

Assessment of the Cost for Water System Mergers

Prepared for
Water Foundation
by

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Systemic Failure: Why 1 Million Californians

Lack Safe Drinking Water

Small, cash-strapped water districts don't have the financial, political or technological resources to treat some of the United States' most contaminated drinking water.

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READ TIME
Approx. 11 minutes



STORIES IN THIS SERIES

Toxic Taps

Water Deeply's Toxic Taps series looks at the root causes of the safe drinking water crisis in California, how communities are organizing for change and what more needs to be done.



Video: Toxic Taps: The Fight Over Funding for Clean Drinking

Water Projects

July 28, 2017

Context
for this
Project

Key Questions

- What proportion of small systems could potentially be merged with larger systems?
- What is the range of expected one-time (capital) costs?

Project Approach

- Determine pipeline distance between systems
- Estimate merger costs

Summary of Findings



- What proportion of small in violation systems could be potentially merged with larger systems providing safe water?

About 35 to 45% of systems

Summary of Findings

What is the range of expected one-time (capital) costs?

Merger scenario	Joining system size	Cost range
Small systems in violation	Population < 3,300	\$140 M - \$211 M
All small water systems	Population < 3,300	\$3.31 B - \$5.47 B
All very small systems	Population < 500	\$2.88 B - \$3.55 B

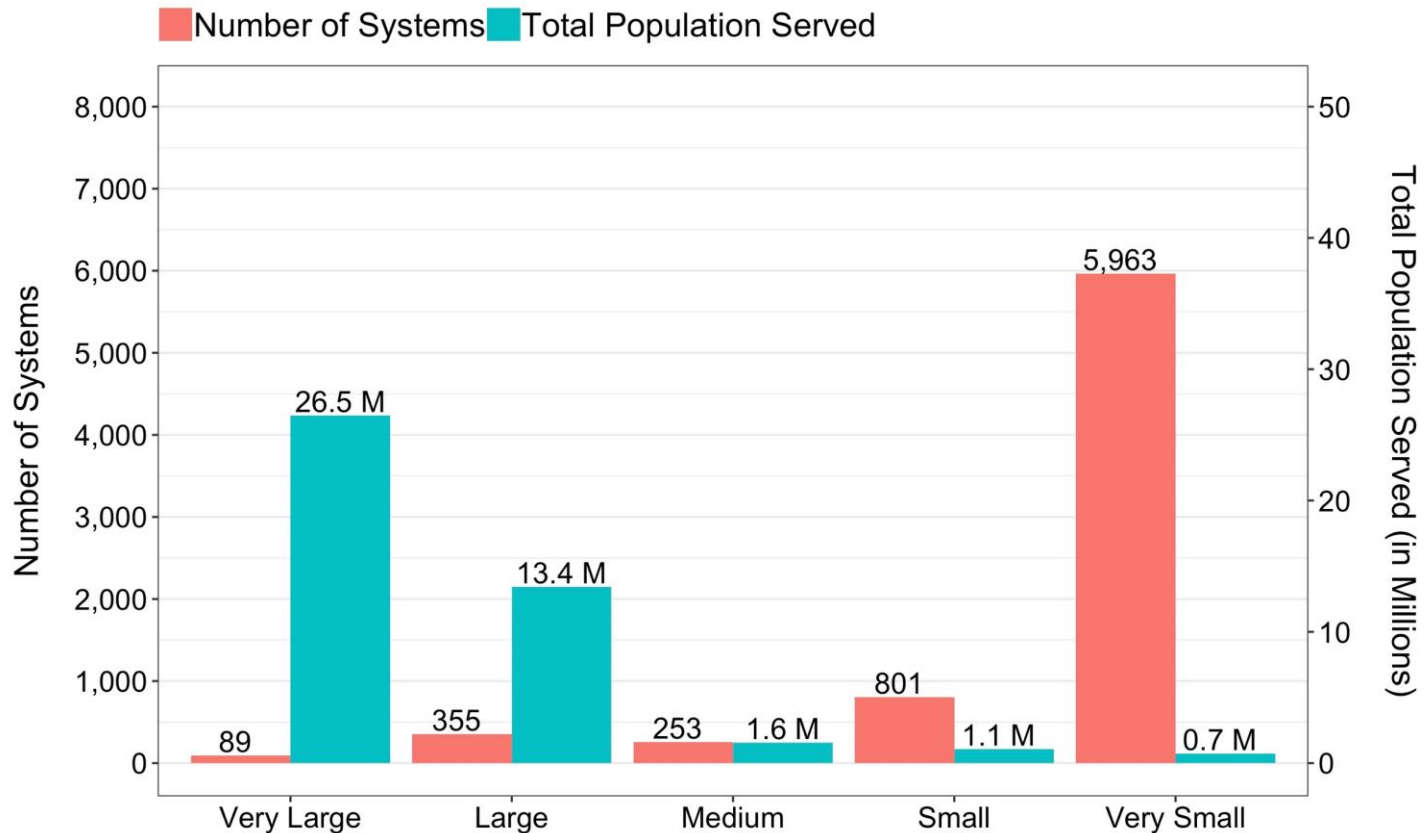
This cost range includes the pipeline and other costs that can reasonably be expected to bring the joining system up to industry standards.

Methodology

Spatial Analysis

- Using Geographic Information Systems (GIS) map analysis
 - Shortest path along roadways between joining and receiving systems
- Assumptions for mergers
 - Greater than 3 miles of pipeline not considered

Water Systems



There are 1,320 state small water systems and private wells that serve 1.2 million people in California. These two categories are not included in this analysis because location information is not available.

Methodology

Three scenarios were evaluated

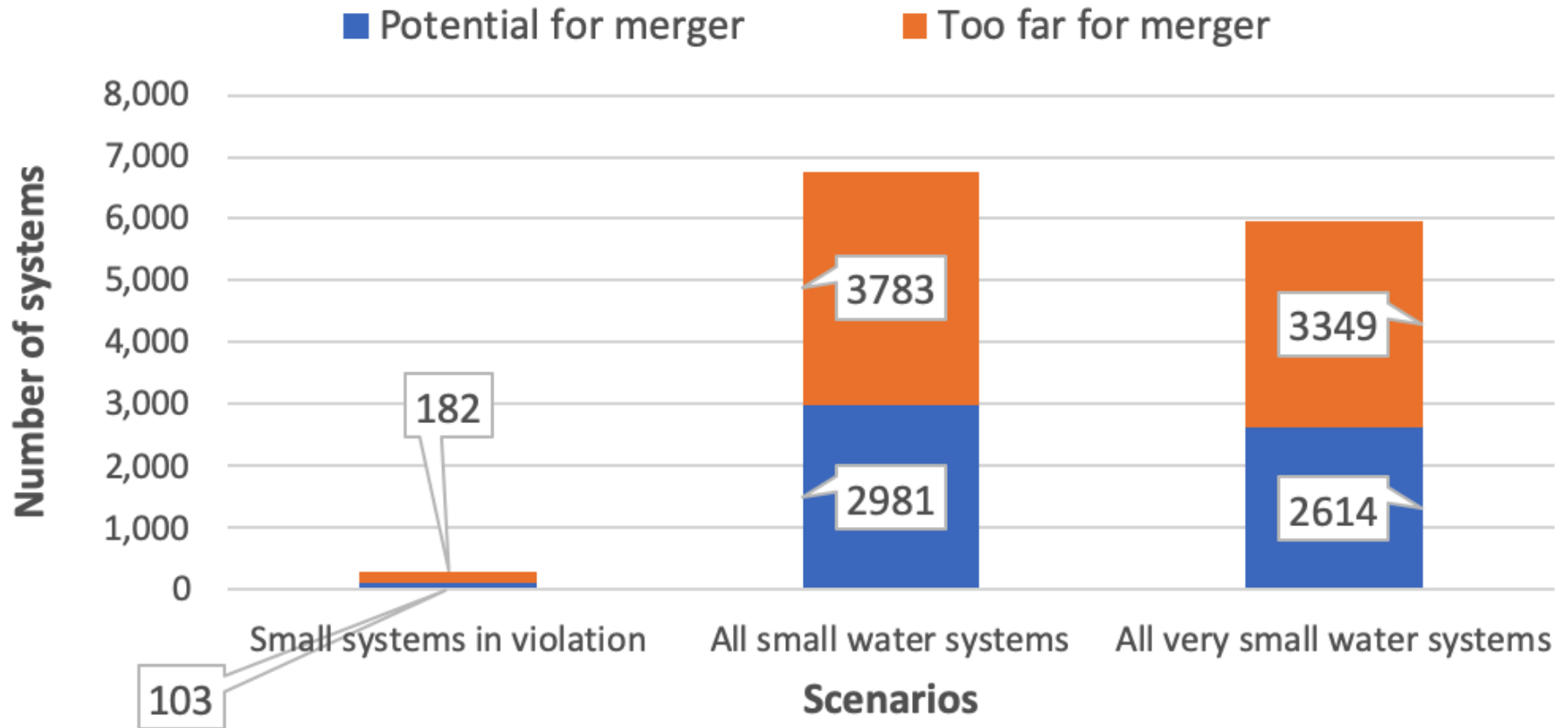
Scenario	Joining system size
Small systems in violation	Population < 3,300
All small water systems	Population < 3,300
All very small systems	Population < 500

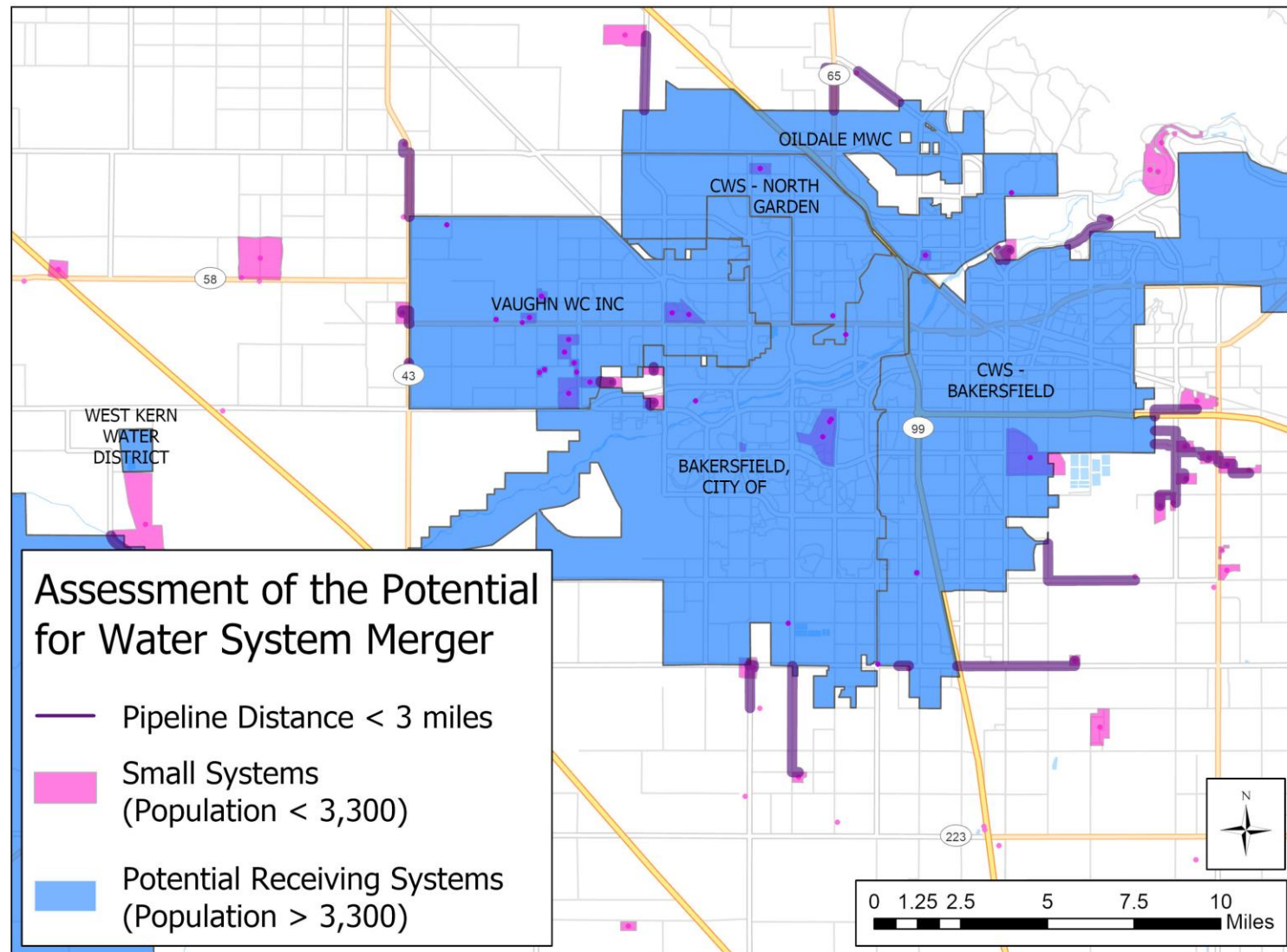
Notes:

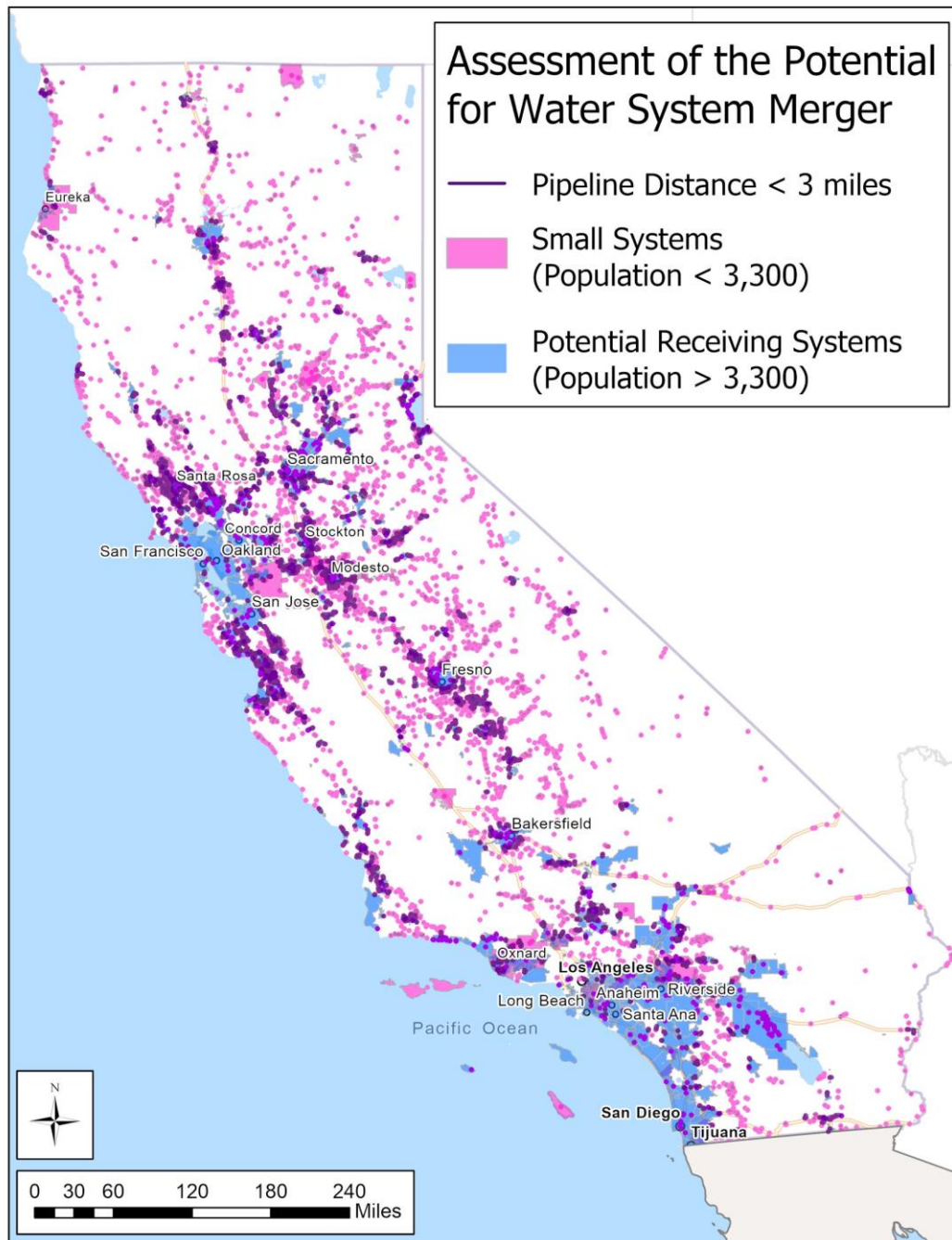
Receiving systems are serving safe water

Receiving systems have a population > 3,300

Methodology







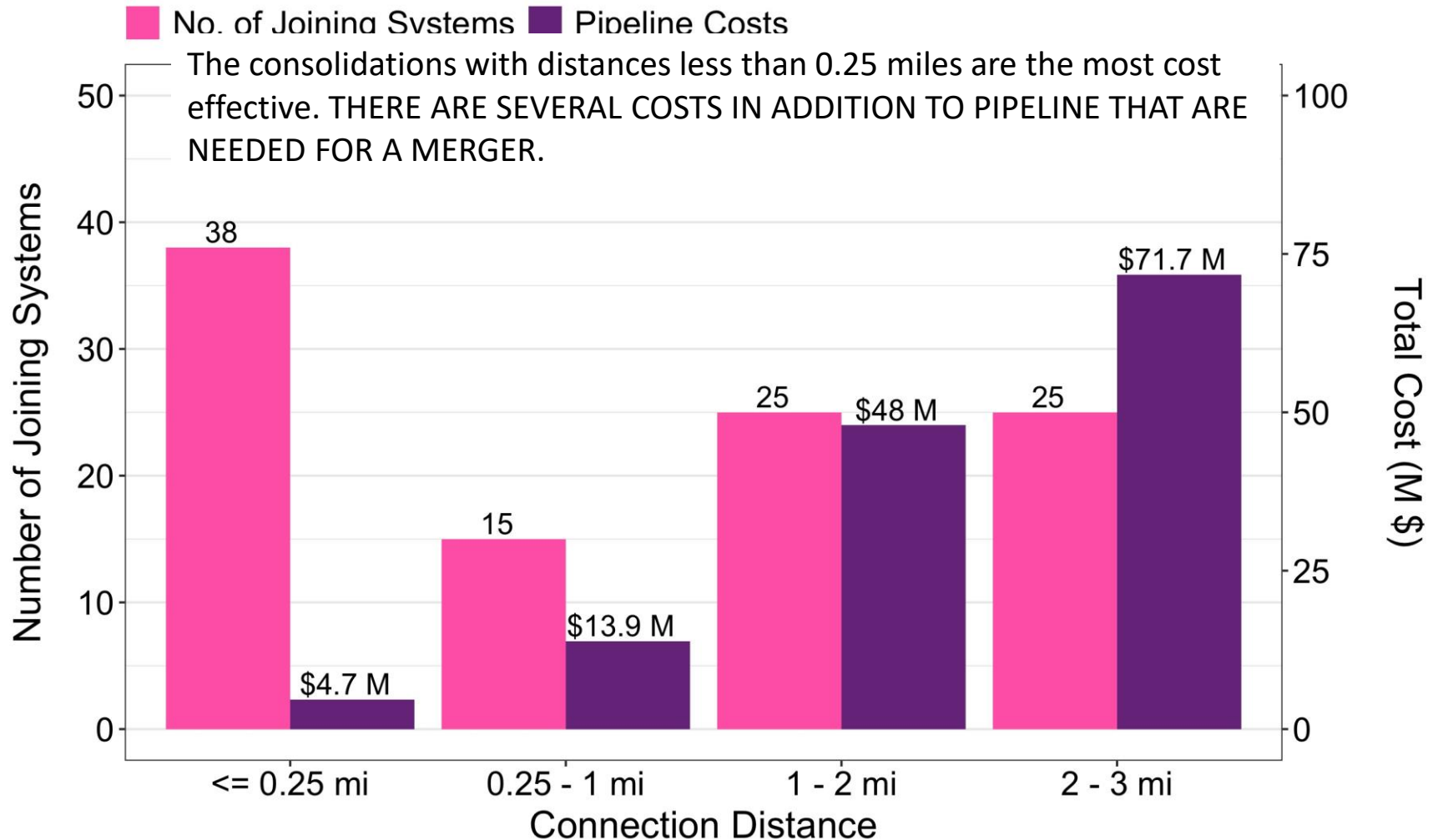
- There are clusters of small systems that are more than 3 miles away from a potential receiving system.
- A future project could look at regional management or merger of these systems.

IMPORTANT NOTES

- **This project is a first step toward understanding the viability and potential costs of system mergers.**
- **Many assumptions were used and further research is needed to refine these costs.**
- **There are a lot of limitations to system mergers that are not technical.**

Merger Cost Estimates

Small systems in violation



Questions and Comments



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