



WATER IS
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PROTECTING CALIF•ORNIA'S MOST
CRITICAL RESOURCE

**AC22 CONFERENCE
AND EXPO | APRIL 11-14**

Increasing the Safety and Efficiency of Sanitary Sewer Repairs

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City of San José

April 12, 2022

Presentation Outcomes

At the end of the presentation attendees will understand:

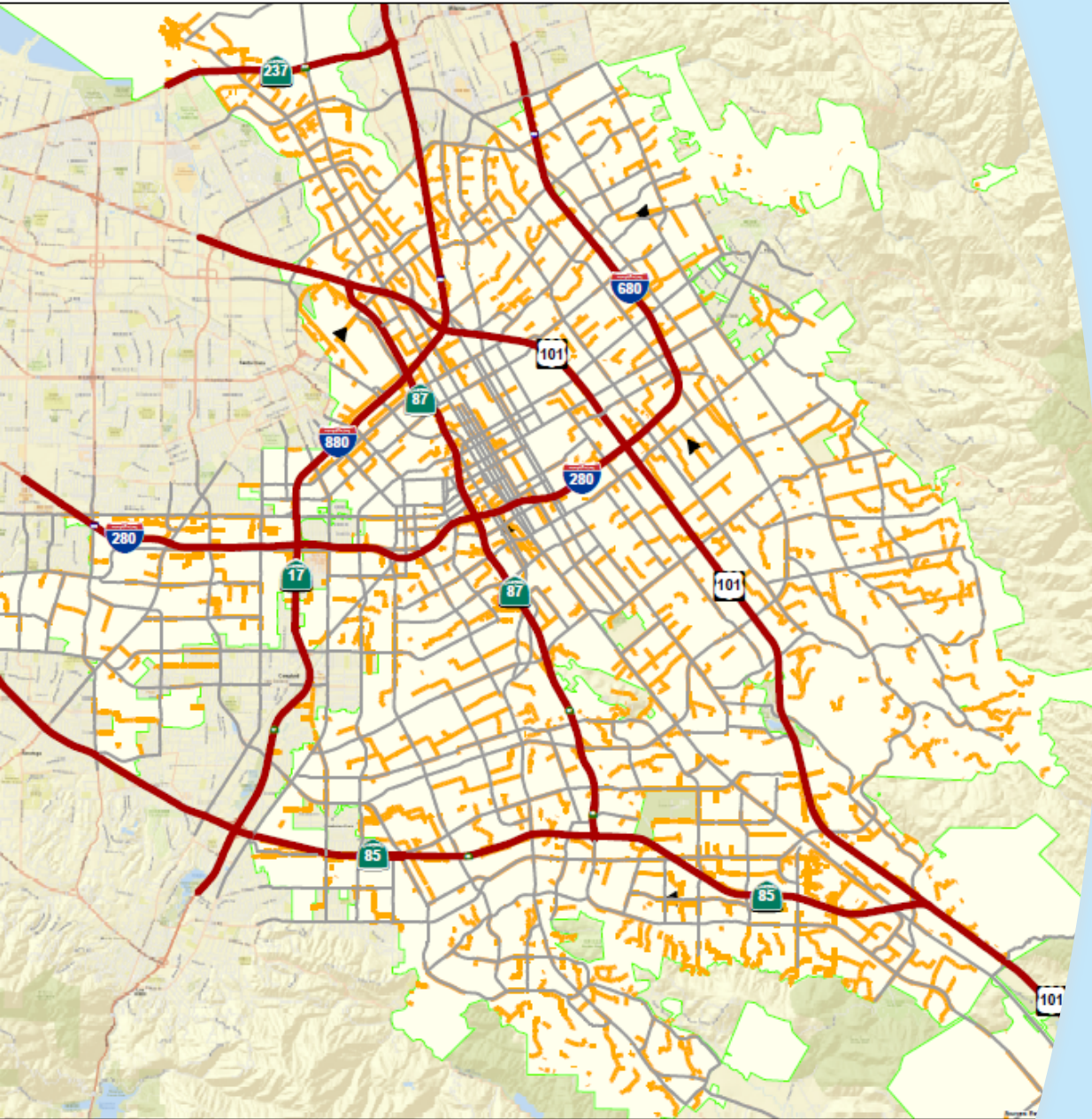
- The San José environment
- How equipment choices enable crews to mobilize more quickly which minimizes potential impacts of sanitary sewer issues What have we done
- How hydro-excavation improves safe completion of sewer line repairs
- How alternate work schedules and ways of assigning work optimize repair job completion



City of San José

- 10th Largest U.S. City
- Population of 1,000,000+
- 180 Square Miles
- Separate Sanitary and Storm Sewers (MS4)





San José Sanitary Collection System

- 2,044 miles of pipes
- 46,358 sewer line segments
- 17 sanitary pump stations
- 2 odor control beds
- 1 odor control dosing station
- Repair crew also conducts repairs on storm collection system



Types of Repairs

- Sanitary Mains
- Manholes
- Storm Assets
- Undermines/Sinks



Types of Repairs



Sanitary Laterals



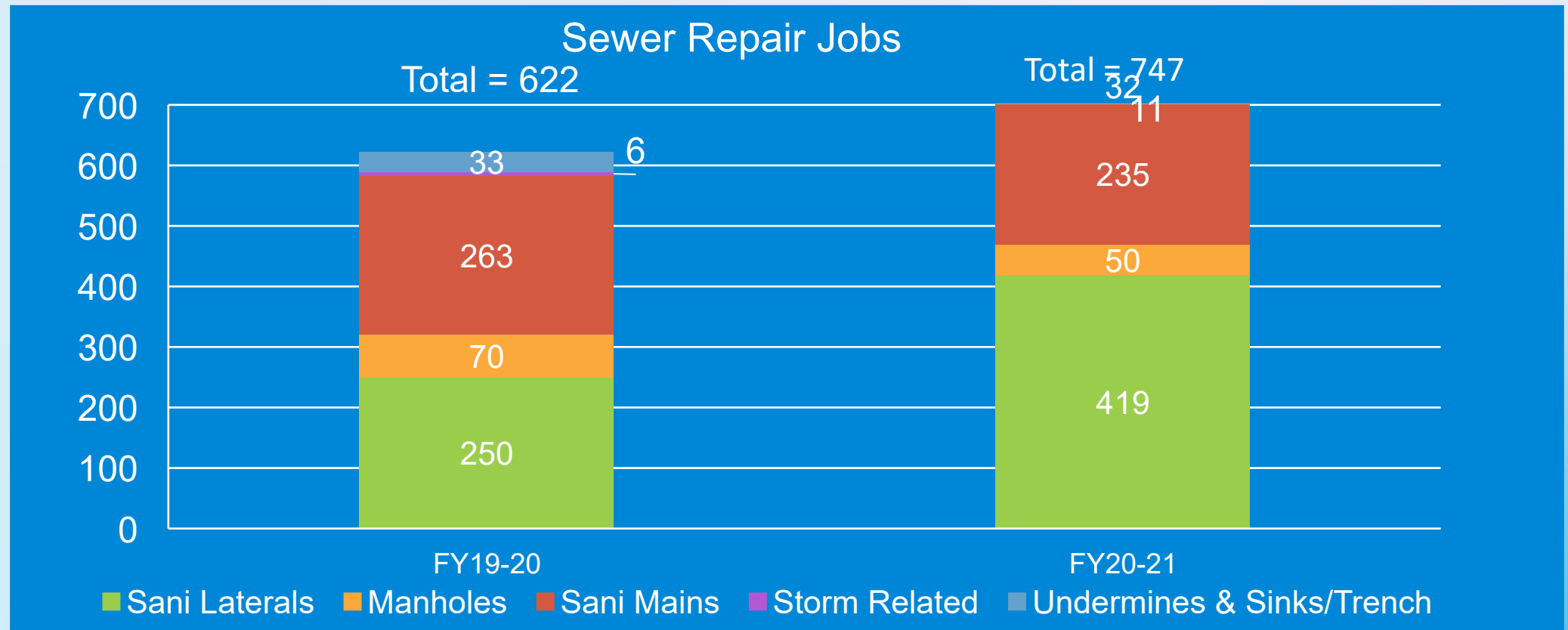
Cleanout Installations



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Sewer Repair Jobs Volume



Optimized Crew Scheduling

Crew make up and schedule:

- Moved from 5/8s to **4/10s schedule**
- **Longer jobs completed in one-day**
reducing number of jobs requiring button up and second day remobilization
- Afforded up to **12 extra production days per month** of when needed



Hydro-Excavation Benefits

- **Increases safety** by reducing hand digging around sensitive utilities (e.g., gas, water, communication lines)
- Enables crews to **mobilize more quickly** because any Class A driver can drive and operate the hydro-excavator
- **Reduces need to rely on HEO** availability in emergency situations



Vehicle Outfitting

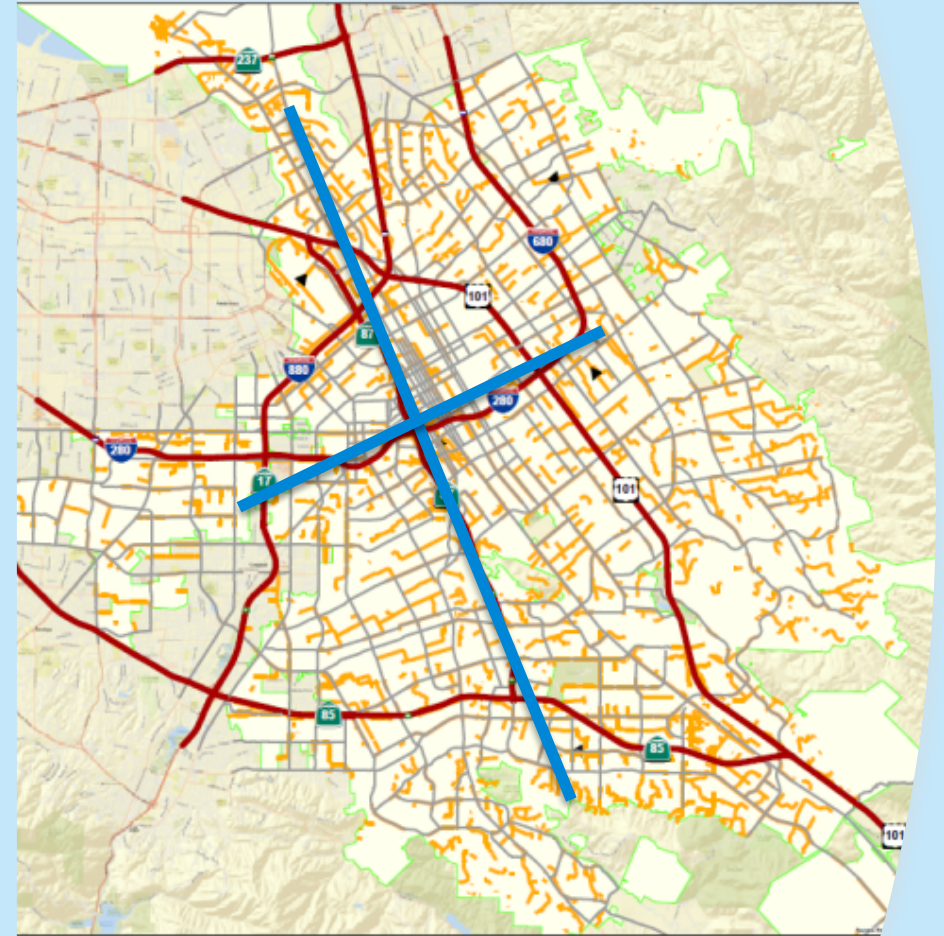
Specifications include:

- **Crew/extended cab** utility trucks
- **Built in compressors and generators** – no longer need tow-behind air compressors
- **Hydraulic-assisted pipe rack** increases storage capacity
- **Plywood storage behind truck cab** increases storage capacity
- **Jack hammer assist** folds out of truck for safer access
- **Wacker drop down bracket** on front bumper for safer access



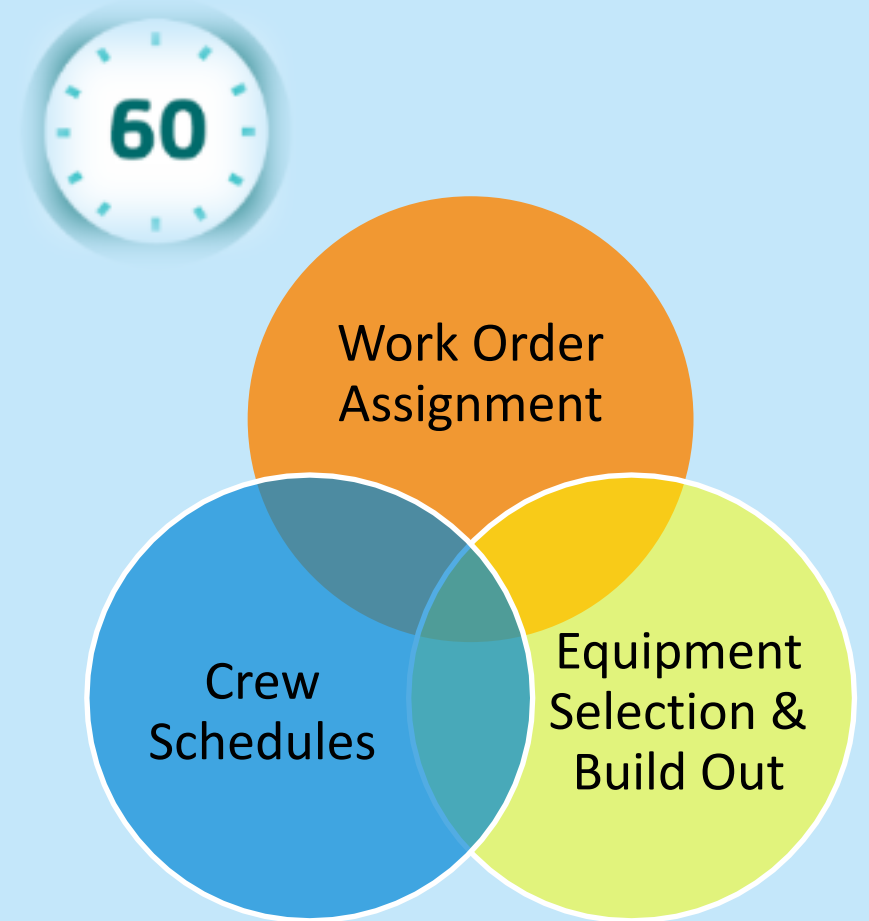
Work Assignment Efficiency

- **Geographic assignments** allowed crews to become familiar with issues they may encounter in different parts of the city so learning curves are reduced (e.g., old infrastructure, soil differences, pipe depths).



Work Assignment Efficiency

- **Emergency triage based on proximity** - work assigned to closest crew available to mobilize based on combination of project status, priority, and proximity
- Improvements in work order assignment, weekly crew schedules, equipment selection and build out, and training **all work together**





Crew Training Increases Flexibility

- Maximized flexibility by ensuring all crew members trained to use all relevant equipment



Summary



- **Optimized Crew Scheduling – 4/10s**
- **Hydro-Excavation optimizes safety and efficiency**
- **Vehicle Outfitting increases safety**
- **Work Assignment reduces response time**
- **Crew Training maximizes flexibility**



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- The full session must be attended to receive contact hour(s).
- One (1) contact hour will be issued per 50 minute session attended.



Q&A

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Thank you

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