

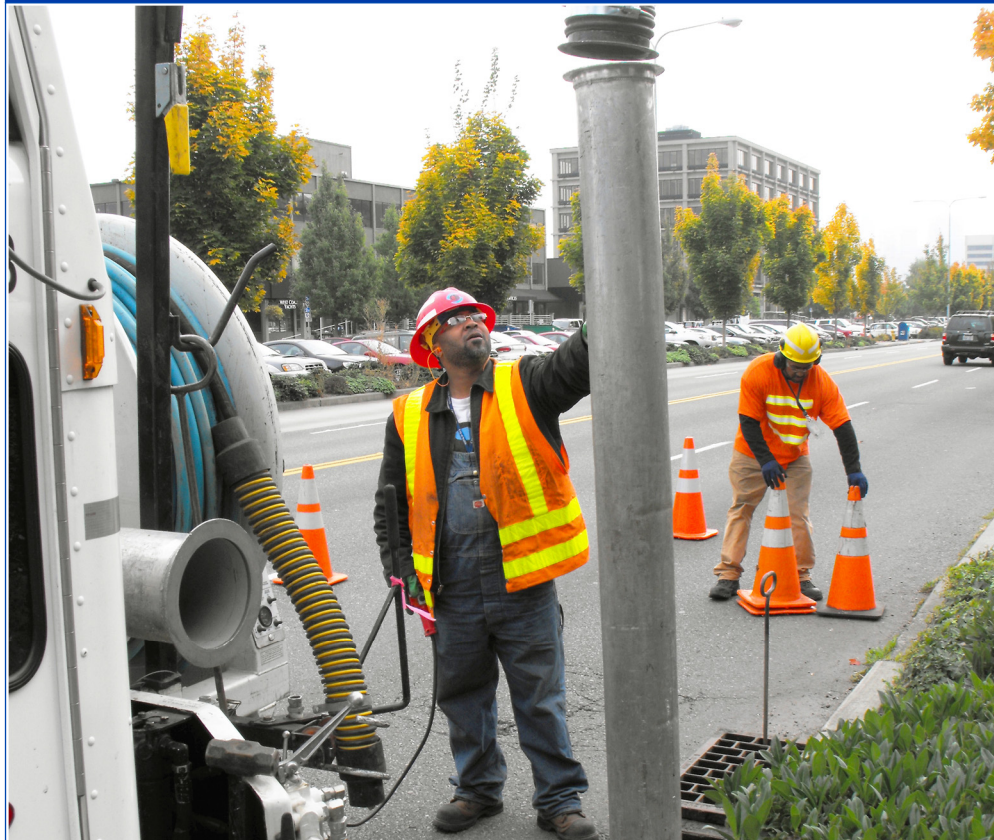


CONVEYANCE PIPES - MAINTENANCE & REPAIR

Solutions Toolbox Factsheet

Sewers and storm drains collect and safely move water around the city. Sewers and storm drains are made from a variety of materials and usually last between 50 and 100 years. To ensure that pipes last as long as possible, utilities regularly clear blockages, inspect pipes, fix leaks, reline pipes, and perform other maintenance and repairs. Investing in the maintenance and repair of existing pipes prevents failures and reduces the risk of flooding and sewer back-ups. SPU owns and operates over 1,400 miles of sewer pipe and more than 400 miles of storm drains in Seattle.

EXAMPLE



SPU crews using a vactor truck to clean a catch basin.
Image credit: SPU

TOOL OVERVIEW

PRIMARY DRAINAGE & WASTEWATER BENEFITS

- **Asset age & maintenance:** prolongs useful life of pipes
- **System capacity:** ensures pipe conditions can accommodate intended flows
- **Climate adaptation & resilience:** reduces flooding, sewer backups, and combined sewer overflow

DESIGN CONSIDERATIONS

- Seek opportunities to pair with road improvements to minimize construction impacts, align investments, and maximize benefits
- Generate maintenance reports to identify chronic issues where larger projects may be needed
- Pair with earthquake resistant structural upgrades, such as bracing

MAINTENANCE CONSIDERATIONS

- Can be performed with other projects
- Climate change and sea level rise may require more frequent and substantial maintenance & repair for pipe corrosion from saltwater intrusion, pipe movement from higher groundwater levels, and more.
- Use of smart sensors can help offset the resources such as staffing, hours, and costs needed to address aging pipes and climate change

CASE STUDY

SPU Pipe Rehabilitation Program - Seattle, WA

Through its pipe rehabilitation program, SPU performs video inspections of pipes. It reviews the video to determine the condition of the pipe. It prioritizes rehabilitation of pipes with poor condition and a high impact if the pipe were to break. This program also informs maintenance activities such as pipe cleaning.

For more information about this case study, visit www.ShapeOurWater.org/Solutions.

TOOL CO-BENEFITS

open/green space & habitat	<input type="checkbox"/>
air quality	<input type="checkbox"/>
water supply & conservation	<input type="checkbox"/>
environmental sustainability	<input checked="" type="checkbox"/>
hazard & climate resilience	<input type="checkbox"/>
economic resilience	<input checked="" type="checkbox"/>
align with other investments	<input type="checkbox"/>
equity opportunity	<input checked="" type="checkbox"/>
community collaboration & ownership opportunity	<input type="checkbox"/>
multi-benefit community amenity	<input type="checkbox"/>
public education opportunity	<input type="checkbox"/>
public health & safety	<input checked="" type="checkbox"/>
minimal construction impacts	<input checked="" type="checkbox"/>

IMPLEMENTATION CONSIDERATIONS

APPLICATION

- **Scale:** neighborhood, district, city-wide
- **Where & when:** public ROW/street, new development, redevelopment
- **Compatibility with other tools:** conveyance pipes (new & upsized), creek culvert improvements, pump stations, real-time controls & smart sensors, side sewer repair & maintenance, stormwater flow separation

SPU ROLES

- Capital program administration
- Maintenance & operations

POTENTIAL PARTNERS

- City Agencies (SDOT)