



Median Retrofit Projects



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Why Medians?

- Highly visible across the city and large amounts of runoff and overspray onto the street.
- Typical for residents to blame the city for water waste
- Great opportunity to demonstrate water savings to contractors and for future median irrigation installations



Partners

OKC Beautiful

Local Keep America Beautiful Affiliate non-profit with a mission to enhance the appearance of Oklahoma City through education, programs, and community engagement.

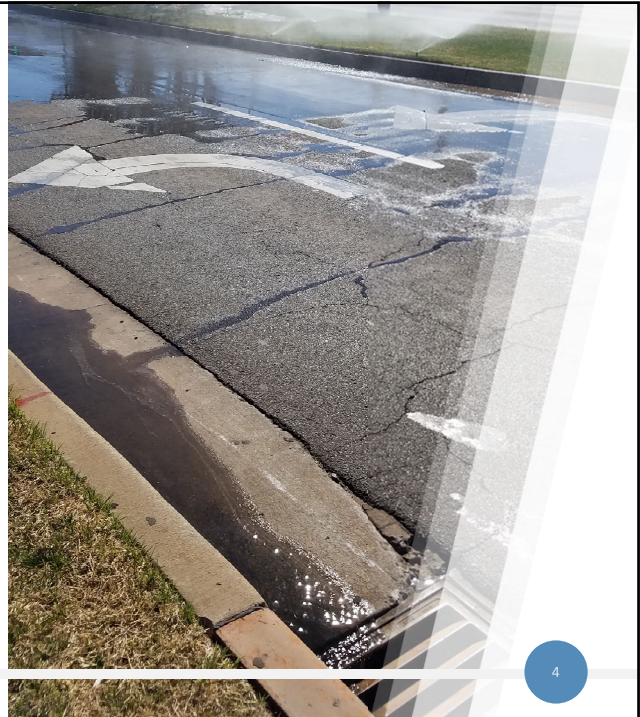
Urban Lawn and Landscape

Oklahoma City irrigation contractor who maintains many of the medians. Provided labor to install.



Pressure-regulated spray head retrofit projects

- Three medians in Oklahoma City
 - Cooper Median (Median 1)
 - Gaylord Median (Median 2)
 - Newmark Median (Median 3)
- Sprays on each median were retrofitted with pressure-regulated versions
- “Real World” scenario



Median 1 - Pressure

Completed in January 2016

- Tall fescue, trees and shrubs
- Six zones
 - 169 heads
 - ~7,400 ft²

Pre-install zone pressures

Zone	Pressure (PSI)
1	60
2	58
3	65
4	60
5	60
6	60
Average	60.5



Before installation - Median 1



Median 1 – Water Consumption

Completed in January 2016

Measured pressure in February 2016, all zones were operating at 30 psi.

Year	Total Water Consumption (thousand gallons)	Rainfall Total (inches)
2013	286	50.5
2014	536	31.9
2015	255	51.8
2016	187	29.7
2017	193	51.1
Average	291	43

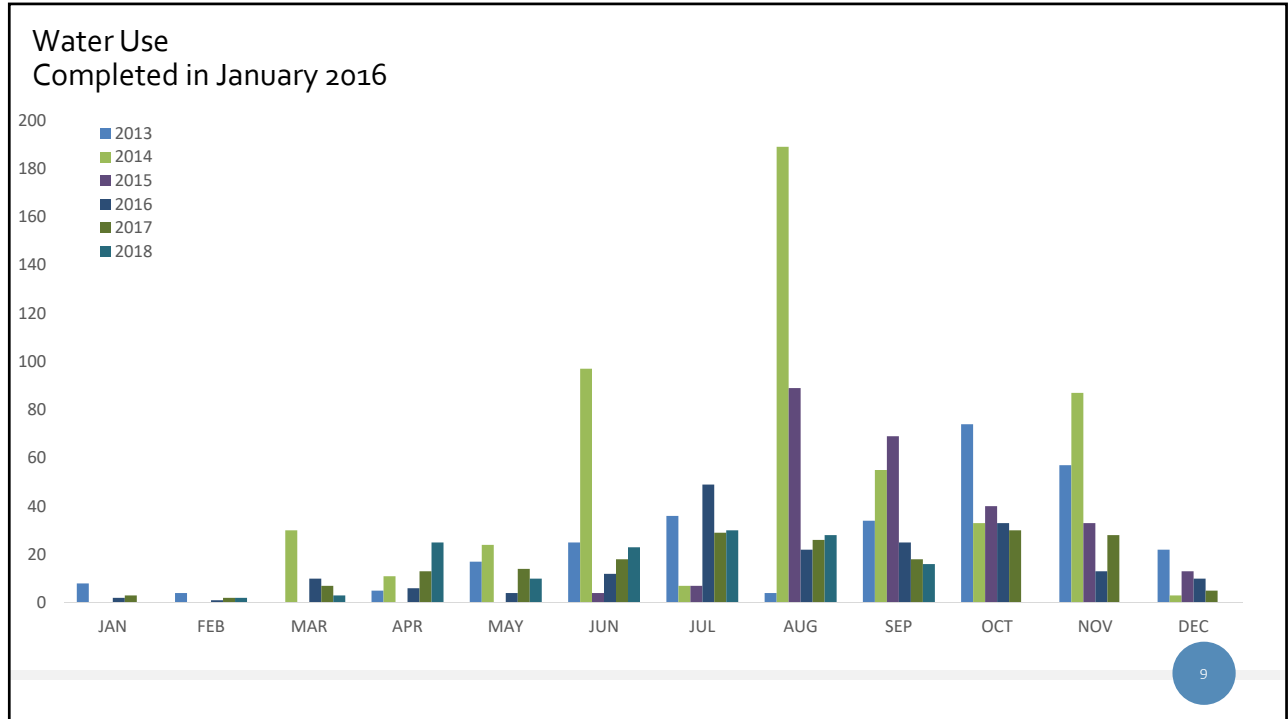


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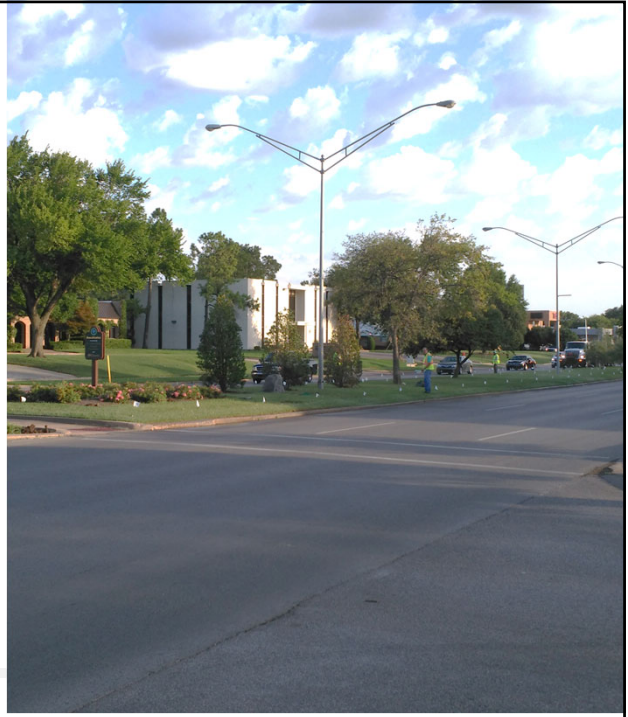


Median 2 - Pressure

Completed in August 2016

- Nine zones (171 heads, ~11,107ft²)
- Tall fescue, shrubs, and trees

Zone	Pressure (PSI)
1	60
2	60
3	60
4	60
5	60
6	60
7	51
8	60
9	62
Average	59



Median 2 – Water Consumption

Completed in August 2016

Year	Total Water Consumption (thousand gallons)	Rainfall Total (inches)
2013	167	50.5
2014	547	31.9
2015	390	51.8
2016	321	29.7
2017	257	51.1
Average	336	43



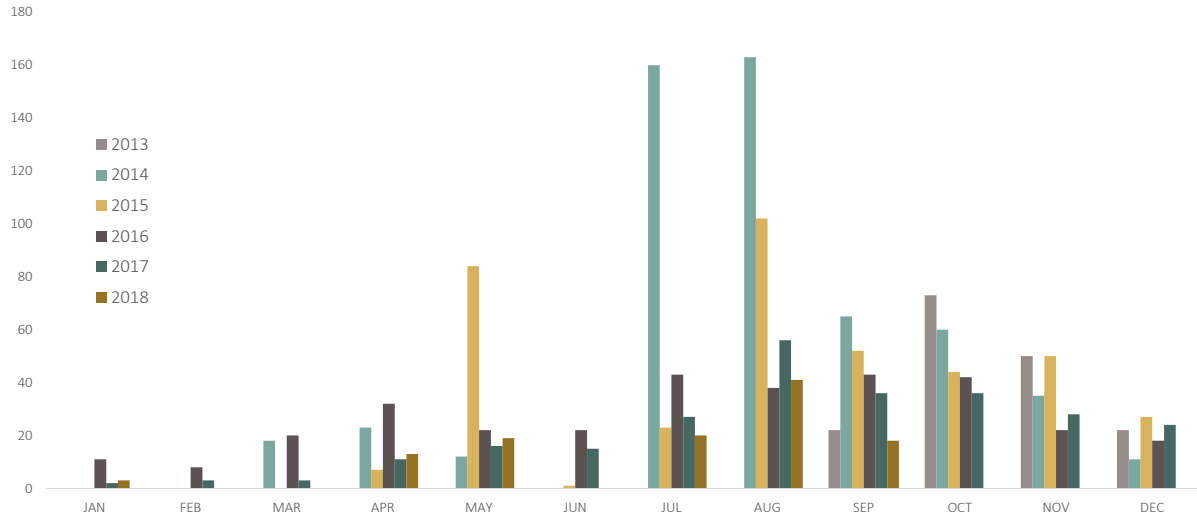
Median 2



October 17, 2018, Follow-up



Water Use Median 2 Completed in August 2016



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Median 3 - Pressure

Completed in July 2017

Pre- and Post Audit Completed

- Average DU improved from 0.45 to 0.69

Seven zones (180 heads, ~32,264ft²)

Zone	Pressure (PSI)
1	55
2	55
3	70
4	70
5	33
6	55
7	63
Average	57



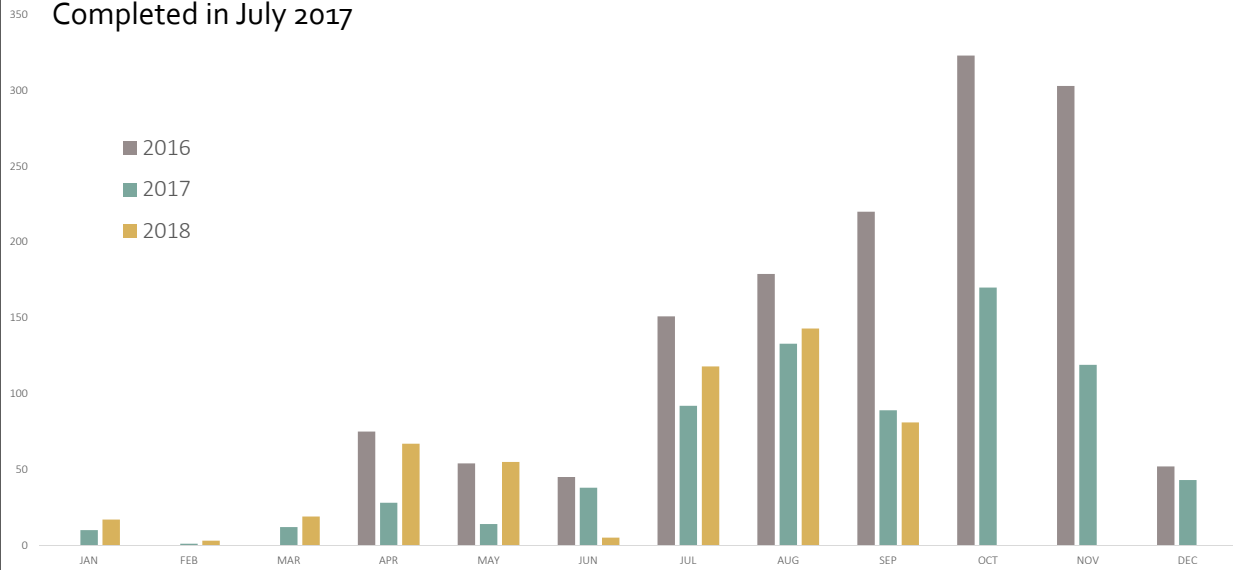
Median 3 – Water Consumption

Completed in July 2017

Year	Total Water Consumption (thousand gallons)	Rainfall Total (inches)
2013	-	50.5
2014	547	31.9
2015	390	51.8
2016	321	29.7
2017	257	51.1
Average		43



Water Use – Median 3 Completed in July 2017



Median 3

Sprinkler Zone*		Rotary DU _{iq}	Spray DU _{iq}	Precipitation Rate (in/hr)	Pressure (psi)
1&2	Pre-Install	0.44	-	0.59	55
3&4		0.61	-	0.67	70
5		-	0.26	2.20	33
6		-	0.37	0.68	55
7		-	0.59	2.00	63
1&2	Post-Install	0.70	-	0.59	65
3&4		0.67	-	0.48	65
5-7		0.71	-	0.44	40

*Zones 1 and 2, 3 and 4 were overlapping zones that supply to one area
Zones 5 through 7 were combined as zone 5 because of the lower-flow



What did we learn?

- Need more information
 - Pre-Audit
 - Post-Audit
 - Flow test at the meter
- Regular maintenance is key to ensure water savings past the installation





Thank you

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