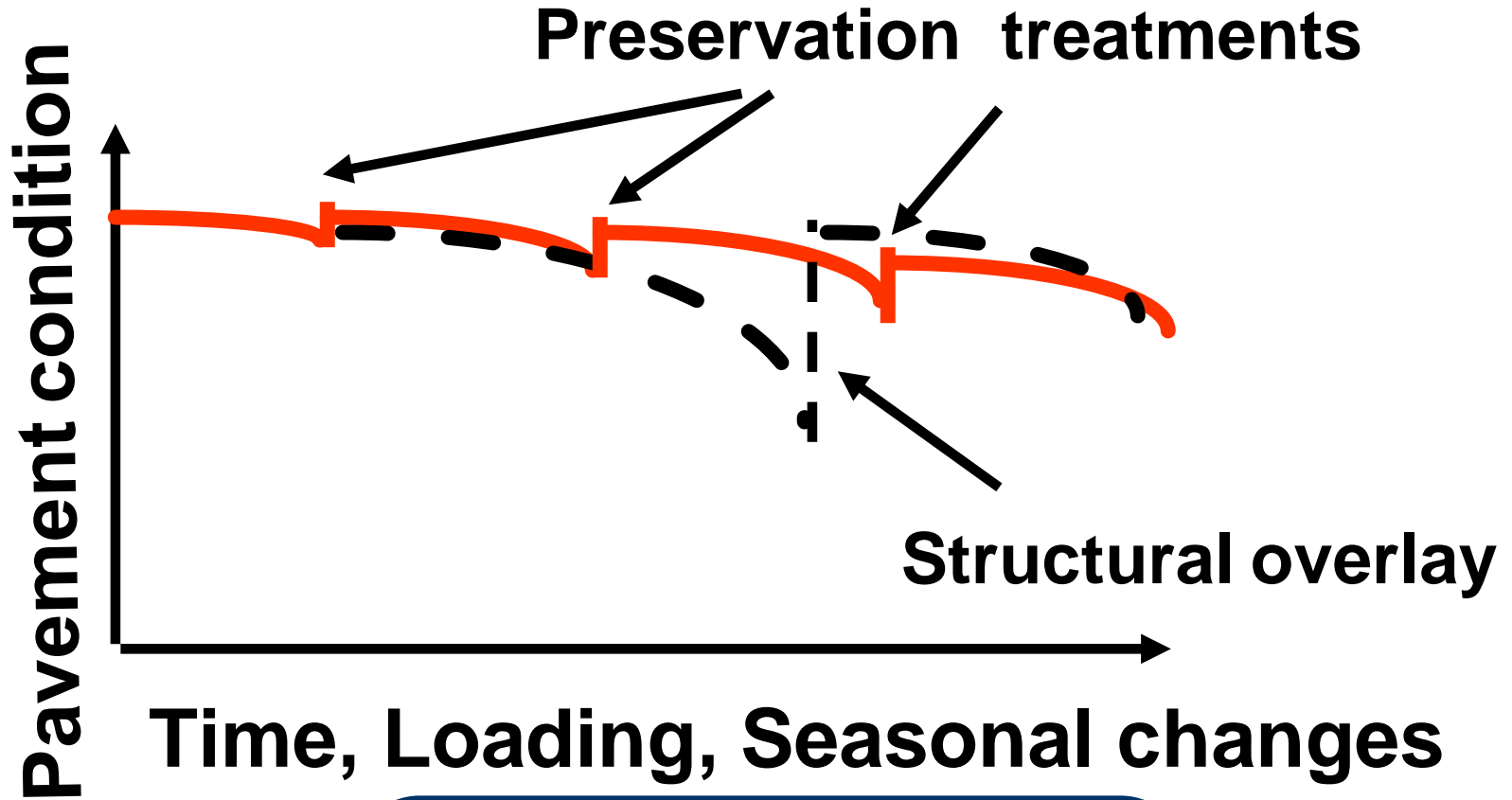
The City Experience

Quality Transportation

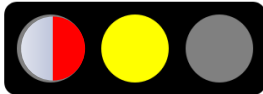
Decrease Traffic Fatalities



STRATEGY TO MINIMIZE COSTS



Status



What it means

Routine and preventive maintenance can extend the life of a pavement and reduce overall maintenance costs.

Mayor/Council Goals

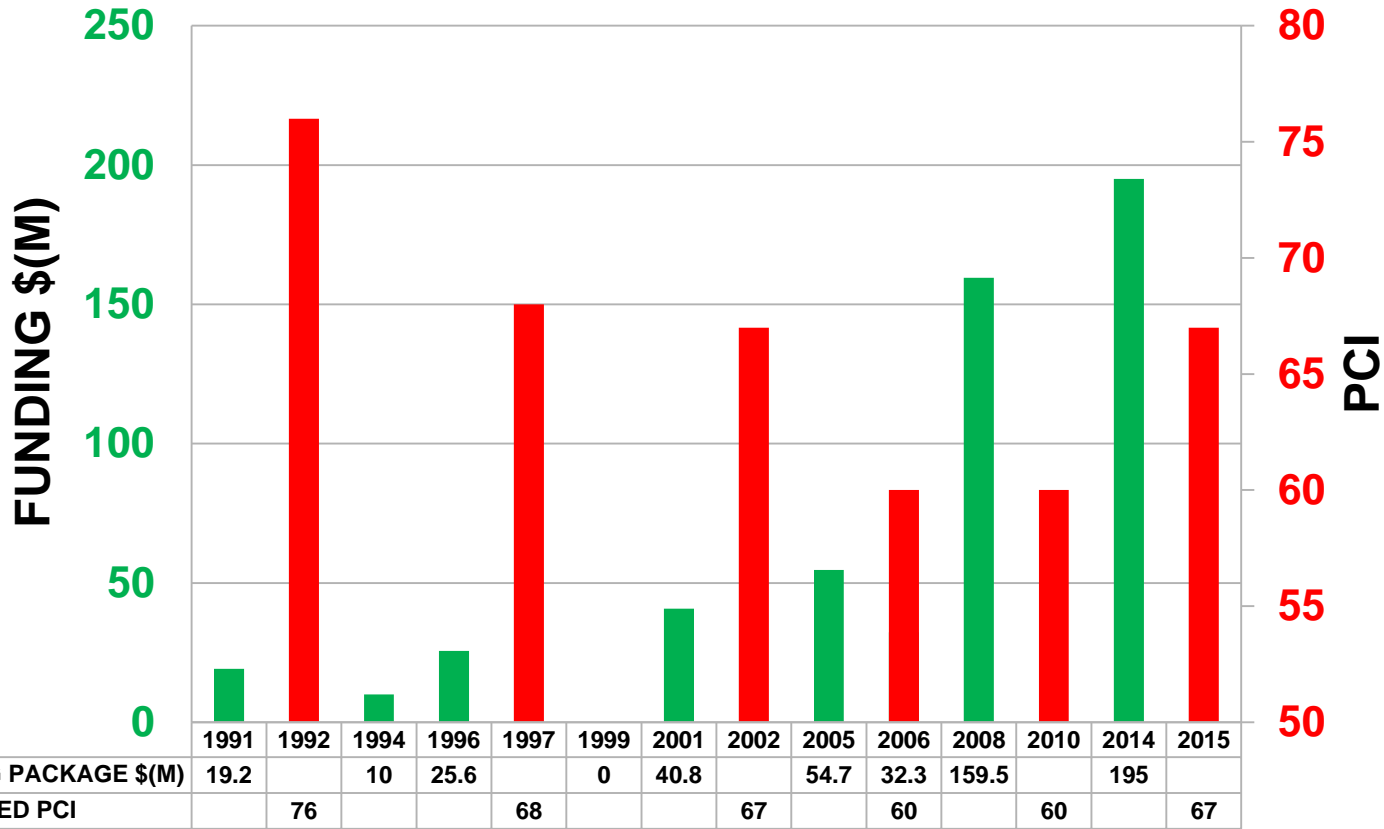
The City Experience

Quality Transportation

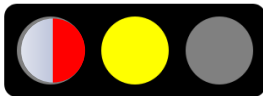
Decrease Traffic Fatalities



ARTERIAL



Status



What it means

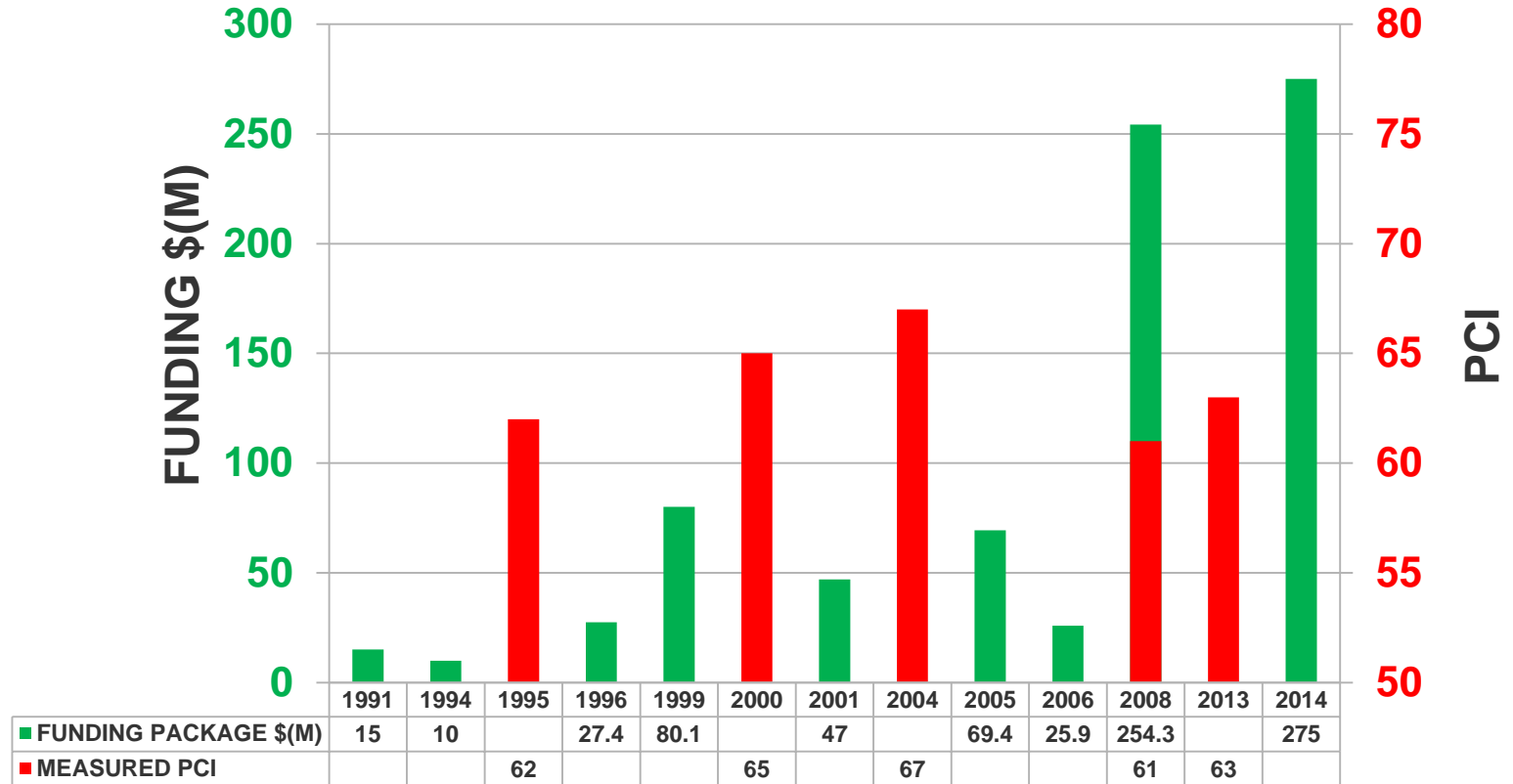
An increased capital investment in street rehabilitation beginning in 2008 has resulted in an increase in PCI

Mayor/Council Goals

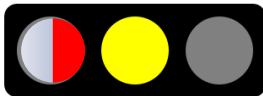
- The City Experience
- Quality Transportation
- Decrease Traffic Fatalities



NON-ARTERIAL



Status



What it means

An increased capital investment in street rehabilitation beginning in 2008 has resulted in an increase in PCI

Mayor/Council Goals

The City Experience

Quality Transportation

Decrease Traffic Fatalities



ARTERIAL

Scenario	PCI 65 2020		PCI 70 2020	
	Budget	Avg PCI	Budget	Avg PCI
2015	\$39,000,000	63	\$60,000,000	65
2016	\$39,000,000	64	\$60,000,000	66
2017	\$39,000,000	64	\$60,000,000	68
2018	\$39,000,000	64	\$60,000,000	68
2019	\$39,000,000	64	\$60,000,000	69
2020	\$39,000,000	65	\$60,000,000	70
Total:	\$234,000,000		\$360,000,000	

Status



What it means

Current model for Arterial funding to reach a PCI of 65 in 2020.

Mayor/Council Goals

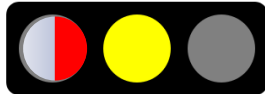
- The City Experience
- Quality Transportation
- Decrease Traffic Fatalities



NON-ARTERIAL

Scenario	PCI 65 2020		PCI 70 2020	
	Budget	Avg PCI	Budget	Avg PCI
2015	\$55,000,000	61	\$74,000,000	62
2016	\$55,000,000	62	\$74,000,000	65
2017	\$55,000,000	63	\$74,000,000	66
2018	\$55,000,000	64	\$74,000,000	68
2019	\$55,000,000	64	\$74,000,000	69
2020	\$55,000,000	65	\$60,000,000	70
Total:	\$330,000,000		\$430,000,000	

Status



What it means

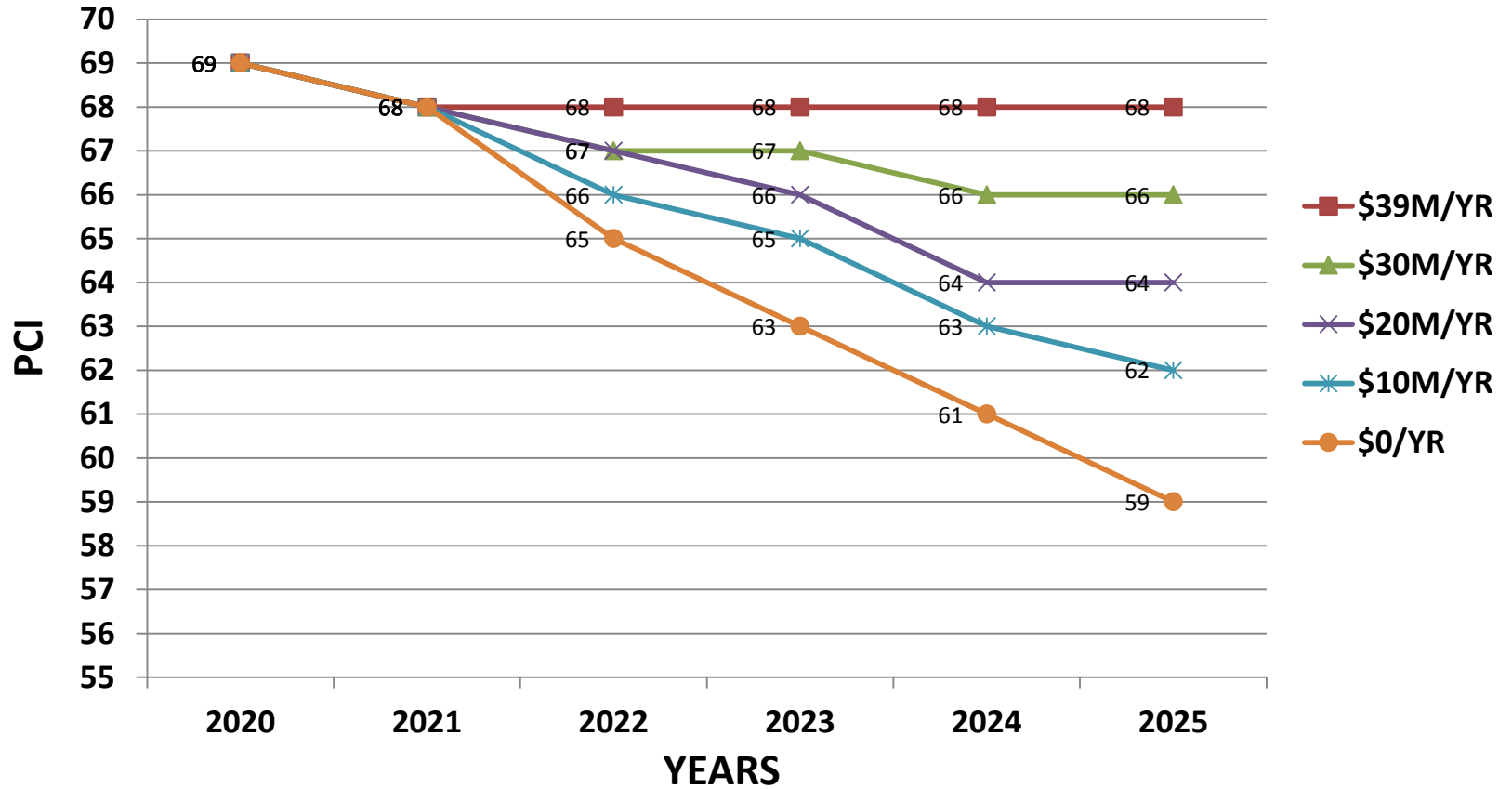
Current model for Non-arterial funding to reach a PCI of 65 in 2020.

Mayor/Council Goals

- The City Experience
- Quality Transportation
- Decrease Traffic Fatalities



ARTERIAL



Status



What it means

Various scenarios for arterial funding.

Mayor/Council Goals

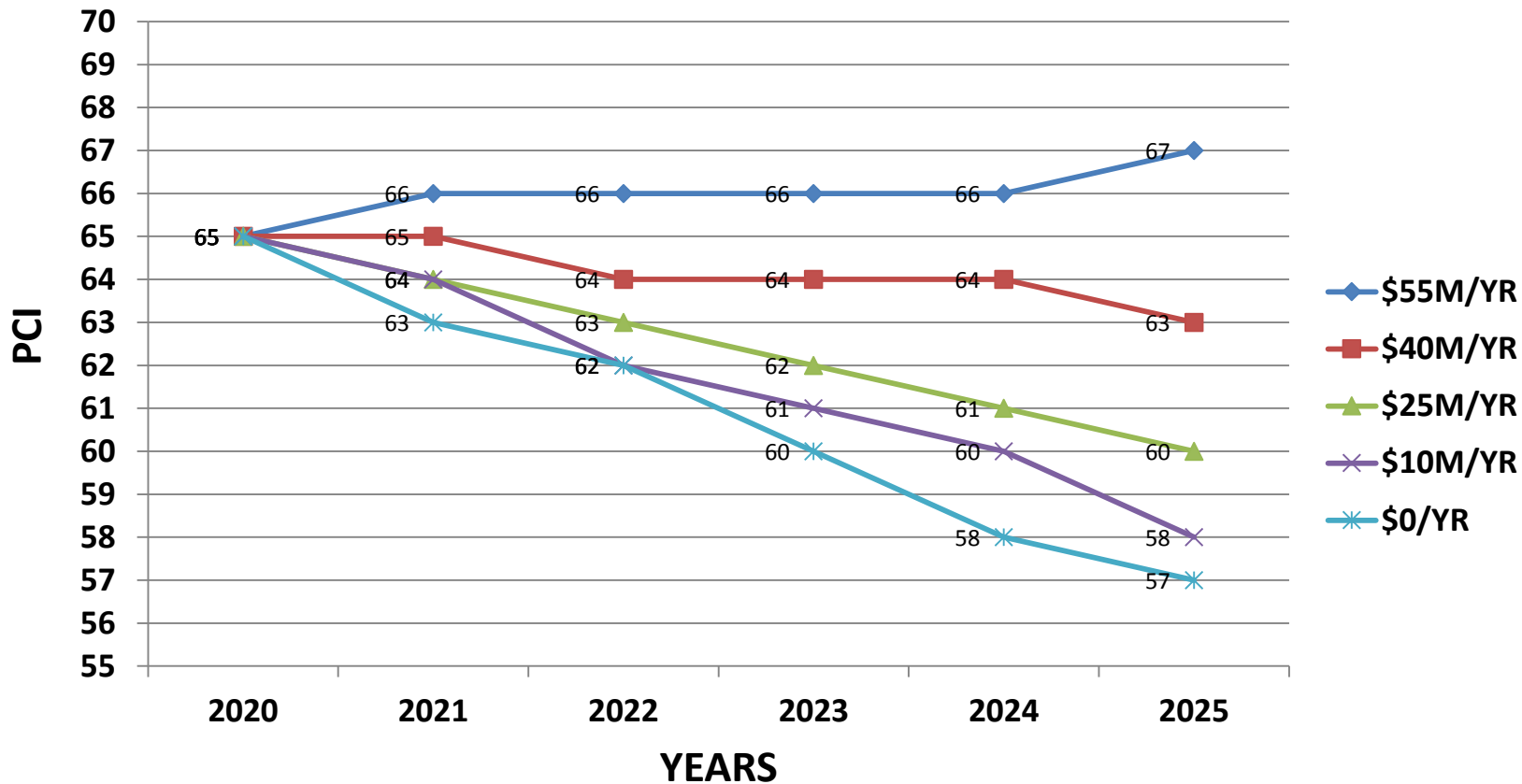
The City Experience

Quality Transportation

Decrease Traffic Fatalities



NON-ARTERIAL



Status



What it means

Various scenarios for non-arterial funding.

Mayor/Council Goals

- The City Experience
- Quality Transportation
- Decrease Traffic Fatalities



Strategic Direction & Actions

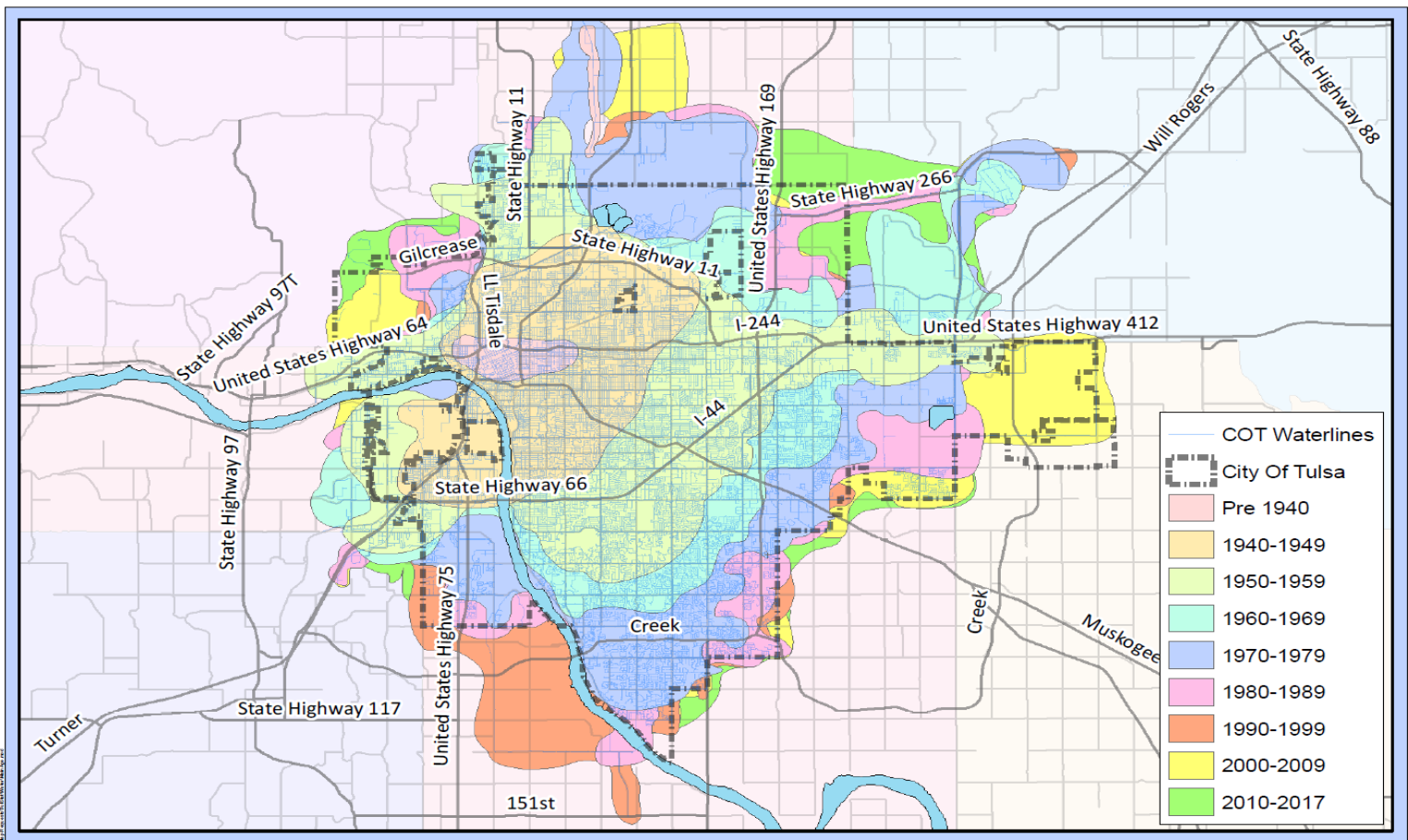
Strategy	Action Plan / Next Steps	By When	Hurdles
The right treatment at the right time on the right street	Coordinate with Streets & Stormwater on routine and preventive maintenance	Ongoing	Right-of-way constraints Utility relocations
	Identify funding level for future funding package	November 2017	Elected officials balancing commitment to City streets with other City funding needs.
	Identify street projects based on funding level and optimizing PCI.	June 2018	



Issue & Context

- What's the **issue** you're trying to solve?
 - Reduce the number of waterline breaks and leaks in the water distribution system which leads to more reliable water supply, lower costs and less disruption to traveling public, businesses, roadways, and adjacent properties.
- What is your *measurable* **goal**?
 - Reduce future rate increases by 15% to 20% compared to 2012 projections through 2040.
- How does it **connect** to strategic outcomes
 - Having a reliable water system helps Tulsa attract employers / grow Tulsa's workforce, lower capital costs, and minimize disruptions to transportation system.





Water Main Growth to Present



Status



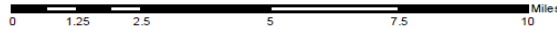
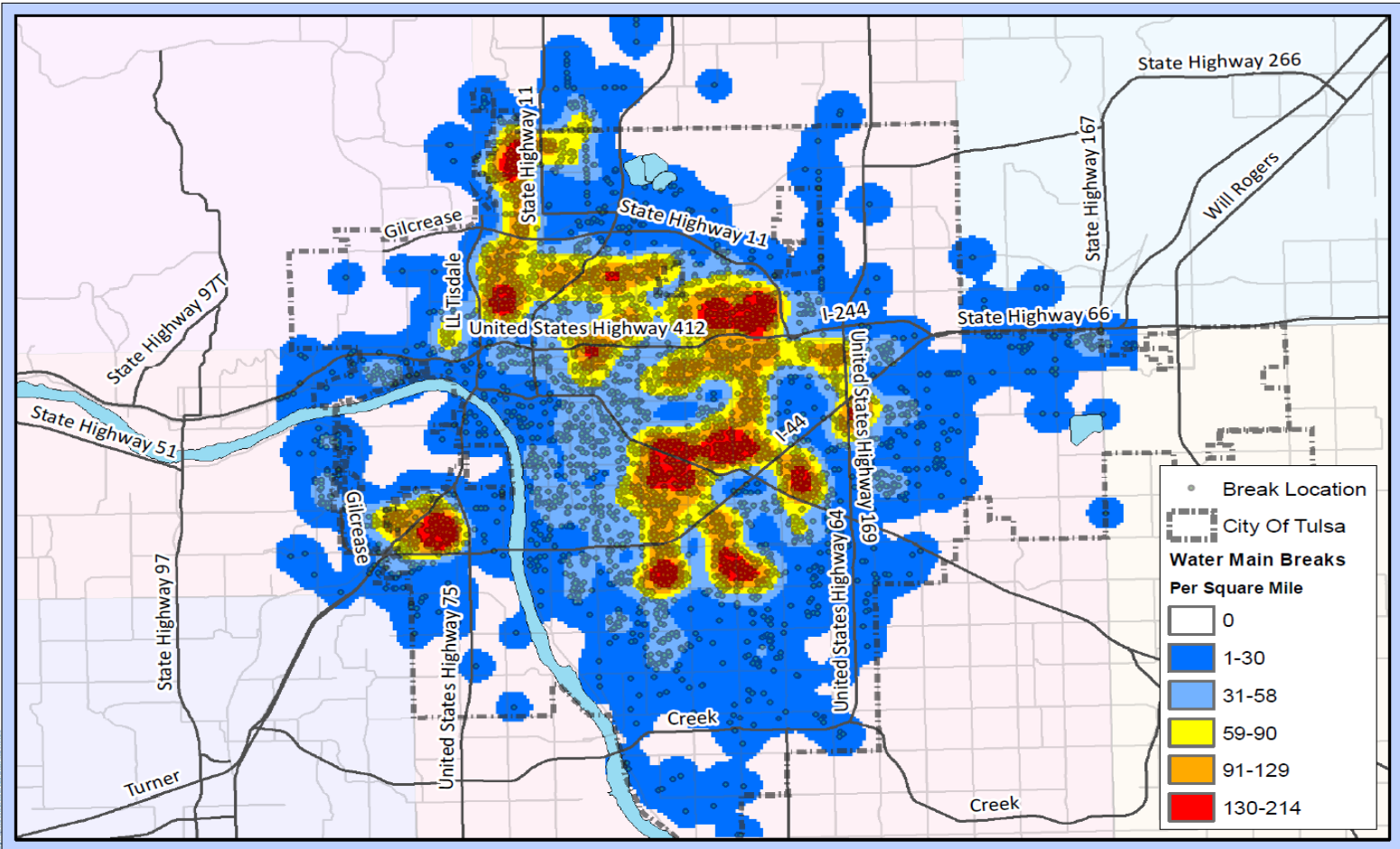
What it means

This map represents the age of the water system by decades across the City of Tulsa's water system.

Mayor/Council Goals

Opportunity	The City Experience
Attract Employers / Workforce	Quality Transportation / Disruptions

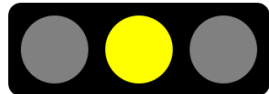




Water Main Breaks
2010 - Present



Status



What it means

This heat-map represents the waterline breaks in the distribution system over the last 6 years.

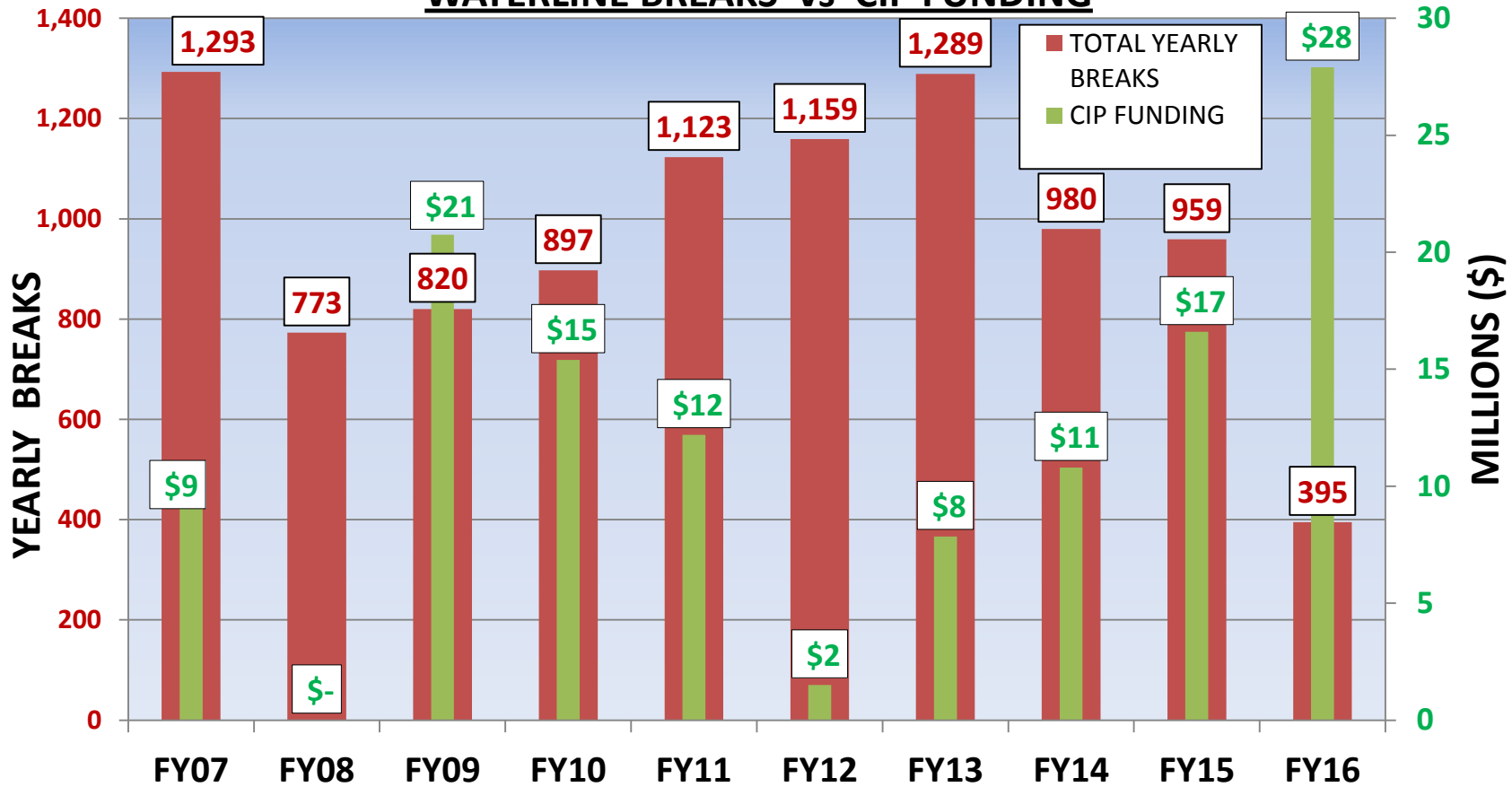
Mayor/Council Goals

Opportunity	The City Experience
Attract Employers / Workforce	Quality Transportation / Disruptions



CITY OF TULSA

WATERLINE BREAKS vs CIP FUNDING



Status



What it means

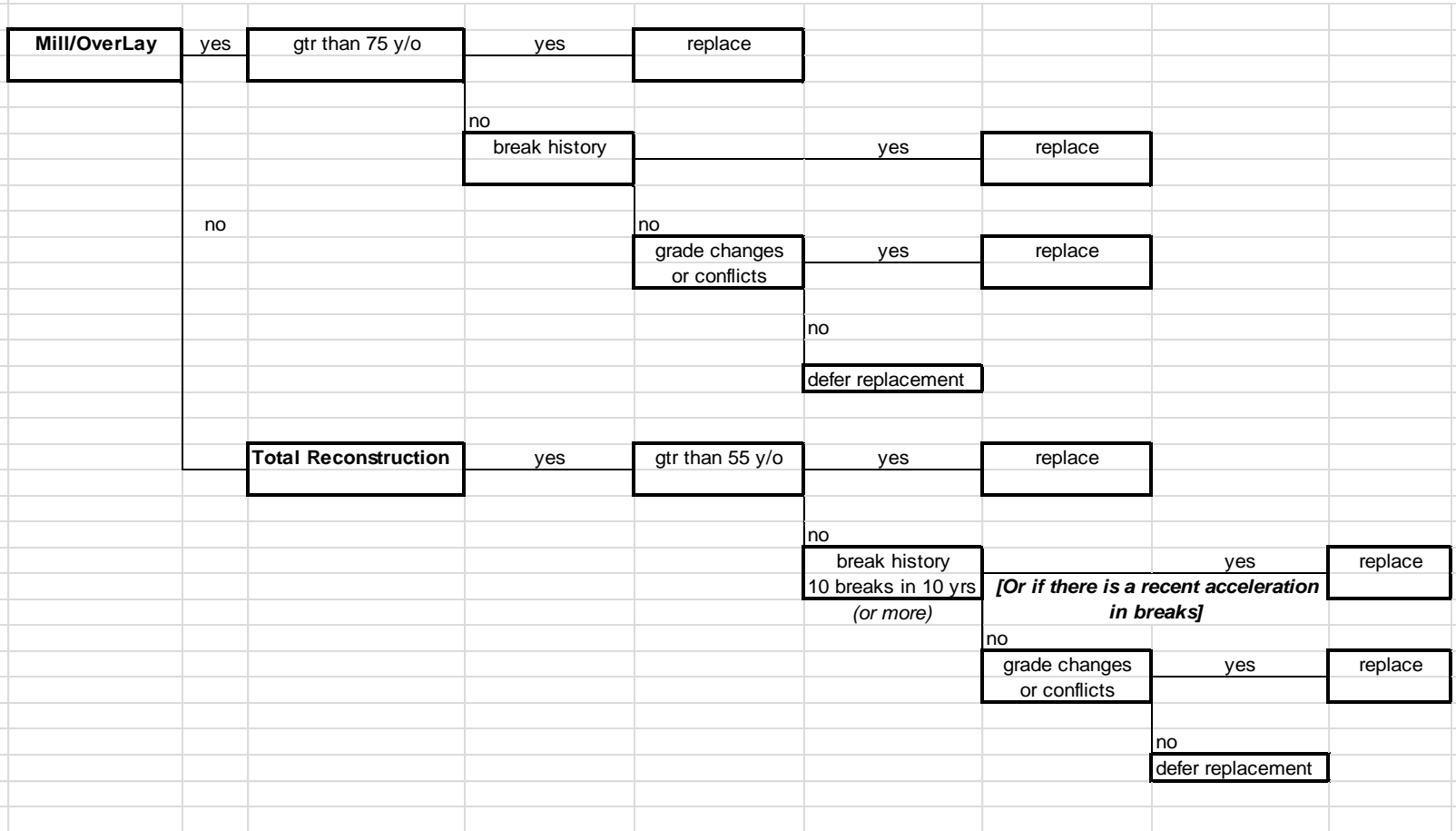
An increase in capital funding results in a decrease in waterline breaks.

Mayor/Council Goals

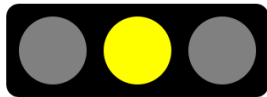
Opportunity	The City Experience
Attract Employers / Workforce	Quality Transportation / Disruptions



STREET COORDINATION MATRIX



Status



What it means

This represents the decision logic to determine whether a waterline is to be replaced or deferred.

Mayor/Council Goals

Opportunity	The City Experience
Attract Employers / Workforce	Quality Transportation / Disruptions



Strategic Direction & Actions

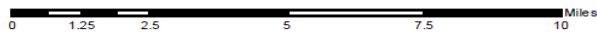
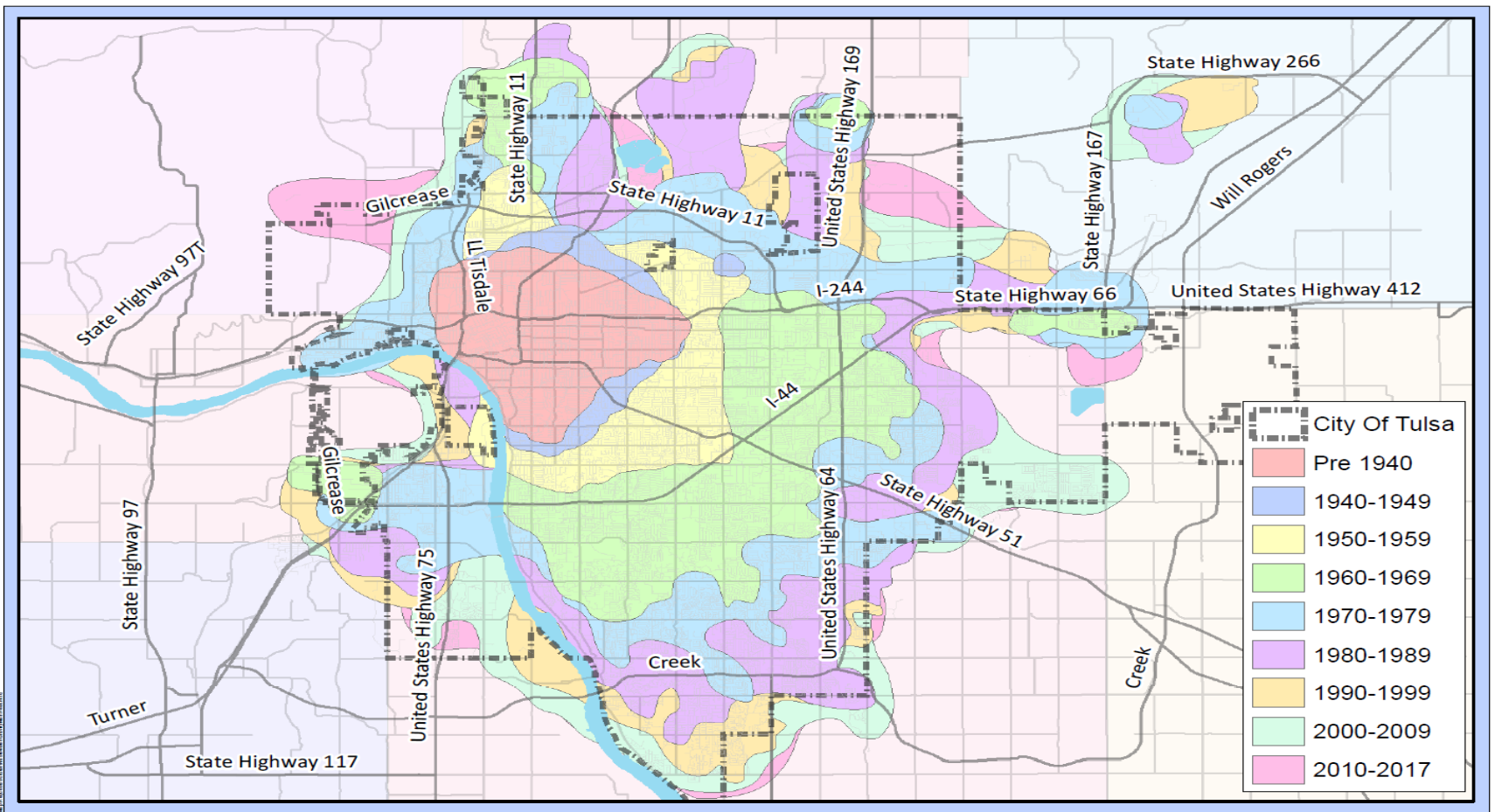
Strategy	Action Plan / Next Steps	By When	Hurdles
Evaluate the waterlines based on risk of failure and disruption.	Evaluate against current funded transportation program	Ongoing	Balance risk and cost.
	Select streets that have waterlines that have highest risk and leverage water funding.	June 2018	Adequate time for analysis to coordinate with the preparation of funding package projects.



Issue & Context

- What's the **issue** you're trying to solve?
 - Reduce sanitary sewer overflows (SSO) in wastewater collection system (1,985 miles of line & 68,700 manholes).
- What is your *measurable* **goal**?
 - Less than two overflows from the same location in a 12-month period. Zero overflows due to Inflow and Infiltration (I & I).
- How does it **connect** to strategic outcomes
 - Having a “tight” sanitary sewer system contributes to Tulsan’s overall health.





Sanitary Sewer Gravity Main Growth to Present



Status



What it means

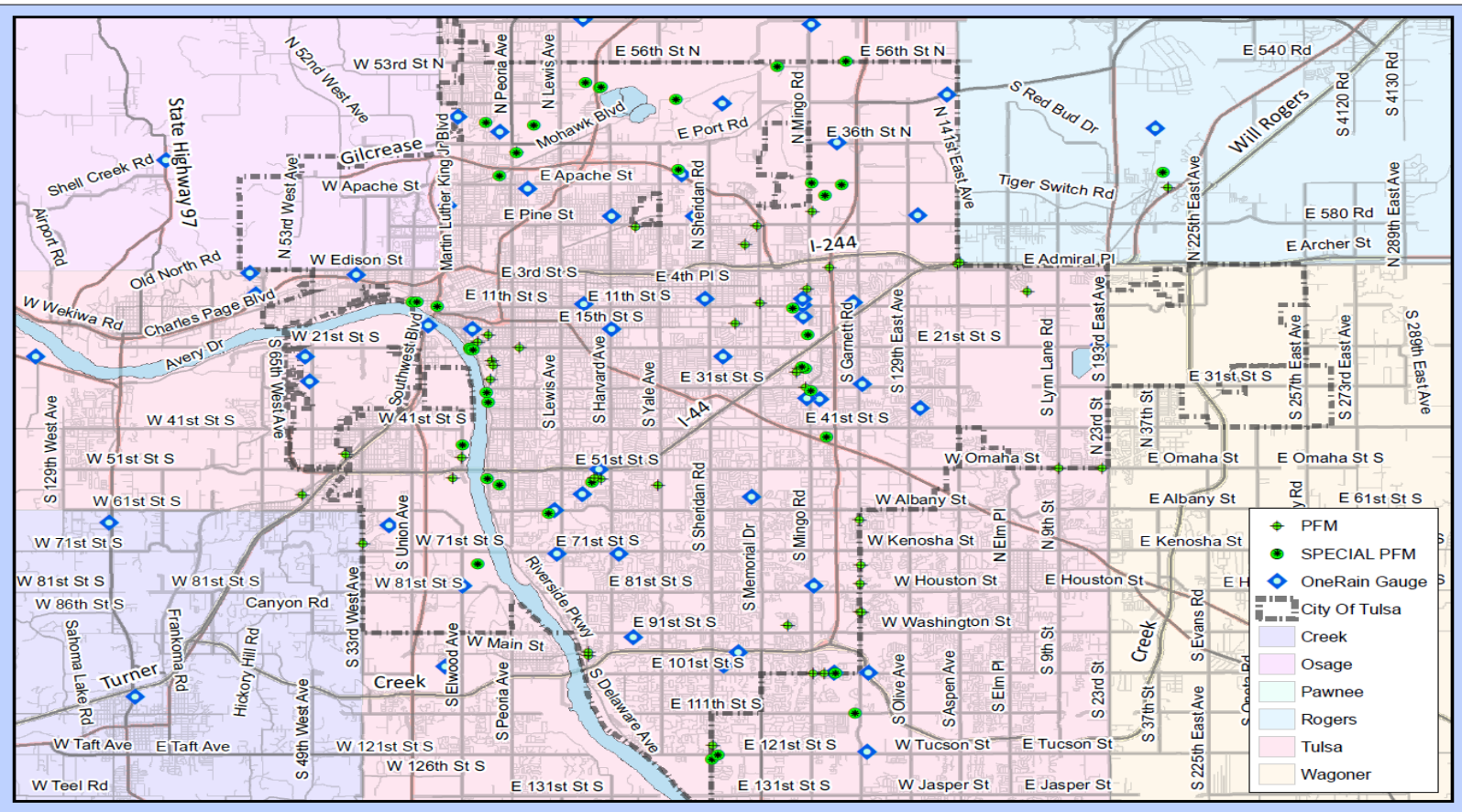
This chart represents growth in the system by decade.

Mayor/Council Goals

Well-Being

Improve overall health





Permanent Flow Meter And OneRain Gauge Locations



Status



What it means

Location of 92 permanent flow meters and 57 rain gauges used to monitor flows, model system and evaluate cause of overflows (2003 - 61 flow meters).
(Management with Measurement)

Mayor/Council Goals

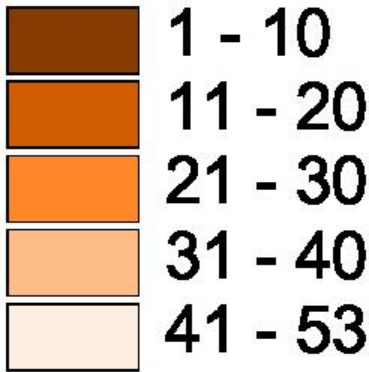
- Well-Being
- Improve overall health



I/I Prioritize Approach

LEGEND

Priority Order

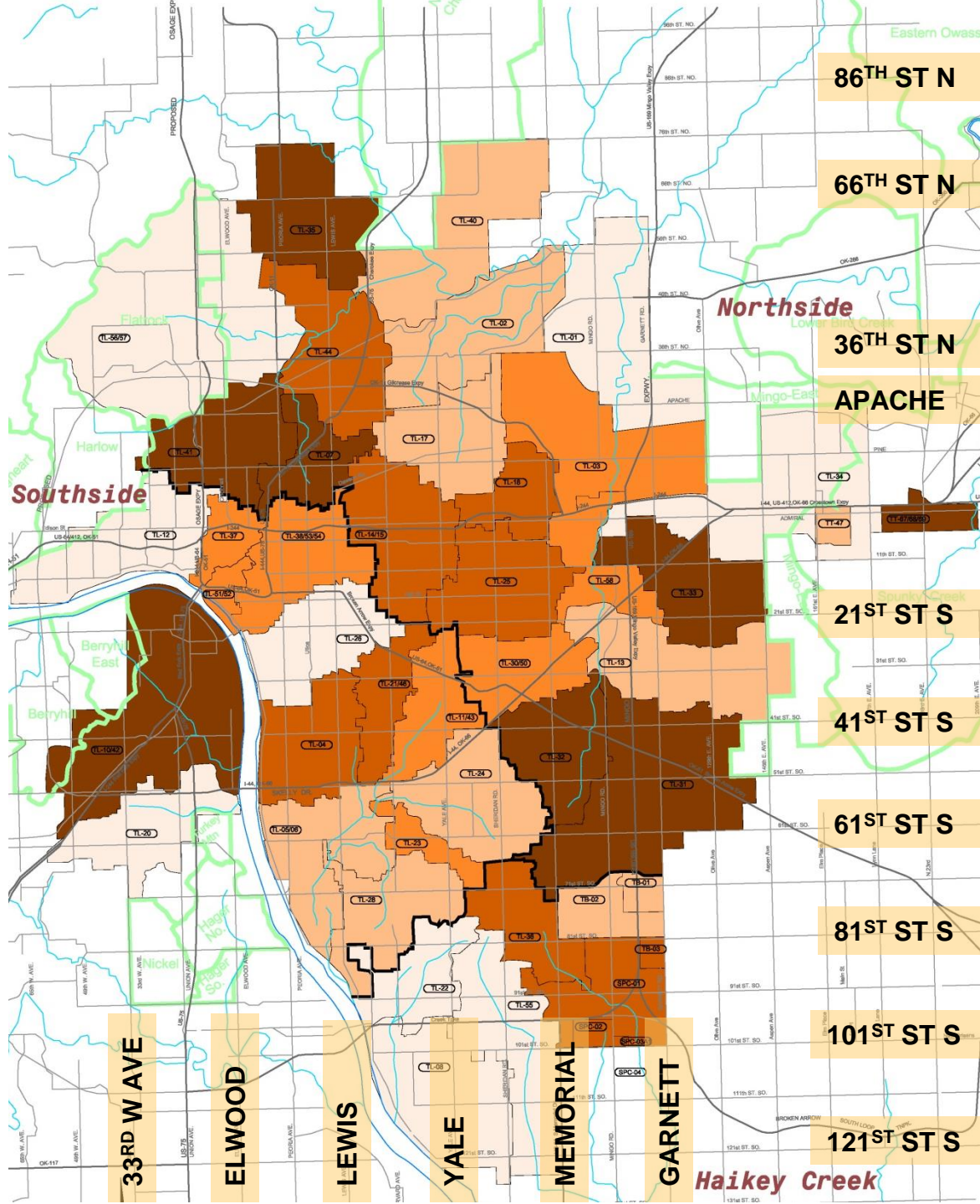


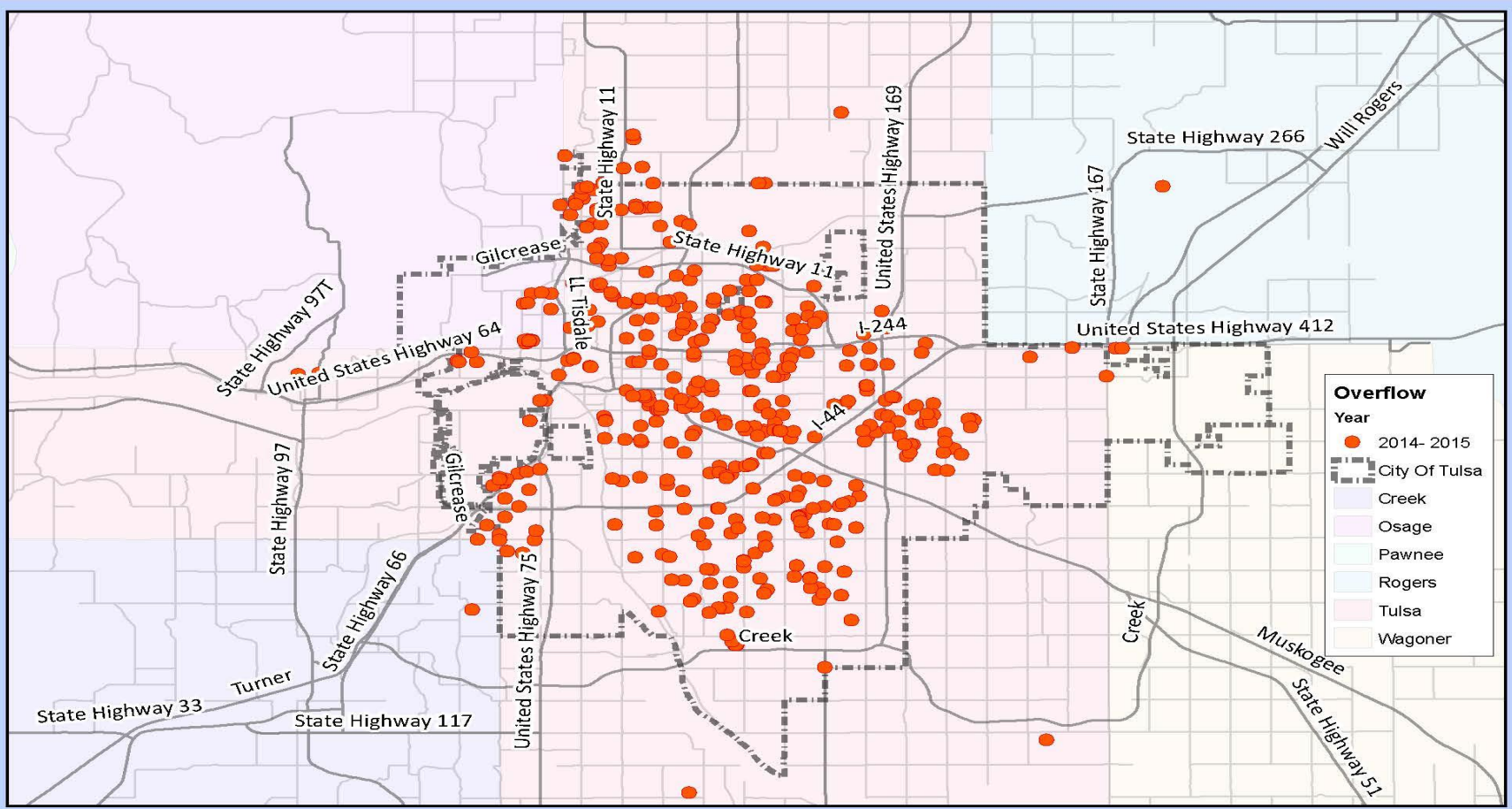
Status



City of Tulsa, Oklahoma
Comprehensive Wastewater
System Study

I/I Control Plan Prioritization





Overflow

Year

- 2014- 2015

City Of Tulsa

- Creek
- Osage
- Pawnee
- Rogers
- Tulsa
- Wagoner



Sanitary Sewer Overflow Locations 2014-2015



Status



What it means

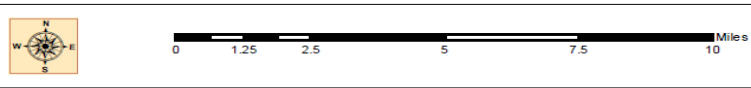
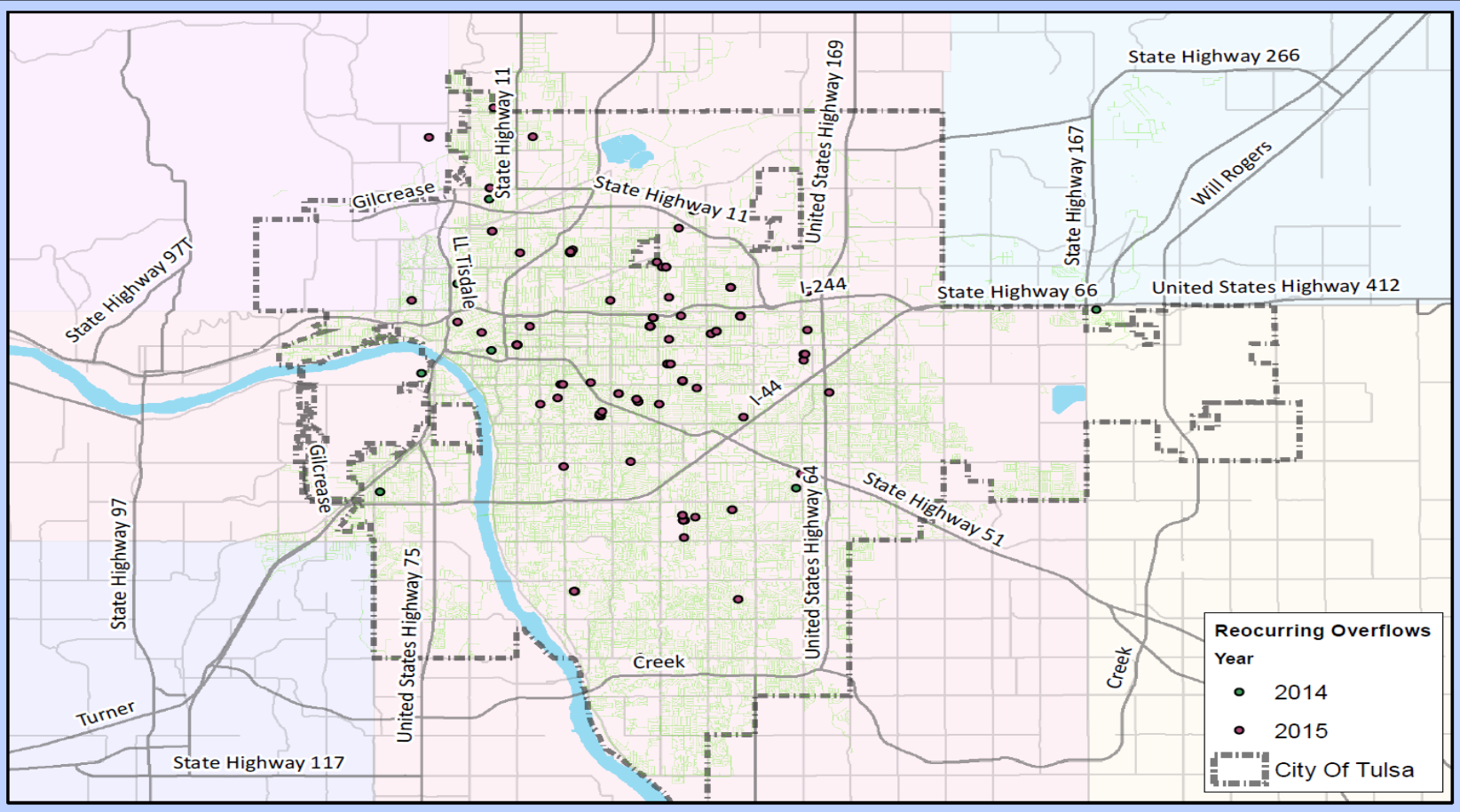
This chart represents manhole sites with overflows during 2014 - 2015

Mayor/Council Goals

Well-Being

Improve overall health





Reoccurring Sanitary Sewer Overflows 2014-2015



Status



What it means

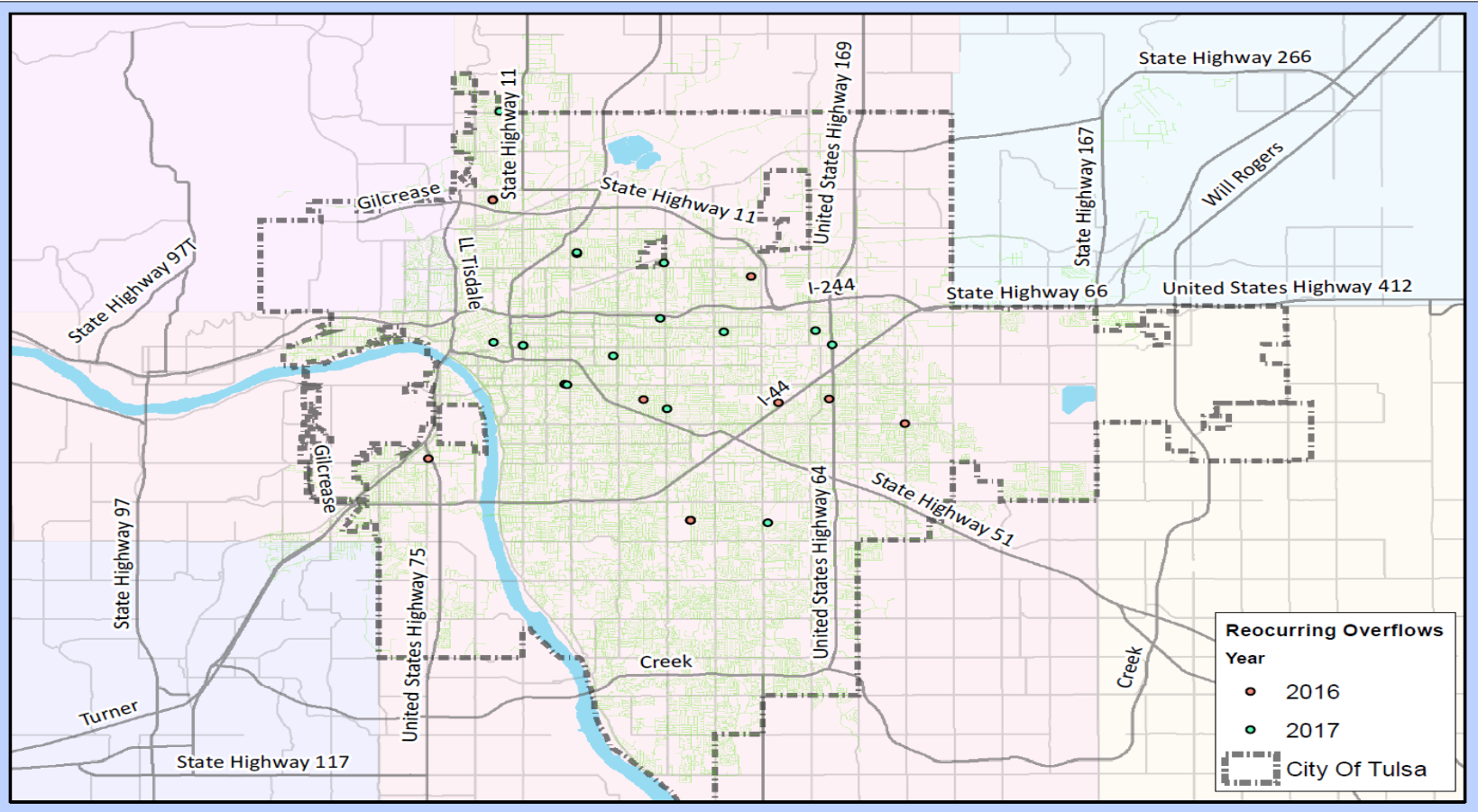
This chart represents manhole sites with repeat overflows during 2014 - 2015

Mayor/Council Goals

Well-Being

Improve overall health

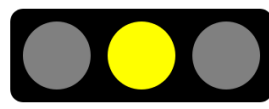




Reoccurring Sanitary Sewer Overflows 2016-2017



Status



What it means

This chart represents manhole sites with repeat overflows during 2016 - Present

Mayor/Council Goals

- Well-Being
- Improve overall health



Strategic Direction & Actions

Strategy	Action Plan / Next Steps	By When	Hurdles
Optimize dollars spent on collection system by monitoring and measuring pipe flow data correlated with rain gauges.	Analyze flow data for dry and wet weather overflows.	Ongoing	Inspection work requires both dry and wet weather patterns.
	Review data to define and/or update CIP business cases.	September 2017	
	Prioritize CIPs for funding in FY19-23 capital plan.	January 2018	Sequencing of improvements
	Work the plan, i.e. construct improvements	FY19	Right-of-way for retrofit in urban areas.



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Support Department Metrics

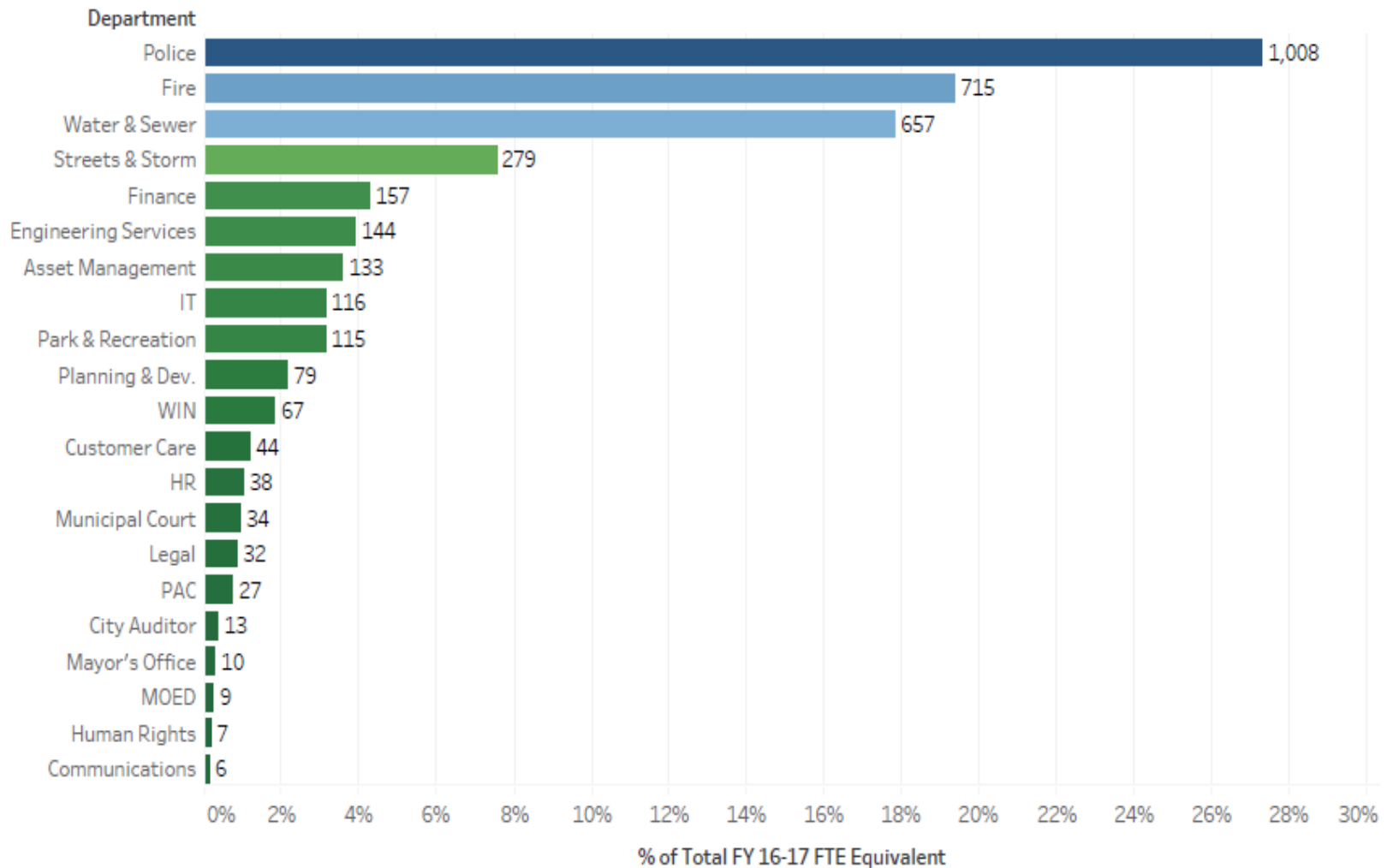
June 23, 2017



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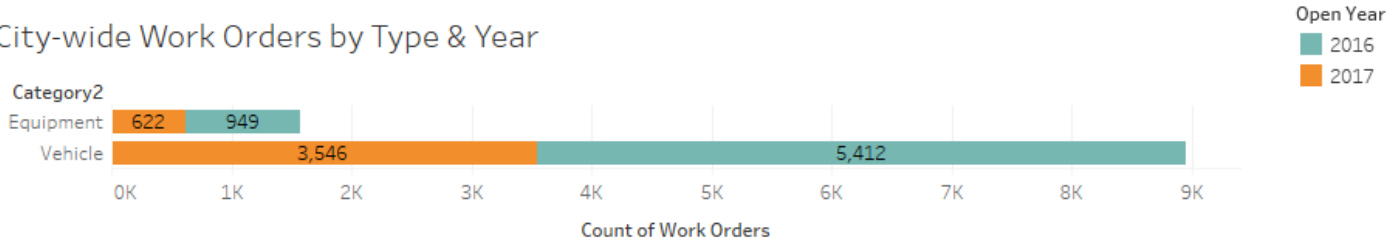
FY 16-17 Authorized Positions by Department

FY 16-17 Dept FTE
Equivalents as % of all FTEs

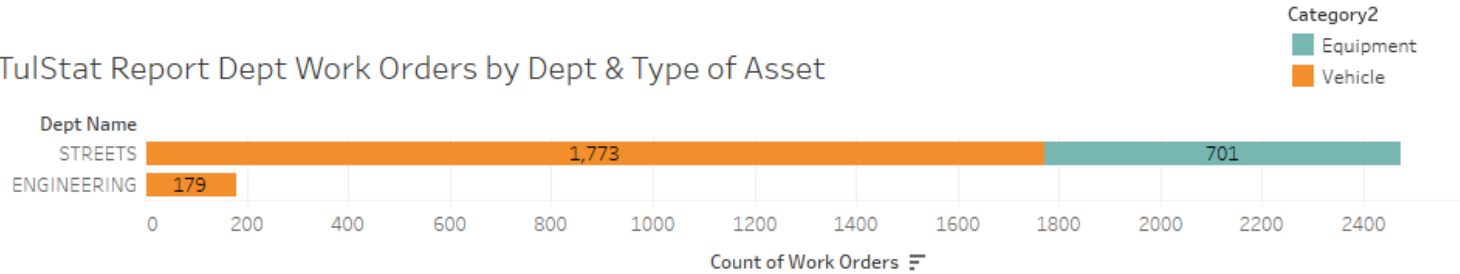


Equipment & Vehicle Maintenance Metrics

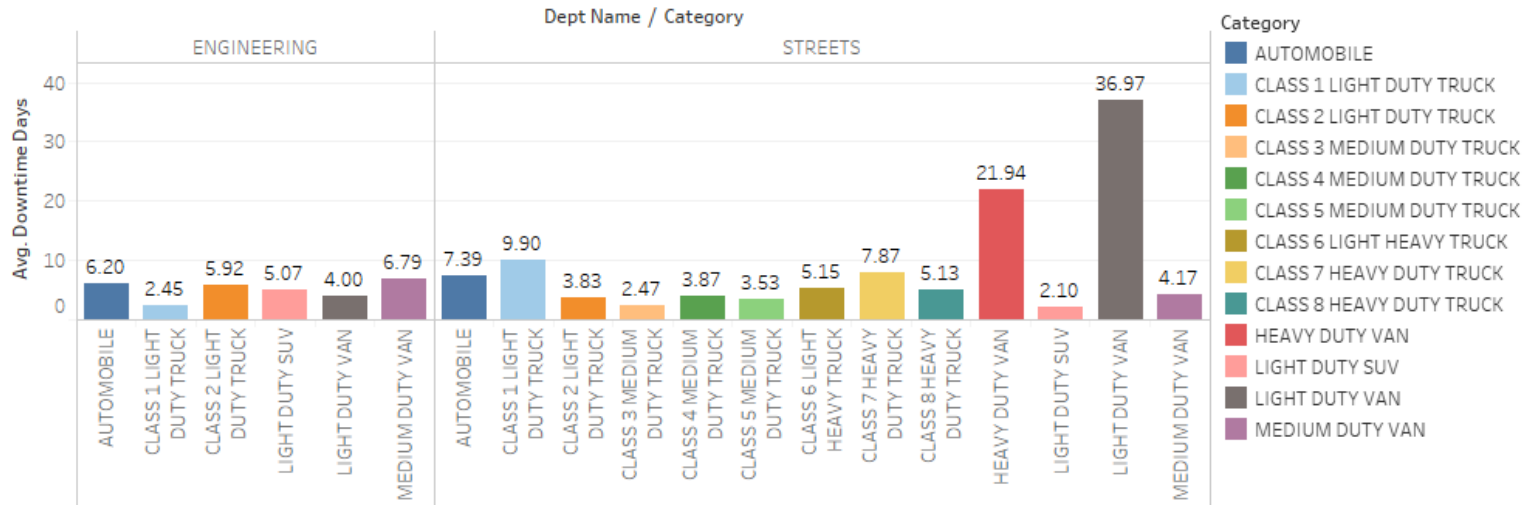
City-wide Work Orders by Type & Year



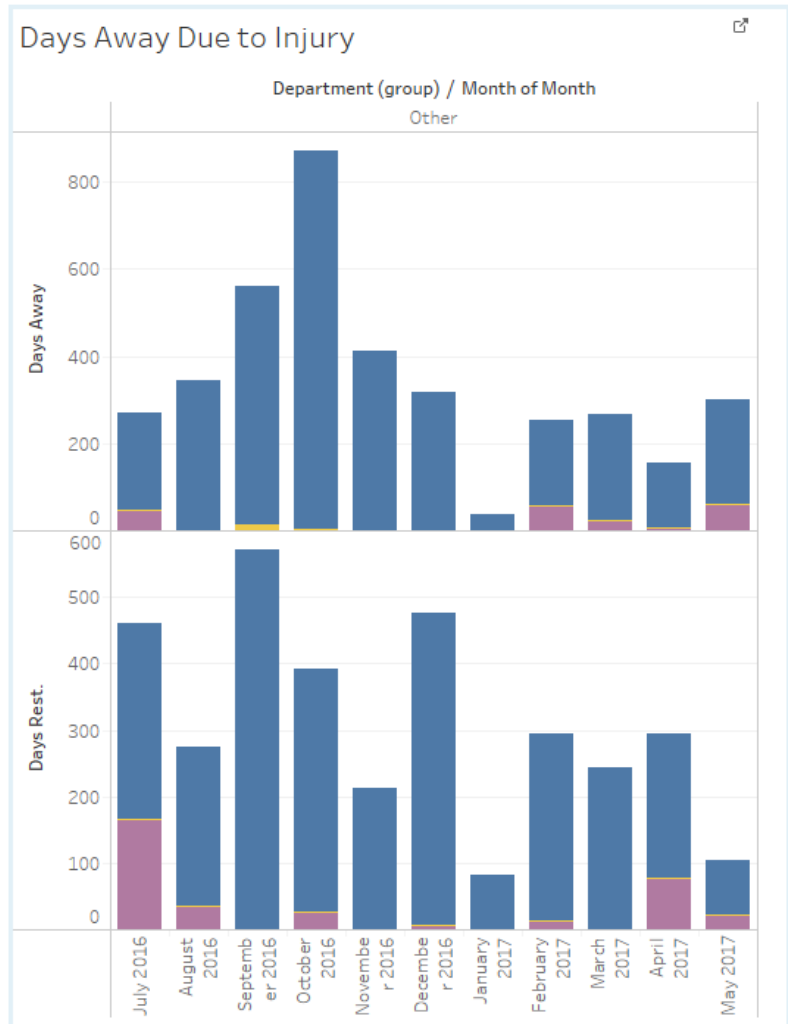
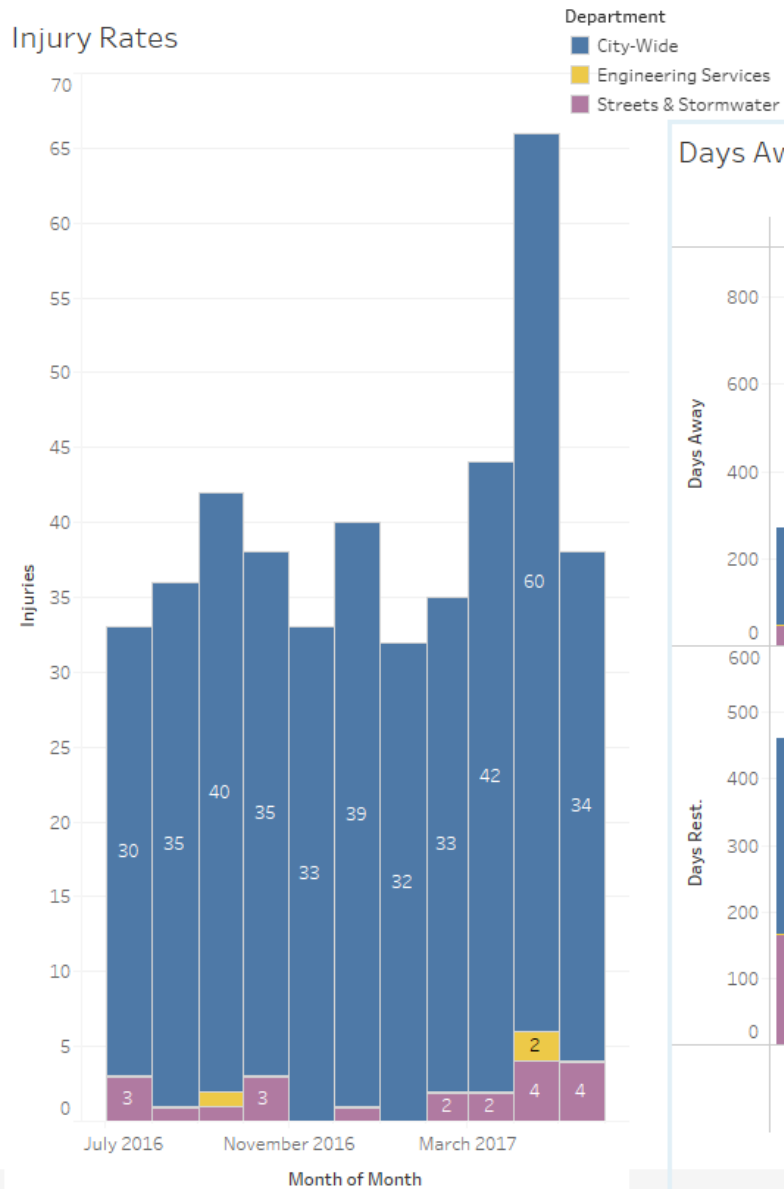
TulStat Report Dept Work Orders by Dept & Type of Asset



Avg Downtime Days by Dept for Vehicles

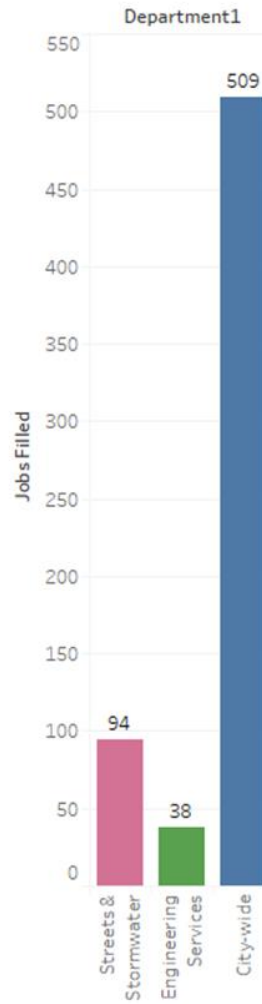


Injuries & Work Days Lost



Jobs Filled Metrics

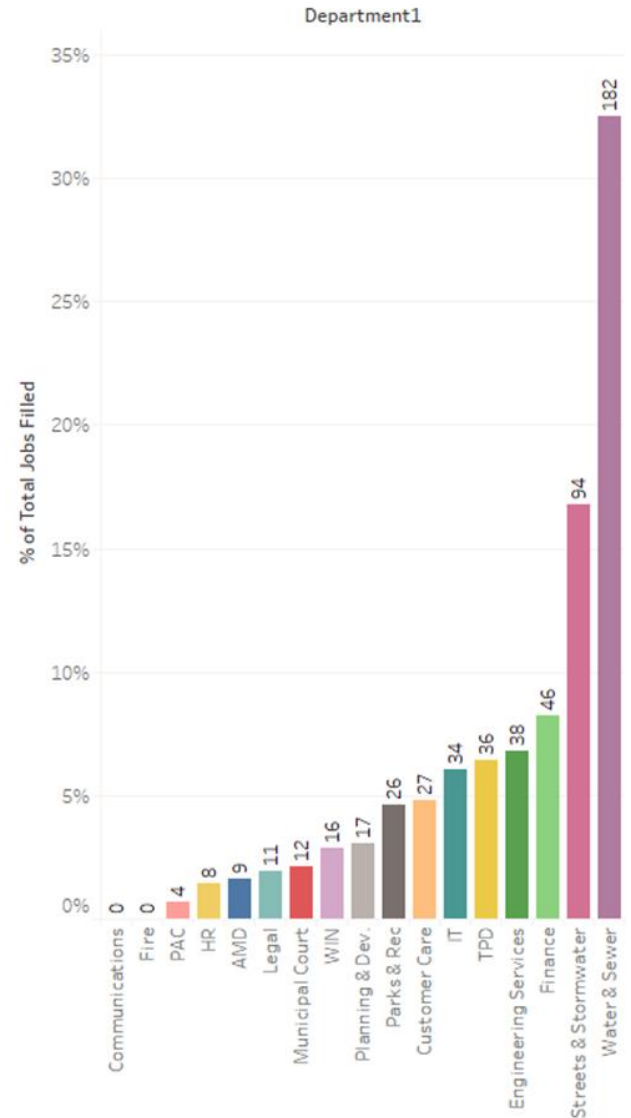
Positions Filled - as % of all positions filled (July 2016-May 2017)



Avg Days to Fill Jobs by Dept.

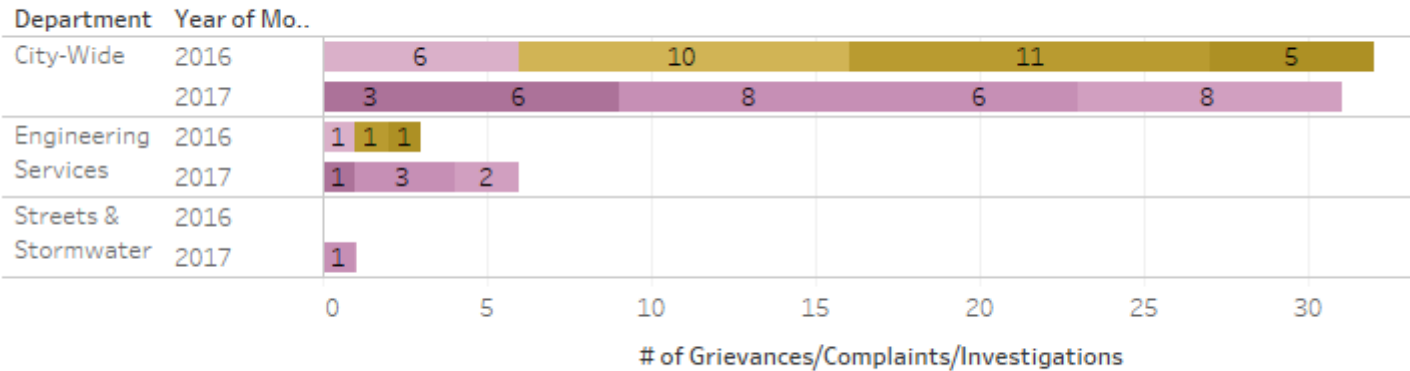
Department1	Avg Days to Fill
Communications	0.00
Fire	0.00
Customer Care	14.09
AMD	15.91
HR	16.50
PAC	16.55
Municipal Court	20.55
Parks & Rec	21.73
WIN	28.50
Streets & Stormwater	33.09
Finance	34.73
TPD	35.73
Water & Sewer	38.36
IT	42.18
Planning & Dev.	49.09
Legal	57.00
Engineering Services	61.09

Jobs Filled City-Wide July 2016-May 2017



Grievances & Investigations Metrics

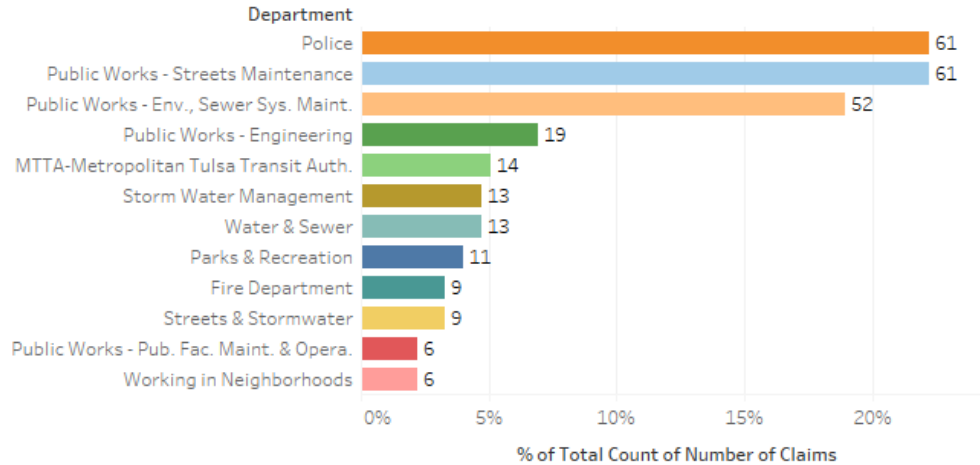
Grievances/Complaints/Investigations



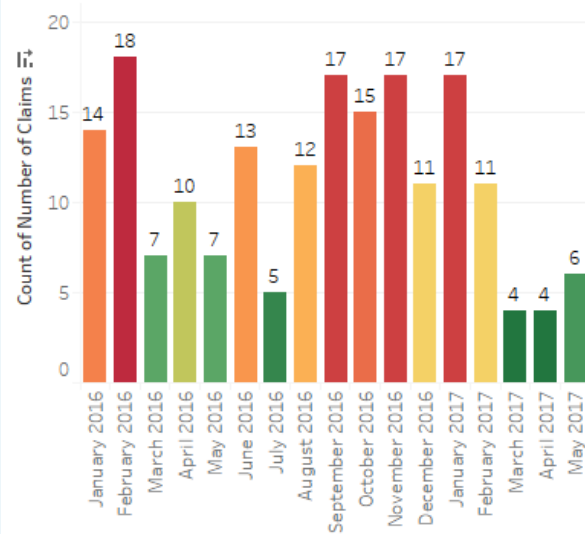
Legal Claims Metrics

Legal Claims Jan. 2016-May 2017

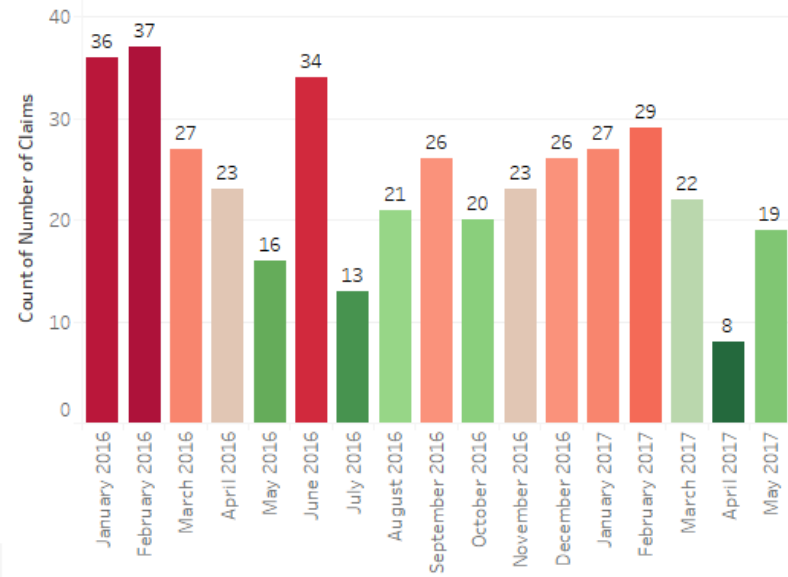
Departments with 5+ Claims



Reporting Dept Claims by Month

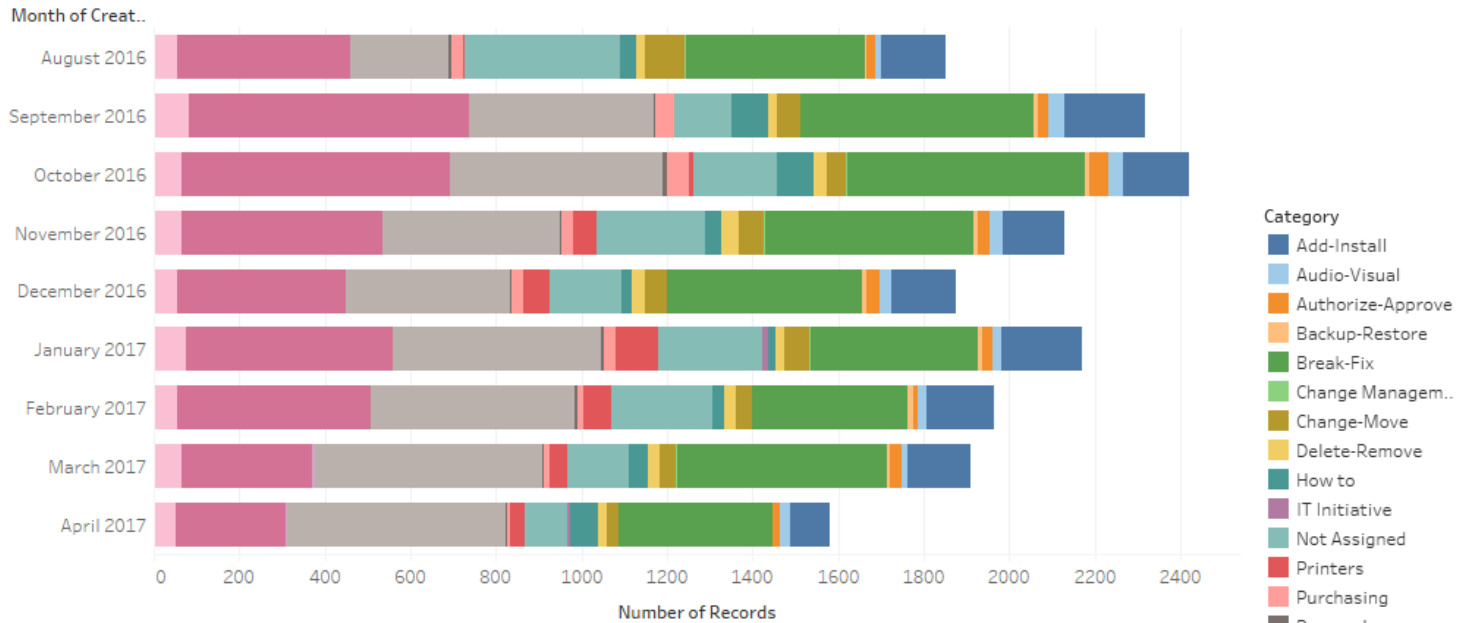


City-wide Count of Claims by Month



IT ServiceDesk Metrics

City-wide Count of IT Completed Tickets



Presenting Dept Count of IT Completed Requests

