November 22, 2021 Meeting

Backup Materials

Contents:

- Presentation: *City of Fort Lauderdale Lighting Master Plan* {Matthew Fursetzer, Kimley-Horn}

- Presentation: *Water Utility AMI* {Glen Hadwen, Sustainability Manager}

City of Fort Lauderdale Lighting Master Plan

CITY OF FORT LAUDERDALE

Sustainability Advisory Board Meeting

November 22, 2021

6:00 p.m.

Presentation Outline/Agenda

CITY OF FORT LAUDERDALE

- Lighting Master Plan Goals
- Lighting Master Plan Tasks
- Energy Savings
- International Dark Sky
- Next Steps
- Schedule
- Contact
- Questions

Lighting Master Plan Goals

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Establish Light Level Standards

- Appropriate light level for roadway classification
- Replacement of existing lighting
- Installation of new lighting

Benefits

- Provide uniform lighting levels
- Light pole spacing that achieves acceptable light levels

Lighting Master Plan Goals

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Standardize Lighting Styles

- Select the right light for each application

Benefits

- Provides a consistent look and feel throughout the City
- Provides enhanced maintenance efficiency

Standardize Lighting Styles

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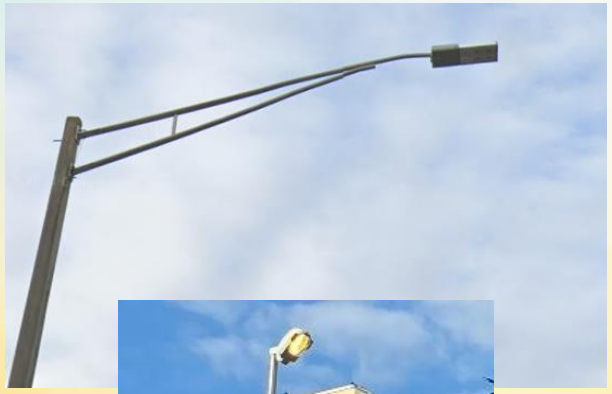
Roadway poles:



Decorative poles:

Pedestrian poles:

Lighting Master Plan Goals

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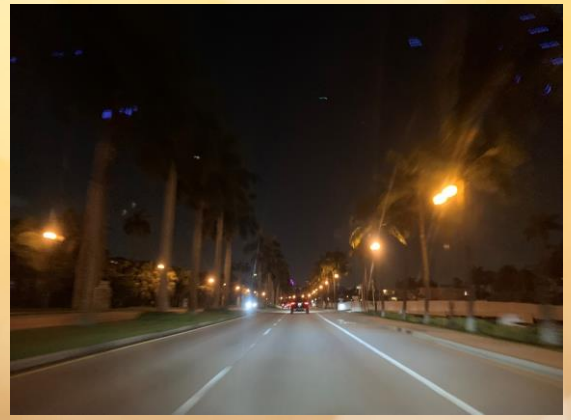
Increase Energy Efficiency

- Replacing existing fixtures with LED
- Appropriate fixture selection

Benefits

- Reduce Energy Costs
- Minimize Glare
- Avoid Light Spillage on Private Property



Lighting Master Plan Goals

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Meet future street lighting needs

- Improve safety for motorists and pedestrians
- Minimizes Impacts to sensitive wildlife areas
- Address maintenance needs

Lighting Master Plan Tasks

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We are here

- Existing Conditions Review and Analysis
- Streetlight Infrastructure Options and Recommendations
- Prioritization Methodology, Implementation, and Funding Recommendations
- Prepare Final Master Plan
- Implementing Improvements

Existing Conditions Review

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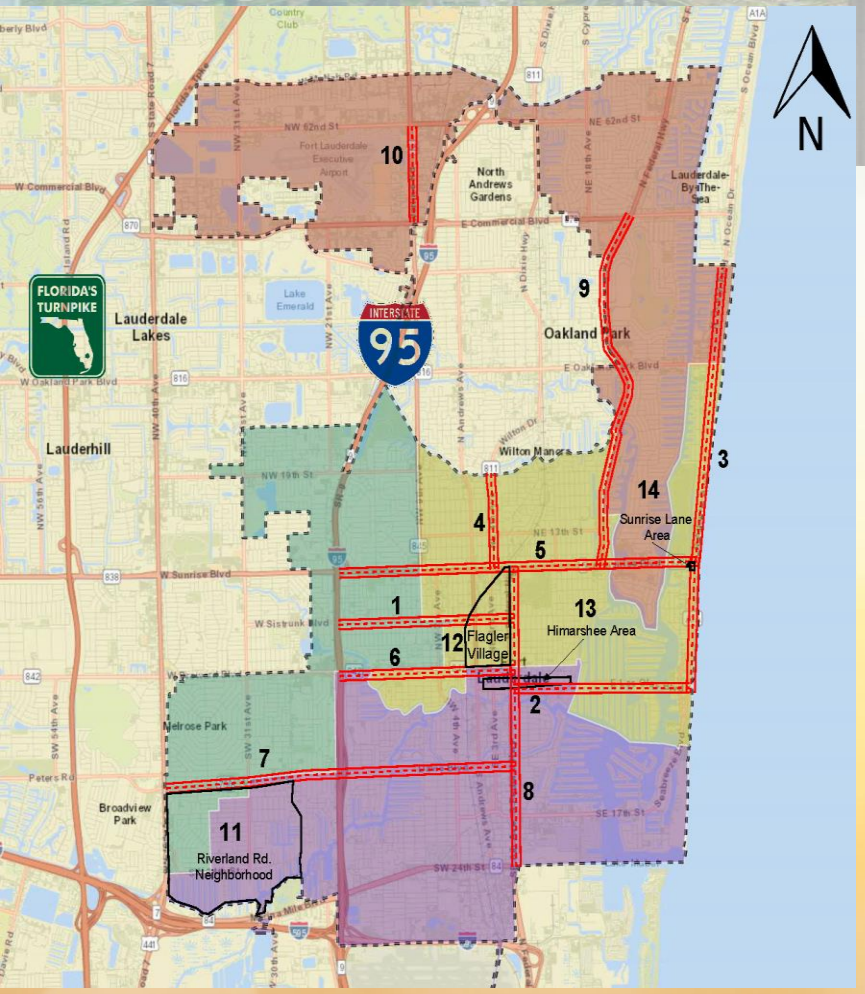
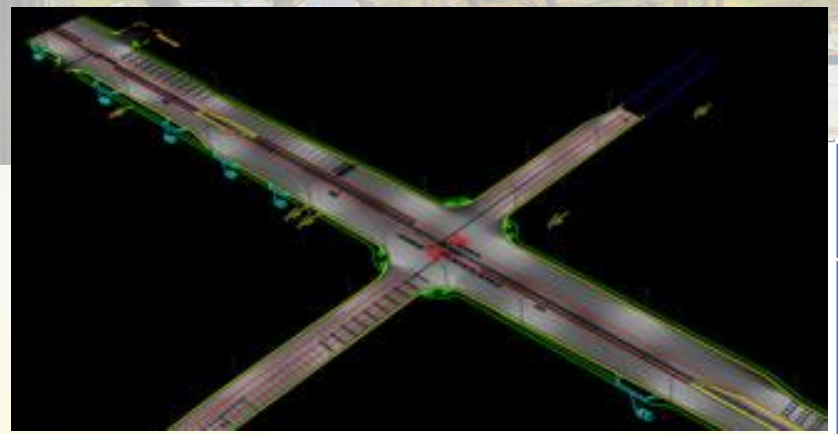


Identify pilot locations



Model existing light levels

Field verify light levels

Existing Conditions and Analysis							
Study Area	Boundary	Luminaire Type	Wattage (W)	Average (fc)	Uniformity Ratio (AVG/MIN, max/min)	Meets FDOT Standard ?	Meets FL Greenbook Standard?
Sistrunk Blvd.	US-1/ Federal Hwy. to NW 1st Ave.	Post Top	150	WB 1.70 EB 1.73	WB 1.31, 1.62 EB 1.33, 1.62	N/A	
	NW 1st Ave. to NW 9th Ave.	HPS and decorative lights	100, 200	WB 0.64 EB 1.57	WB 3.20, 7.50 EB 7.85, 25.00	N/A	
	NW 9th Ave. to NW 24th Ave.	Decorative lights	100, 35	WB 0.35 EB 0.38	WB 3.80, 6.00 EB 3.50, 6.00	N/A	
Las Olas Blvd.	Brickell Ave. to SE 6th Ave.	FP&L light poles, Post Top	150, 200	WB 1.03 EB 1.94	WB 5.15, 23.50 EB 4.83, 11.25	N/A	
	SE 6th Ave. to SE 16th Ave.	Metal Halide	400	WB 3.52 EB 3.52	WB 5.03, 10.57 EB 7.12, 15.60	N/A	
	SE 16th Ave. to S Birch Rd.	Double Post Top HPS	100	WB 0.51 EB 0.63	WB 51.00,107.00 EB 2.33, 3.81		N/A
	S. Birch Rd. to S Fort Lauderdale Beach Blvd.	Pedestrian	61	WB 1.63 EB 1.49	WB 4.08, 16.25 EB 3.73, 15.25		N/A
SR A1A/	SE 5th St. to Sunrise Blvd.	*UNDER DESIGN, OMITTED FROM STUDY*					

Summarize Results

Existing Conditions Review

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City Policies

- Existing street lighting is replaced during ongoing maintenance operations
- New street lighting is typically installed as part of roadway construction or private development

Energy Savings

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- LED light source
- Reduce number of fixtures
- Optimize light layout

LED Light Source

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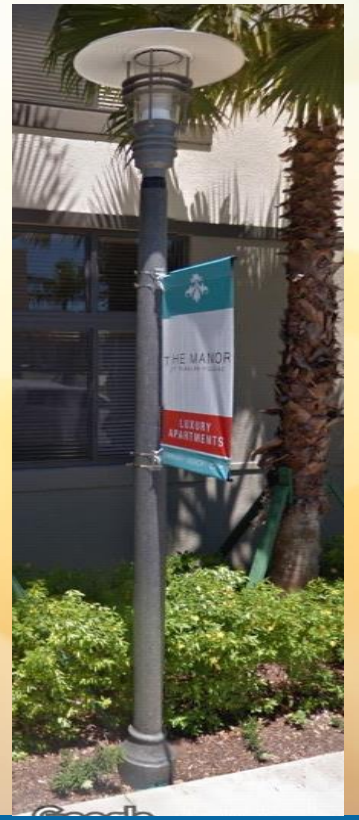
Roadway

Urban



Solar Sources

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- Considerations
- Large panels required for some roadway applications
- Shading from mature trees
- Battery backup recommended for critical infrastructure
- Maintenance cost
- Aesthetics

Reduce number of fixtures

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Roadway and Walkway Classification	Off-Roadway Light Sources	Illuminance method		Veiling Luminance Ratio
	General Land Use	Average Maintained Illuminance (Horizontal) R3 pavement	Illuminance Uniformity Ratio	Lv(max)/Lavg(max)
		Foot-candles (min)	Avg/min (max)	
Principal Arterials	Commercial	1.6	3:1	0.3:1
	Intermediate	1.2	3:1	0.3:1
	Residential	0.8	3:1	0.3:1
Minor Arterials	Commercial	1.4	4:1	0.3:1
	Intermediate	1.0	4:1	0.3:1
	Residential	0.7	4:1	0.3:1
Collectors	Commercial	1.1	4:1	0.4:1
	Intermediate	0.8	4:1	0.4:1
	Residential	0.6	4:1	0.4:1
Local	Commercial	0.8	6:1	0.4:1
	Intermediate	0.7	6:1	0.4:1
	Residential	0.4	6:1	0.4:1
Pedestrian ways and bicycle ways	All	2.0	3:1	N/A

Ft. Lauderdale Lighting Matrix

	Fast Forward Fort Lauderdale Design and Construction Street Typologies (See Pg. 88)												
	City Center			Commercial			Residential			Special Designations			
Light Assembly	Boulevards	Avenues	Streets	Boulevards	Avenues	Streets	Boulevards	Avenues	Streets	Beach Thoroughfares	Industrial Thoroughfare	Shared Street	Green Alley
Typical ROW	90' - 120'	60' - 90'	30' - 90'	60' - 90'	45' - 120'	30' - 90'	45' - 90'	30' - 90'	30' - 40'	60' - 120'	30' - 120'	30' - 120'	20'
A1A Dectorative Assembly										x			
NE 13th Street	x	x	x	x	x		x						
Flagler Village	x	x	x	x	x		x						
Hardy Park						x		x	x				
Seabreeze Blvd						x		x	x				
Galt Ocean						x		x	x				

Florida Greenbook Criteria

Optimize Light Layout

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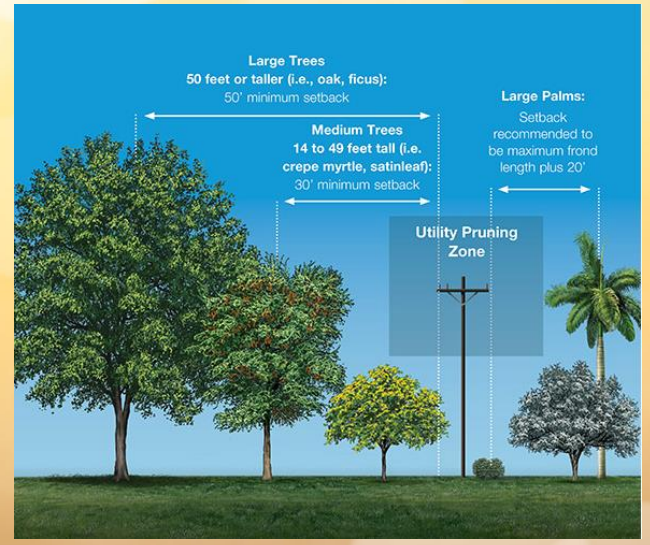
Coordinate landscape and lighting design

Fast Forward Fort Lauderdale
Design and Construction Manual
For a Sustainable and Resilient Community and Cohesive Public Realm
dcm

- 15' minimum separation
- Consider providing additional guidance based on tree type
- Lighting/landscaping review during DRC reviews

FPL

Right Tree, Right Place



International Dark Sky

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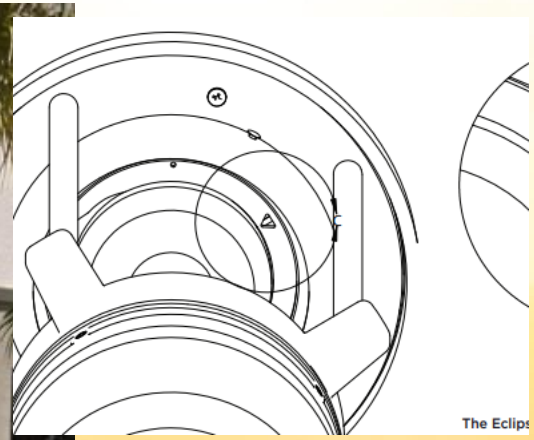
Use full cut off fixtures



Light only what you need

Energy efficient source with the right light level

Next Steps

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- Develop upgrade options
- Prioritize improvements
- Finalize Streetlighting Master Plan
- Implement improvements

Tentative Schedule

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CITYWIDE STREET LIGHTING MASTER PLAN	2021				2022 AND BEYOND
	SEPT.	OCT.	NOV.	DEC.	
Existing Conditions Review & Analysis					
Streetlight Infrastructure Options & Recommendations			We are Here Sustainability Advisory Board Meeting		
Prioritization Methodology, Implementation & Funding Recommendations					
Prepare Final Master Plan					
Implementing Improvements					Contingent on funding.

Note: *Schedule is subject to change.*

Contact

CITY OF FORT LAUDERDALE

Please send any comments or questions to
Enrique Sanchez
Deputy Director of Parks and Recreation
streetlight@fortlauderdale.gov

Visit the project website at www.fortlauderdale.gov/streetlight for more information.

Questions?

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Sustainability Advisory Board Meeting
November 22, 2021

Advanced Metering Infrastructure

Glen Hadwen,
Sustainability Manager

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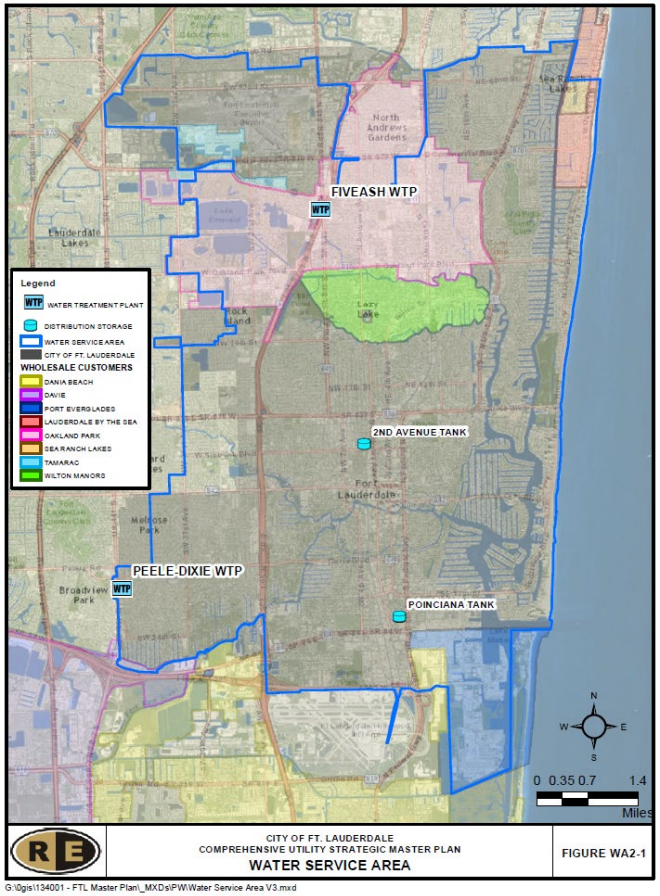
Current Water Utility

- Accounts: ~ 64,000
- Population served: 235,000
- Water provided: 54 mgd
- Manual meter reads
- Difficult to troubleshoot



GREENING OUR ROUTINE
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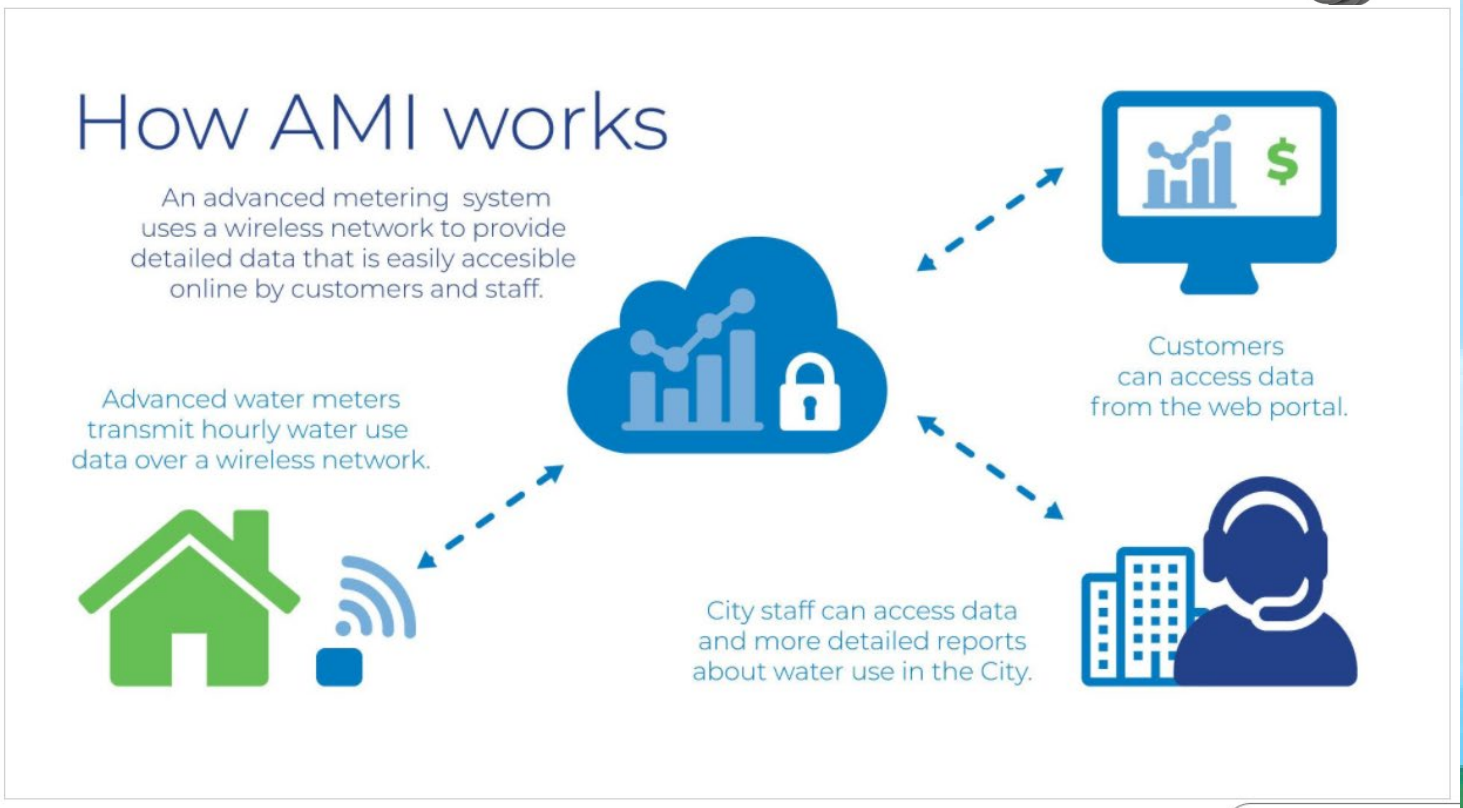
AMI System

- Meters
- Communications network
- Software



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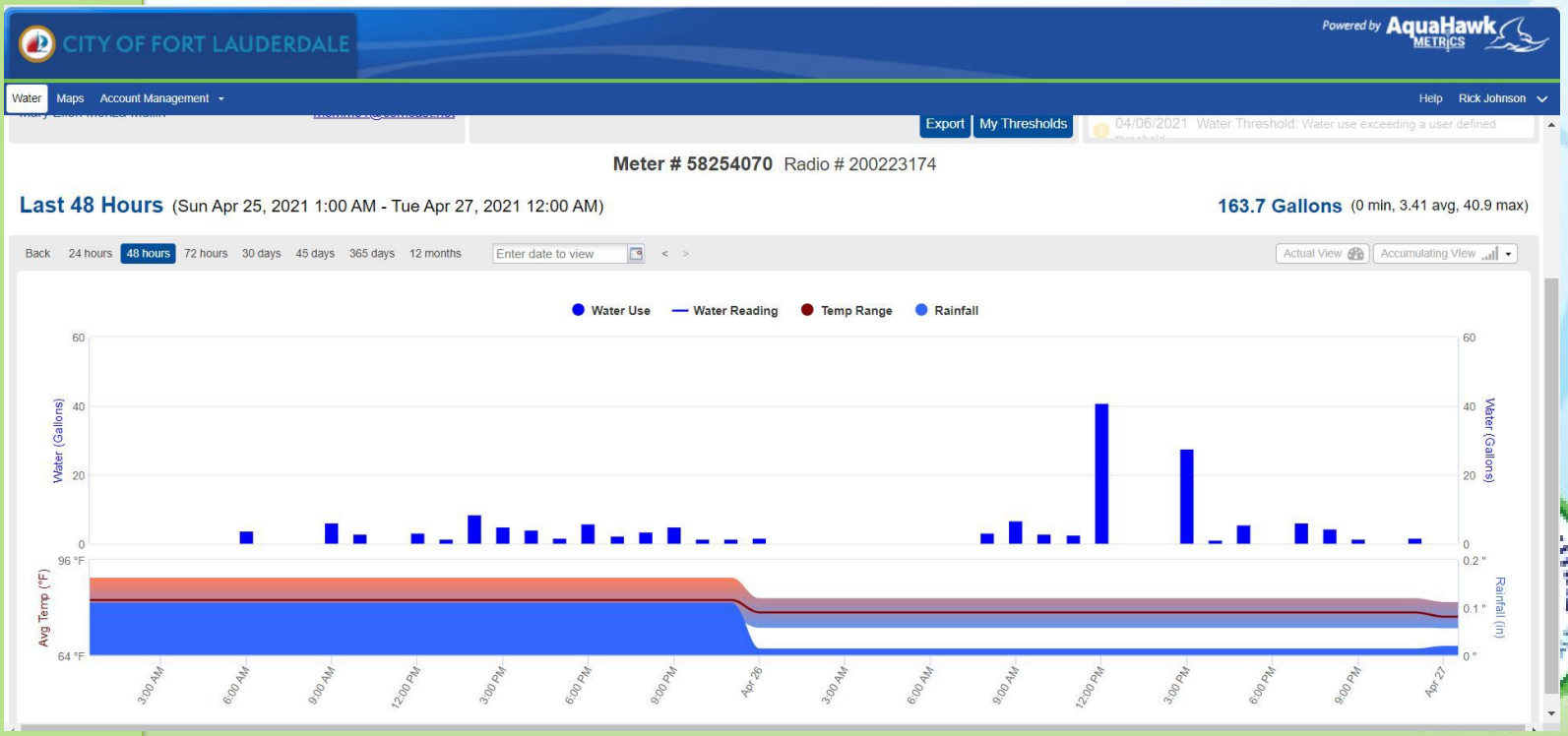
AMI Benefits

- Operational savings
- Increased accuracy
- Reduction of lost water
- Increased revenue
- Real time alerts for leaks, unusual usage, etc
- Better problem diagnosis
- Software portals for customers and staff



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AMI Concerns

- High upfront cost
- Possible neighbor resistance
- Potential for increased water bills due to higher accuracy
- Technology benefits may not be utilized

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Current Status of AMI

Task	Duration
Procurement of AMI Consultant	6 months
Development and award of citywide AMI RFP & solicit funding	12 months
Citywide installation	24 months

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Questions?