

Smart Metering = Water Education Tool in Round Rock

Background:

- The City of Round Rock, TX, has experienced rapid population growth:
- We have approximately 31,600 direct water connections; of those 29,000 are residential. ${ \bullet }$
- Many new homes being built, the majority include irrigation systems. Most people moving here are not from Texas.
- Current water trends show high peaking in the summer months. We receive many upset \bullet calls regarding high water bills during this time.
- We already offered free irrigation system evaluations, but knew we needed a better way lacksquareto educate customers on their water use—and not just the cost, but the gallons! We determined our meter change out project was a major way to accomplish this need.



Metering Program

AMR water meter retrofit:

AMI meter retrofit:

Began installing new 2-way, 4G meter registers in full-force in 2015 and continue today.

- Began in November 2009 as a pilot in 300 homes;
- Originally planned as a 7-year project.
- All meter change-outs done in-house;
- 7.2 million dollars dedicated to the project to make the City a 100% AMR/drive-by system.
- By 2014, 98% of meters had been replaced. It was a fully drive-by system.
- We began AMI infrastructure installation in March 2014 to start the transition to an AMI system,
- Then...technology changed!!

- Meter lids had to be changed out from metal to plastic; this was an unanticipated cost that added \$800,000 to the project.
- By August 2016, 75% of the residential and small commercial registers are changed out (just over 27,000)
- 4 base stations are installed and 3 repeaters.
- Internal utility staff can access hourly water use on these customers to better serve them.

Examples of AMR water use reports from the AMR (drive-by) system:

These reports require a staff member to drive to the property to download the meter information, specify the time increments, then drive back to office to download on a computer. Could take from 2-hr to 1 week, depending on the requests that came in. While time-consuming, very much appreciated information.





eading 52120 52120

52080 52070 52070

52070 52060 52060

7/29/2012 21:08

29/2012 20:08

/29/2012 19:08 29/2012 18:08

29/2012 09:08

29/2012 05:08 29/2012 04:08

29/2012 02:08



Date & Time	Reading	Usage	1014 2014 2014 511250112501125
07/27/2014 23:35	220560	0	
07/27/2014 21:35	220560	50	
07/27/2014 19:35	220510	10	
07/27/2014 17:35	220500	0	
07/27/2014 15:35	220500	10	
07/27/2014 13:35	220490	1170	
07/27/2014 11:35	219320	1250	
07/27/2014 09:35	218070	1510	
07/27/2014 07:35	216560	1620	
07/27/2014 05:35	214940	1390	
07/27/2014 03:35	213550	1230	
07/27/2014 01:35	212320	1340	
07/26/2014 23:35	210980	1620	
07/26/2014 21:35	209360	1600	
07/26/2014 19:35	207760	1210	
07/26/2014 17:35	206550	1250	
07/26/2014 15:35	205300	1560	
07/26/2014 13:35	203740	1660	
07/26/2014 11:35	202080	1400	
07/26/2014 09:35	200680	1230	
07/26/2014 07:35	199450	1340	
07/26/2014 05:35	198110	1640	
07/26/2014 03:35	196470	1570	
07/26/2014 01:35	194900	0	
07/25/2014 23:35	194900	40	
07/25/2014 21:35	194860	0	
07/25/2014 19:35	194860	10	
07/25/2014 17:35	194850	0	
07/25/2014 15:35	194850	0	

During summer of 2015, we
have 357 requests!

Water use in 2-hour increments; continuous water use for 34-hrs.

7/28/2012	23:08	52050	0
7/28/2012	22:08	52050	0
7/28/2012	21:08	52050	10
7/28/2012	20:08	52040	0
7/28/2012	19:08	52040	0
Mator uso in 1	l hrir		montera
Water use in 1			
small leak her	e, like	e a to	oilet refilling.

Water use in 6-hr increments; large spike assumed to be irrigation system.

8/15/2012 11:0

B/14/2012 17:0

8/10/2012 05:0

- AMI system has a utility dashboard, so water use can be accessed nearly immediately. Water use is updated every 12hours in the system.
- Utility billing staff is able to send this information to customer for them to see and to see more details when customer calls in about a concern (aka: high bill complaint).
- Many customers think this is pretty cool; hope to have our customer portal up and running by spring 2017.
- Some customers still skeptical that this is accurate, but when this information was included with irrigation evaluations, and



the high use days matched up to their irrigation days they

generally had to agree they used the water.

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