Equitable Wastewater Futures Program

Aging septic systems in urban King County

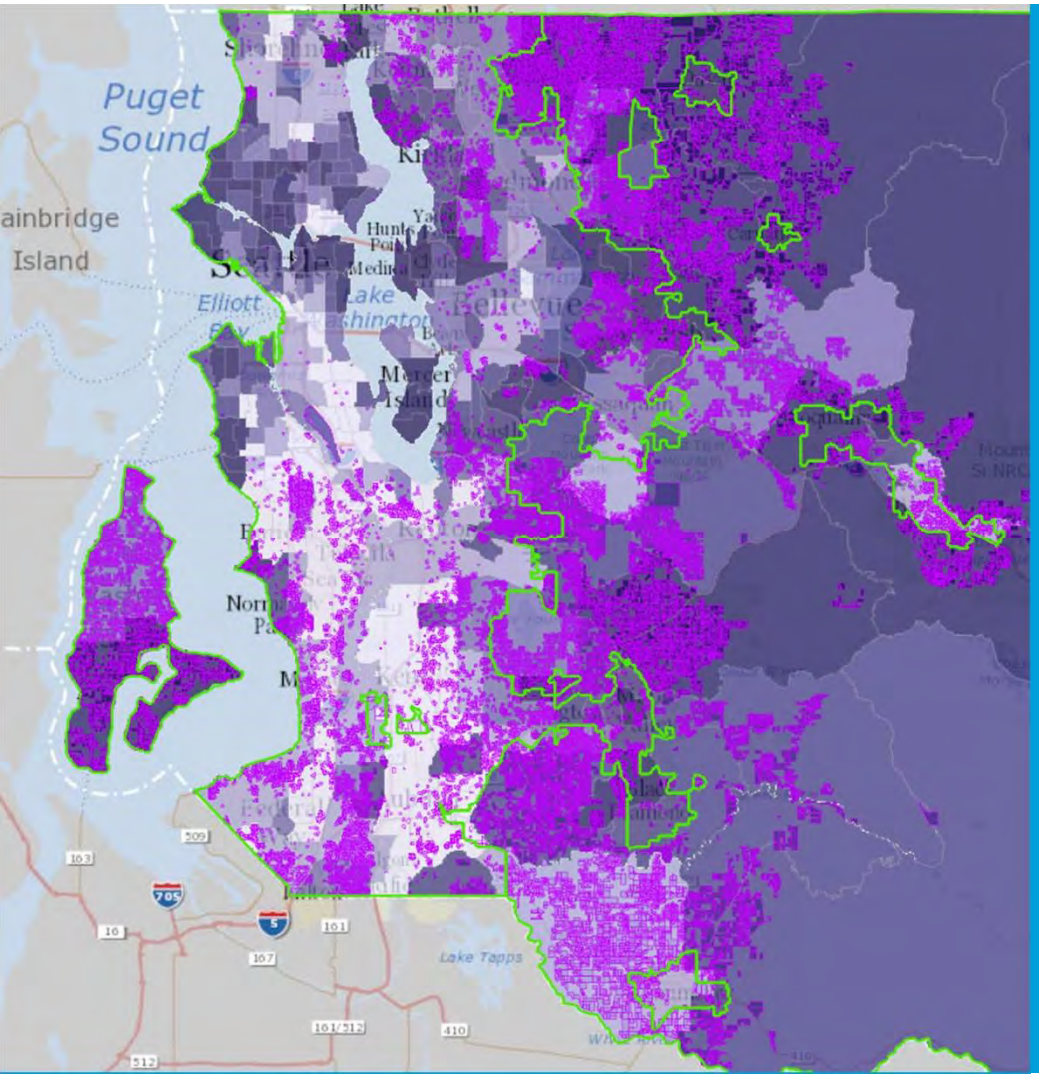
Public Health
Seattle & King County

Agenda

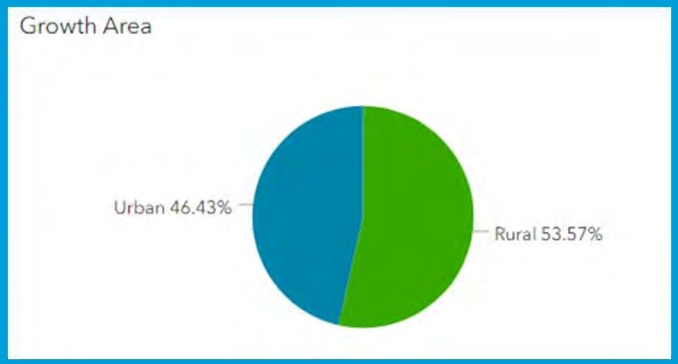
I. OSS in urban King County
   I. What an OSS is and how they work
   II. The issue
II. Equity
   I. Social vulnerability index
   II. Risk of displacement
III. Urban focus areas
   I. Priority areas
IV. Challenges & barriers
V. Potential solutions
   I. Infrastructure funding opportunities
   II. Partnerships

Acronyms

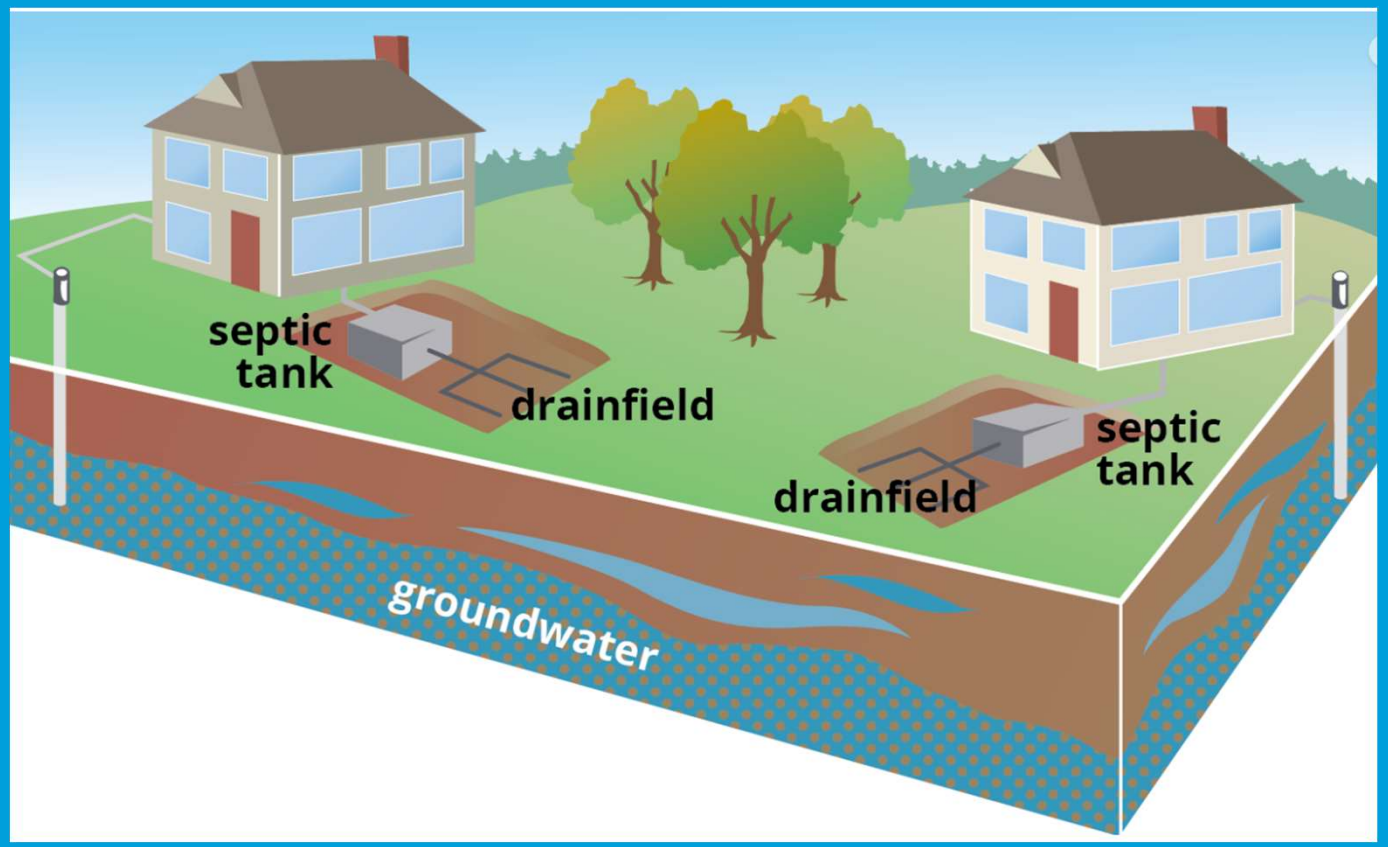
- OSS = on-site sewage system, used interchangeably with septic system
- SVI = the CDC's social vulnerability index
- CDC = Center for Disease Control, federal agency
- ATU = aerobic treatment unit
- UV = ultraviolet
- UGA = urban growth area
- SSAS = subsurface soil absorption system, or septic system drainfield



Septic systems in King County



On-site Sewage System (OSS)



Gravity system

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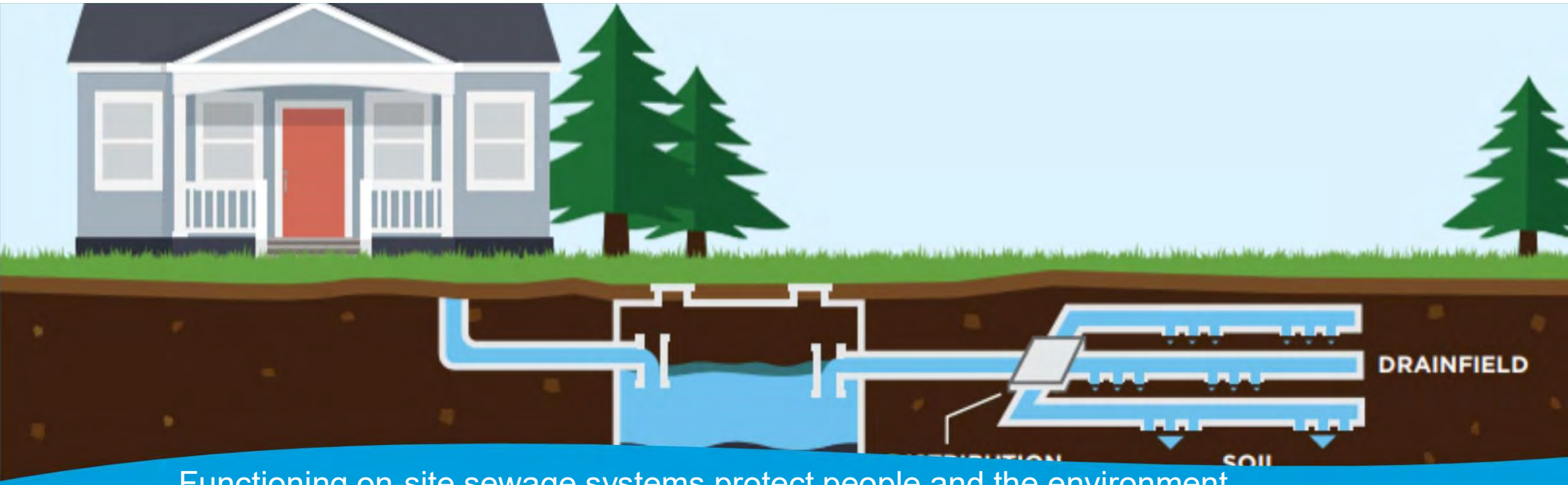
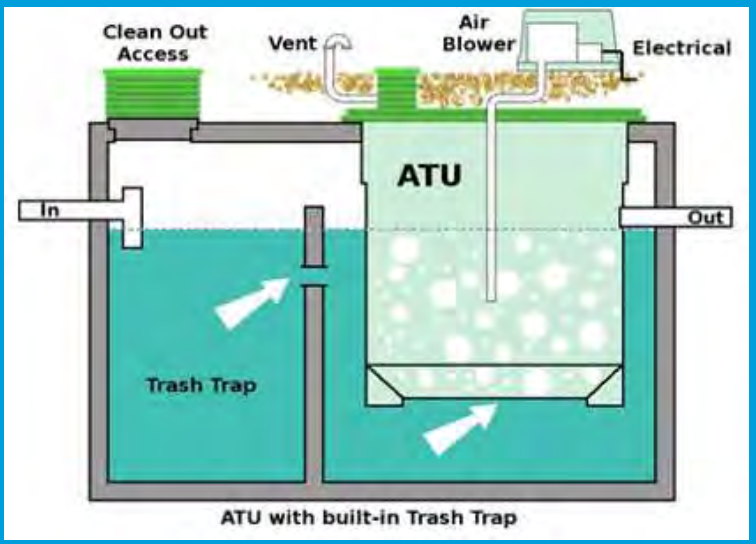


Functioning on-site sewage systems protect people and the environment.

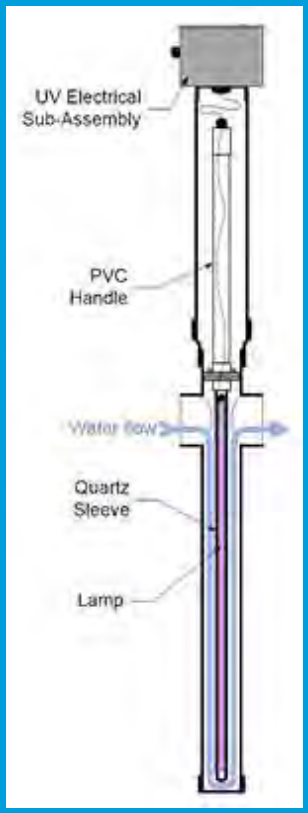
When on-site sewage systems fail, they are a public health hazard. People can come into contact with sewage when it:

- Surfaces in yards
- Flows into streams, lakes, beaches
- Flows into stormwater catch basins
- Backs up into house
- Contaminates drinking water wells

New OSS technologies provide higher wastewater treatment, which allows for more development* and is more complex to maintain.



ATU with built-in Trash Trap



*shallow soils, possibly smaller SSAS footprint

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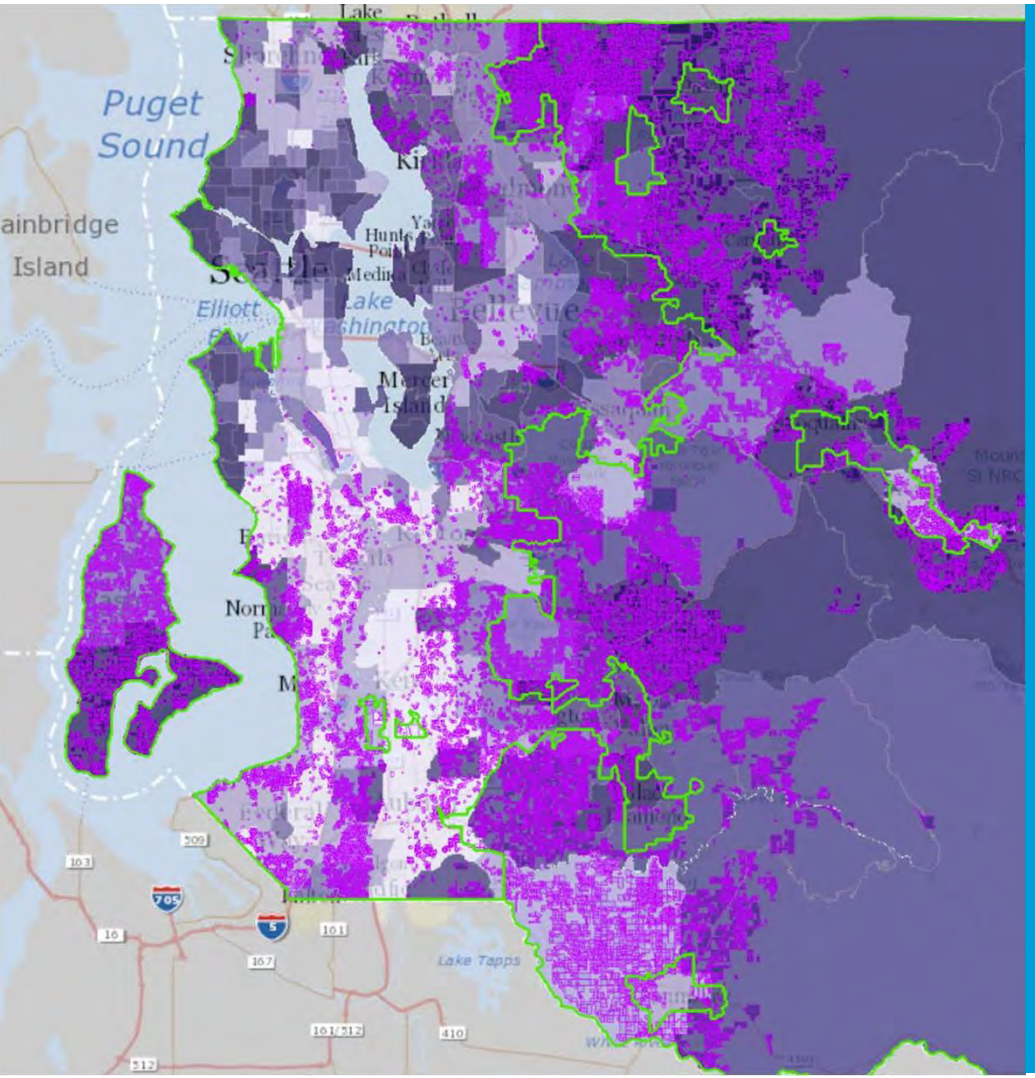
Why is this work important?

- Supporting development of buildable lots
- Preventing raw sewage exposures
- Protecting water quality and shellfish harvest protection
- Planning for affordable and feasible replacements of failures



THE ISSUE: 39,000 URBAN OSS

King County Onsite Sewage Systems (OSS) and CDC Social Vulnerability Index map– Urban OSS Status

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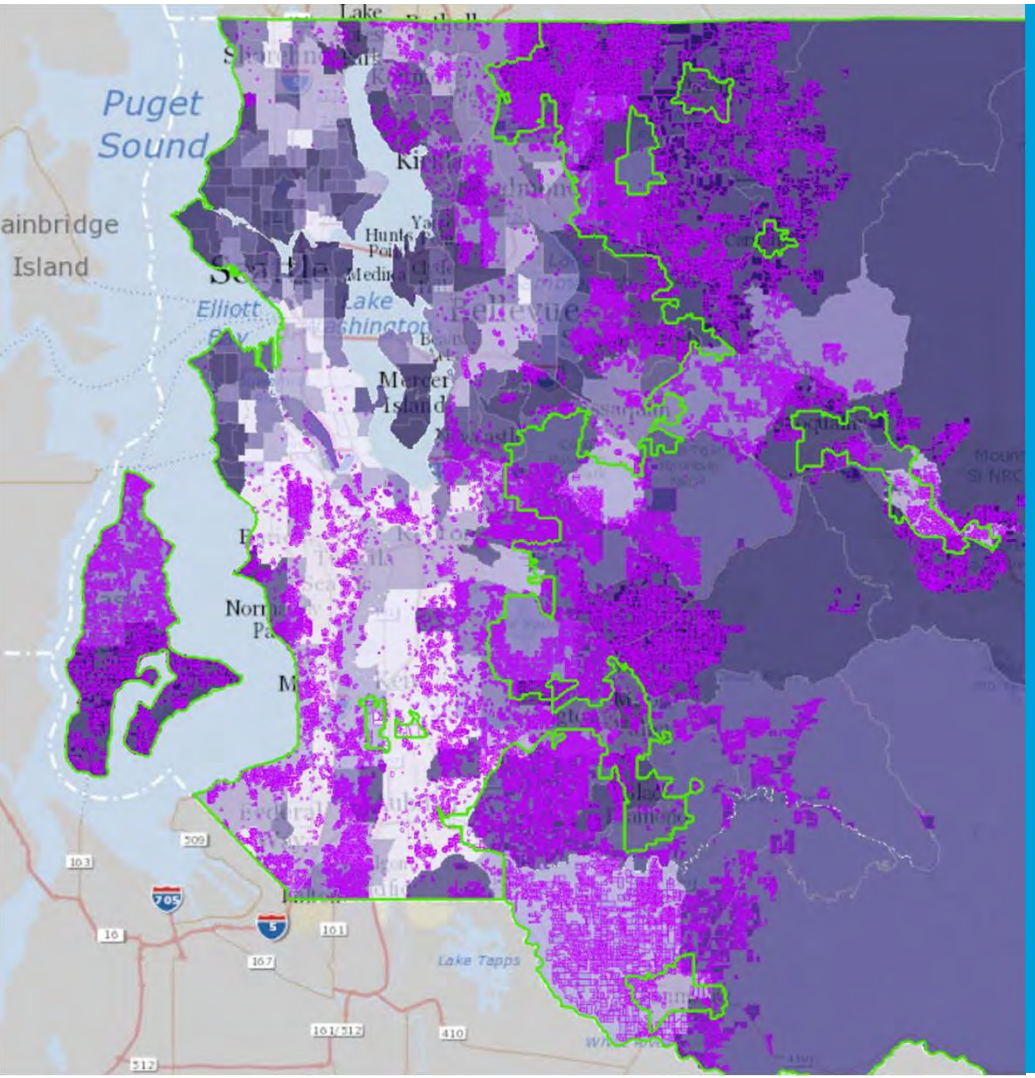
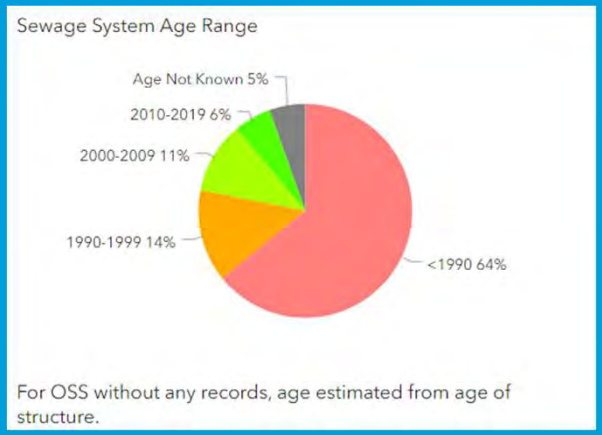


THE ISSUE: 39,000 URBAN OSS

OSS have a life span!



King County OSS and CDC Social Vulnerability Index map– Urban OSS Status

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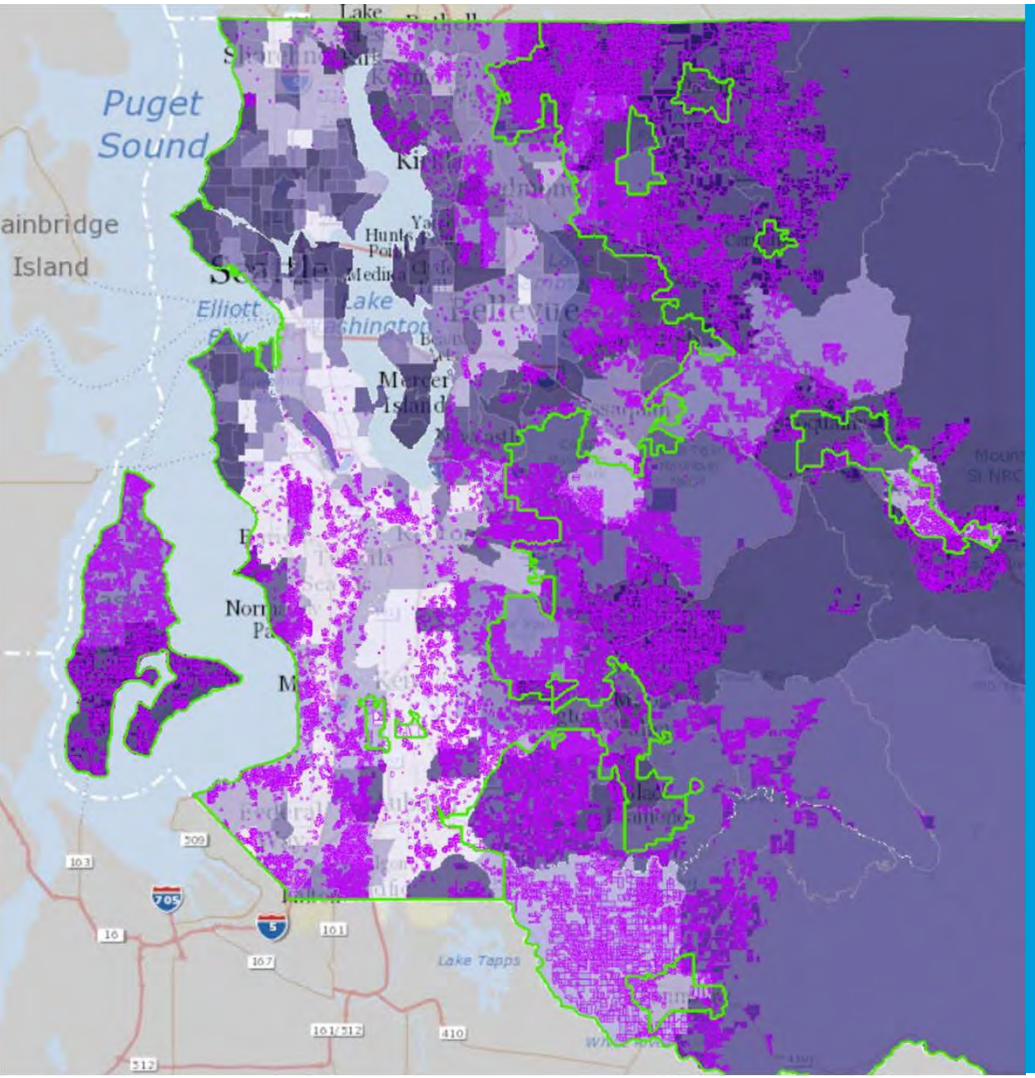

THE ISSUE: 39,000 URBAN OSS

- Repair, replace, connect to sewer
  - Property owner responsibility
  - Low-income options

King County OSS and CDC Social Vulnerability Index map– Urban OSS Status

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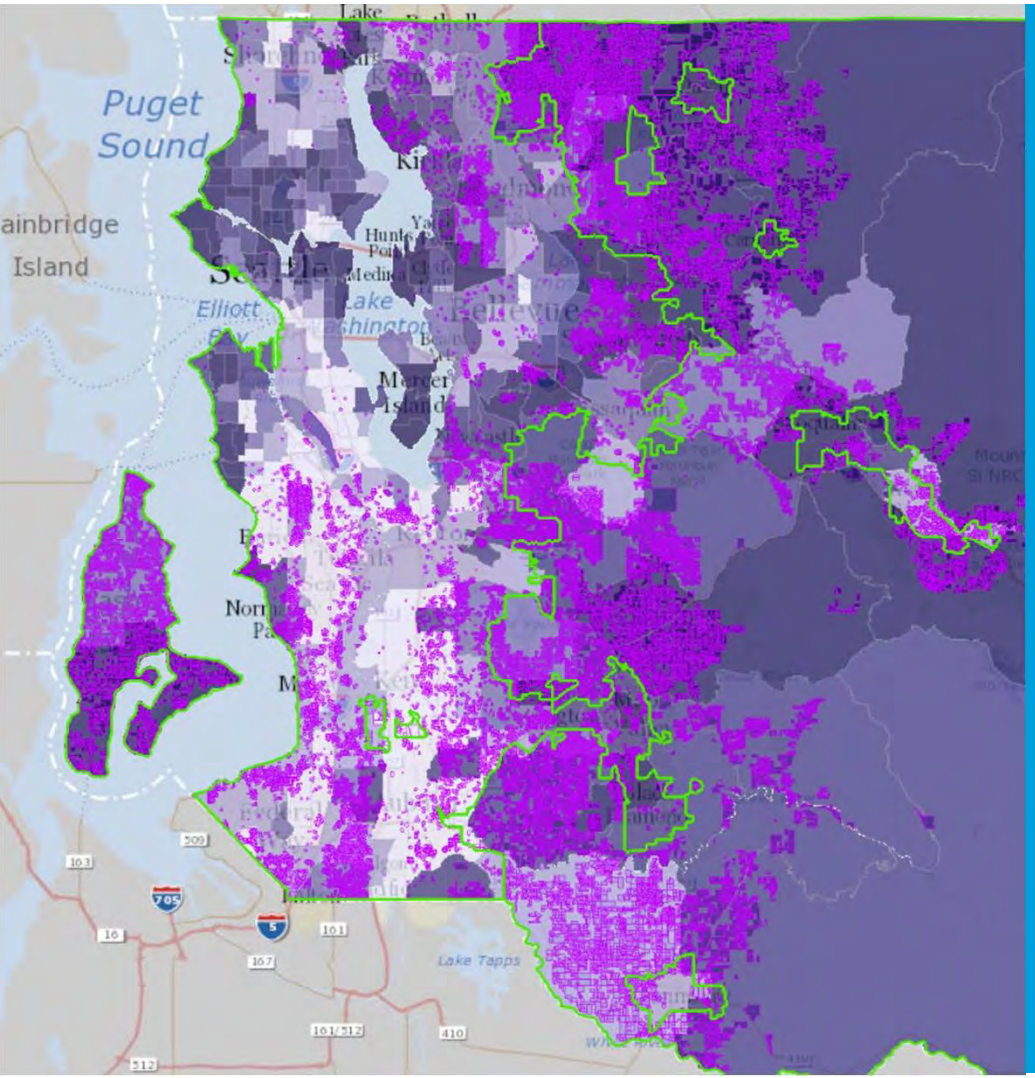
OSS FAILURE EXAMPLE



THE ISSUE: 39,000 URBAN OSS

- Prioritization for replacement or sewer conversion
  - Risk to Public Health
  - Commitment to equity
    - Mitigating historical inequities
  - Prioritizing high social vulnerability areas

King County OSS and CDC Social Vulnerability Index map– Urban OSS Status

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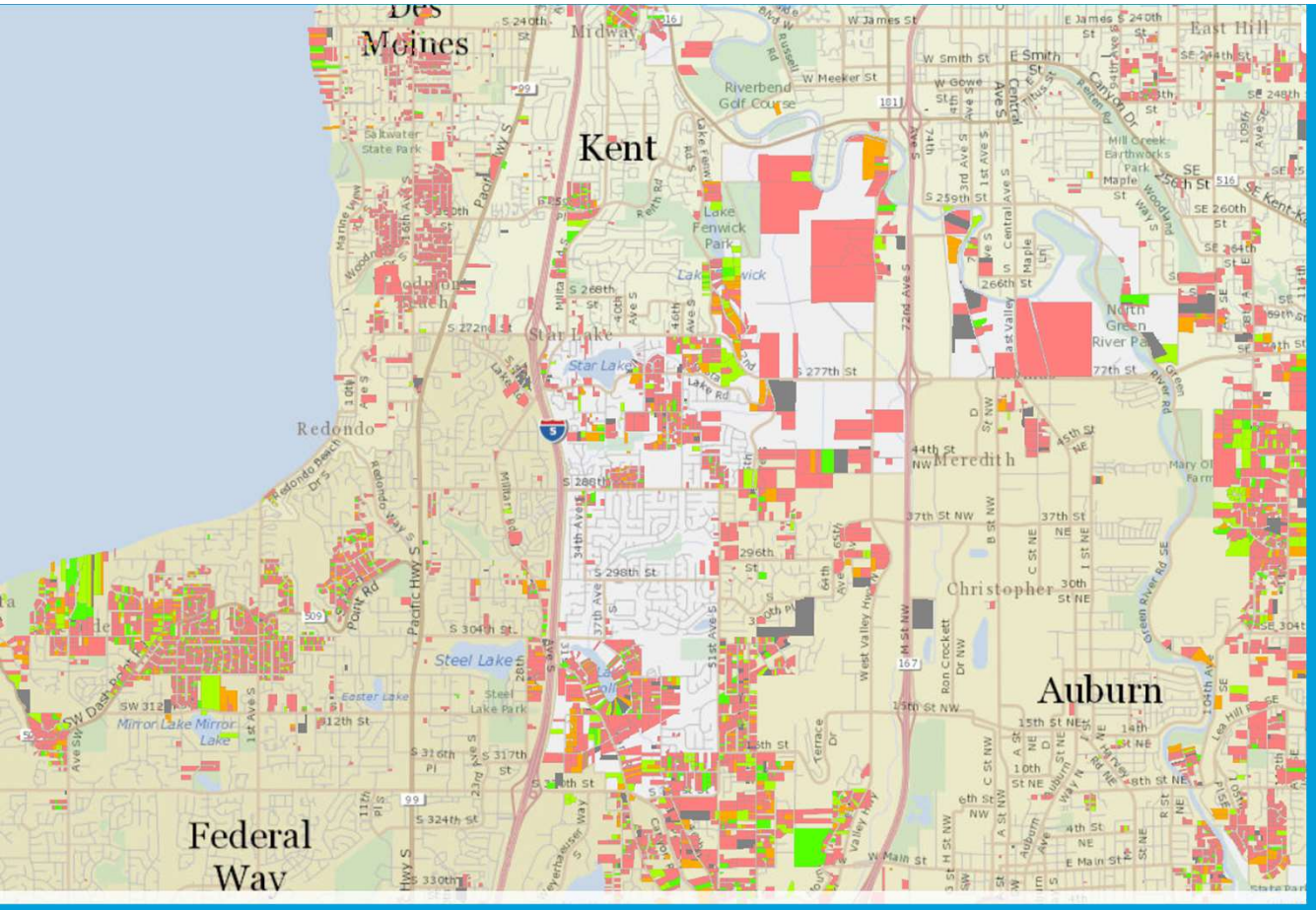

Historic inequities excluded certain communities from sewer connections.

Today, 44% of urban OSS are in areas highly vulnerable to public health emergencies, which are primarily low-income communities of color.

Age of OSS: Green = newly replaced, Coral/red = 30 years or older

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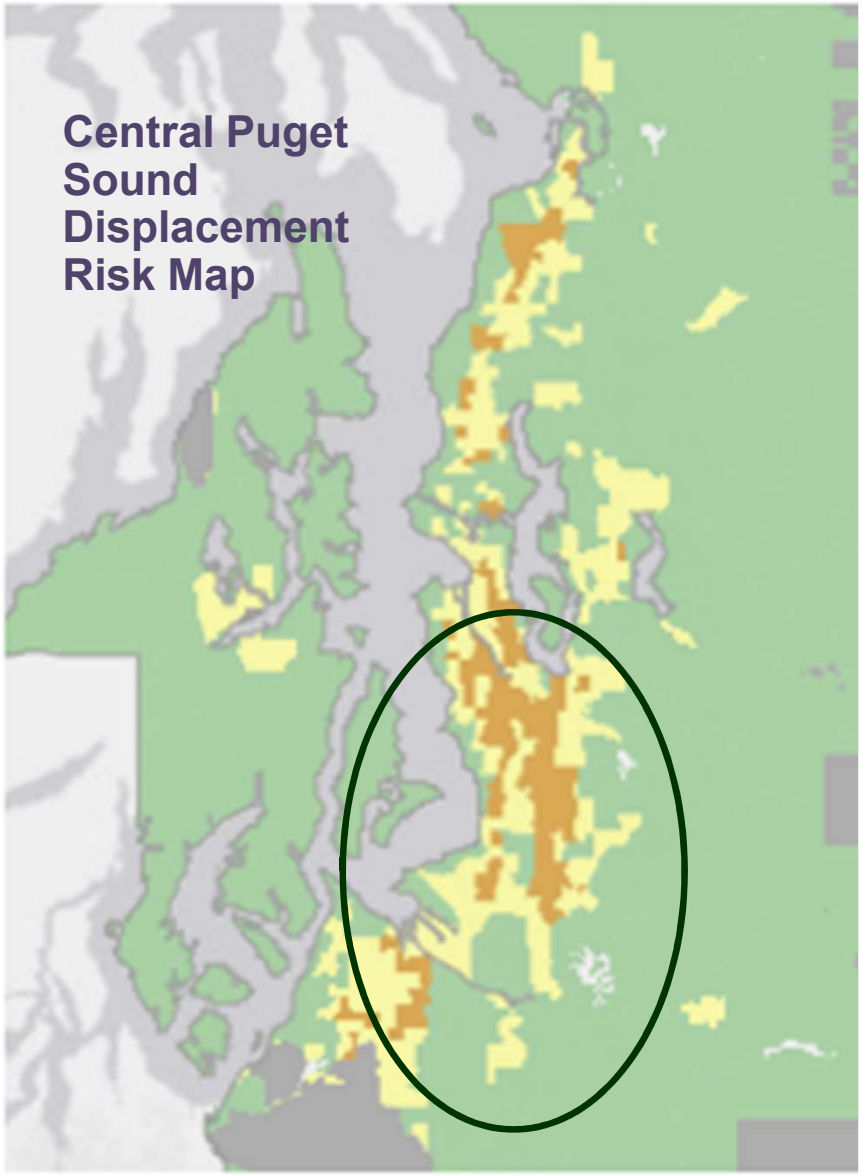
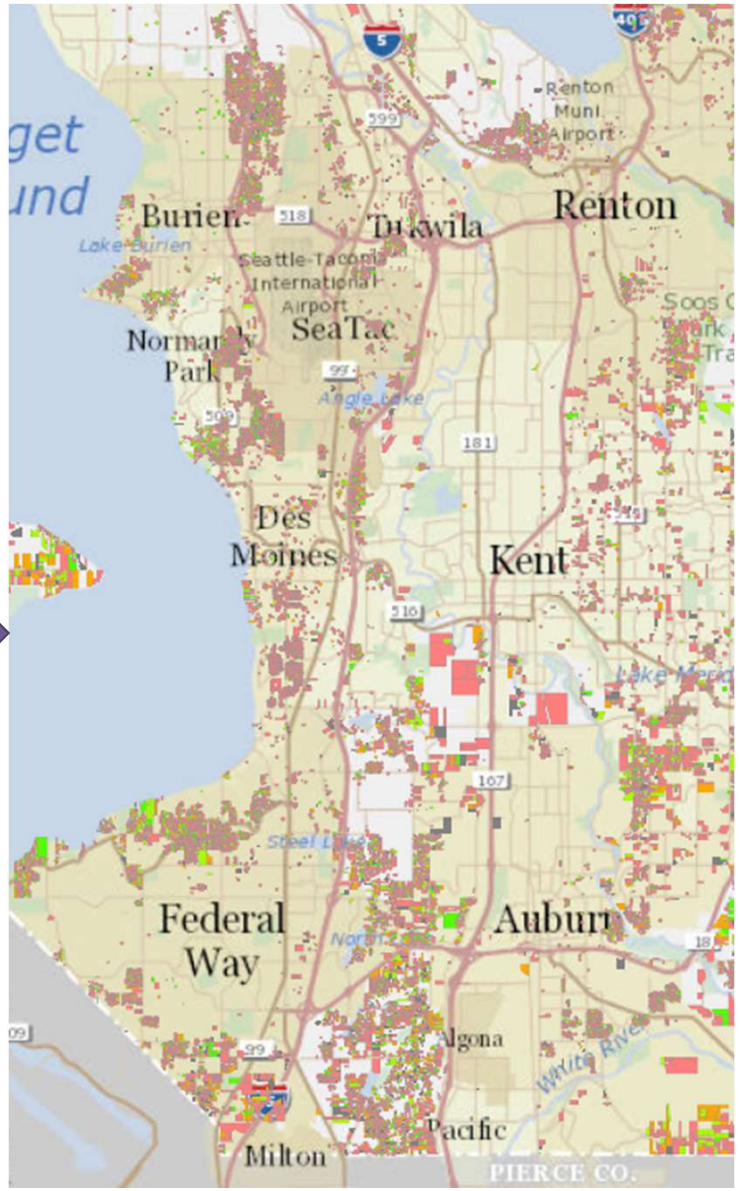

Central Puget Sound Displacement Risk Map

OSS age


Renton Muni Airport
Renton
Burien
Tukwila
Seattle-Tacoma International Airport
SeaTac
Normandy Park
Des Moines
Kent
Federal Way
Auburn
Algona
Pacific
Milton
PIERCE CO.

Urban Focus Areas

Prioritizing solutions for aging septic systems in urban King County

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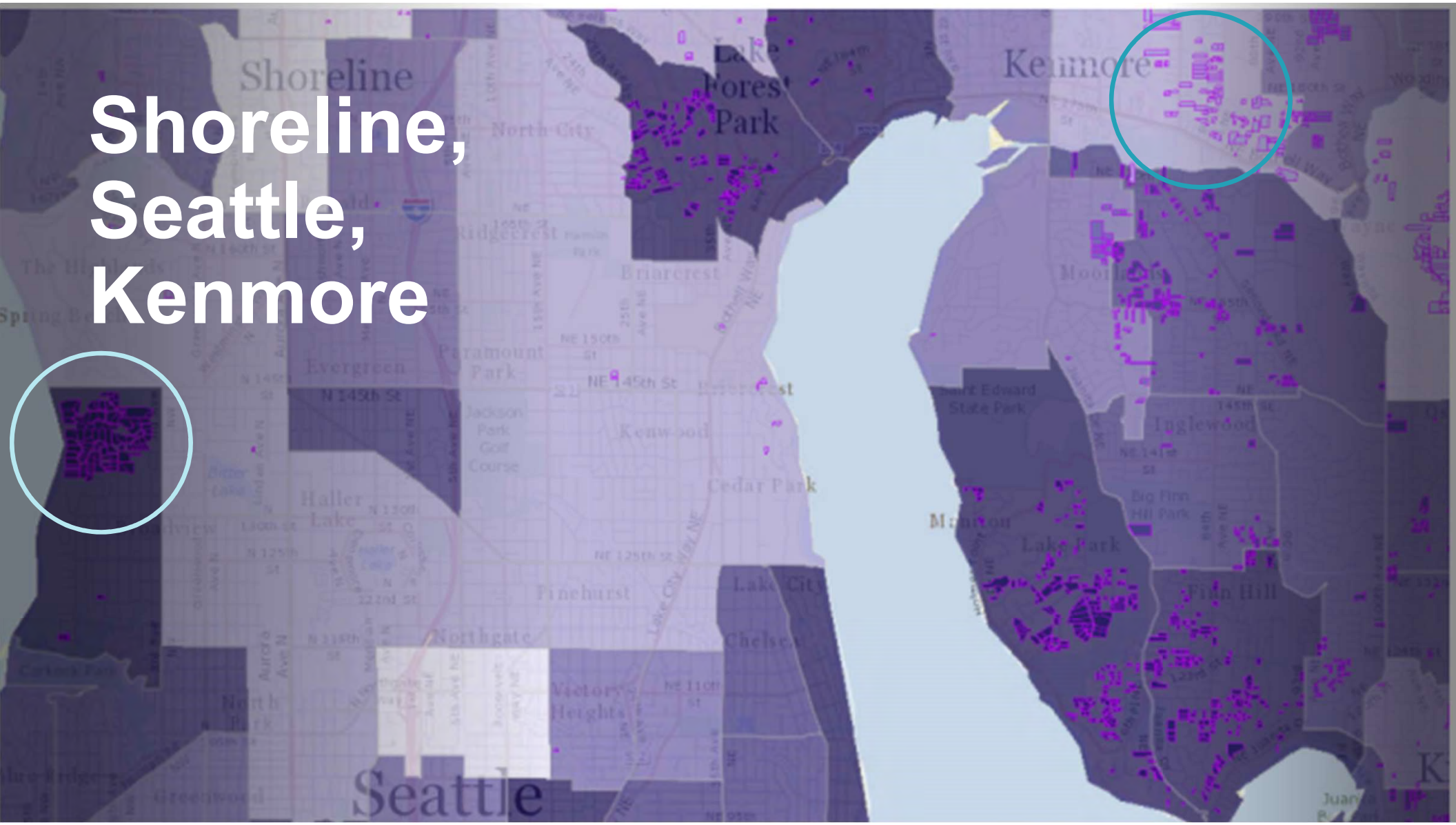
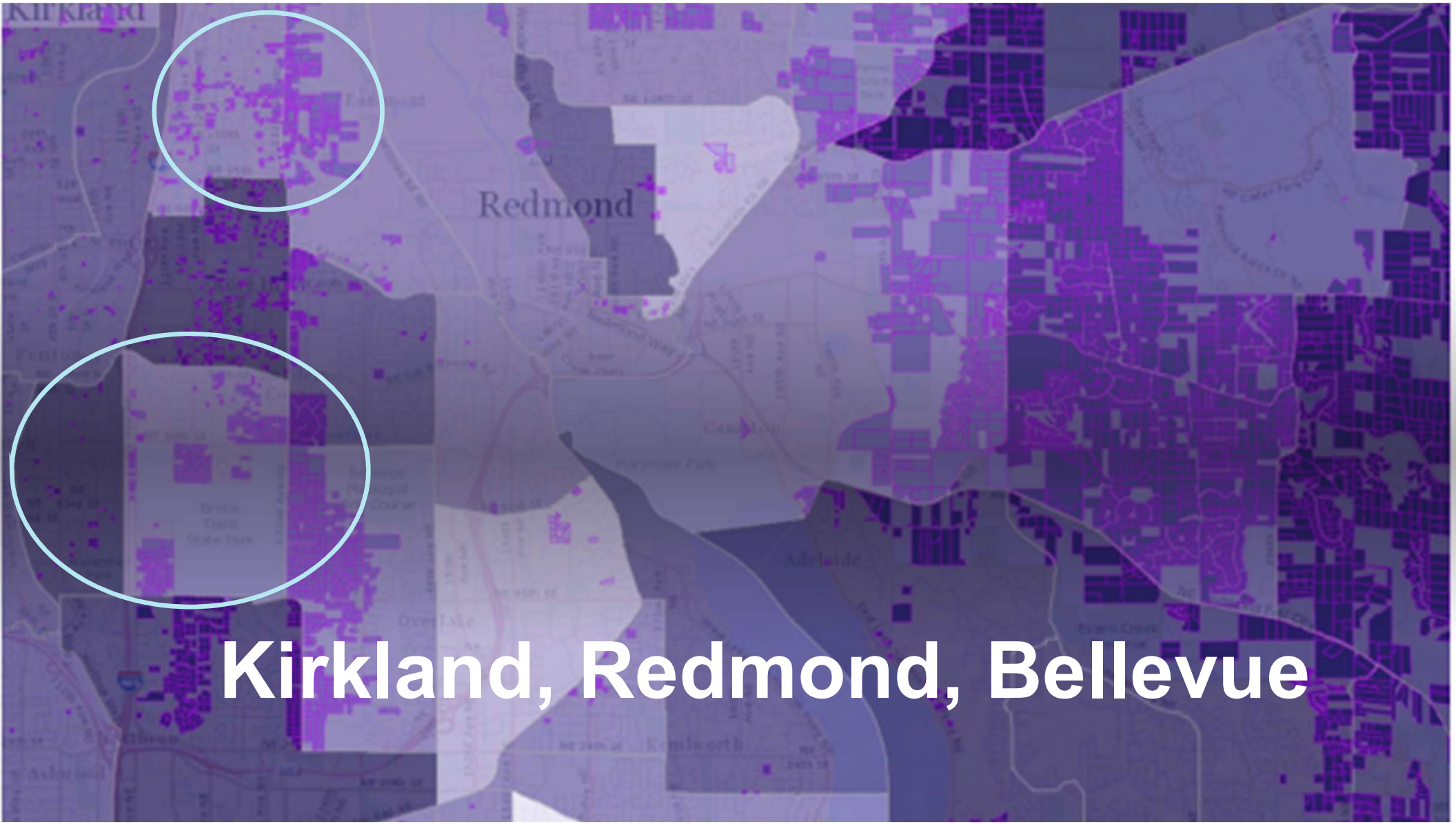
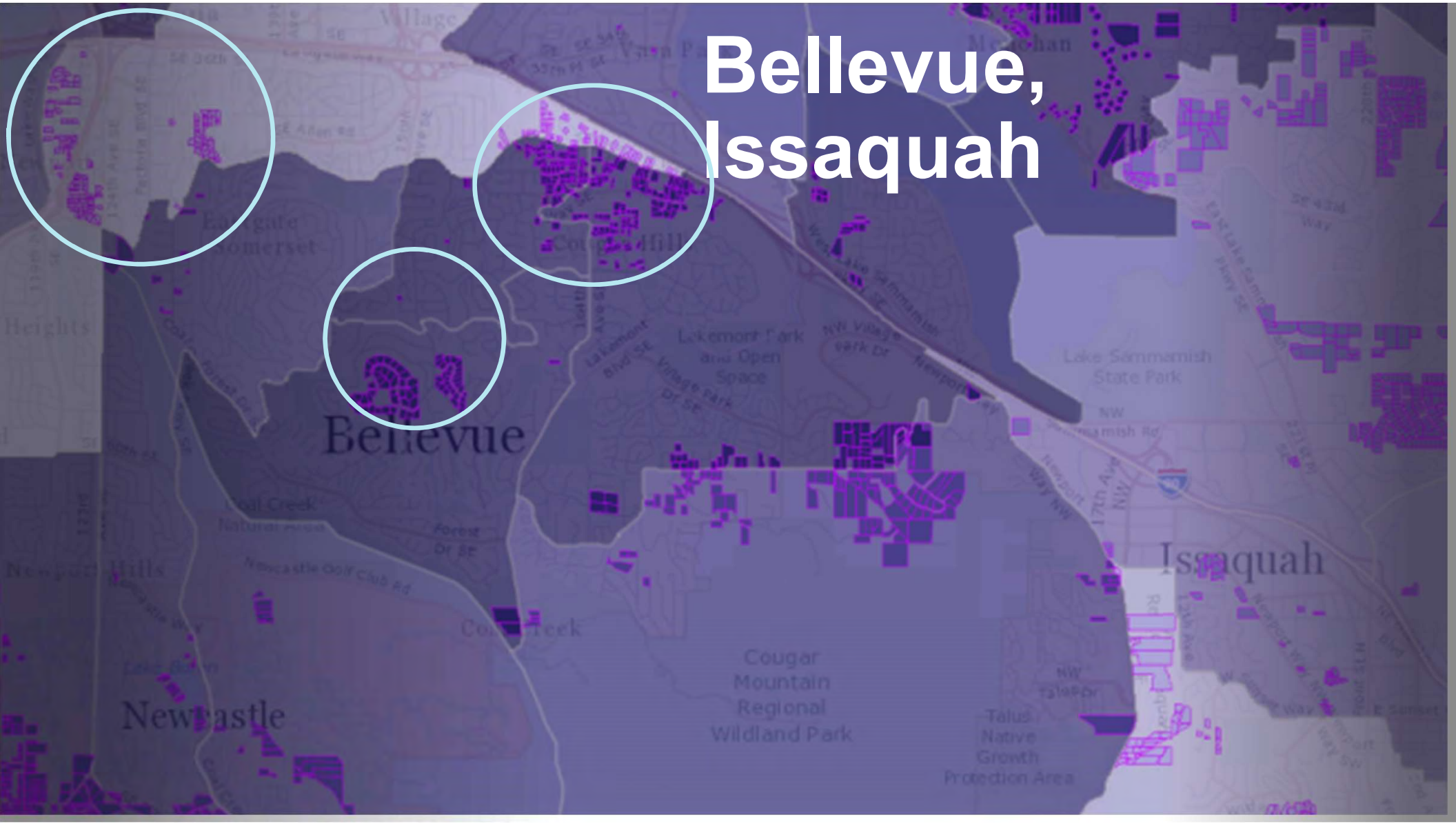
Greene Economics | Environmental Economists


Shoreline,
Seattle,
Kenmore
Shoreline
Lake Forest Park
Kenmore
Seattle



Kirkland, Redmond, Bellevue


Bellevue,
Issaquah
Bellevue
Issaquah
Newcastle
Cougar
Mountain
Regional
Wildland Park
Lake Sammamish
State Park
Lakemont Park
and Open
Space

Renton, Kent, Maple Valley


Auburn
Algona
Pacific
Auburn, Pacific, Algona

Federal Way, Auburn

CHALLENGES AND BARRIERS:

- Funding
  - Growth pays for growth
  - ULID formation
- Management support to apply for funding
  - Loans
  - Match requirements
  - Available staff to manage expansion projects
- Permitting delays
- Construction obstacles and costs

POTENTIAL SOLUTIONS

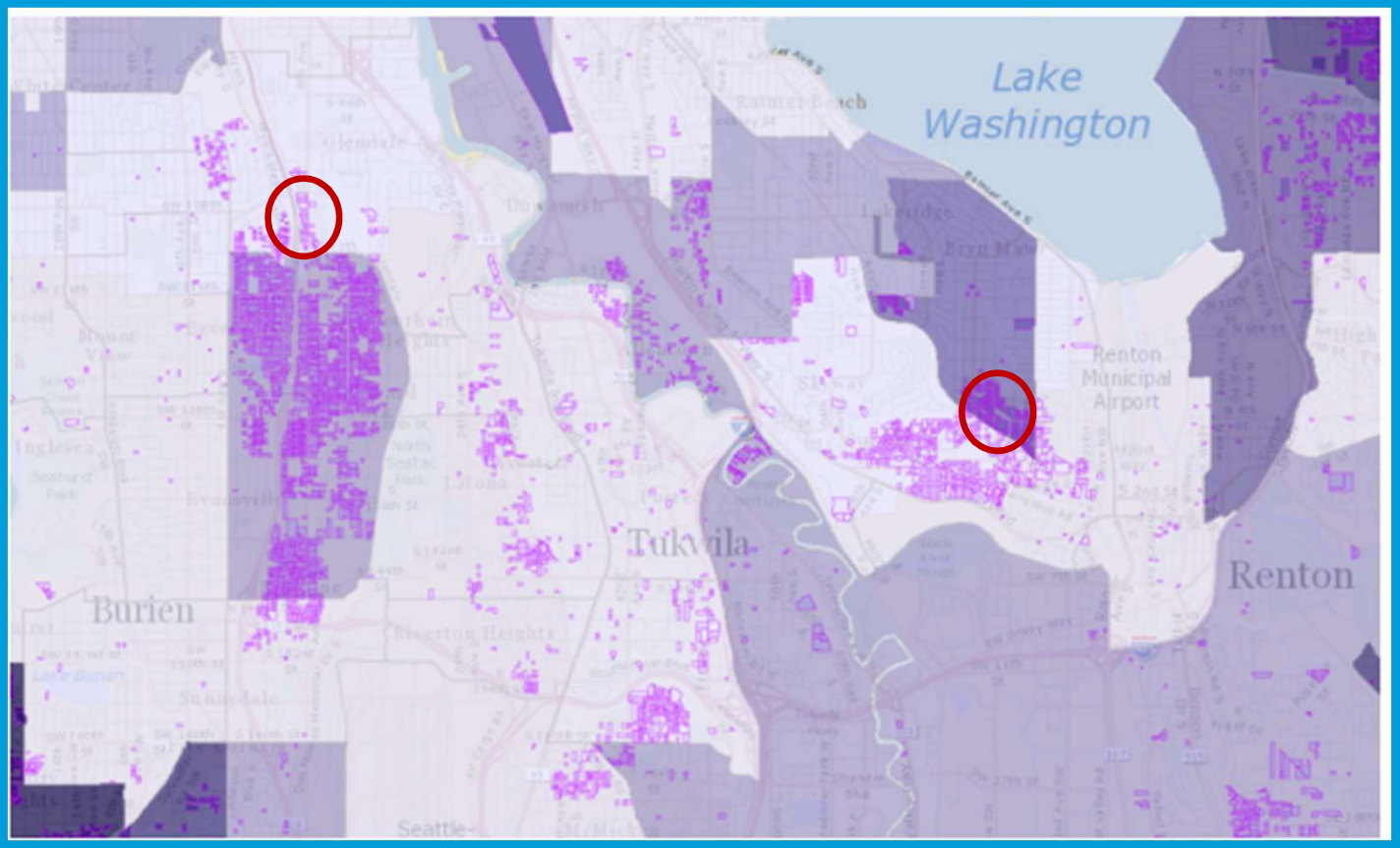
FUNDING EXPLORATION

Funding sources:

- **Department of Ecology Water Quality Grants and Loans**
- **Federal Infrastructure Investments**
- **Climate Change Mitigation Grants**
- **Public Health philanthropy?**

PARTNERSHIPS

Two sewer conversion projects funded by the King County Climate Equity Pool grant



- Partnering with SUDs
- Priority funding for communities

Burien, Renton, Tukwila

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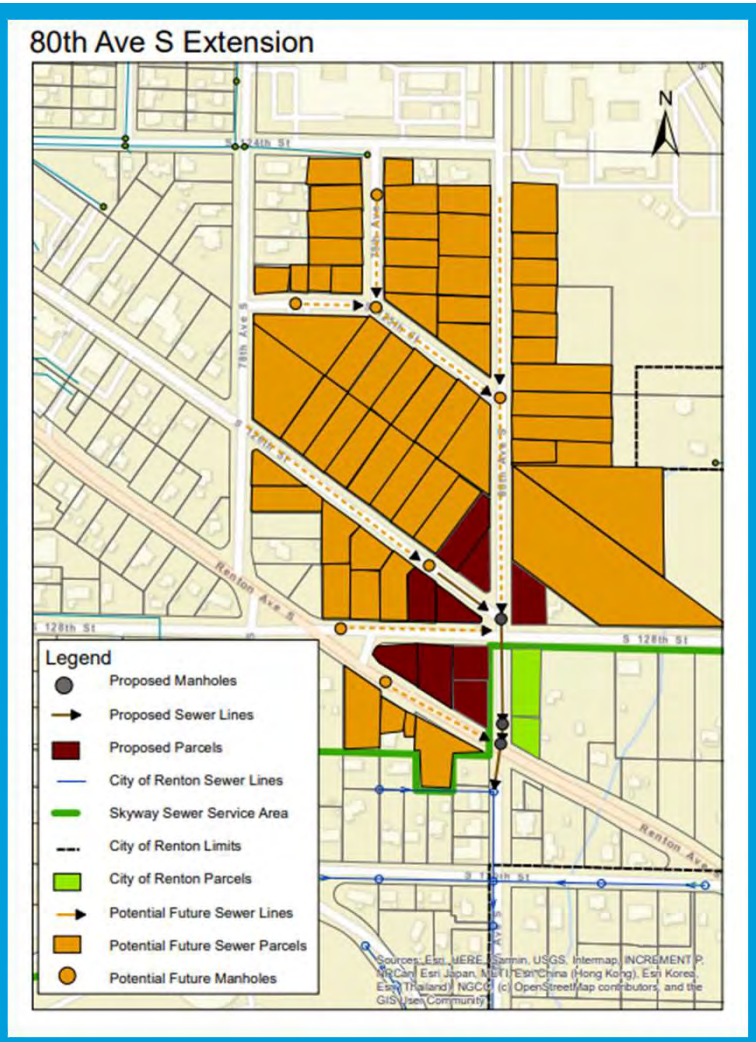
Skyway Sewer District $1M sewer extension project

- Up to ***9 or 10 parcels connected*** at no cost or low cost to the property owner, depending on the final cost of sewer main extension
- Opportunity for whole neighborhood to connect in the future after project completion.



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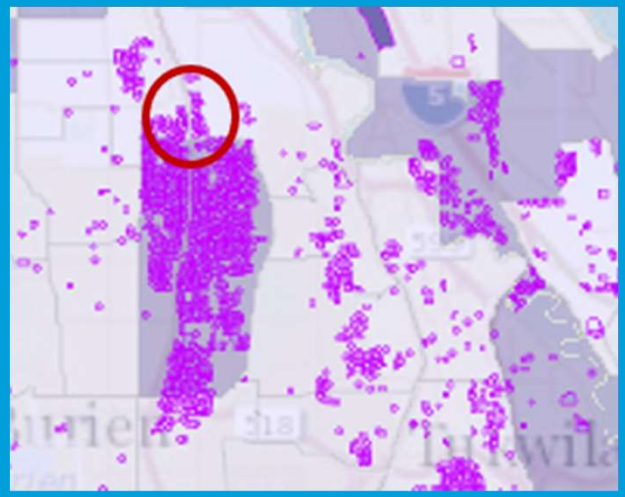
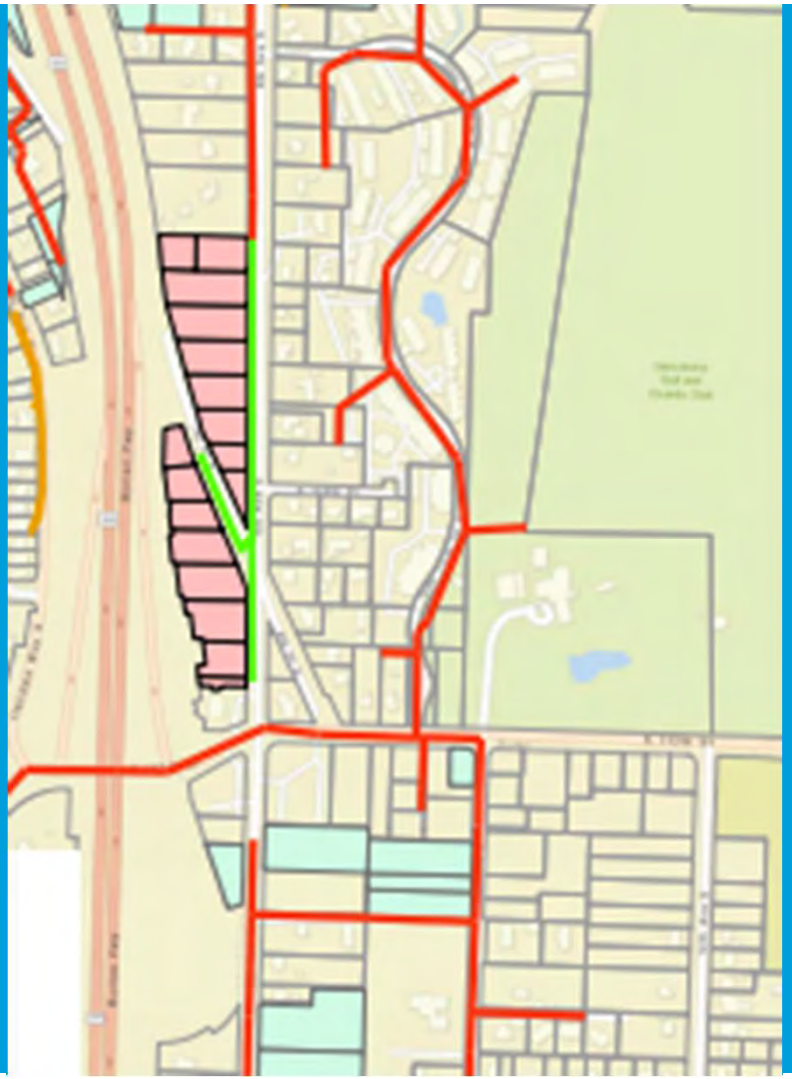


Valley View Sewer District $1M sewer extension project

- Up to 17 parcels connected by December 2024



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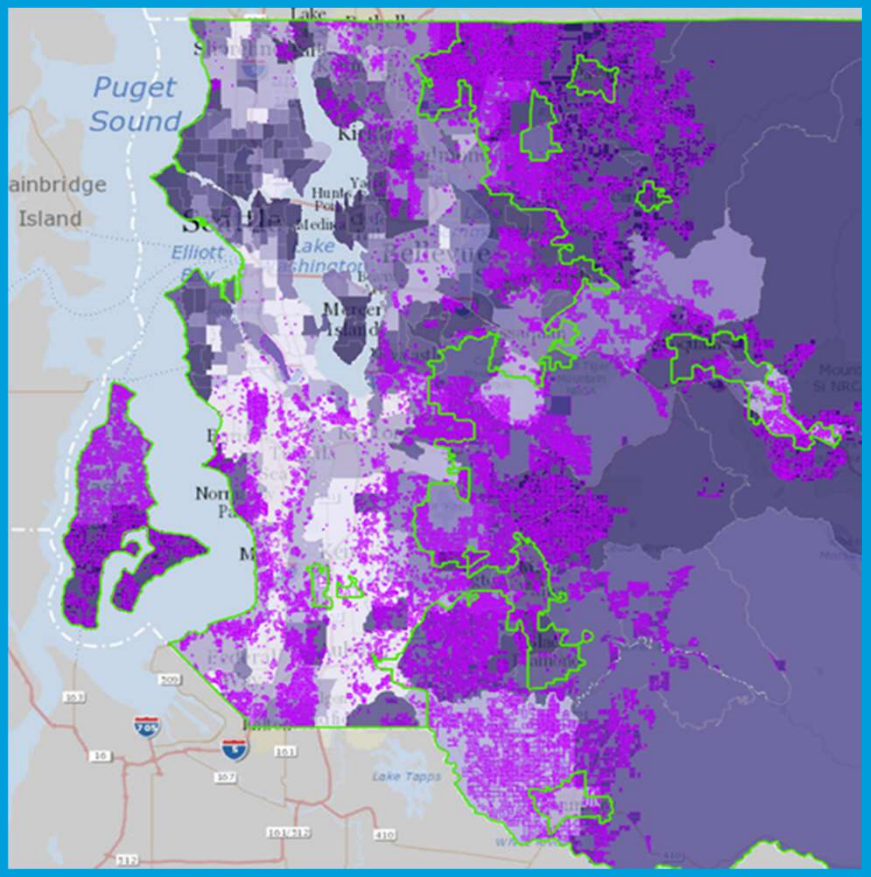
QUESTIONS leading to PARTNERSHIPS

- How should we approach this from a regional perspective?
- How would it be beneficial for PHSKC to partner with utility districts to meet our respective goals to extend sewer into unsewered areas and connect properties within sewer service areas that are still on septic systems?



RESOURCES

- **Map with SVI and OSS layers:** King County On-site Sewage Systems (OSS) and Social Vulnerability (arcgis.com)
- **Equitable Wastewater Futures program info:** Equitable wastewater futures one pager (kingcounty.gov)
- **King County OSS program:** On-site sewage/septic system program - King County, Washington
- **Craft 3:** Craft3: Community Crafted Lending
- **Department of Ecology:** Water quality grants and loans - Washington State Department of Ecology

Equitable Wastewater Futures program contact:

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