March 2023

# UI Reliability & Resilience Scorecard

March 2023

**UI Reliability & Resilience Scorecard**

# State Level Scorecard

# 2022 State Level Reliability Scorecard

## Total Customers Served :

**343k** Customers
**4,000** miles of distribution lines

http://www.uinet.com/ourcompany/
reliableservice/reliability_projects

## Outage causes and historical trends

The top 3 causes of customer outages are Equipment-related outages, Trees and Pole Strikes by Vehicles. Pole Strikes outages trended marginally lower in 2022, while Equipment-related outages increased. Tree outages remained about the same.



Non-Excluded Cause Trends
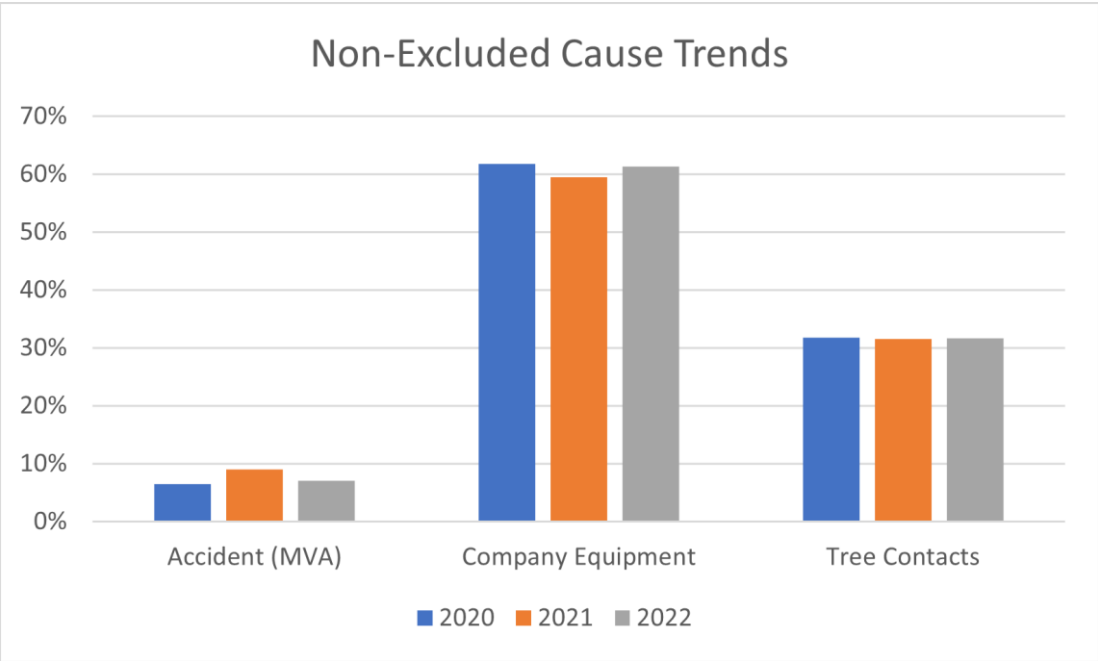
## What did the customer outage experience look like in 2022?
### During storms:

| The average customer experiences 1 storm related outage every 270 months | The average customer experiences outages lasting 159 mins (2.65 hours) |
|---|---|

### During blue sky days in 2022:

| The average customer experiences 1 outage every 27 months | The average customer experiences outages lasting 38 mins (0.64 hours) |
|---|---|

### 2022 state (weighted) average performance, blue sky days:

| The average customer experiences 1 outage every 20 months | The average customers experiences outages lasting 66 mins (1.11 hours) |
|---|---|

### Budget for Reliability and Resilience:

| UI spent $123 million (29% of total budget) on reliability and resilience projects | UI spent $5.8 million (1.5% of total budget) restoring power after outages |
|---|---|

Reliability and resilience indicative bill impact: $34.32

To see more details on UI's reliability projects, go to
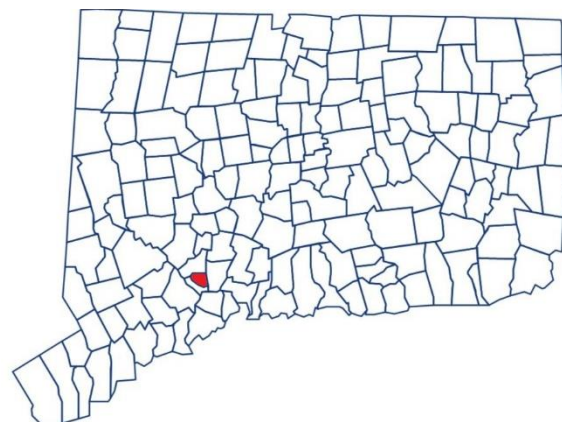http://www.uinet.com/ourcompany/reliableservice/reliability_projects

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March 2023

**Reliability & Resilience Scorecard**

# Town Level Scorecards

# UI 2022 Town-Specific Performance Scorecard: Ansonia

**Customers Served In Town:**



**8,839**
Customers

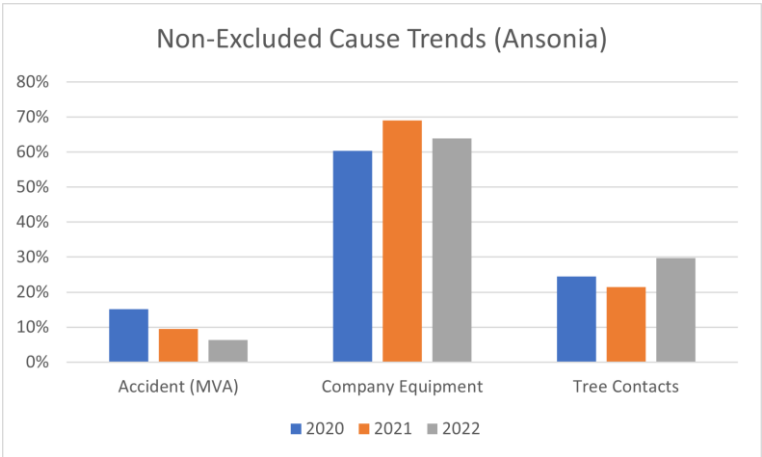The average Ansonia customer experiences 1 outage every 85 months.



The average Ansonia customer experienced 18 minutes of outages in 2022

The average outage duration in Ansonia was 125 minutes (2.09 hours)

4 Ansonia customers experienced 3 or more outages in 2022

1 Ansonia customer experienced outages lasting 7 hours or more

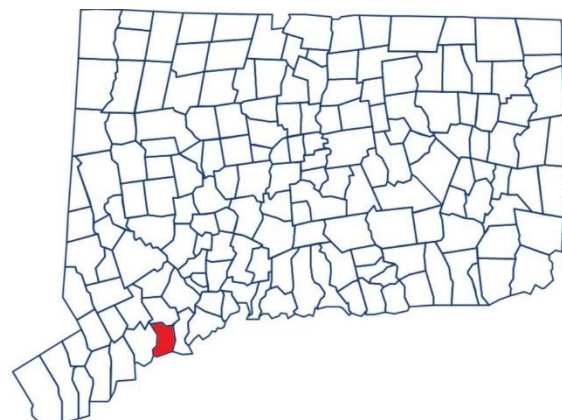**How does Ansonia compare to the rest of Connecticut?**

Ansonia outages are less frequent than the state average of 1 outage every 27 months

Ansonia outages are longer than the state average of 88 minutes (1.47 hours)

**For statewide performance go to**
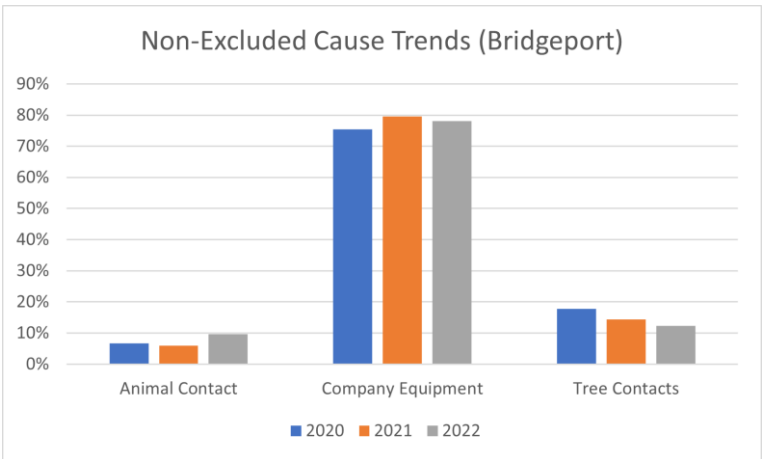http://www.uinet.com/ourcompany/reliableservice/reliability_projects

# UI 2022 Town-Specific Performance Scorecard: Bridgeport

**Customers Served In Town:**

**62,118**
Customers

The average Bridgeport customer experiences 1 outage every 39 months.

The average Bridgeport customer experienced 28 minutes of outages in 2022

The average outage duration in Bridgeport was 91 minutes (1.52 hours)

589 Bridgeport customers experienced 3 or more outages in 2022

198 Bridgeport customers experienced outages lasting 7 hours or more

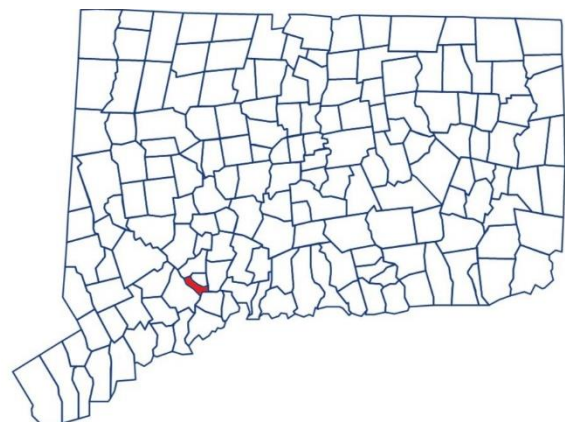**How does Bridgeport compare to the rest of Connecticut?**

Bridgeport outages are less frequent than the state average of 1 outage every 27 months

Bridgeport outages are longer than the state average of 88 minutes (1.47 hours)

### Non-Excluded Cause Trends (Bridgeport)



Animal Contact | Company Equipment | Tree Contacts
■ 2020  ■ 2021  ■ 2022

**For statewide performance go to**
http://www.uinet.com/ourcompany/reliableservice/reliability_projects

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# UI 2022 Town-Specific Performance Scorecard: Derby

**Customers Served In Town:**

**6,593**
Customers

The average Derby customer experiences 1 outage every 92 months.
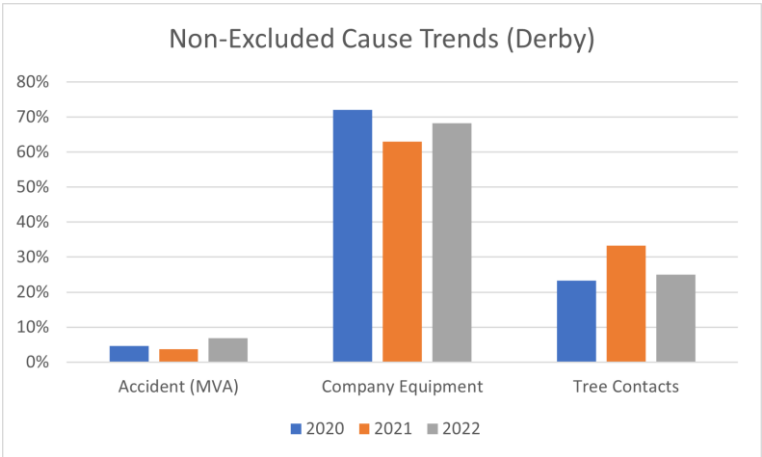
Non-Excluded Cause Trends (Derby)



| The average Derby customer experienced 14 minutes of outages in 2022 | The average outage duration in Derby was 111 minutes (1.86 hours) |
|---|---|
| 2 Derby customers experienced 3 or more outages in 2022 | 1 Derby customer experienced outages lasting 7 hours or more |

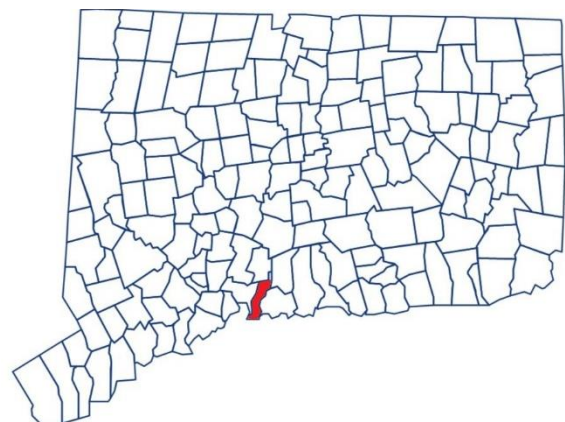**How does Derby compare to the rest of Connecticut?**

| Derby outages are less frequent than the state average of 1 outage every 27 months | Derby outages are longer than the state average of 88 minutes (1.47 hours) |
|---|---|

**For statewide performance go to**
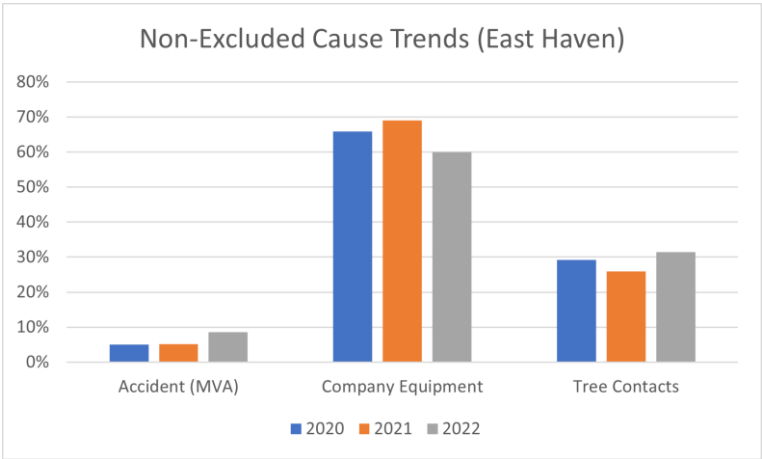http://www.uinet.com/ourcompany/reliableservice/reliability_projects

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# UI 2022 Town-Specific Performance Scorecard: East Haven

**Customers Served In Town:**

**13,698**
Customers

The average East Haven customer experienced 46 minutes of outages in 2022

The average outage duration in East Haven was 121 minutes (2.01 hours)

The average East Haven customer experiences 1 outage every 31 months.

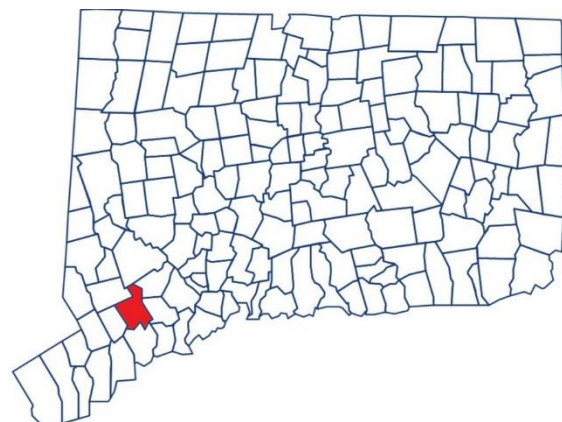31 East Haven customers experienced 3 or more outages in 2022

1 East Haven customer experienced outages lasting 7 hours or more

**How does East Haven compare to the rest of Connecticut?**

East Haven outages are less frequent than the state average of 1 outage every 27 months

East Haven outages are longer than the state average of 88 minutes (1.47 hours)

Non-Excluded Cause Trends (East Haven)

80%
70%
60%
50%
40%
30%
20%
10%
0%

Accident (MVA)    Company Equipment    Tree Contacts

■ 2020  ■ 2021  ■ 2022

**For statewide performance go to**
**http://www.uinet.com/ourcompany/reliableservice/reliability_projects**

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# UI 2022 Town-Specific Performance Scorecard: Easton

**Customers Served In Town:**

**2,993**
Customers

The average Easton customer experiences 1 outage every 7 months.
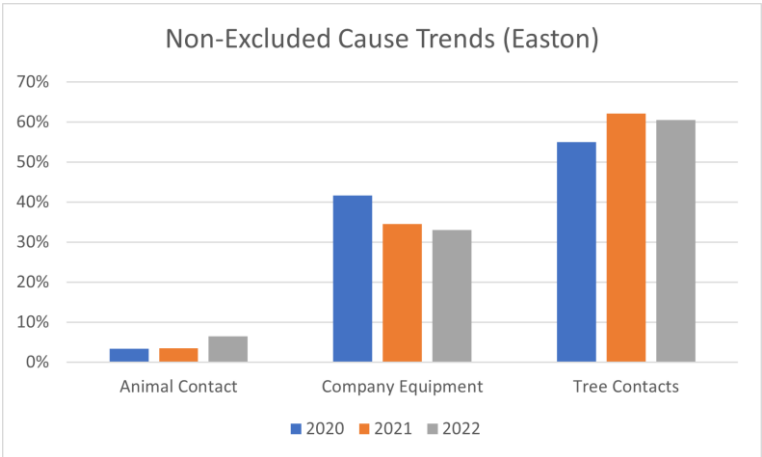
Non-Excluded Cause Trends (Easton)

The average Easton customer experienced 309 minutes of outages in 2022

The average outage duration in Easton was 176 minutes (2.93 hours)

21 Easton customers experienced 3 or more outages in 2022

6 Easton customers experienced outages lasting 7 hours or more

**How does Easton compare to the rest of Connecticut?**

Easton outages are more frequent than the state average of 1 outage every 27 months

Easton outages are longer than the state average of 88 minutes (1.47 hours)

**For statewide performance go to**
**http://www.uinet.com/ourcompany/reliableservice/reliability_projects**

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# UI 2022 Town-Specific Performance Scorecard: Fairfield
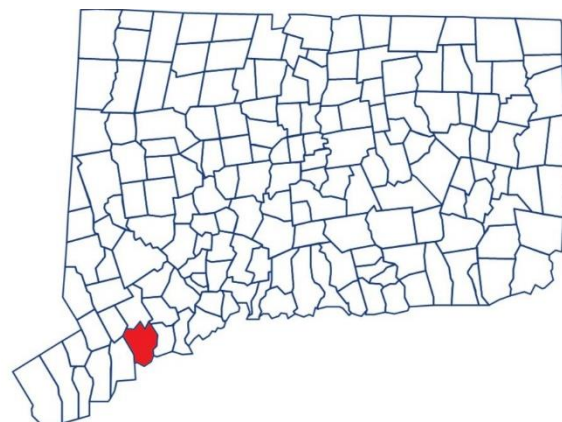
**Customers Served In Town:**

**24,585**
Customers

The average Fairfield customer experiences 1 outage every 15 months.

| | |
|---|---|
| The average Fairfield customer experienced 94 minutes of outages in 2022 | The average outage duration in Fairfield was 115 minutes (1.91 hours) |

| | |
|---|---|
| 298 Fairfield customers experienced 3 or more outages in 2022 | 29 Fairfield customers experienced outages lasting 7 hours or more |
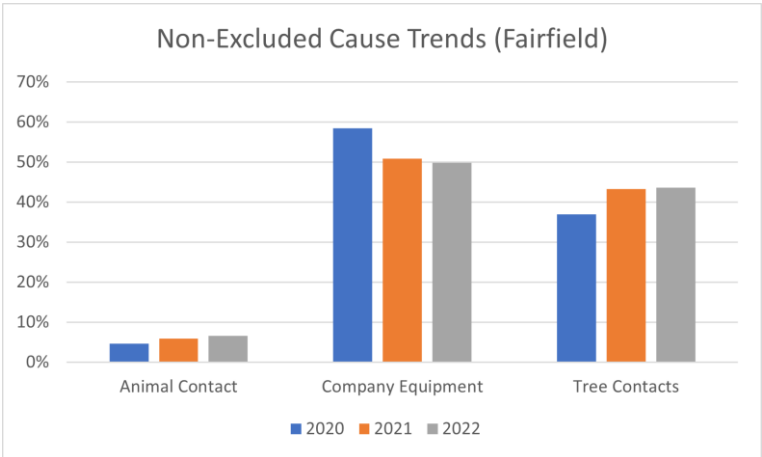
**How does Fairfield compare to the rest of Connecticut?**

| | |
|---|---|
| Fairfield outages are more frequent than the state average of 1 outage every 27 months | Fairfield outages are longer than the state average of 88 minutes (1.47 hours) |

Non-Excluded Cause Trends (Fairfield)

Animal Contact   Company Equipment   Tree Contacts
■ 2020  ■ 2021  ■ 2022

**For statewide performance go to**
**http://www.uinet.com/ourcompany/reliableservice/reliability_projects**

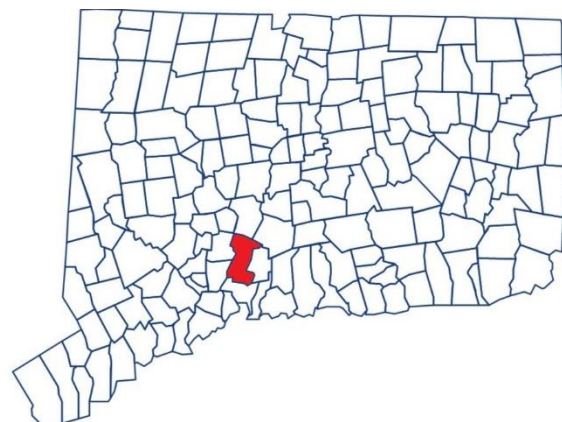# UI 2022 Town-Specific Performance Scorecard: Hamden

**Customers Served In Town:**

> **27,657**
> Customers

> The average Hamden customer experiences 1 outage every 26 months.

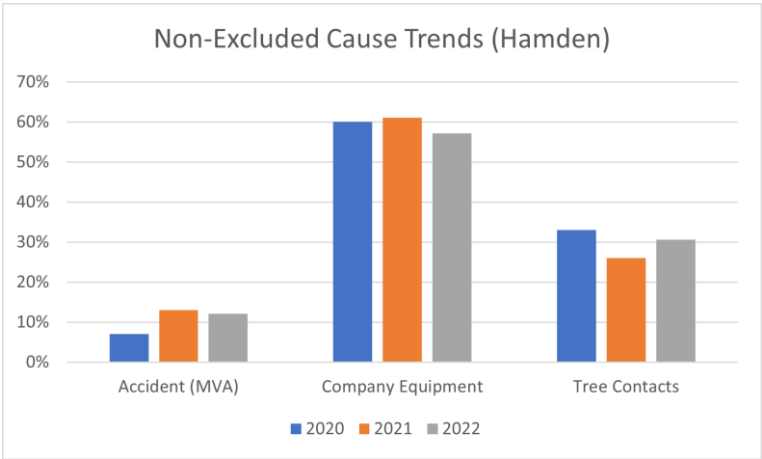| | |
|---|---|
| The average Hamden customer experienced 38 minutes of outages in 2022 | The average outage duration in Hamden was 82 minutes (1.37 hours) |

| | |
|---|---|
| 104 Hamden customers experienced 3 or more outages in 2022 | 54 Hamden customers experienced outages lasting 7 hours or more |

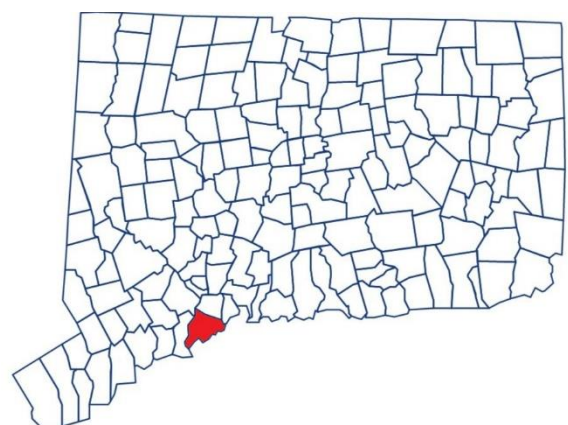**How does Hamden compare to the rest of Connecticut?**

| | |
|---|---|
| Hamden outages are more frequent than the state average of 1 outage every 27 months | Hamden outages are shorter than the state average of 88 minutes (1.47 hours) |

Non-Excluded Cause Trends (Hamden)

**For statewide performance go to**
http://www.uinet.com/ourcompany/reliableservice/reliability_projects

# UI 2022 Town-Specific Performance Scorecard: Milford

**Customers Served In Town:**

**28,249**
Customers

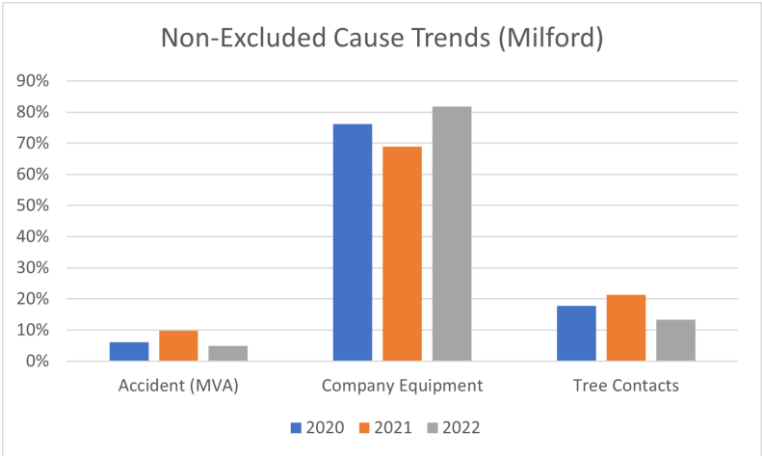The average Milford customer experiences 1 outage every 33 months.

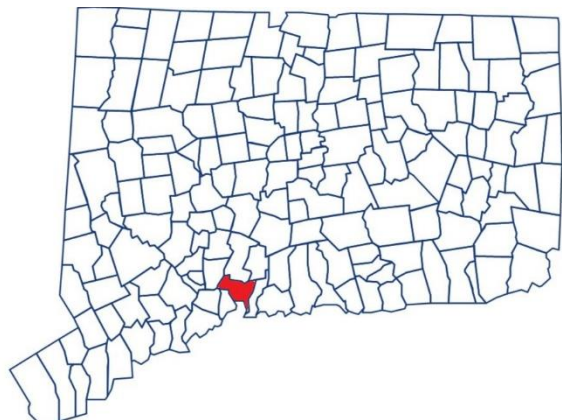| The average Milford customer experienced 28 minutes of outages in 2022 | The average outage duration in Milford was 77 minutes (1.28 hours) |
|---|---|
| 92 Milford customers experienced 3 or more outages in 2022 | 5 Milford customers experienced outages lasting 7 hours or more |

**How does Milford compare to the rest of Connecticut?**

| Milford outages are less frequent than the state average of 1 outage every 27 months | Milford outages are shorter than the state average of 88 minutes (1.47 hours) |
|---|---|

### Non-Excluded Cause Trends (Milford)



Bar chart categories: Accident (MVA), Company Equipment, Tree Contacts — years 2020, 2021, 2022

**For statewide performance go to**
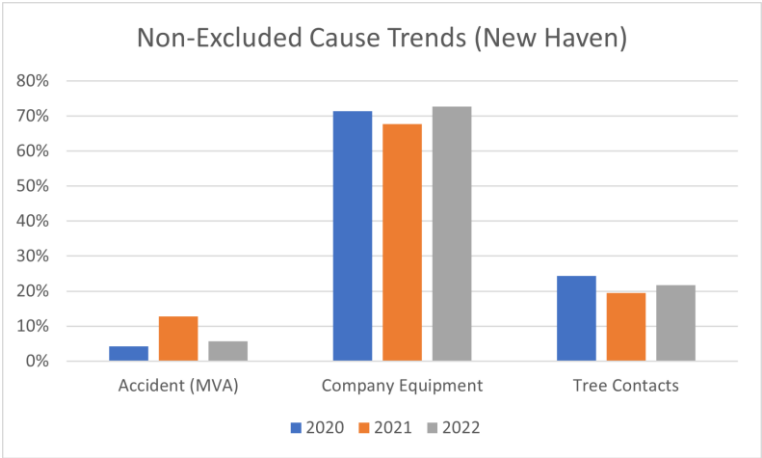http://www.uinet.com/ourcompany/reliableservice/reliability_projects

# UI 2022 Town-Specific Performance Scorecard: New Haven

**Customers Served In Town:**

60,119
Customers

The average New Haven customer experienced 26 minutes of outages in 2022

The average outage duration in New Haven was 62 minutes (1.04 hours)

The average New Haven customer experiences 1 outage every 29 months.

276 New Haven customers experienced 3 or more outages in 2022

45 New Haven customers experienced outages lasting 7 hours or more

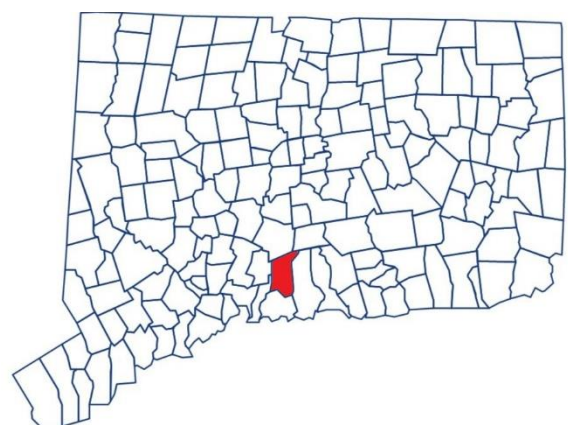**How does New Haven compare to the rest of Connecticut?**

New Haven outages are less frequent than the state average of 1 outage every 27 months

New Haven outages are shorter than the state average of 88 minutes (1.47 hours)

Non-Excluded Cause Trends (New Haven)

80%
70%
60%
50%
40%
30%
20%
10%
0%

Accident (MVA)   Company Equipment   Tree Contacts

■ 2020   ■ 2021   ■ 2022

**For statewide performance go to**
**http://www.uinet.com/ourcompany/reliableservice/reliability_projects**
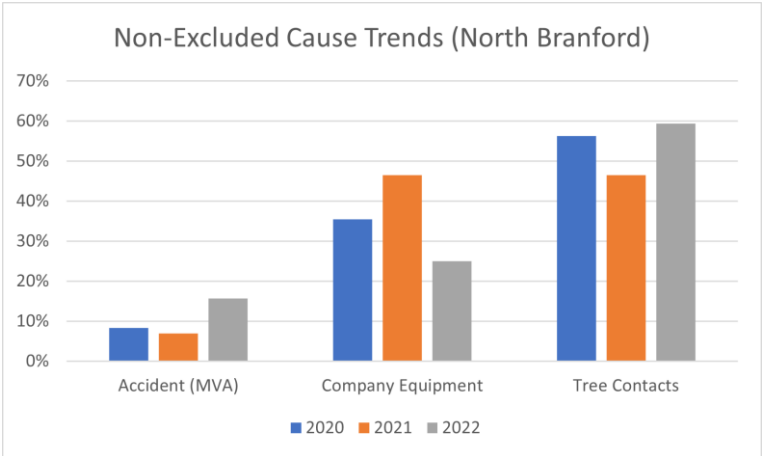
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# UI 2022 Town-Specific Performance Scorecard: North Branford

**Customers Served In Town:**

**3,502**
Customers

The average North Branford customer experiences 1 outage every 13 months.

| | |
|---|---|
| The average North Branford customer experienced 117 minutes of outages in 2022 | The average outage duration in North Branford was 126 minutes (2.09 hours) |
| 5 North Branford customers experienced 3 or more outages in 2022 | 1 North Branford customer experienced outages lasting 7 hours or more |

**How does North Branford compare to the rest of Connecticut?**

| | |
|---|---|
| North Branford outages are more frequent than the state average of 1 outage every 27 months | North Branford outages are longer than the state average of 88 minutes (1.47 hours) |

### Non-Excluded Cause Trends (North Branford)



Categories: Accident (MVA), Company Equipment, Tree Contacts
Legend: 2020, 2021, 2022

**For statewide performance go to**
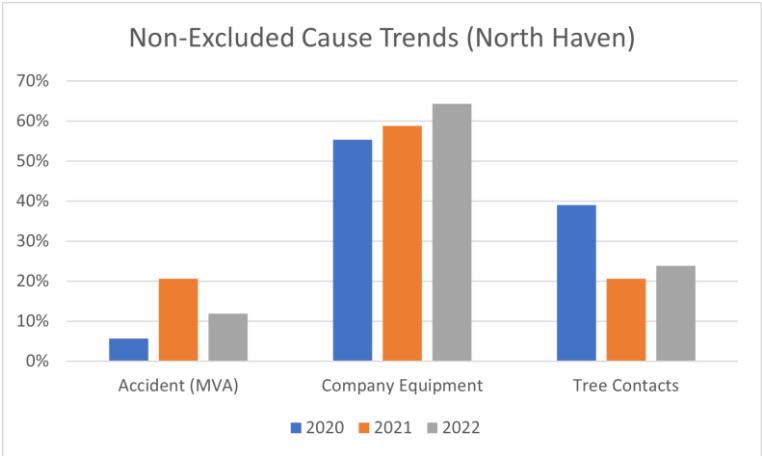http://www.uinet.com/ourcompany/reliableservice/reliability_projects

# UI 2022 Town-Specific Performance Scorecard: North Haven
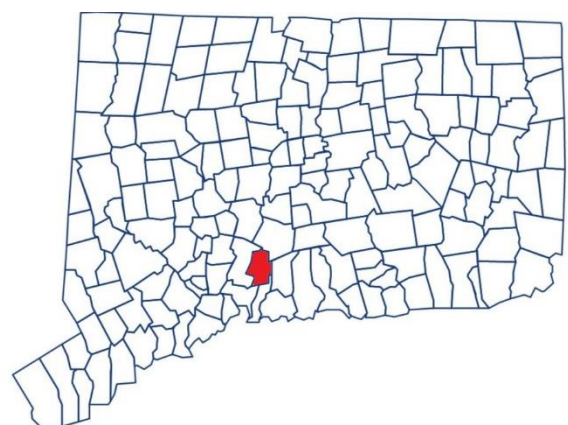
**Customers Served In Town:**

**11,938**
Customers

The average North Haven customer experiences 1 outage every 39 months.

| | |
|---|---|
| The average North Haven customer experienced 20 minutes of outages in 2022 | The average outage duration in North Haven was 65 minutes (1.08 hours) |
| 21 North Haven customers experienced 3 or more outages in 2022 | 0 North Haven customers experienced outages lasting 7 hours or more |

**How does North Haven compare to the rest of Connecticut?**

| | |
|---|---|
| North Haven outages are less frequent than the state average of 1 outage every 27 months | North Haven outages are shorter than the state average of 88 minutes (1.47 hours) |

Non-Excluded Cause Trends (North Haven)



**For statewide performance go to**
http://www.uinet.com/ourcompany/reliableservice/reliability_projects
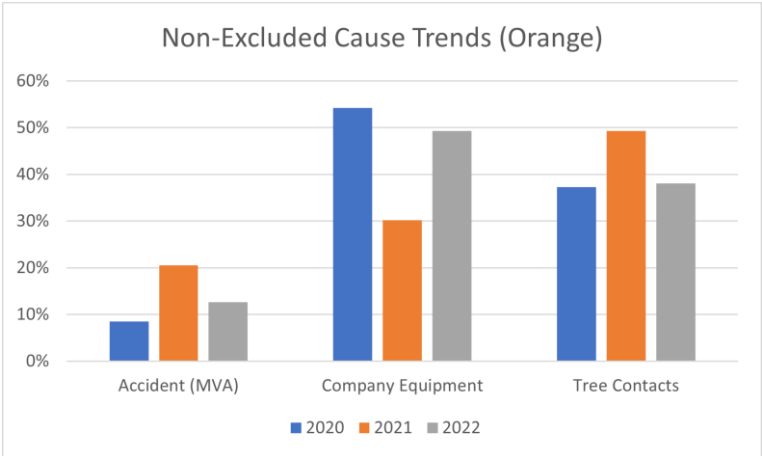
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# UI 2022 Town-Specific Performance Scorecard: Orange
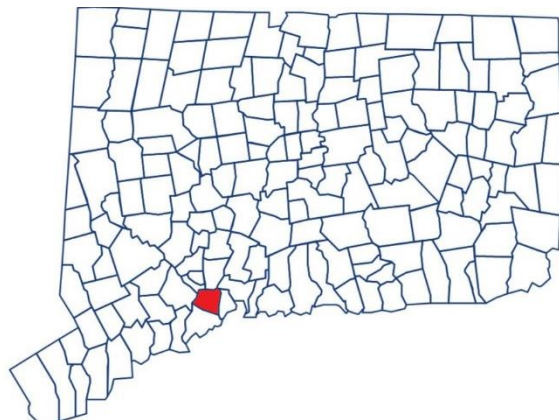


**Customers Served In Town:**

**6,542**
Customers

The average Orange customer experiences 1 outage every 15 months.

The average Orange customer experienced 77 minutes of outages in 2022

The average outage duration in Orange was 95 minutes (1.58 hours)

25 Orange customers experienced 3 or more outages in 2022

3 Orange customers experienced outages lasting 7 hours or more

**How does Orange compare to the rest of Connecticut?**

Orange outages are more frequent than the state average of 1 outage every 27 months

Orange outages are longer than the state average of 88 minutes (1.47 hours)



Non-Excluded Cause Trends (Orange)

**For statewide performance go to**
http://www.uinet.com/ourcompany/reliableservice/reliability_projects

# UI 2022 Town-Specific Performance Scorecard: Shelton
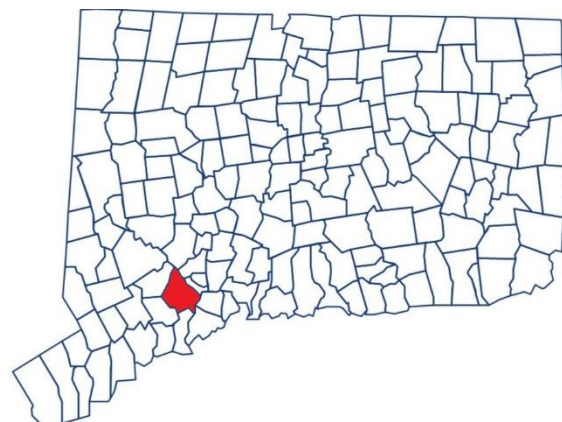
**Customers Served In Town:**

19,101
Customers

The average Shelton customer experienced 60 minutes of outages in 2022

The average outage duration in Shelton was 84 minutes (1.40 hours)

The average Shelton customer experiences 1 outage every 17 months.

118 Shelton customers experienced 3 or more outages in 2022

10 Shelton customers experienced outages lasting 7 hours or more
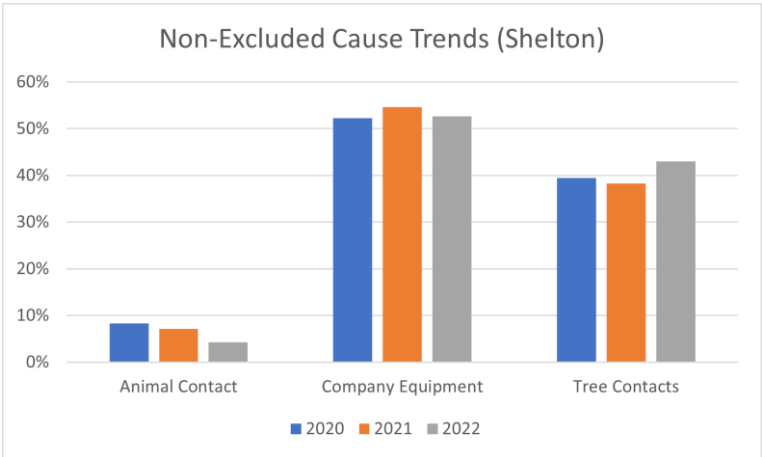
**How does Shelton compare to the rest of Connecticut?**

Shelton outages are more frequent than the state average of 1 outage every 27 months

Shelton outages are shorter than the state average of 88 minutes (1.47 hours)

### Non-Excluded Cause Trends (Shelton)



Animal Contact — Company Equipment — Tree Contacts
■ 2020 ■ 2021 ■ 2022

**For statewide performance go to**
http://www.uinet.com/ourcompany/reliableservice/reliability_projects

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# UI 2022 Town-Specific Performance Scorecard: Stratford
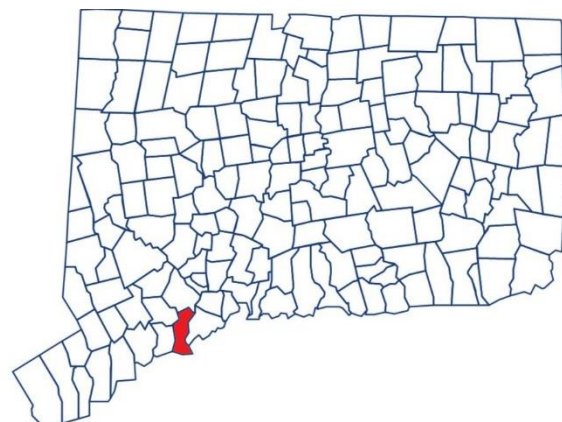
**Customers Served In Town:**

**24,135**
Customers

The average Stratford customer experiences 1 outage every 48 months.

The average Stratford customer experienced 14 minutes of outages in 2022

The average outage duration in Stratford was 57 minutes (0.95 hours)

29 Stratford customers experienced 3 or more outages in 2022

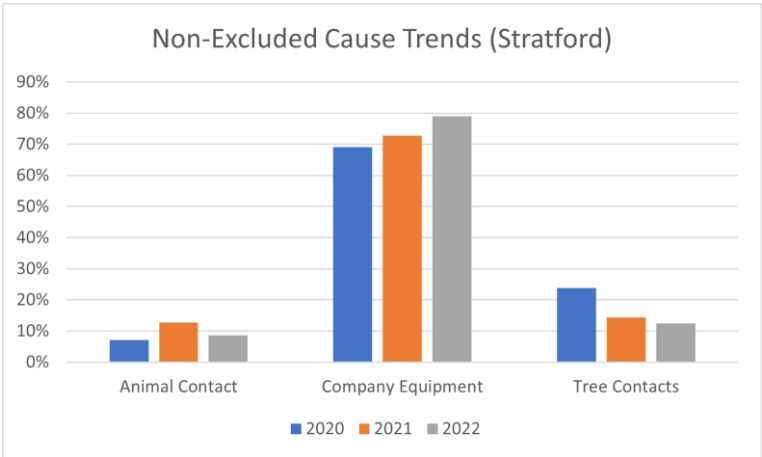10 Stratford customers experienced outages lasting 7 hours or more

**How does Stratford compare to the rest of Connecticut?**

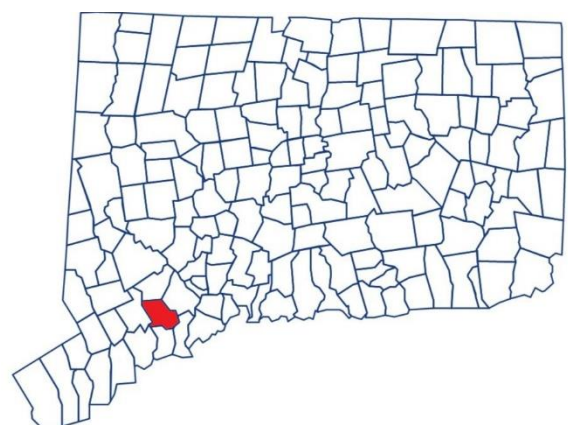Stratford outages are less frequent than the state average of 1 outage every 27 months

Stratford outages are shorter than the state average of 88 minutes (1.47 hours)

Non-Excluded Cause Trends (Stratford)

Animal Contact | Company Equipment | Tree Contacts
■ 2020 ■ 2021 ■ 2022

**For statewide performance go to**
http://www.uinet.com/ourcompany/reliableservice/reliability_projects

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# UI 2022 Town-Specific Performance Scorecard: Trumbull

**Customers Served In Town:**

**14,391**
Customers

The average Trumbull customer experiences 1 outage every 36 months.



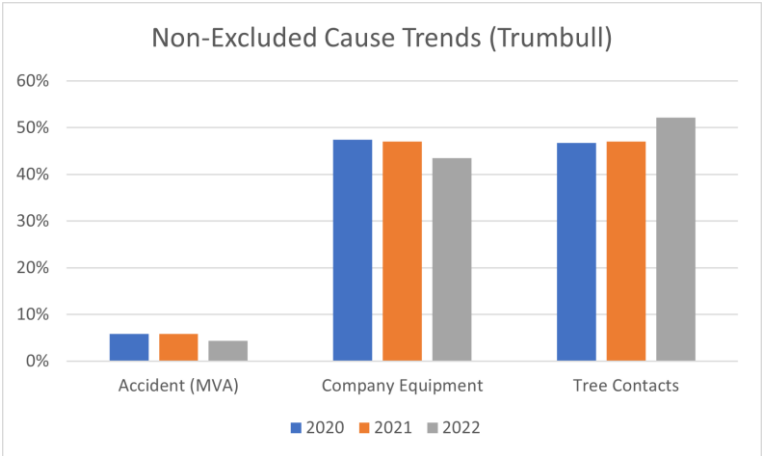Non-Excluded Cause Trends (Trumbull)

■ 2020 ■ 2021 ■ 2022

| The average Trumbull customer experienced 38 minutes of outages in 2022 | The average outage duration in Trumbull was 112 minutes (1.87 hours) |

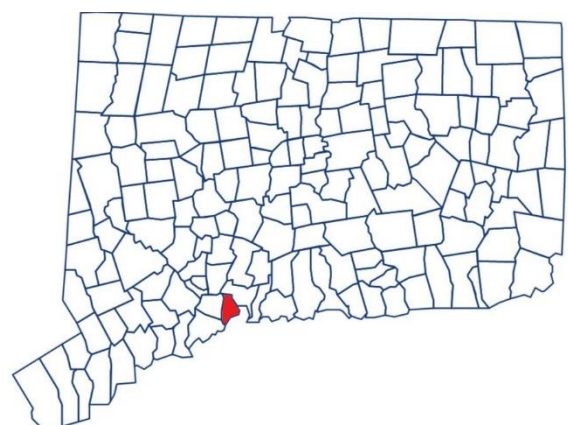| 33 Trumbull customers experienced 3 or more outages in 2022 | 7 Trumbull customers experienced outages lasting 7 hours or more |

**How does Trumbull compare to the rest of Connecticut?**

| Trumbull outages are less frequent than the state average of 1 outage every 27 months | Trumbull outages are longer than the state average of 88 minutes (1.47 hours) |

**For statewide performance go to**
http://www.uinet.com/ourcompany/reliableservice/reliability_projects

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# UI 2022 Town-Specific Performance Scorecard: West Haven

**Customers Served In Town:**

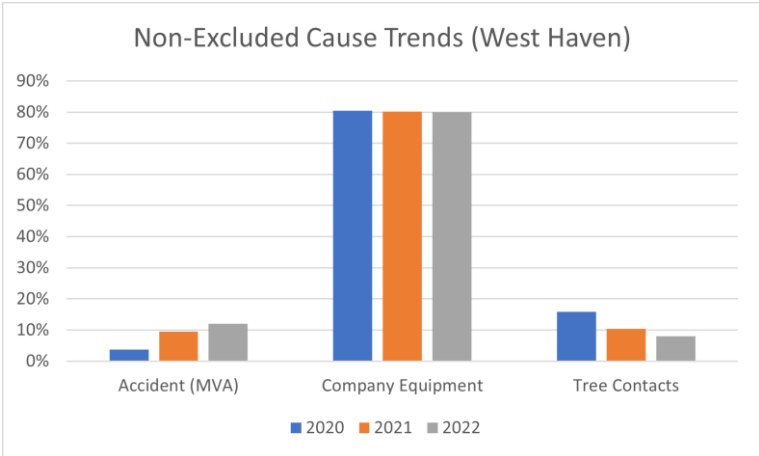| 25,447 |
| :---: |
| Customers |

| | |
| :---: | :---: |
| The average West Haven customer experienced 9 minutes of outages in 2022 | The average outage duration in West Haven was 46 minutes (0.76 hours) |

| | |
| :---: | :---: |
| The average West Haven customer experiences 1 outage every 58 months. | |

| | |
| :---: | :---: |
| 16 West Haven customers experienced 3 or more outages in 2022 | 1 West Haven customer experienced outages lasting 7 hours or more |

**How does West Haven compare to the rest of Connecticut?**

| | |
| :---: | :---: |
| West Haven outages are less frequent than the state average of 1 outage every 27 months | West Haven outages are shorter than the state average of 88 minutes (1.47 hours) |

### Non-Excluded Cause Trends (West Haven)



Accident (MVA) — Company Equipment — Tree Contacts
■ 2020  ■ 2021  ■ 2022

**For statewide performance go to**
**http://www.uinet.com/ourcompany/reliableservice/reliability_projects**

# UI 2022 Town-Specific Performance Scorecard: Woodbridge
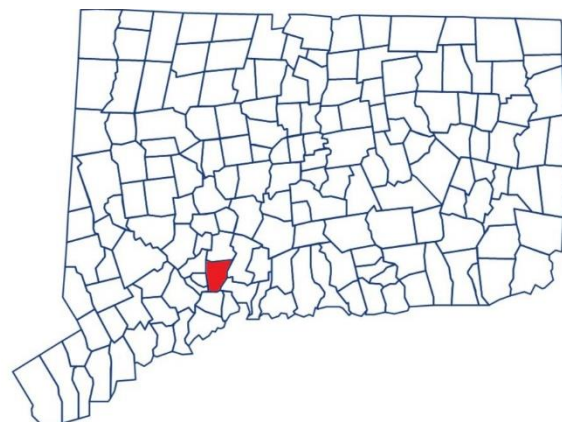
**Customers Served In Town:**

3,767
Customers

The average Woodbridge customer experiences 1 outage every 9 months.

The average Woodbridge customer experienced 100 minutes of outages in 2022

The average outage duration in Woodbridge was 71 minutes (1.19 hours)

20 Woodbridge customers experienced 3 or more outages in 2022

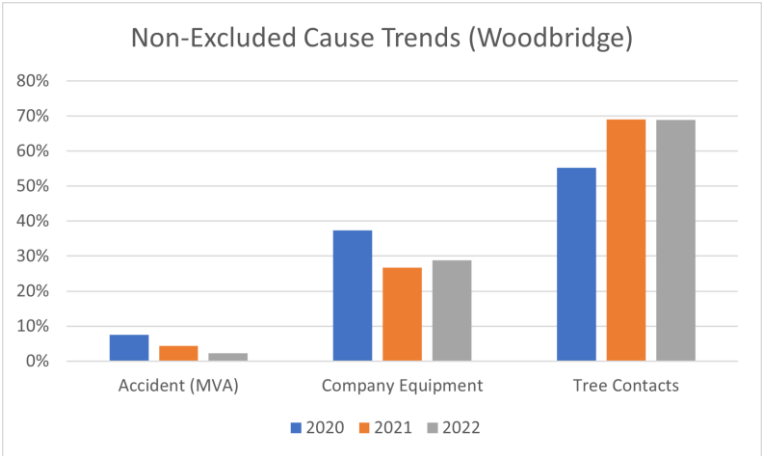3 Woodbridge customers experienced outages lasting 7 hours or more

**How does Woodbridge compare to the rest of Connecticut?**

Woodbridge outages are more frequent than the state average of 1 outage every 27 months

Woodbridge outages are shorter than the state average of 88 minutes (1.47 hours)

### Non-Excluded Cause Trends (Woodbridge)



Accident (MVA)    Company Equipment    Tree Contacts

■ 2020   ■ 2021   ■ 2022

**For statewide performance go to**
**http://www.uinet.com/ourcompany/reliableservice/reliability_projects**

March 2023

**Reliability & Resilience Scorecard**

# Town Reliability Data

# UI Reliability Data – Town Level Information

| TOWN | SAIDI | SAIFI | CAIDI | CELID-7 | CEMI-3 |
|------|-------|-------|-------|---------|--------|
| Ansonia | 0.30 | 0.14 | 2.09 | 0.00013 | 0.00043 |
| Bridgeport | 0.47 | 0.31 | 1.52 | 0.00319 | 0.00949 |
| Derby | 0.24 | 0.13 | 1.86 | 0.00015 | 0.00032 |
| East Haven | 0.77 | 0.38 | 2.01 | 0.00004 | 0.00227 |
| Easton | 5.16 | 1.76 | 2.93 | 0.00212 | 0.00712 |
| Fairfield | 1.57 | 0.82 | 1.91 | 0.00116 | 0.01211 |
| Hamden | 0.63 | 0.46 | 1.37 | 0.00196 | 0.00375 |
| Milford | 0.46 | 0.36 | 1.28 | 0.00019 | 0.00327 |
| New Haven | 0.43 | 0.41 | 1.04 | 0.00075 | 0.00459 |
| North Branford | 1.95 | 0.93 | 2.09 | 0.00039 | 0.00145 |
| North Haven | 0.34 | 0.31 | 1.08 | 0.00004 | 0.00177 |
| Orange | 1.29 | 0.81 | 1.58 | 0.00041 | 0.00383 |
| Shelton | 1.00 | 0.71 | 1.40 | 0.00050 | 0.00616 |
| Stratford | 0.24 | 0.25 | 0.95 | 0.00042 | 0.00121 |
| Trumbull | 0.63 | 0.34 | 1.87 | 0.00049 | 0.00228 |
| West Haven | 0.16 | 0.21 | 0.76 | 0.00003 | 0.00061 |
| Woodbridge | 1.67 | 1.40 | 1.19 | 0.00067 | 0.00534 |

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# Reliability Data – Glossary of Terms

- SAIDI: System Average Interruption Duration Index. SAIDI is the average outage duration for each customer served.

- SAIFI: System Average Interruption Frequency Index. SAIFI is the average number of interruptions that a customer would experience.

- CAIDI: Customer Average Interruption Duration Index. CAIDI gives the average outage duration that any given customer would experience. CAIDI can also be viewed as the average restoration time.

- CELID-7: Percentage of customers experiencing one or more interruptions of seven hours.

- CEMI-3: Percentage of customers experiencing More than 3 Outages.

March 2023

**Reliability & Resilience Scorecard**

# Reliability & Resilience Projects Details

# UI Reliability Projects Details (Table 19, 17-12-03RE08 Final Decision)

| Reliability | Category | 2022 Spend ($k) - *Actuals* | Number of Discrete Projects |
|---|---|---|---|
| Infrastructure replacement | Bulk substation | 4,255 | 6 |
| | Overhead system | 13,303 | 10 |
| | Underground system | 13,532 | 30 |
| | Distribution transformer | 4,755 | 4 |
| | Pole replacement | 2,876 | 3 |
| | Other | 1,460 | 3 |
| Capacity | Peak load | N/A | |
| New customer additions | New customer load incl DER | 42,291 | 40 |
| Enhancement programs | Various | 24,382 | 44 |
| Maintenance programs | Inspections / Surveys | 6,958 | 29 programs |
| | Vegetation management | 16,610 | 18,723 locations + 264 miles utility protection zone |

Note: Each discrete project noted above can include multiple work locations or tasks

# UI Resilience Projects Details

**Cost estimates for planned resilience work per resilience area**

*Please refer to PURA's Final Decision on Docket 17-12-03RE08 for a definition of the areas of resilience projects.*

| Resiliency Area | 2022 Spend ($k) - *Actuals* |
|---|---|
| Mitigation | $966 |
| Preparedness | $812 |
| Response | $718 |
| Recovery | $3,680 |

**Status of federal funding applications (Grid Resilience and Innovation Partnerships)**

## CONCEPT PAPER SUBMITTED

Next step: DOE encouragement notification