



# **WINTER STORM URI UPDATE**

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# PURPOSE

Responding to Winter Storm Uri and resulting Boil Water Notice

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# 5 TO THRIVE VALUES

integrity | teamwork | ownership | communication | respect



# WINTER STORM URI



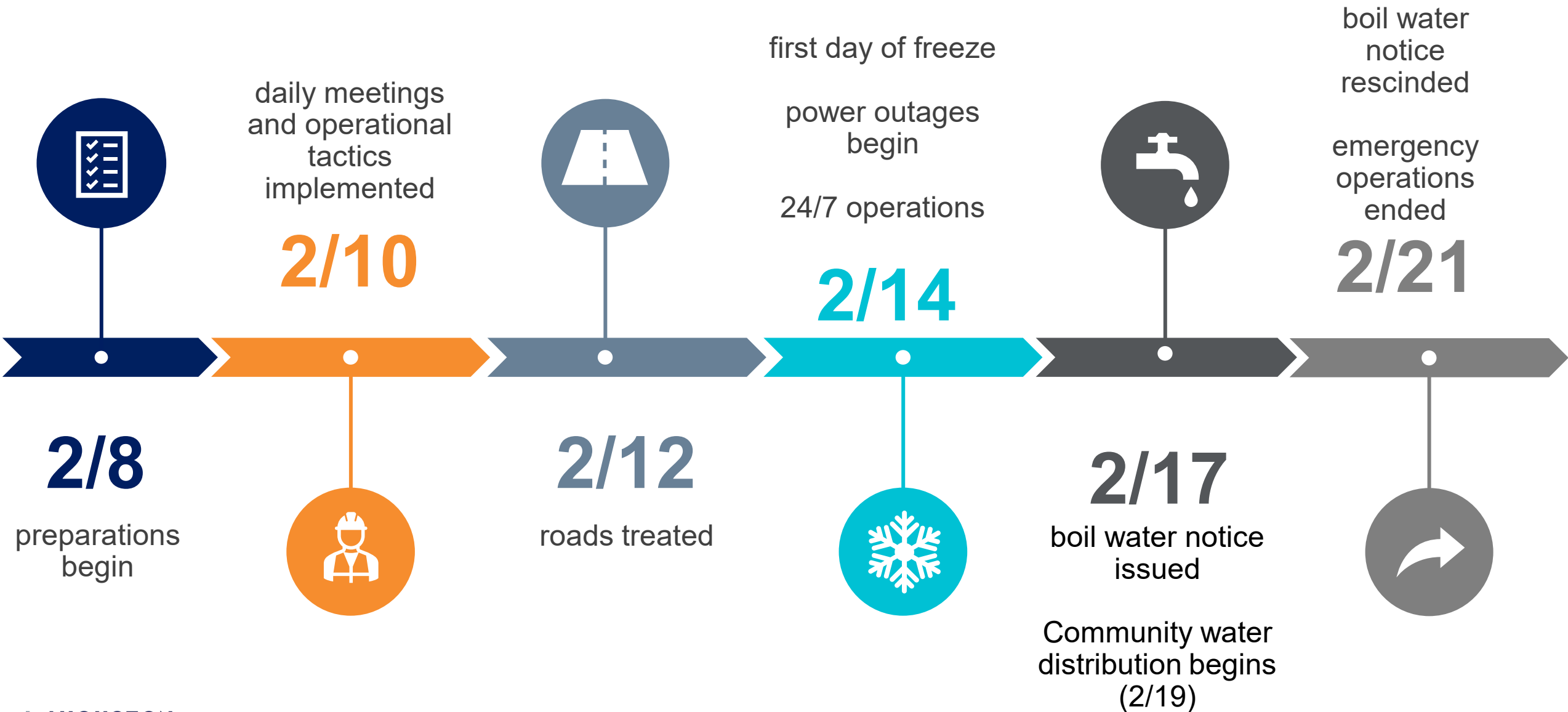
- initial storm hazards: ice, snow, and roads



# WINTER STORM URI

- transitioned into power outages, infrastructure damage, and boil water notice

# WINTER STORM TIMELINE



# STORM IMPACTS

impact to surface water treatment plants

impact to groundwater system

impact to drinking water distribution system

impact to our customers

- boil water notice

- messaging- not dripping taps

# IMPACT TO SURFACE WATER TREATMENT PLANTS

## impact

treatment chemistry is more difficult in colder water temperatures

damage to some chemical feed systems was persistent throughout plants





# IMPACT TO GROUNDWATER SYSTEM

## challenges

54 groundwater plants across a large area of the city

## impact

significant damage to process water lines and appurtenances



# IMPACT TO DISTRIBUTION SYSTEM

## impact

significant increase in water main breaks throughout the system most notably on service mains and private laterals



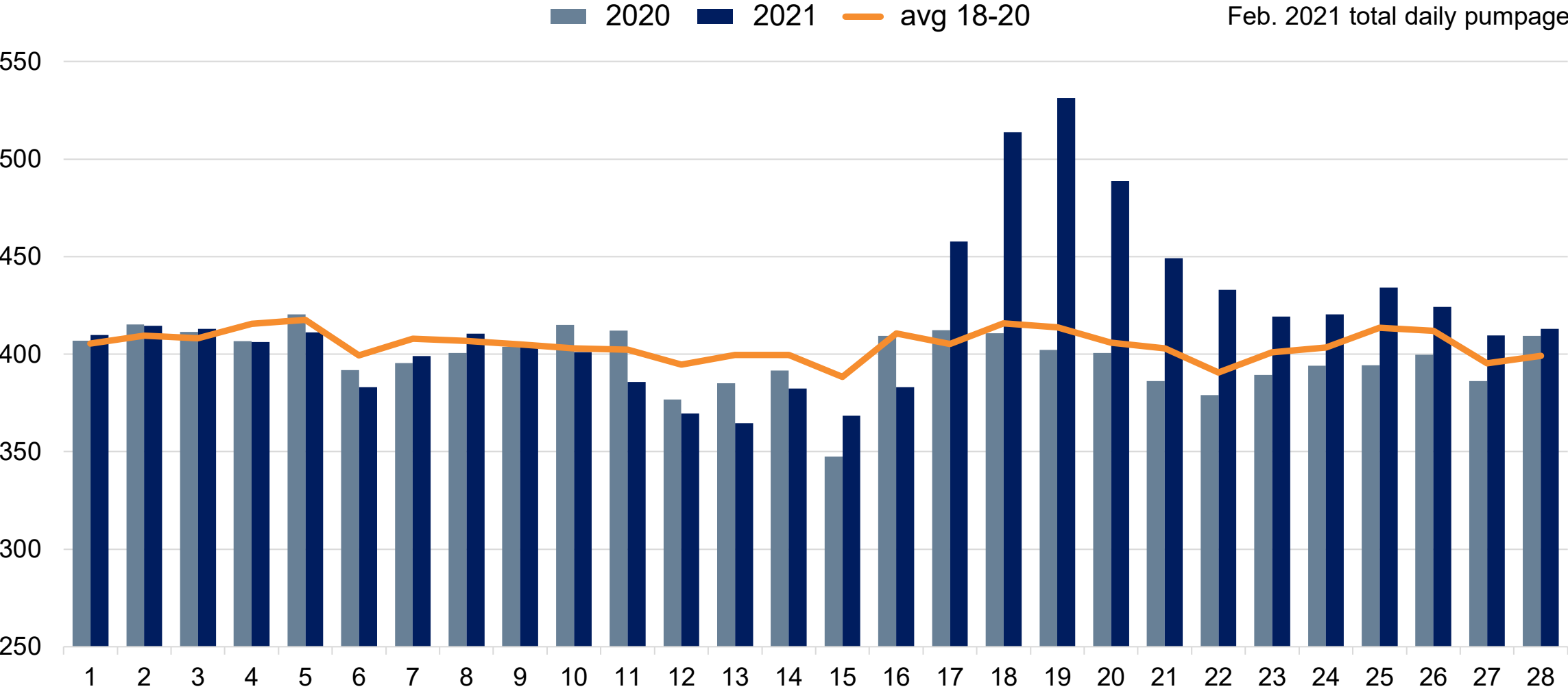
**Do NOT drip your faucets, this will cause low water pressure to our City. Instead, open cabinet doors under sinks to make sure they stay warm.**



**HOUSTON**  
PUBLIC WORKS

## **IMPACT TO CUSTOMERS**

# INFRASTRUCTURE PERFORMANCE



# “NEW” RESILIENCE PLANNING

historically: warm climate challenges

now: cold climate challenges

- diesel vs. natural gas generators
- pipe insulation
- chemicals
- road and deicing supplies





# **FACILITY PREPAREDNESS & RESILIENCE**

## **challenges**

- pipes
- generators
- 24/7 emergency maintenance support

## **mitigation**

- 29 facility full-service maintenance contract

# FACILITY PREPAREDNESS & RESILIENCE

## challenges

- disinfecting chemicals and supply chain

## mitigation

- Evaluating multiple non-local vendors





# REGION WIDE POWER OUTAGE PREPAREDNESS & RESILIENCE

## challenges

- on-site back-up power

## mitigation

- generators
- microgrids and alternative energy
- partnering with CenterPoint

courtesy of NASA

# TECHNOLOGY PREPAREDNESS & RESILIENCE

## challenges

- field systems (i.e., SCADA) and network redundancy
- remote employee support

## mitigation

- establish multiple network paths and “cloud” storage
- increase utilization of One Drive, air cards and cell phone tethering





# CUSTOMER ACCOUNT SERVICES

## challenges

- develop process for shutoffs and reinstatement of water post storm
- refine process for addressing extraordinary events significantly impacting water bills

## mitigation

- winter storm relief ordinance adopted





# PROCUREMENT

## challenges

- warehouse not configured for staging and distribution for a large-scale emergency

## mitigation

- establish warehousing for larger scale staging, distribution and storage

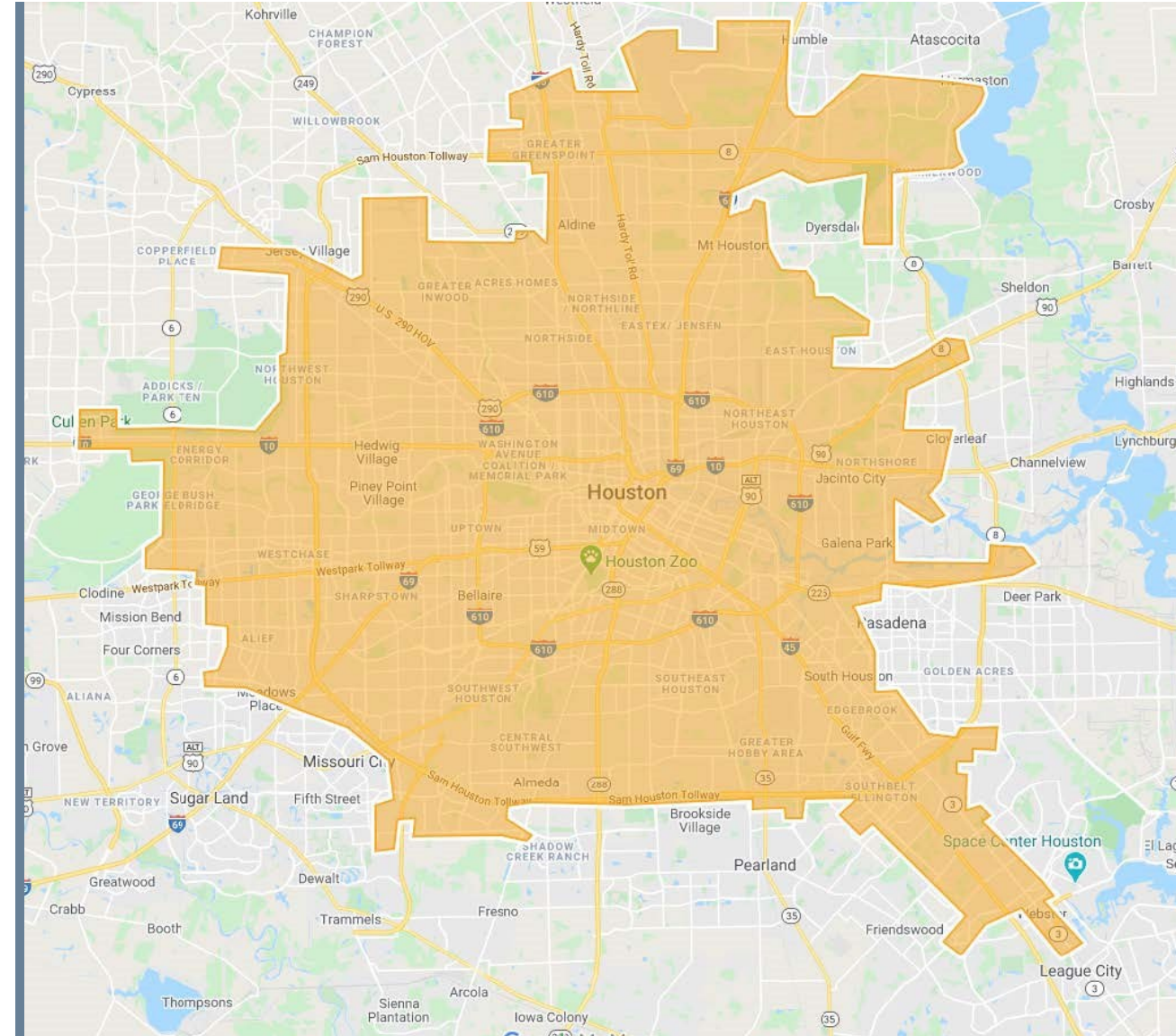
# GOVERNMENT RELATIONS

## challenges

- communicating the specific areas under a boil water notice to council and public

## mitigation

- develop searchable web based interactive map



# NEXT STEPS

WHEN	WHAT
May 2021	HPW full-service maintenance contract

# thank you!



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