

City of Bellevue 2025 Electric System Reliability Review

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September 24, 2026



Safety Moment

PSE

Electric System Safety

Never approach downed utility lines –
Always assume they are energized

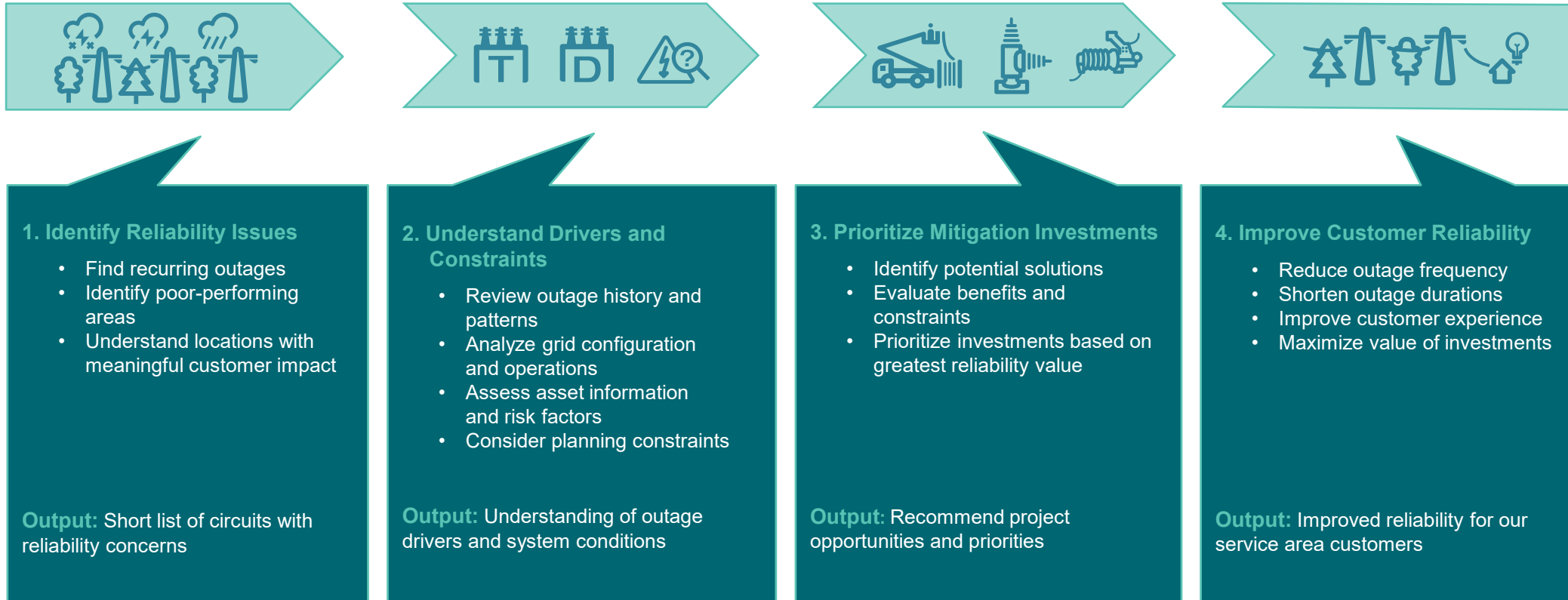
Stay at least 30 feet away from downed
utility lines and anything in contact with them

Electric System Performance Overview

- ◆ PSE's reliability strategy
- ◆ Overall performance review
- ◆ New elements in the 2025 report
- ◆ Reliability performance and outage causes
- ◆ Reliability projects completed and proposed

PSE's Reliability Planning Process

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A structured process for identifying and prioritizing investments that improve customer reliability

PSE implements a comprehensive reliability strategy of actions and improvements in four areas

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Asset Management

Strengthen grid reliability and resilience by addressing vegetation, wildfire, and other threats through proactive maintenance and cost-effective equipment replacement programs.



Vegetation Management

Reduce the likelihood of vegetation-related outages and damage to the delivery system through proactive vegetation management and grid hardening measures, including tree trimming and overhead-to-underground conversions.



Restoration Services

Improve outage response and restoration times through enhanced situational awareness, automation, and operational efficiencies.



Metrics and Analytics

Monitor and assess system performance to identify, prioritize, and address areas of greatest reliability concern.

Reliability Reporting Metrics

SAIDI & SAIFI

PSE assesses and reports electric system reliability using **SAIDI** and **SAIFI**, the electric utility industry's standard performance metrics.

- ◆ **SAIDI** – **S**ystem **A**verage **I**nterruption **D**uration **I**ndex
Total customer outage minutes / average total customer count
(Service Quality Index (SQI): 155 minutes)
- ◆ **SAIFI** – **S**ystem **A**verage **I**nterruption **F**requency **I**ndex
Total customers affected / average total customer count
(Service Quality Index (SQI): 1.2 outages)

SQI targets exclude Major Event Days (MED), or are non-MED.

Bellevue vs. PSE
System Reliability
Performance: 5-Year
Non-MED SAIDI
and SAIFI Comparison

Bellevue and PSE Reliability Performance: 5-Year Historical

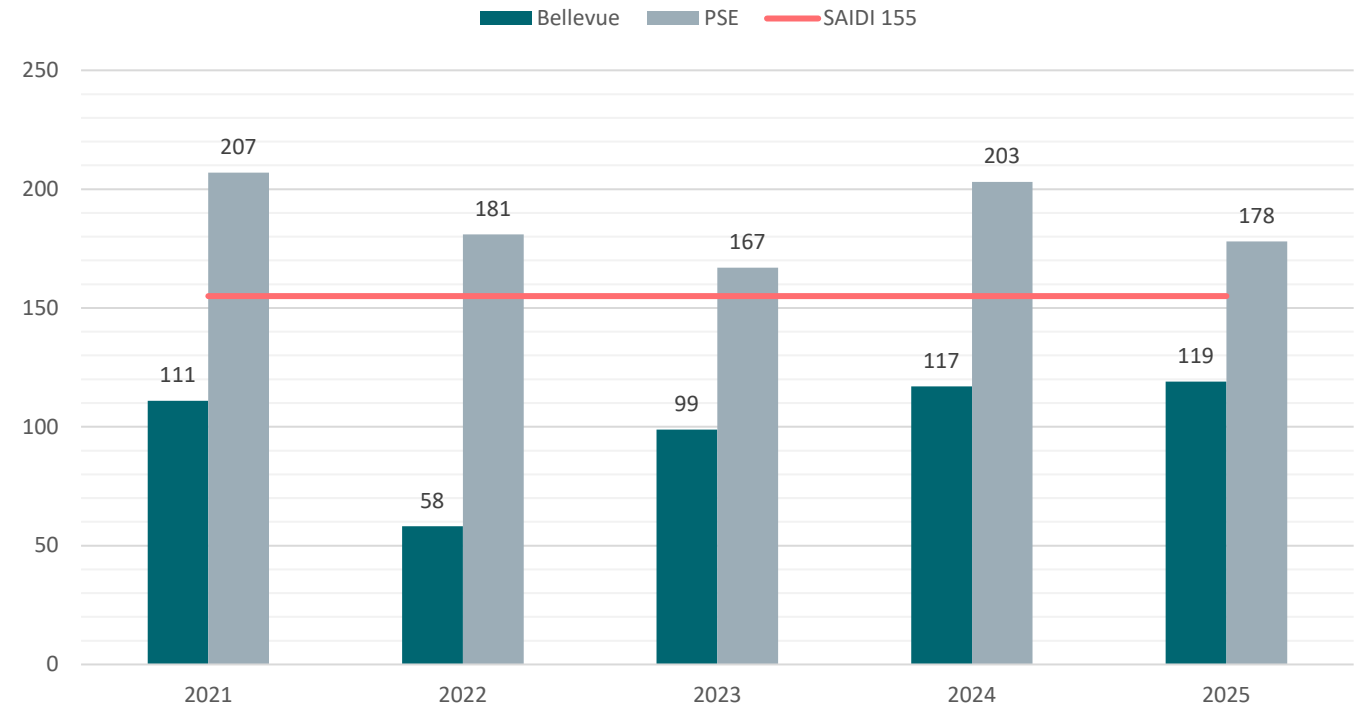
	SAIDI		SAIFI	
	Bellevue	PSE	Bellevue	PSE
2021	111	207	0.7	1.4
2022	58	181	0.4	1.1
2023	99	167	0.6	1.1
2024	117	203	0.6	1.2
2025	119	178	0.8	1.1

- SAIDI in minutes per customer, calculated using the IEEE 1366 method
- SAIFI in outage events per customer
- SAIDI and SAIFI data excludes Major Storms

Bellevue vs. PSE Non-MED SAIDI Performance (2021 – 2025)

Excludes Major Storm Events

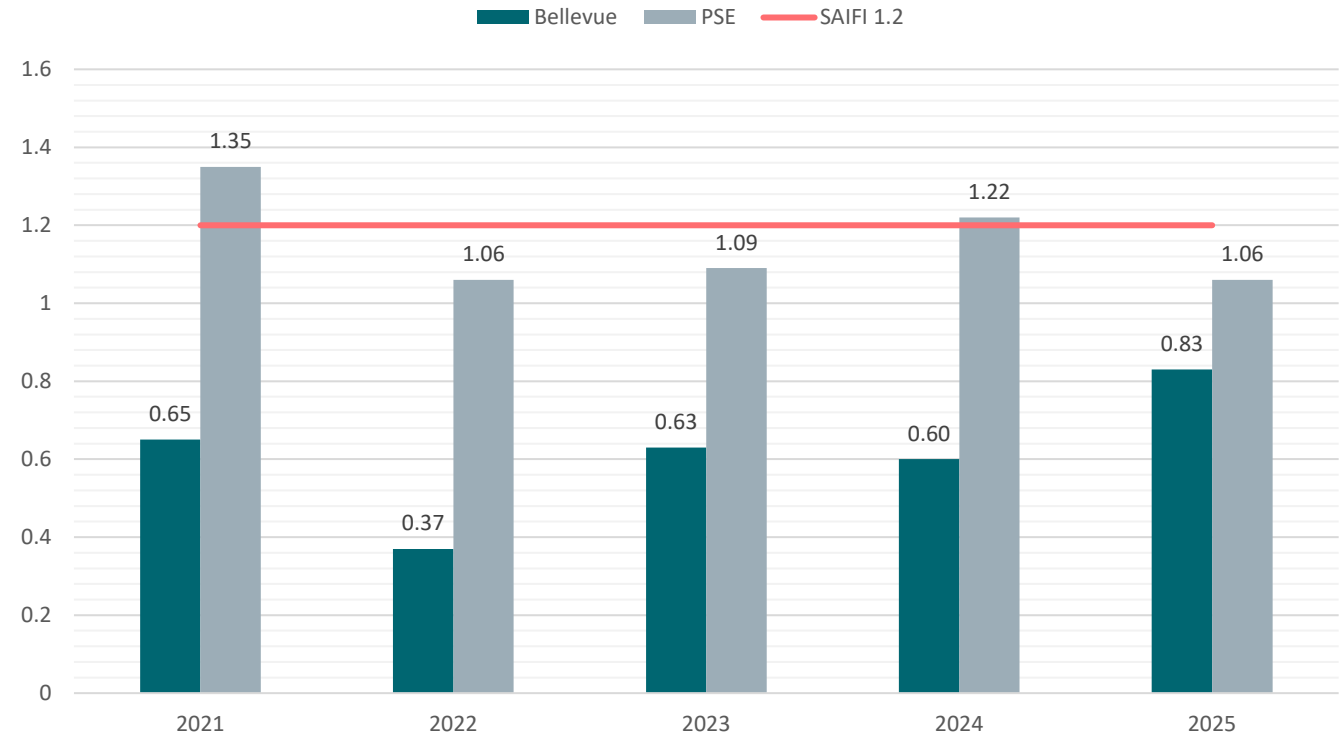
5-Year Non-MED SAIDI Performance Comparison



Bellevue vs. PSE Non-MED SAIFI Performance (2021 – 2025)

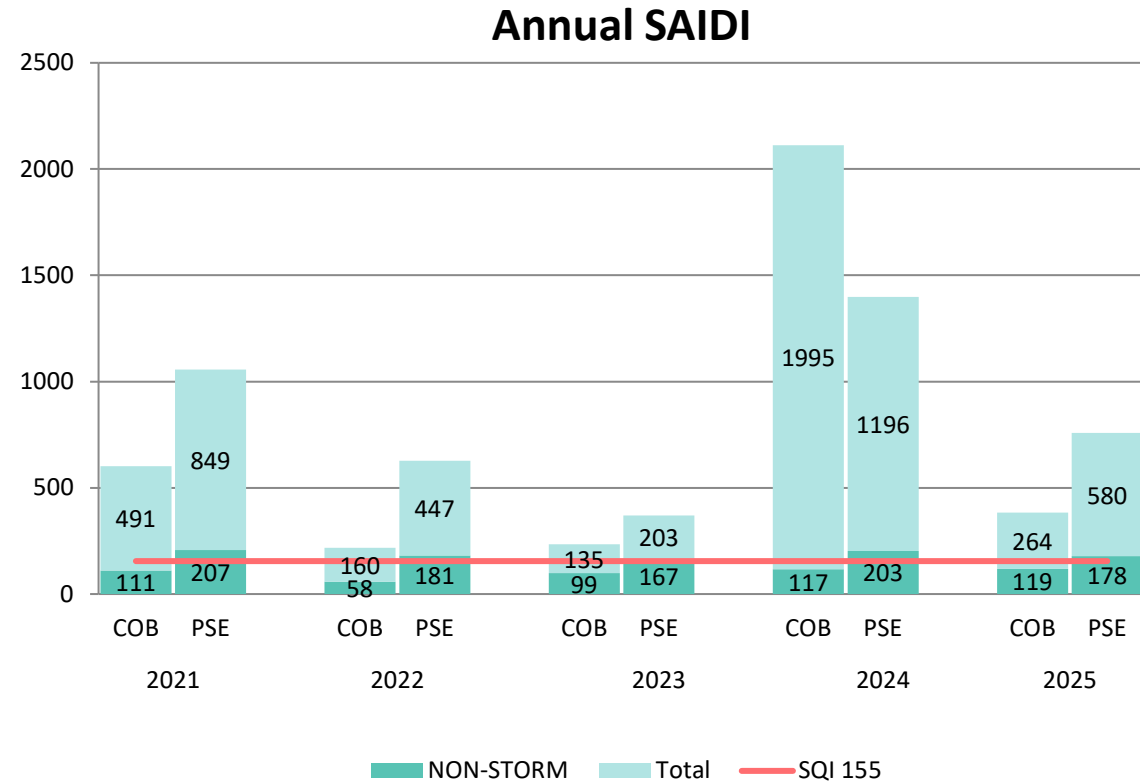
Excludes Major Storm Events

5-Year Non-MED SAIFI Performance Comparison



Bellevue vs. PSE System SAIDI Performance (Non-MED and All-In), 2021 – 2025

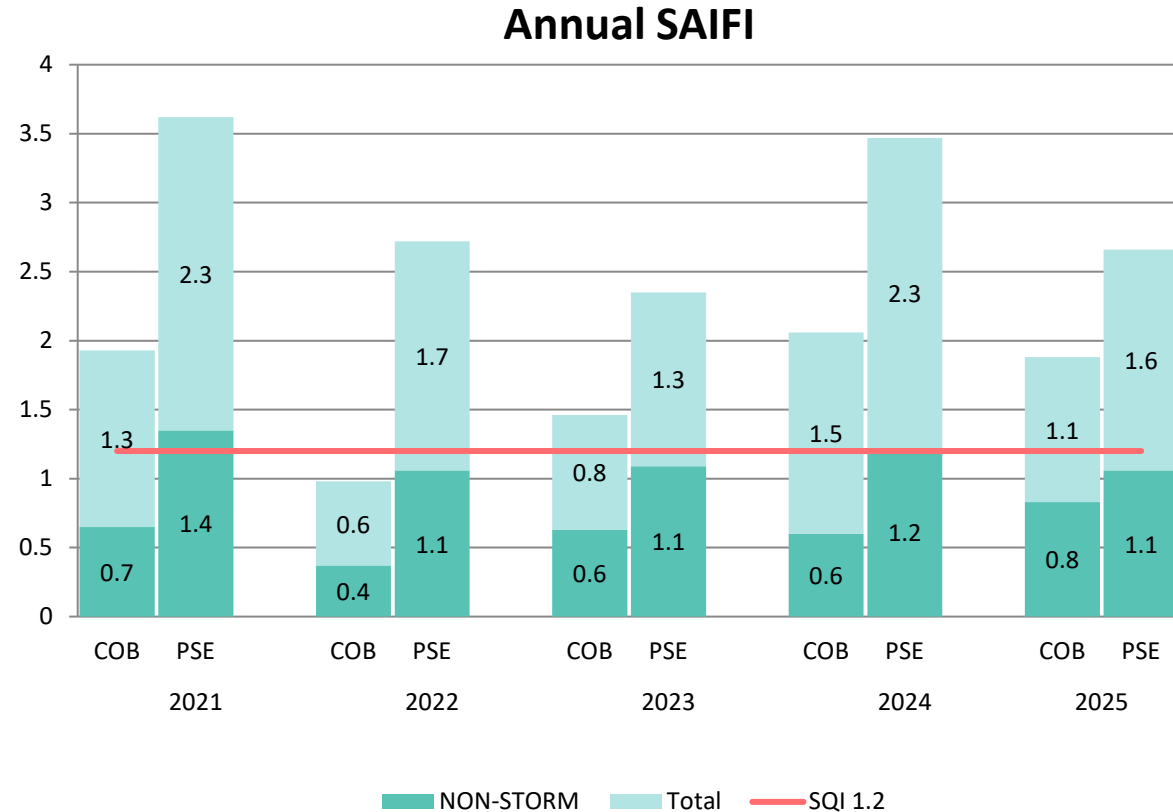
5-Year SAIDI Performance Comparison



Values shown are in minutes and calculated
using IEEE 1366 standards

Bellevue vs. PSE System SAIFI Performance (Non-MED and All-In), 2021 – 2025

5-Year SAIFI Performance Comparison

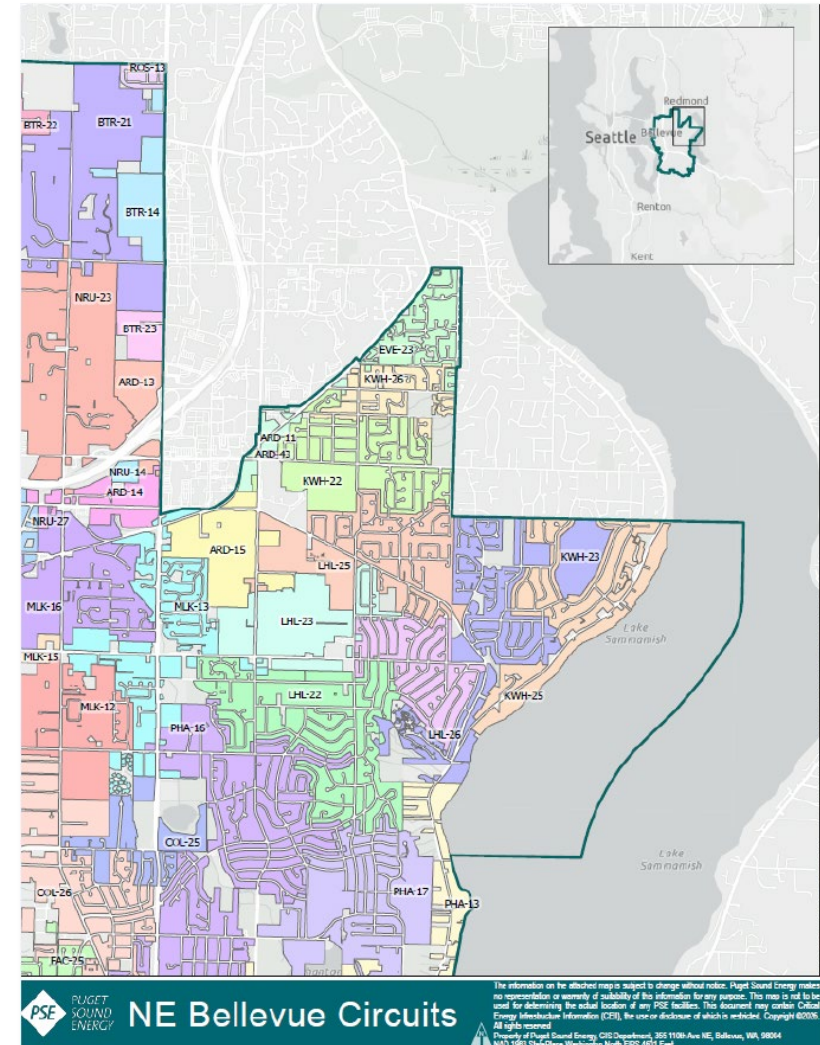


**Values shown are in minutes and calculated
using IEEE 1366 standards*

New Report Elements

The 2025 report includes several additions based on feedback received during the 2024 workshop:

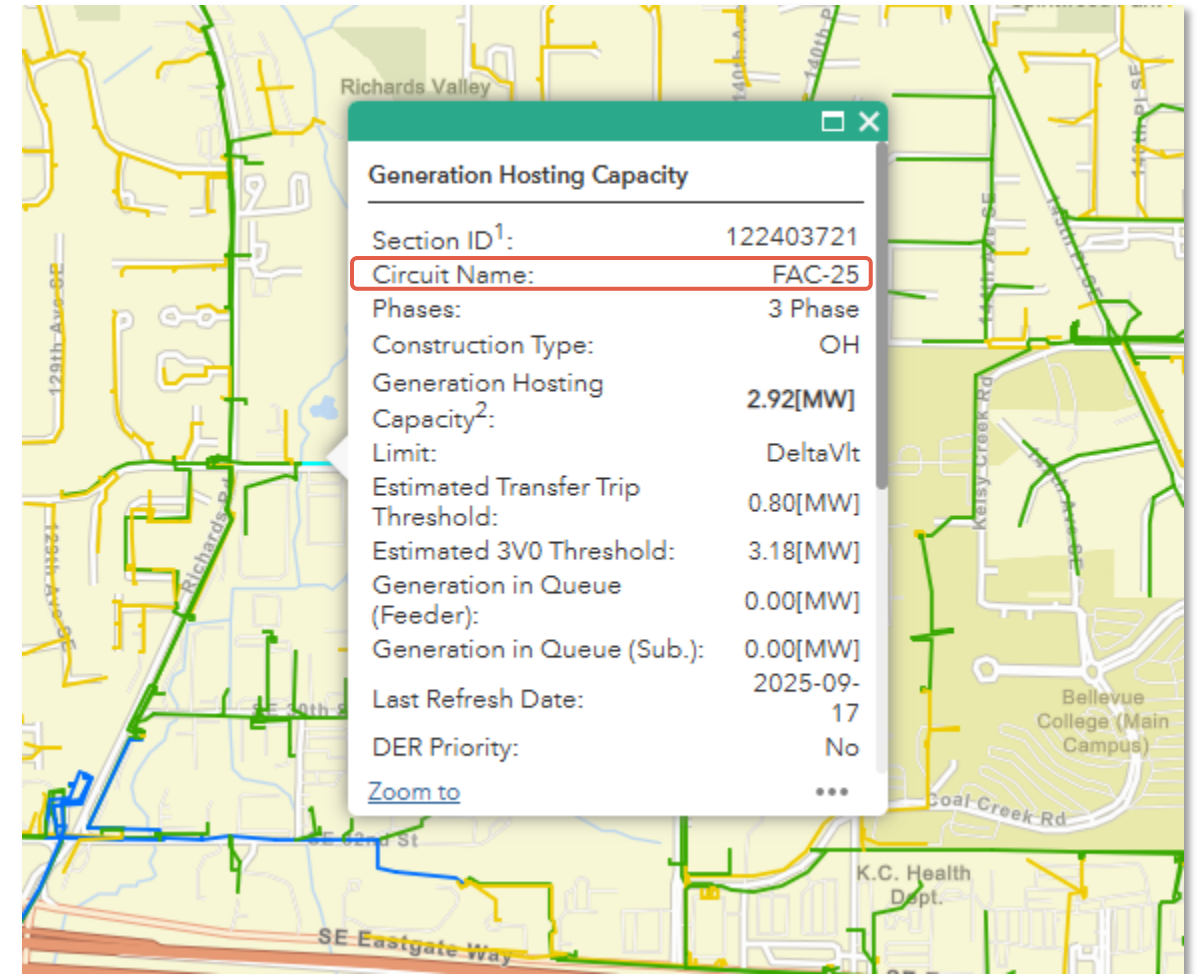
- ◆ Circuit map
- ◆ Tools to identify circuit location
- ◆ Project map
- ◆ Additional explanations for charts and graphs
- ◆ Performance comparison with similar cities
- ◆ Adjusted outage duration ranges



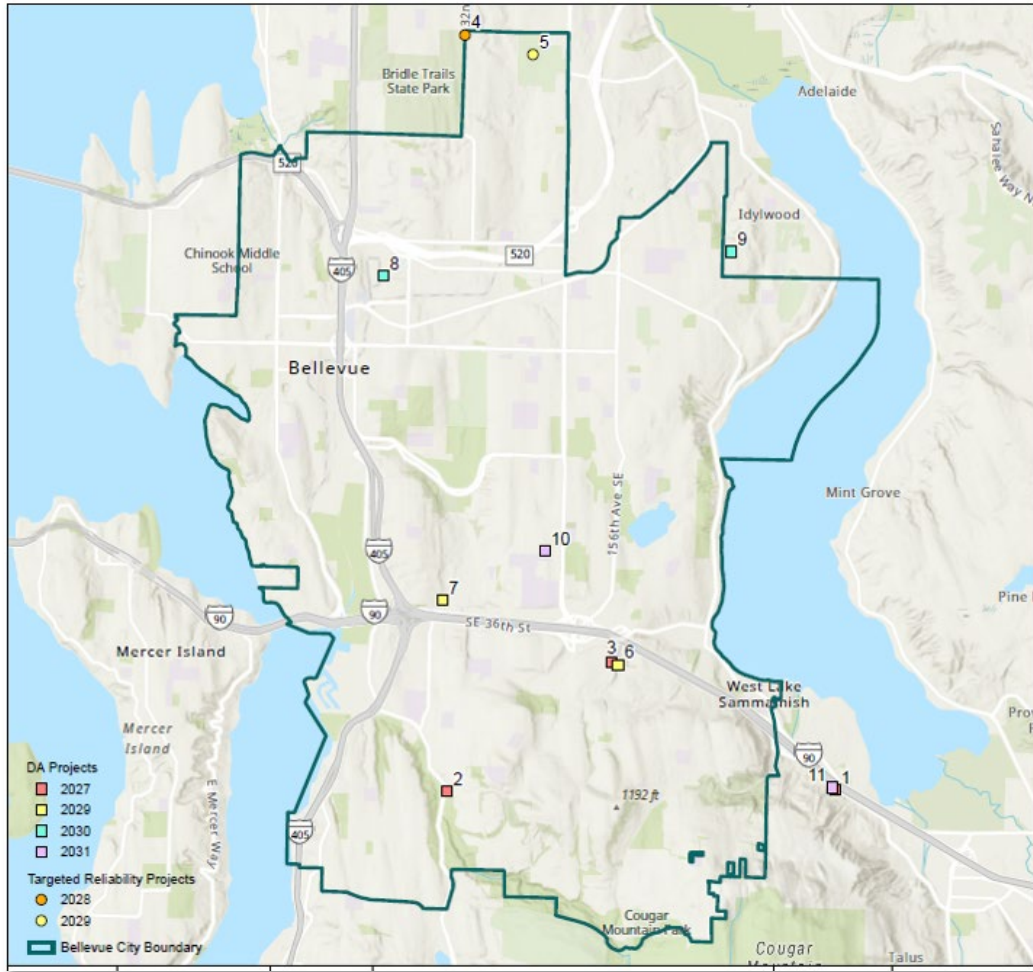
New Report Elements – Circuit and HCA Maps

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PDF circuit maps and access to the online Hosting Capacity Analysis (HCA) map were added to the help residents identify the circuit serving their location.



New Report Elements – Project Map



Key planned projects are shown on a project map in the report, with symbols indicating approximate locations as **Distribution Automation (DA)** projects may involve multiple work locations and **Targeted Reliability** projects can extend for a mile or more.

New Report Elements – Additional Context for Graphics

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Additional explanations have been added to key graphics to help readers understand their purpose and how to interpret the results.

The examples below demonstrate how to evaluate and interpret the performance of each circuit:

ARD-11: SAIDI remained low (performance better than target due to low outage durations) through 2023 before increasing in 2024 and rising above the target of 155 in 2025.

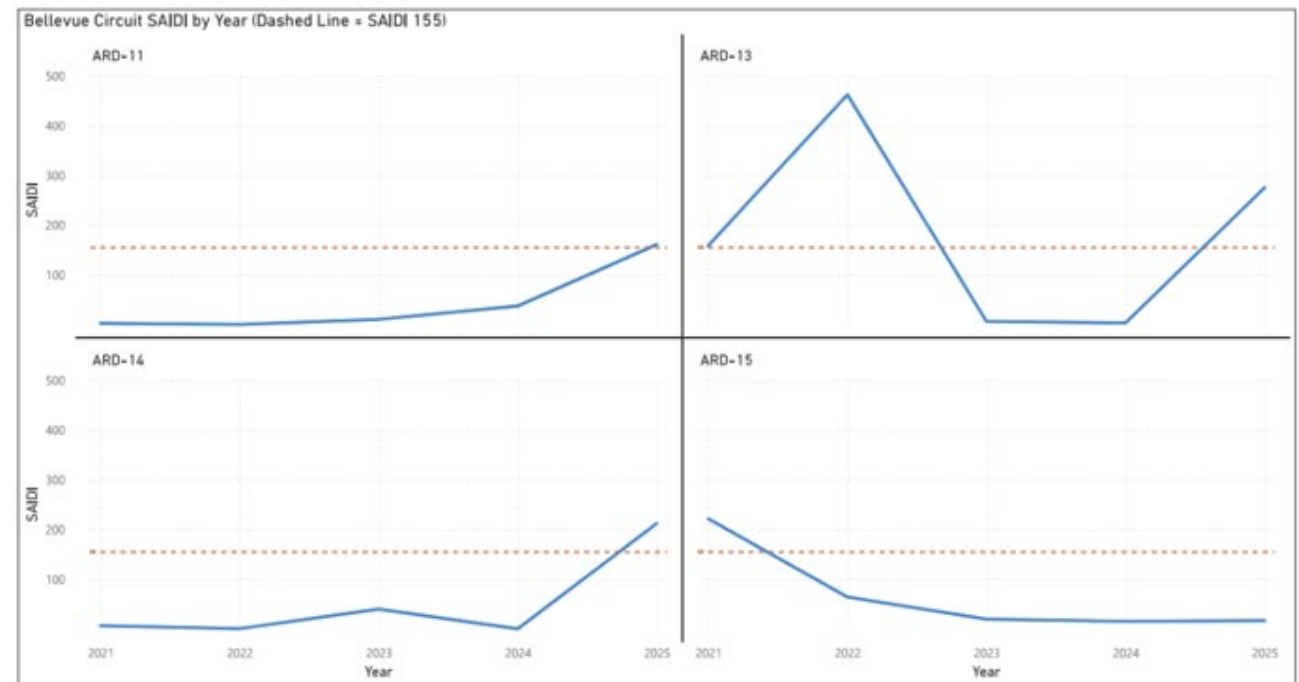
ARD-13: SAIDI was highly variable, with elevated customer outage duration in 2022 and 2025 separated by two years of strong performance.

ARD-14: SAIDI remained relatively low in most years but increased in 2025, exceeding the circuit average benchmark.

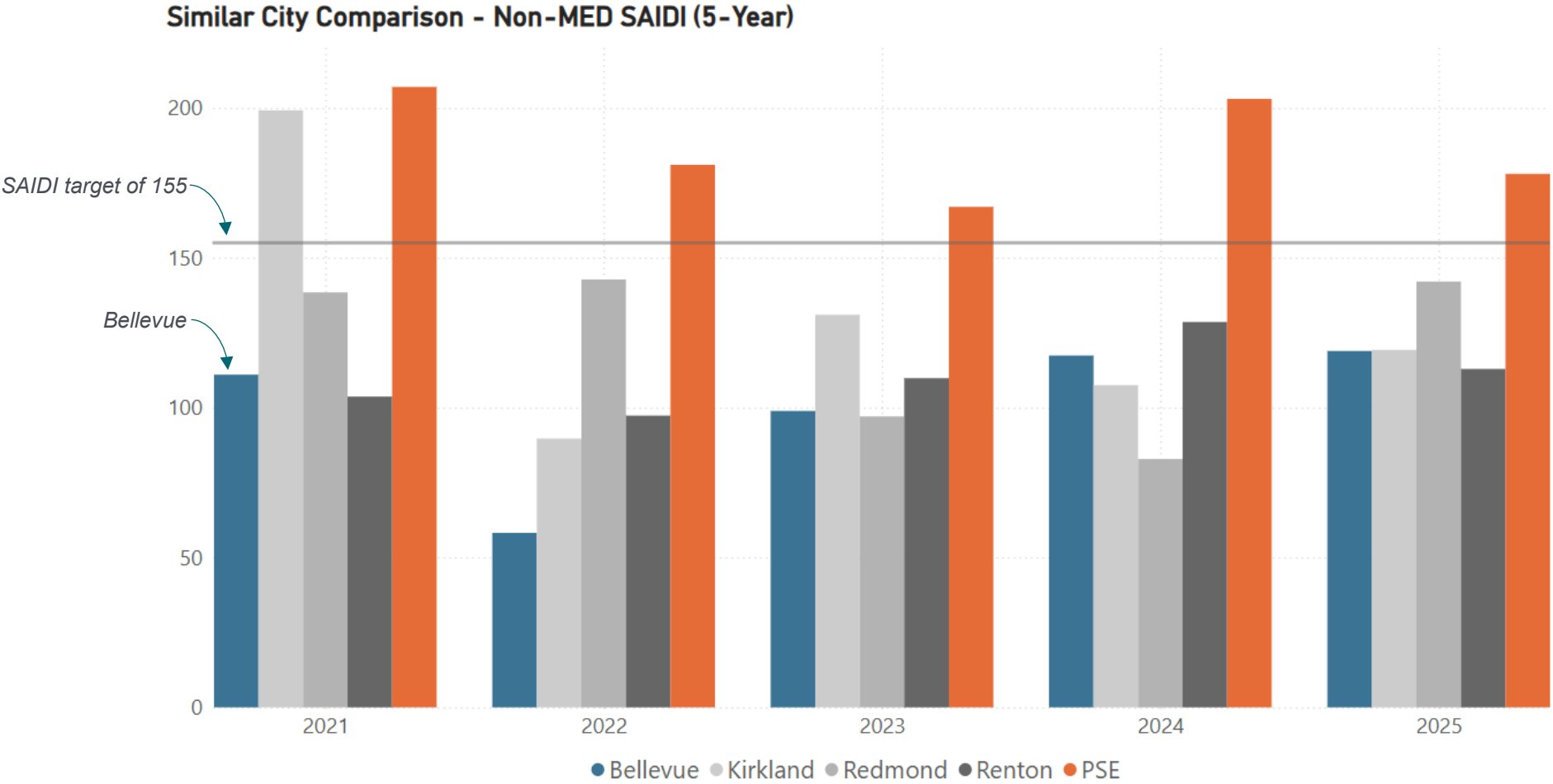
ARD-15: SAIDI steadily declined during the past 5 years, indicating improving reliability performance, and remained well below the circuit average benchmark from 2022 onward.

Excerpt from report:

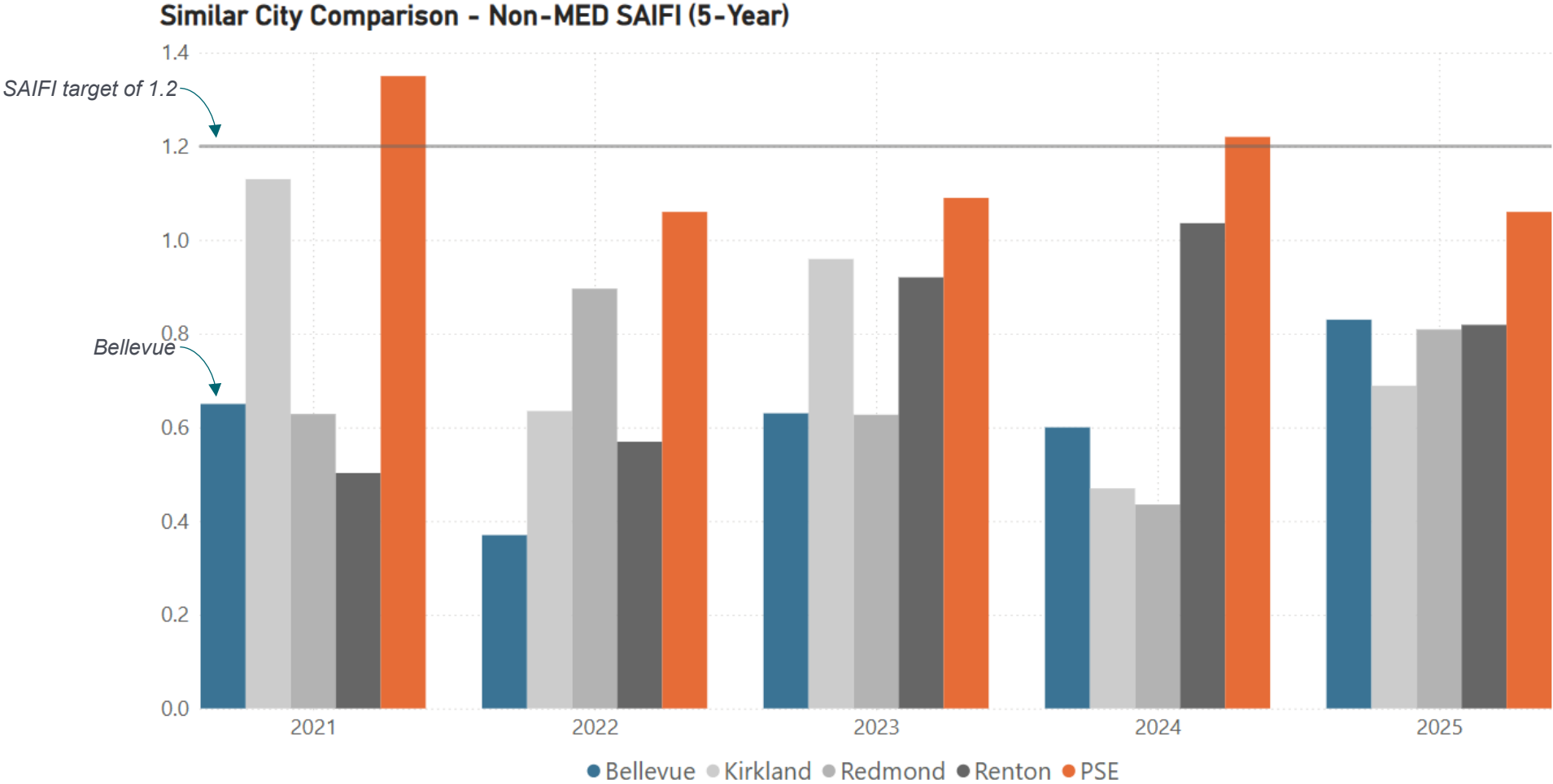
Figure 7 – Circuit SAIDI Performance Trends (2021-2025) Example:



Similar City Comparison – Non-MED SAIDI



Similar City Comparison – Non-MED SAIFI



New Report Elements – Adjusted Outage Duration Ranges

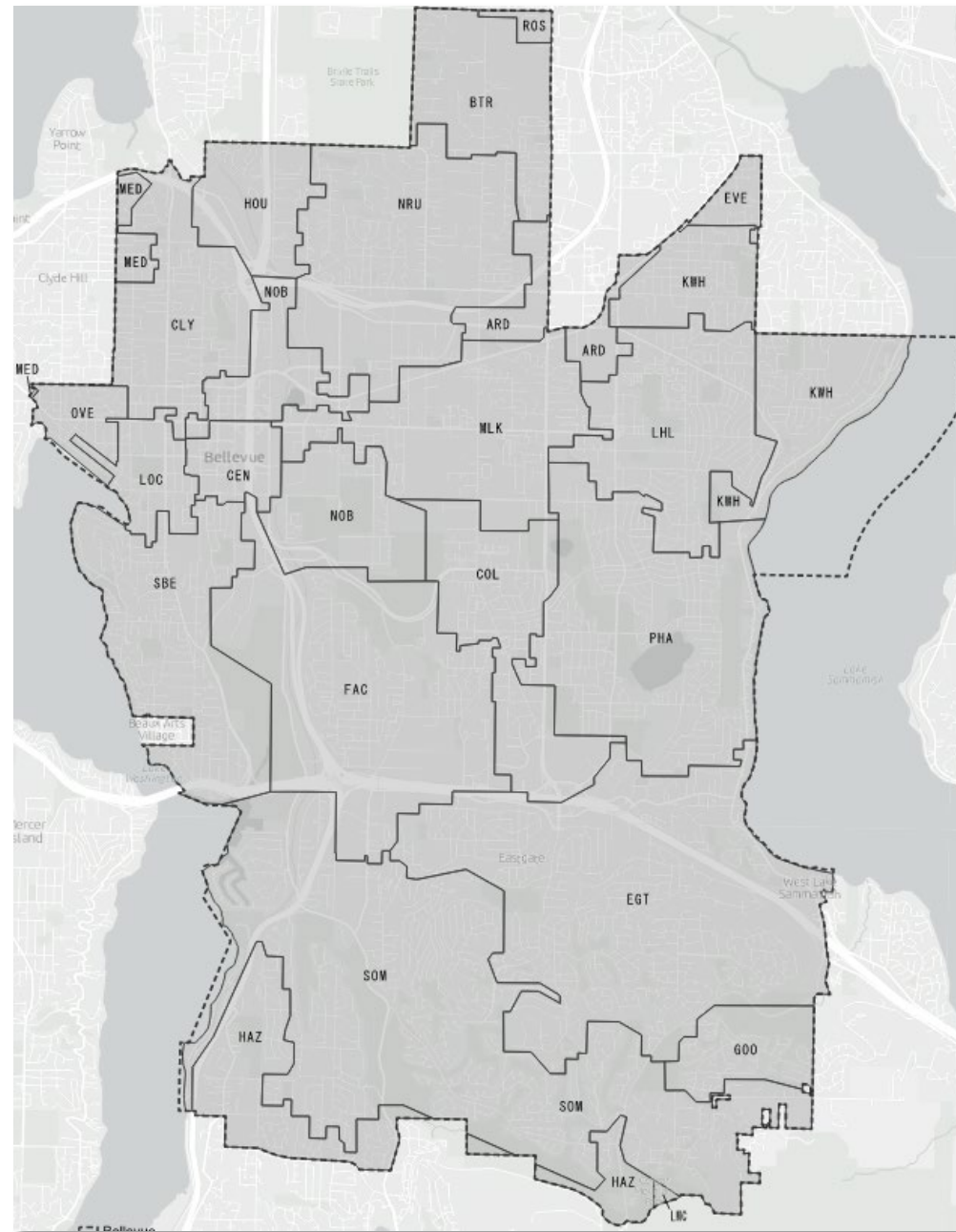
Excerpt from report:

2025 OUTAGES FOR CIRCUITS SERVING BELLEVUE

DATE	CIRCUIT	CAUSE	EQUIPMENT	CUSTOMERS OUT	CUSTOMER MINUTES	STORM CODE	Duration (min)	Duration (hr)	Duration Bin	Duration
1/2/2025	NRU-27	BA	OTF	2	295	NON	147.7	2.5	> 1 & ≤ 6 hrs	> 5 min
1/2/2025	HAZ-12	EF	USV	1	1,924	NON	1924.1	32.1	> 6 hrs	> 5 min
1/3/2025	SBE-26	EF	OCO	108	31,735	NON	300.5	5	> 1 & ≤ 6 hrs	> 5 min
1/4/2025	OVE-15	EF	OSV	1	346	NON	346	5.8	> 1 & ≤ 6 hrs	> 5 min
1/4/2025	KWH-22	EF	OCN	1	127	NON	127	2.1	> 1 & ≤ 6 hrs	> 5 min
1/6/2025	OVE-15	TV	OCO	34	5,104	NON	150.1	2.5	> 1 & ≤ 6 hrs	> 5 min
1/6/2025	PHA-16	EF	OCO	1	300	NON	300.1	5	> 1 & ≤ 6 hrs	> 5 min
1/7/2025	SBE-26	DU	USC	3	323	NON	107.8	1.8	> 1 & ≤ 6 hrs	> 5 min
1/8/2025	KWH-23	SO	UPC	2	475	NON	237.3	4	> 1 & ≤ 6 hrs	> 5 min
1/8/2025	MED-36	DU	UPC	26	2,766	NON	106.4	1.8	> 1 & ≤ 6 hrs	> 5 min
1/8/2025	EVE-23	SO	UPC	57	4,517	NON	79.3	1.3	> 1 & ≤ 6 hrs	> 5 min
1/8/2025	HAZ-13	EF	UHH	1	478	NON	478.4	8	> 6 hrs	> 5 min
1/8/2025	PHA-16	EF	OCN	5	437	NON	87.4	1.5	> 1 & ≤ 6 hrs	> 5 min
1/10/2025	EVE-23	EF	UOT	28	7,095	NON	253.4	4.2	> 1 & ≤ 6 hrs	> 5 min
1/11/2025	NOB-22	CR	ACE	10	4,079	NON	454.2	7.6	> 6 hrs	> 5 min
1/12/2025	EGT-11	EF	UHH	6	2,591	NON	431.8	7.2	> 6 hrs	> 5 min
1/12/2025	MLK-12	EF	OFU	40	14,195	NON	354.9	5.9	> 1 & ≤ 6 hrs	> 5 min
1/13/2025	HOU-25	EF	OIN	4	164	NON	40.9	0.7	≤ 1 hr	> 5 min
1/14/2025	OVE-15	SO	UHH	2	288	NON	144	2.4	> 1 & ≤ 6 hrs	> 5 min
1/14/2025	PHA-13	UN	OFU	2	751	NON	375.7	6.3	> 6 hrs	> 5 min
1/14/2025	SBE-26	EF	OTR	8	3,503	NON	437.9	7.3	> 6 hrs	> 5 min
1/15/2025	HAZ-12	SO	UPT	1	38	NON	38	0.6	≤ 1 hr	> 5 min
1/15/2025	HAZ-12	SO	UPT	1		NON	0.2	0	≤ 1 hr	≤ 1 min
1/15/2025	LHL-25	SO	OPO	7	1,723	NON	246.2	4.1	> 1 & ≤ 6 hrs	> 5 min
1/16/2025	SBE-26	EF	UPC	92	11,137	NON	121.3	2	> 1 & ≤ 6 hrs	> 5 min
1/17/2025	EGT-12	EF	USC	1	87	NON	87.5	1.5	> 1 & ≤ 6 hrs	> 5 min
1/19/2025	NOB-22	SO	UPT	7	3,873	NON	553.3	9.2	> 6 hrs	> 5 min
1/20/2025	FAC-24	EF	UEL	29	11,238	NON	387.5	6.5	> 6 hrs	> 5 min
1/21/2025	CEN-22	OE	UNK	380	32,680	NON	86	1.4	> 1 & ≤ 6 hrs	> 5 min

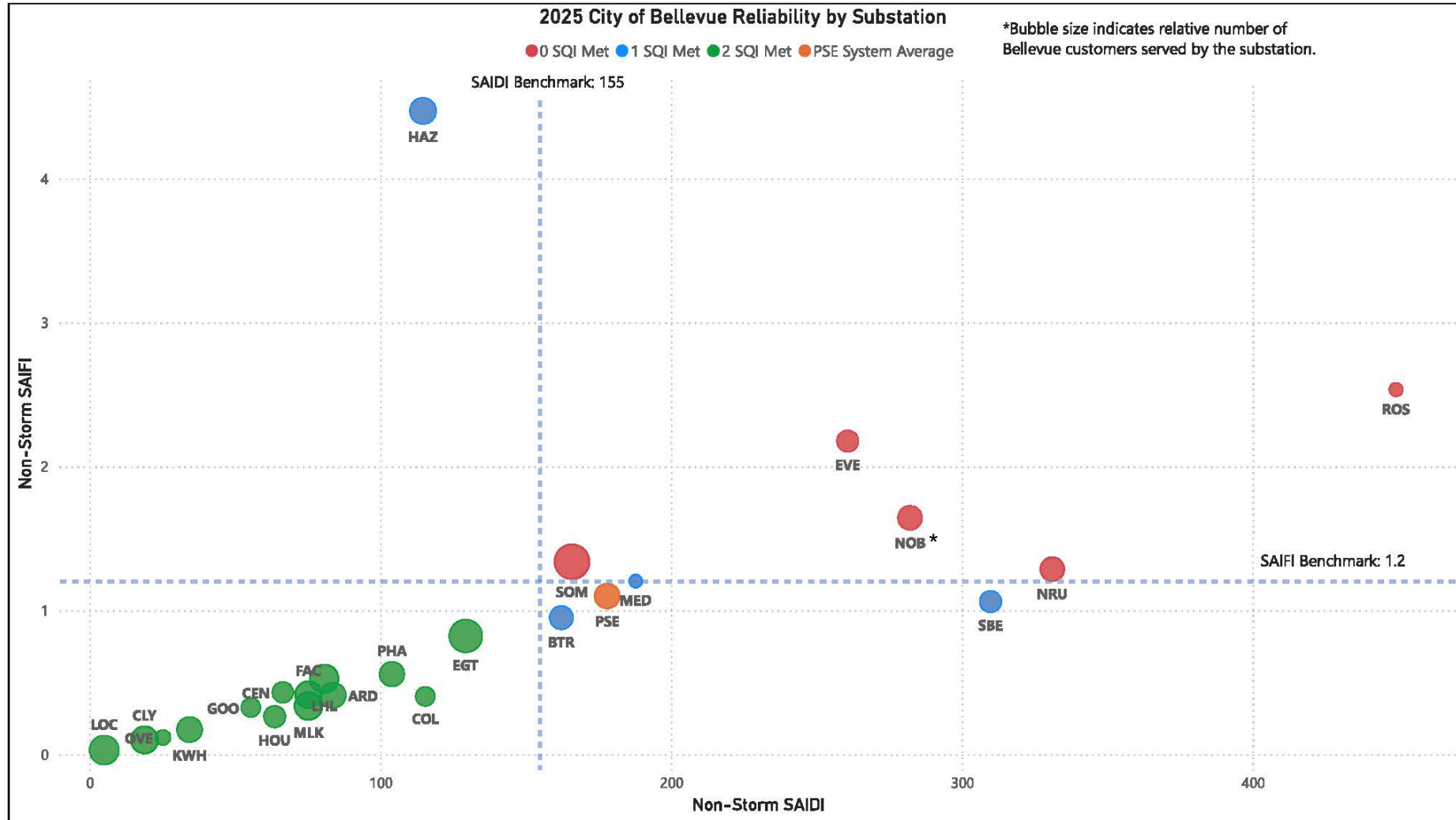
Bellevue Substation Service Areas

Bellevue's electric distribution system is served by 23 substations



2025 Reliability Performance by Substation

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*NOB reliability performance was primarily driven by a mylar balloon cause outage on August 31, 2025

Circuit Performance: Exceeding Reliability Metrics (2021 – 2025)

- ◆ Bellevue is served by 103 distribution circuits
- ◆ During 2025:
 - ◇ 64 circuits (62%) outperformed PSE system average for both SAIDI and SAIFI
 - ◇ 37 circuits (36%) performed worse than PSE system-average for SAIDI and/or SAIFI
 - ◇ 39 circuits (38%) exceeded SAIDI and/or SAIFI thresholds,
- ◆ Performed worse than average system wide performance (2021 – 2025):
 - ◇ 1 of 5 years: 29 circuits
 - ◇ 2 of 5 years: 24 circuits
 - ◇ 3 of 5 years: 7 circuits
 - ◇ 4 of 5 years: 0 circuits
 - ◇ 5 of 5 years: 1 circuit

Excerpt from report:

CIRCUITS THAT EXCEED 2025 PSE SYSTEM SAIDI AND/OR SAIFI		
SQL: SAIDI = 155 SAIFI = 1.20		
PSE: SAIDI = 178 SAIFI = 1.06		
BELLEVUE: SAIDI = 119 SAIFI = 0.83		
CIRCUIT	SAIDI	SAIFI
<i>Circuits with planned actions or investigations</i>		
NRU-23	635.68	1.64
COL-23	584.66	1.15
NOB-12	490.23	3.20
EGT-25	423.28	1.41
SQM-16	422.17	3.28
BTR-22	398.00	0.83
SBE-25	364.62	1.08
SBE-26	358.55	1.23

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2025 Bellevue Circuit Performance

PSE

Excerpt from report:

The table summarizes performance data for each distribution circuit serving Bellevue customers

2025 PERFORMANCE FOR CIRCUITS SERVING BELLEVUE							
EXCLUDING STORM OUTAGES							
CIRCUIT	CUSTOMERS (METERS)	UNPLANNED OUTAGES ¹	UNPLANNED OUTAGE MINUTES ²	TOTAL OUTAGE ¹	TOTAL MINUTES ²	SAIDI ²	SAIFI ²
2025 PSE Companywide performance figures						178	1.06
ARD-11	237	3	37,510	4	38,191	161.14	1.12
ARD-13	870	1	238,547	2	239,688	275.50	1.26
ARD-14	244	3	51,886	3	51,886	212.65	0.90
ARD-15	1,904	1	31,868	2	31,982	16.80	0.10
ARD-43	1,066	0	-	0	-	0.00	0.00
BTR-14	1,142	1	126,712	1	126,712	110.96	1.98
BTR-21	1,139	7	150,326	9	184,208	161.73	0.53
BTR-22	693	12	274,401	13	275,814	398.00	0.83
BTR-23	643	0	-	0	-	0.00	0.00
CEN-11	38	0	-	0	-	0.00	0.00
CEN-12	303	2	57,336	4	67,733	223.54	1.00
CEN-13	10	0	-	0	-	0.00	0.00
CEN-14	12	0	-	0	-	0.00	0.00
CEN-22	642	2	44,156	4	45,514	70.89	0.84
CEN-25	1,319	4	10,521	4	10,521	7.98	0.09
CEN-2N	464	1	61,474	1	61,474	132.49	0.52
CLY-22	364	0	-	0	-	0.00	0.00
CLY-23	554	8	4,967	10	5,884	10.62	0.07
CLY-25	1,710	5	29,583	5	29,583	17.30	0.07
CLY-26	1,448	7	54,059	10	54,709	37.78	0.22
CLY-27	787	1	1,688	2	1,730	2.20	0.01
COL-22	2	1	570	1	570	284.85	0.50
COL-23	72	3	42,095	3	42,095	584.66	1.15
COL-24	22	0	-	0	-	0.00	0.00
COL-25	240	2	471	3	1,385	5.77	0.12
COL-26	1,982	18	209,709	21	223,585	112.81	0.41
EGT-11	1,255	11	21,564	15	23,266	18.54	0.17
EGT-12	1,806	15	100,724	18	104,402	57.81	1.04
EGT-13	7	0	-	0	-	0.00	0.00
EGT-15	272	0	-	1	721	2.65	0.03
EGT-16	555	10	102,789	13	112,048	201.89	1.27
EGT-25	1,238	9	524,021	9	524,021	423.28	1.41
EGT-26	32	2	2,946	2	2,946	92.06	0.91
EGT-27	585	5	60,671	7	60,969	104.22	1.08
EGT-28	1,781	20	142,027	21	145,738	81.83	0.56
EVE-23	2,988	19	689,086	25	778,889	260.67	2.18
FAC-12	1,268	16	213,959	18	218,943	172.67	0.74
FAC-13	620	2	6,686	2	6,686	10.78	0.35
FAC-14	480	1	37,217	1	37,217	77.54	0.99
FAC-21	98	2	12,562	3	12,771	130.32	1.01
FAC-23	594	0	-	0	-	0.00	0.00
FAC-24	90	2	21,125	7	27,670	307.44	1.80
FAC-25	1,502	1	46,641	1	46,641	31.05	0.03
GOO-13	2,273	6	105,727	8	126,108	55.48	0.32
HAZ-12	2,370	17	200,445	20	400,277	118.48	1.14

2025 Outage Cause and Equipment Type Analysis

PSE

Outages are analyzed and reported by cause

Excerpt from report:

BY CAUSE					
CAUSE CODE	CAUSE DESCRIPTION	OUTAGES		OUTAGE MINUTES	
		COUNT	PERCENT	COUNT	PERCENT
AC	ACCIDENT	11	1.3%	150,538	1.4%
BA	BIRD OR ANIMAL	69	8.4%	178,116	1.7%
CE	CUSTOMER EQUIPMENT	6	0.7%	3,065	0.0%
CR	CUSTOMER REQUEST	5	0.6%	11,614	0.1%
DU	DIG UP UNDERGROUND	12	1.5%	14,701	0.1%
EF	EQUIPMENT FAILURE	413	50.2%	5,991,178 *	56.0%
FI	FAULTY INSTALLATION	7	0.9%	5,929	0.1%
OD	OUTSIDE UTILITY SOURCE	2	0.2%	121,089	1.1%
OE	OUTAGE WHILE WORKING	2	0.2%	44,156	0.4%
SO	SCHEDULED OUTAGE	200	24.3%	635,762	5.9%
TV	TREE - RIGHT OF WAY UNKNOWN	87	10.6%	3,396,346	31.8%
UN	UNKNOWN CAUSE	8	1.0%	142,069	1.3%
VA	VANDALISM	1	0.1%	851	0.0%
Totals		823	100%	10,695,413	100%

87.8%

of all outage minutes

Equipment failure
56.0%

+

Trees
31.8%

These two causes are the clearest reliability improvement opportunities.

*Equipment Failure performance was partly driven by a mylar balloon cause outage on August 31, 2025, which accounted for 2,116,377 outage minutes (35% of 5,991,178)

2025 Outage Cause and Equipment Type Analysis

PSE

Excerpt from report:

Outages are also analyzed by equipment type

BY EQUIPMENT					
EQUIP CODE	EQUIPMENT DESCRIPTION	OUTAGES		OUTAGE MINUTES	
		COUNT	PERCENT	COUNT	PERCENT
ACE	ALL CUSTOMER EQUIPMENT	14	1.7%	47,353	0.4%
OAR	OVERHEAD ARRESTER	2	0.2%	1,620	0.0%
OCN	OVERHEAD SECONDARY CONNECTOR	24	2.9%	12,862	0.1%
OCO	OVERHEAD CONDUCTOR	65	7.9%	3,220,613	30.1%
OCR	OVERHEAD CROSSARM	2	0.2%	127,894	1.2%
OFC	OVERHEAD CUT-OUT	10	1.2%	34,430	0.3%
OFU	OVERHEAD LINE FUSE / FUSE LINK	26	3.2%	377,890	3.5%
OHR	OVERHEAD RECLOSER	5	0.6%	593,531	5.5%
OIN	OVERHEAD INSULATOR	5	0.6%	1,448	0.0%
OMP	OVERHEAD METER POINT	2	0.2%	194	0.0%
OPO	OVERHEAD POLE	40	4.9%	323,330	3.0%
OSV	OVERHEAD SERVICE	5	0.6%	16,986	0.2%
OSW	OVERHEAD SWITCH	27	3.3%	2,618,391	24.5%
OTF	OVERHEAD TRANSFORMER FUSE	67	8.1%	39,493	0.4%
OTR	OVERHEAD TRANSFORMER	58	7.0%	75,821	0.7%
PMF	PADMOUNT SWITCH FUSE	3	0.4%	9,970	0.1%
PMP	PADMOUNT METER POINT	6	0.7%	2,034	0.0%
PTF	PADMOUNT TRANSFORMER FUSE	2	0.2%	2,051	0.0%
SCS	CIRCUIT SWITCHER	2	0.2%	30,200	0.3%
UEL	UNDERGROUND ELBOW	17	2.1%	107,956	1.0%
UFJ	UNDERGROUND J-BOX	12	1.5%	235,145	2.2%
UGF	UNDERGROUND SUBMERSIBLE FUSE	5	0.6%	51,662	0.5%
UGV	UNDERGROUND VAULT	1	0.1%	209	0.0%
UHH	UNDERGROUND HANDHOLE - SECONDARY	36	4.4%	33,306	0.3%
ULI	SWITCHGEAR ELECTRONIC FUSE (PM OR SUBMER)	1	0.1%	1,740	0.0%
UMP	UNDERGROUND METER POINT	1	0.1%	125	0.0%
UNK	UNKNOWN	3	0.4%	44,637	0.4%
UOT	UNDERGROUND OUTDOOR TERMINATION	20	2.4%	287,438	2.7%
UPC	UNDERGROUND PRIMARY CABLE	108	13.1%	1,298,115	12.1%
UPS	UNDERGROUND PADMOUNT SWITCH	10	1.2%	317,713	3.0%
UPT	UNDERGROUND PADMOUNT TRANSFORMER	63	7.7%	327,187	3.1%
USC	UNDERGROUND SECONDARY CABLE	61	7.4%	51,954	0.5%
USP	UNDERGROUND PRIMARY SPLICE	2	0.2%	39,309	0.4%
USV	UNDERGROUND SERVICE	80	9.7%	36,044	0.3%
UTC	UNDERGROUND TERMINAL FUSE	1	0.1%	13,143	0.1%
UTR	UNDERGROUND TRANSFORMER	34	4.1%	256,269	2.4%
UVS	UNDERGROUND VISTA SWITCH	3	0.4%	57,351	0.5%
Totals		823	100%	10,695,413	100%

Improving Reliability Through Technology

PSE

◆ SCADA Reclosers

- ◇ 12 SCADA reclosers are installed on 12 Bellevue circuits, with one recloser per circuit

◆ Distribution Automation Fault Location, Isolation, and Service Restoration (DA-FLISR or DA)

- ◇ 9 Bellevue circuits are part of existing DA schemes

◆ Substation SCADA Switchgear

- ◇ 28 Bellevue circuits currently utilize SCADA circuit breakers

◆ Fusesavers

- ◇ 14 Fusesavers are currently installed on 13 Bellevue circuits

Recently Completed Reliability Projects

PSE develops, constructs, and maintains electric system infrastructure to address identified reliability needs. In 2025, PSE completed **7** reliability improvement projects on Bellevue circuits, representing a total investment of **\$13,259,042**, including:

- ◆ **2 Fusesaver installations:** GOO-13 and HAZ-12
- ◆ **2 Substation SCADA:** Phantom Lake and Factoria
- ◆ **1 Resilience enhancement project:** Substation getaway replacements for MLK-12, MLK-13, MLK-15, and MLK-16
- ◆ **1 Substation reliability project:** PHA-1
- ◆ **1 Targeted capacity project:** CLY-01

Proposed Reliability Projects (2026-2028)

PSE has identified a portfolio of reliability improvement projects in Bellevue and is advancing them for construction between 2026 and 2028. A total of **100** projects are planned, representing approximately **\$52,251,787** in investment, including:

- ◆ **70 Cable remediation projects on 36 circuits**
- ◆ **10 Fusesaver installations across multiple circuits**
- ◆ **8 Targeted capacity projects**
- ◆ **6 DA projects across 6 substations**
- ◆ **3 Resilience enhancement projects**
- ◆ **2 Recloser installations on OVE-15 and FAC-13**
- ◆ **1 Targeted reliability project on BTR-22**

City of Bellevue Staff Questions

- ◆ What are the major strengths and weaknesses of electric reliability today in Bellevue?
- ◆ How does PSE prioritize investments based on relative performance within Bellevue and throughout the service area?
- ◆ Thinking of trends affecting future reliability, what are PSE's biggest concerns when considering performance of both distribution circuits and substations? How will PSE best manage these trends?
- ◆ Equipment failure accounts for about 50% of unplanned outages, consistent with past years. As electrical loads change with the electrification of buildings and transportation, do you expect this to change?

City of Bellevue Staff Questions

(continued)

- ◆ Why are outages scheduled? Is this relatively consistent over years? How, if at all, can or should this be reduced?
- ◆ Have there been any Public Safety Power Shutoffs (PSPS) that have impacted Bellevue customers? (Program initiated mid 2024 ahead of wildfire season). If so, are these included in the planned outages line item? How have PSPS affected the systemwide SAIDI and SAIFI?
- ◆ How can the City of Bellevue, other partners and customers support electrical reliability?
- ◆ What can customers experiencing reliability issues do to better understand the issue and flag it for PSE to investigate?

Resident Questions

- ◆ To the extent possible, will PSE consider siting PSE-owned batteries at locations otherwise determined to need reliability mitigations? My theory is that PSE might as well kill two birds with one stone. If a battery addresses a reliability issue on top of some other issue, so much the better.
- ◆ What can be done to back up power in Bridle Trails when the BTR Substation fails. *A few years ago BTR Substation failed and was not auto transferred to NRU or another substation. This caused an extended outage caused by a tree falling on the transmission line leading to BTR Substation.*
- ◆ What is PSE's Reliability in Bellevue compared to its peers. What quartile rank are they? *This maybe a better measure to track reliability improvement. Please consider this measure for the future.*
- ◆ What can be done to track PSE's Reliability Improvement Projects? *Some of these scheduled projects slide without community oversight.*
- ◆ What can be done to provide a more timely review of PSE Reliability Data? *With data computerized, could the Reliability Meeting Data for the previous year be conducted earlier. Perhaps January.*

**Thank you
for attending**

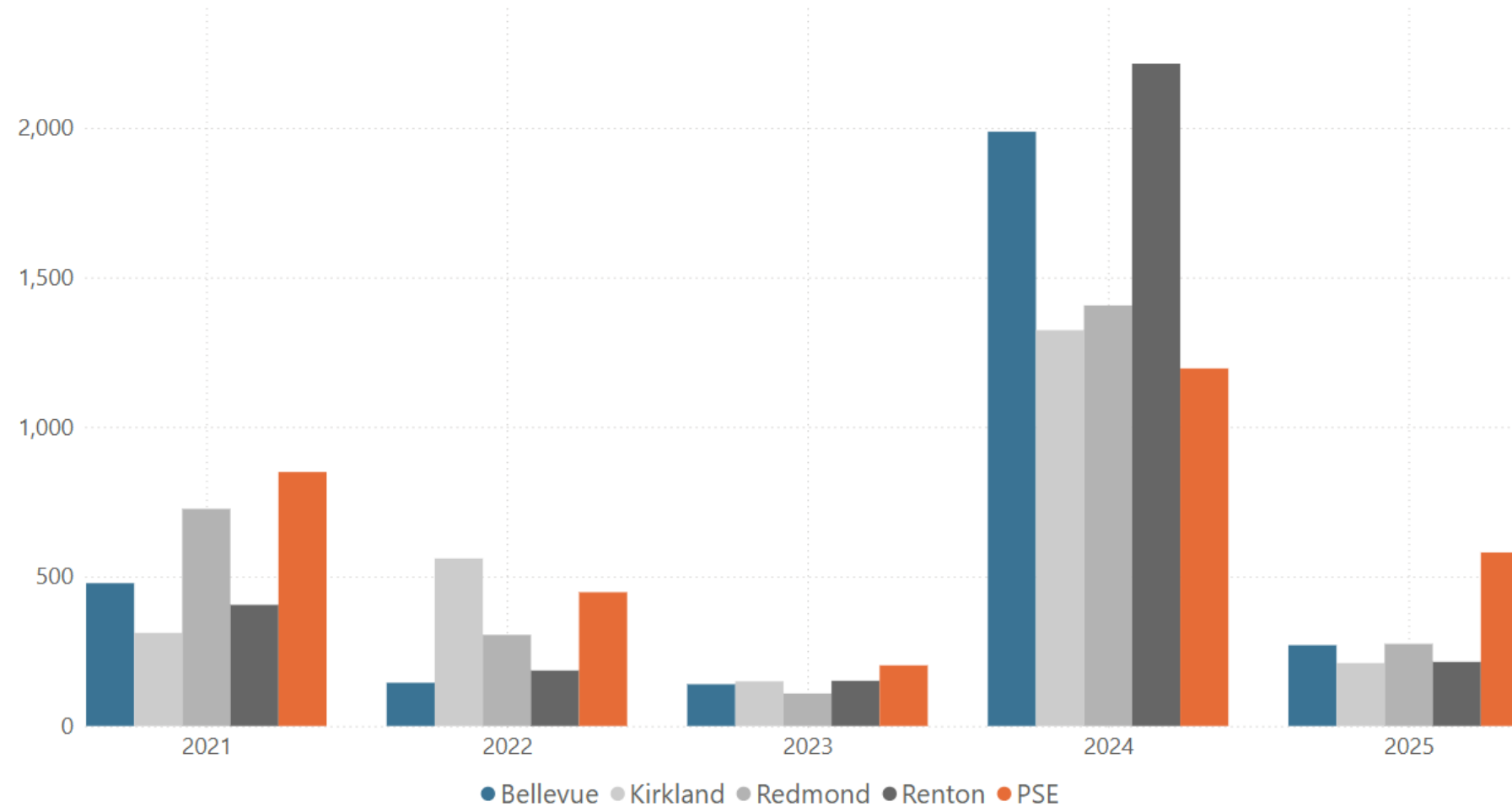
Questions & Discussion

Appendix

Similar City Comparison – All-In SAIDI

PSE

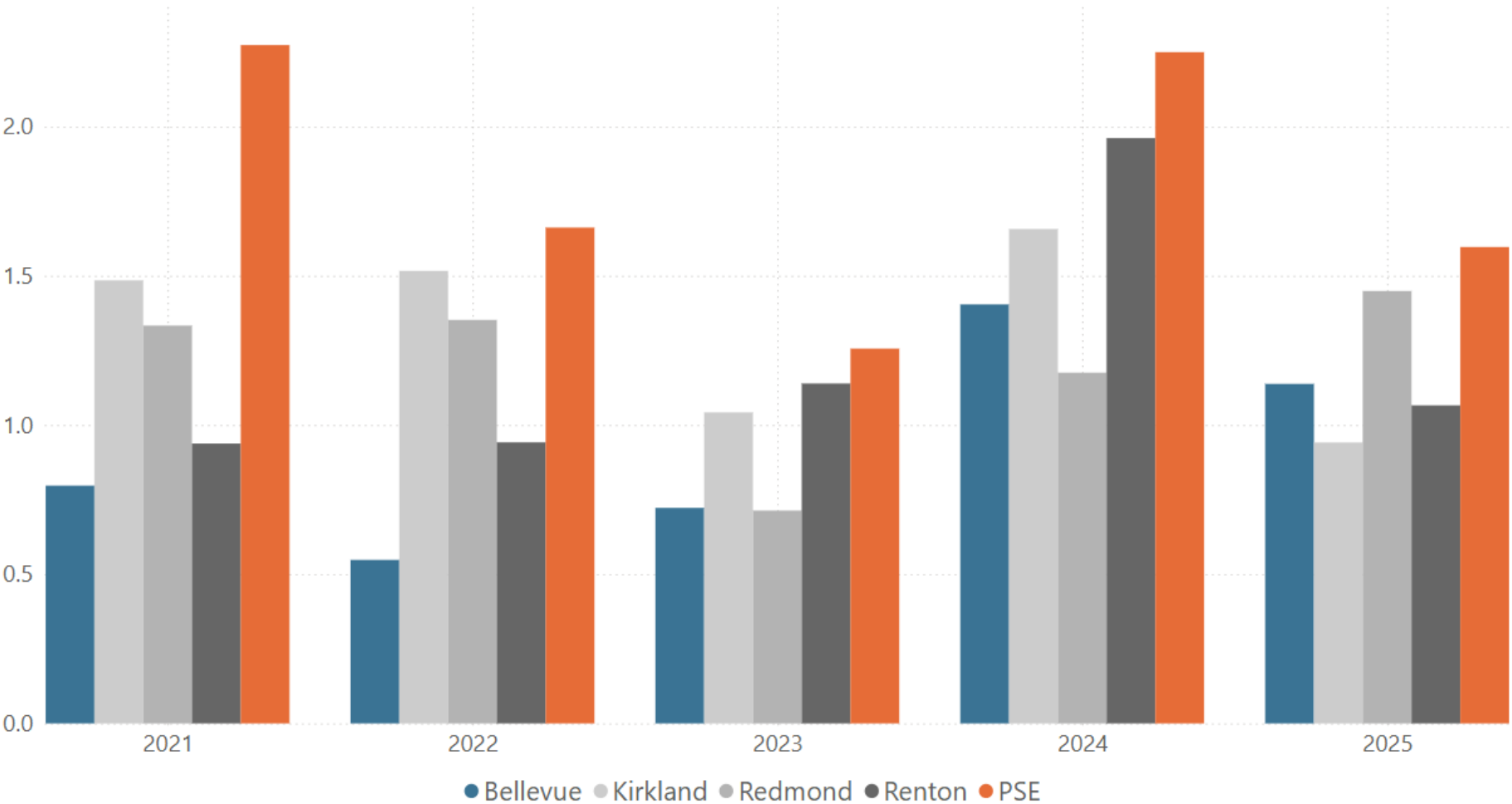
Similar City Comparison - All-In SAIDI (5-Year)



Similar City Comparison – All-In SAIFI



Similar City Comparison - All-In SAIFI (5-Year)



Electric Reliability Terms

The logo for Pacific States Electric (PSE) is located in the top right corner. It consists of a teal diamond shape with the letters "PSE" in white, set against a background of overlapping red and teal geometric shapes.

PSE

- **DA-FLISR or DA.** Automatically locates faults on distribution circuits, isolates the affected section using remotely controlled switching devices, and restores power to customers in unfaulted areas through alternate circuit connections.
- **Distribution Circuit.** Also known as a **feeder**, is a medium-voltage electrical circuit that delivers power from a distribution substation to residential, commercial, and industrial customers. Distribution circuits consist of main feeder lines and associated equipment such as laterals, switches, reclosers, fuses, and transformers that help safely and reliably distribute electricity.
- **Fusesaver.** An automated protection device installed on overhead distribution circuit laterals that detects and clears temporary faults, such as those caused by tree branches, wildlife, or lightning, before a conventional fuse operates.
- **IEEE 1366.** IEEE Standard 1366-2012, a guide approved and published by the Institute of Electrical and Electronics Engineers that defines electric power reliability indices and factors that affect their calculations.
- **MED.** Major Event Day is any day in which the daily system SAIDI exceeds the threshold value, T_{MEDADJ} .

Electric Reliability Terms

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PSE

- **Public Safety Power Shutoff.** An operational practice an electric utility may use to shut off power in high-risk areas to help prevent wildfires during extreme and dangerous weather conditions.
- **SAIDI.** System Average Interruption Duration Index indicates the total duration of interruption for the average customer during a predefined period of time. It is commonly measured in minutes or hours of interruption. The measurements used in PSE's Plan and reporting include Total methodology (SAIDITotal), SQI methodology (SAIDISQI).
- **SAIFI.** System Average Interruption Frequency Index is designed to give information about the average frequency of Sustained Interruptions per customers (CI). The measurements used in PSE's Plan and reporting include Total methodology, SQI-4 methodology.
- **SCADA.** Supervisory Control and Data Acquisition is a system used to remotely monitor and control electric grid equipment, enabling faster outage detection, restoration, and reliability improvements.
- **SCADA Recloser.** An automated protective device installed on a distribution circuit that can detect and interrupt faults, automatically restore power following temporary disturbances, and be monitored and operated remotely through the SCADA system.

Electric Reliability Terms

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PSE

- **SQL.** Service Quality Index is PSE's performance benchmark used to measure and track electric service reliability and customer service quality. For electric reliability, SQL establishes annual targets for SAIDI and SAIFI, which are used to evaluate system performance under normal operating conditions excluding MEDs.
- **Substation.** A facility that transforms electricity from transmission voltages to distribution voltages and serves as the source for distribution circuits.
- **Substation SCADA.** A monitoring and control system that provides real-time visibility and remote operation of substation equipment. Substation SCADA enables operators to remotely monitor and control critical substation equipment, improving situational awareness, reducing outage response times, and supporting reliable operation of distribution circuits.
- **Switchgear.** Equipment used to control, protect, and isolate electrical circuits and equipment, enabling safe operation of substations and distribution systems while improving system reliability and outage response. Switchgear is the "traffic control system" of the electric grid. It directs the flow of electricity, protects equipment from damage, and isolates problem areas so power can be safely restored to as many customers as possible.