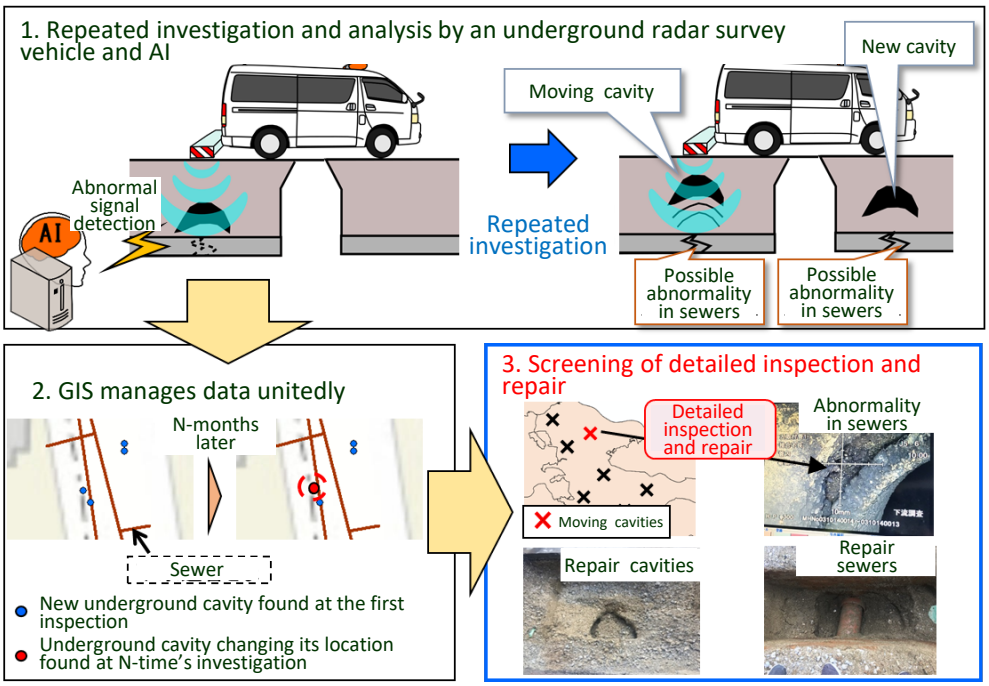
Feasibility Study on the Practical Application of Screening Technologies of Underground Radar Survey Vehicle System and Ai-based Cavity Detection System

Implementer: The consortium of Kawasaki geological engineering co., Ltd., and JS

Efficiently identify severely deteriorated sewer and connection pipes causing road surface deformation and subsidence

Technology Overview

- Focusing on underground cavities moving to shallower areas enables efficient screening of sewers and connection pipes with severe abnormalities.
- The AI-based cavity localization based on the signal data from underground radar survey vehicle reduces personnel and costs for the survey without traffic restrictions.
- GIS can manage the changing cavity locations centrally to narrow the scope of detailed inspection and repair points effectively.



Achievements

- About 90% of the sewer pipelines around the changed cavities had abnormalities.
- The percentage of moderately to severely deformed sewers and connection pipes around the changed cavities was as high as 70%. The rate was as low as 25% in the sewer pipelines around the still cavities

* As a preliminary step to the full-scale testing level, the feasibility study was conducted in 2020-21.