Trends in Water and Wastewater Rates and Finances in North Carolina

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UNC SCHOOL OF GOVERNMENT
Environmental Finance Center

FINANCIAL PERFORMANCE

Picture Source: Indio Water Authority http://www.indiowater.org/index.aspx?page=587

NC local government utilities collected

more than $3.1 billion

in water and wastewater operating revenues in FY2019

The largest 10 utilities collected

46%

of all the water and wastewater operating revenues in FY2019

Charlotte Water collected

$424 million

in water and wastewater operating revenues in FY2019

Highest in North Carolina. Up 11% from FY2018.

Picture Source: Charlotte Water http://charlottenc.gov/Water/Pages/Home.aspx

Picture Source: Google Maps Streetview

Town of Whitsett collected

$20,727

in water operating revenues in FY2019

(no wastewater system)

Lowest in North Carolina. Down 3.4% from FY2018.

Picture Source: Google Maps Streetview

Town of Proctorville collected

$22,373

in wastewater operating revenues in FY2019

(no water system)

Lowest in North Carolina. Up 6.2% from FY2018.

NC local government utilities had

more than $2.44 billion

in water and wastewater operating expenses in FY2019

Yet: ~20% of local government utilities had lower operating revenues than O&M expenditures plus debt service in FY2019

Do Rates Cover Costs?

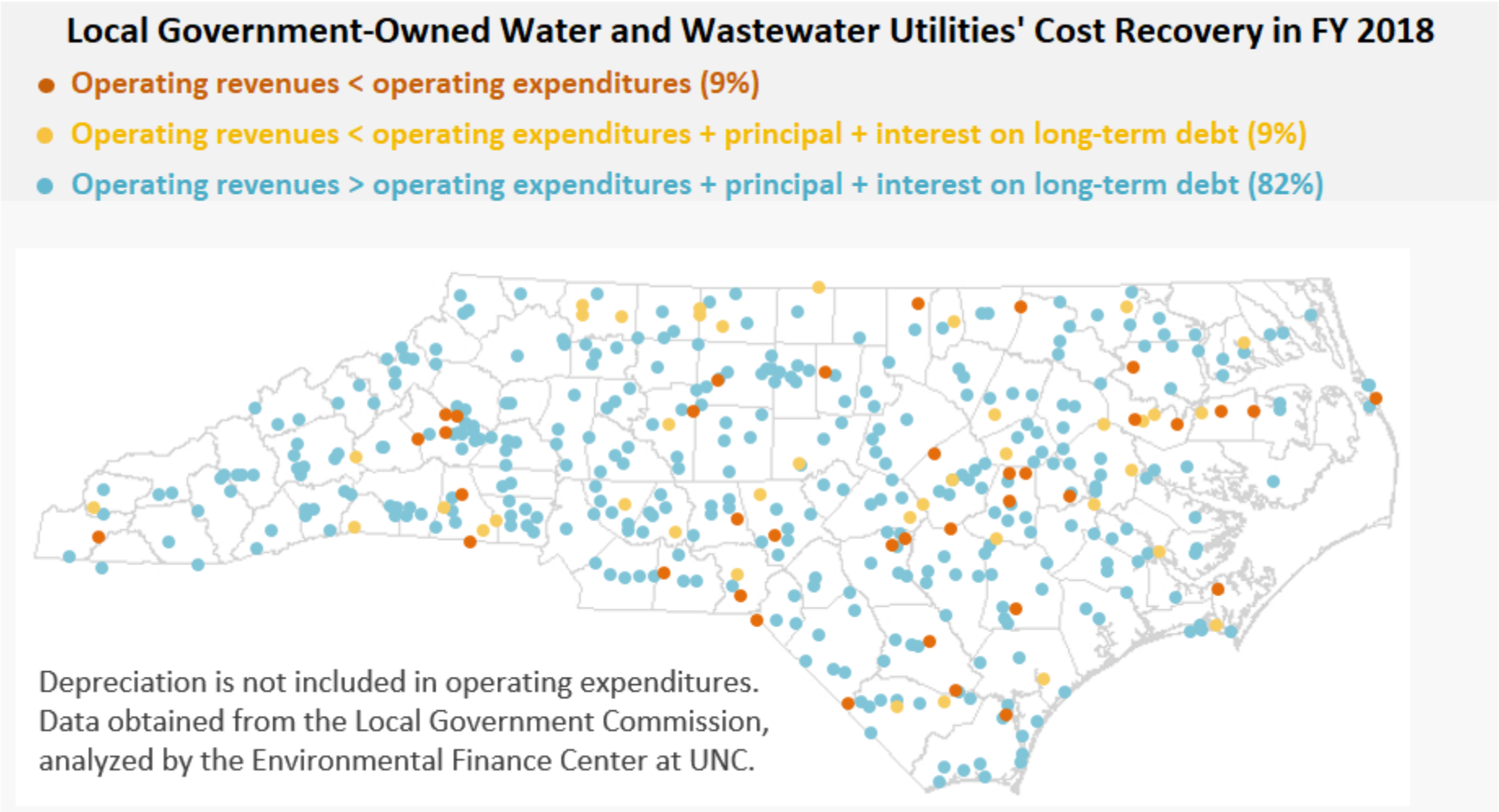
- In recent history, about 20% of utilities did not generate enough operating revenues to cover O&M expenditures + debt service

- Small utilities face greater challenges

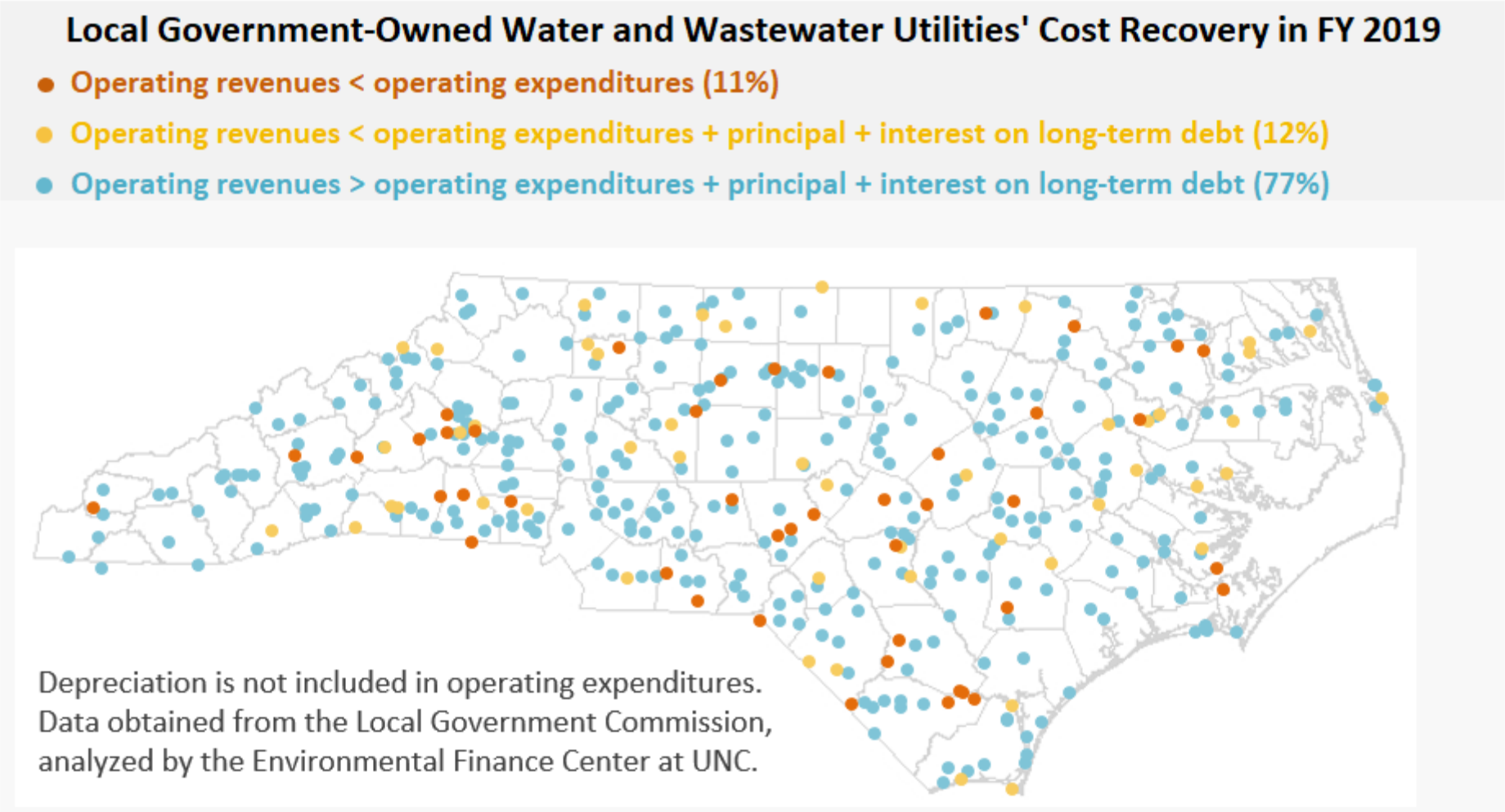
Number of water service connections	# of water utilities with data	Operating revenues less than...	
		O&M expenditures	O&M expenditures + debt service
< 1,000	140	17%	33%
1,000 - 10,000	177	6%	18%
> 10,000	48	0%	2%
Statewide	365	10%	22%

FY2019 data

Cost Recovery in 417 Local Government-owned Water and Wastewater Utilities during FY2018



Cost Recovery in 398 Local Government-owned Water and Wastewater Utilities during FY2019



Poll: What are your revenues covering?

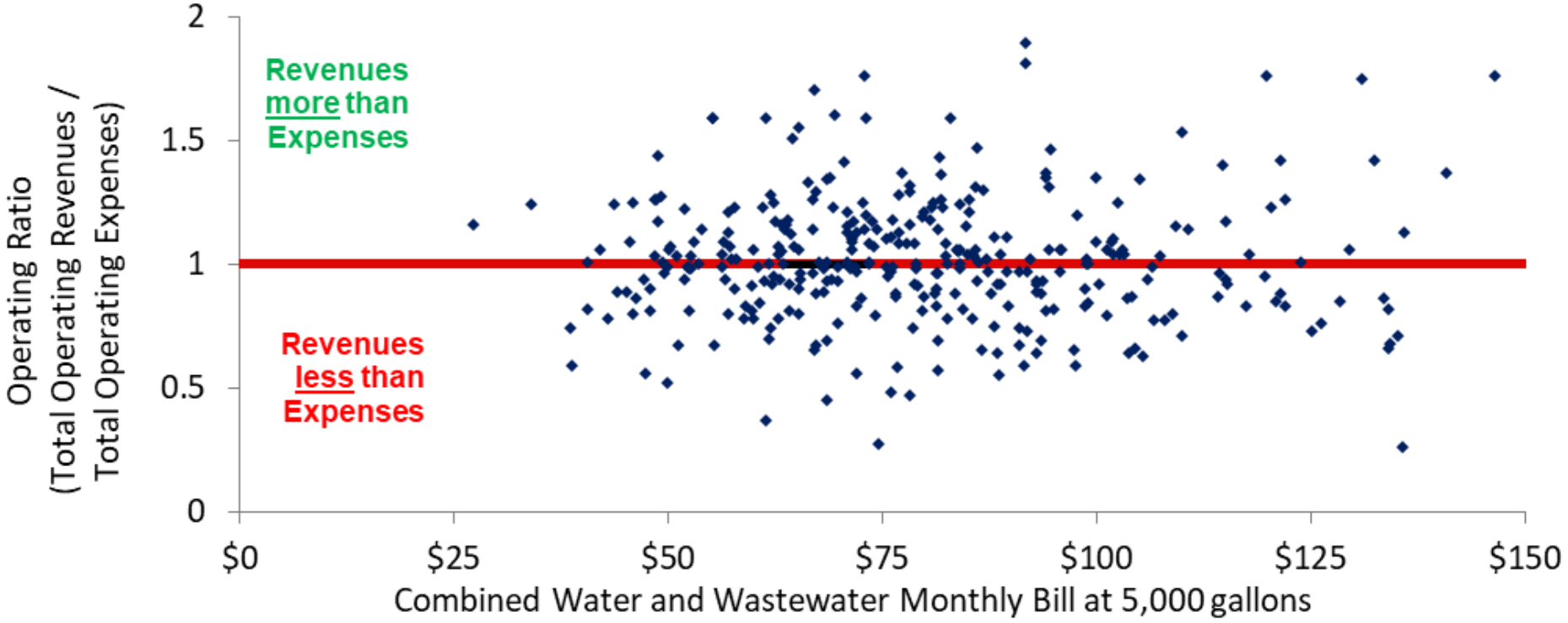
- Revenues are NOT covering operating costs
- Revenues are covering operating costs but not debt service
- Revenues are covering operating costs and debt service but not depreciation
- Revenues are covering operating costs, debt service, and depreciation
- Don't know/not applicable

What should rates cover?

- Operations & maintenance expenditures
- Taxes and accounting costs
- Contingencies for emergencies
- Principal and interest on long-term debt
- Reserves for capital improvement
- Source water protection

2021 Combined Residential Bills at 5,000 gal/month for Utilities with Reported LGC Data on Total Operating Revenues and Total Operating Expenses in FY19

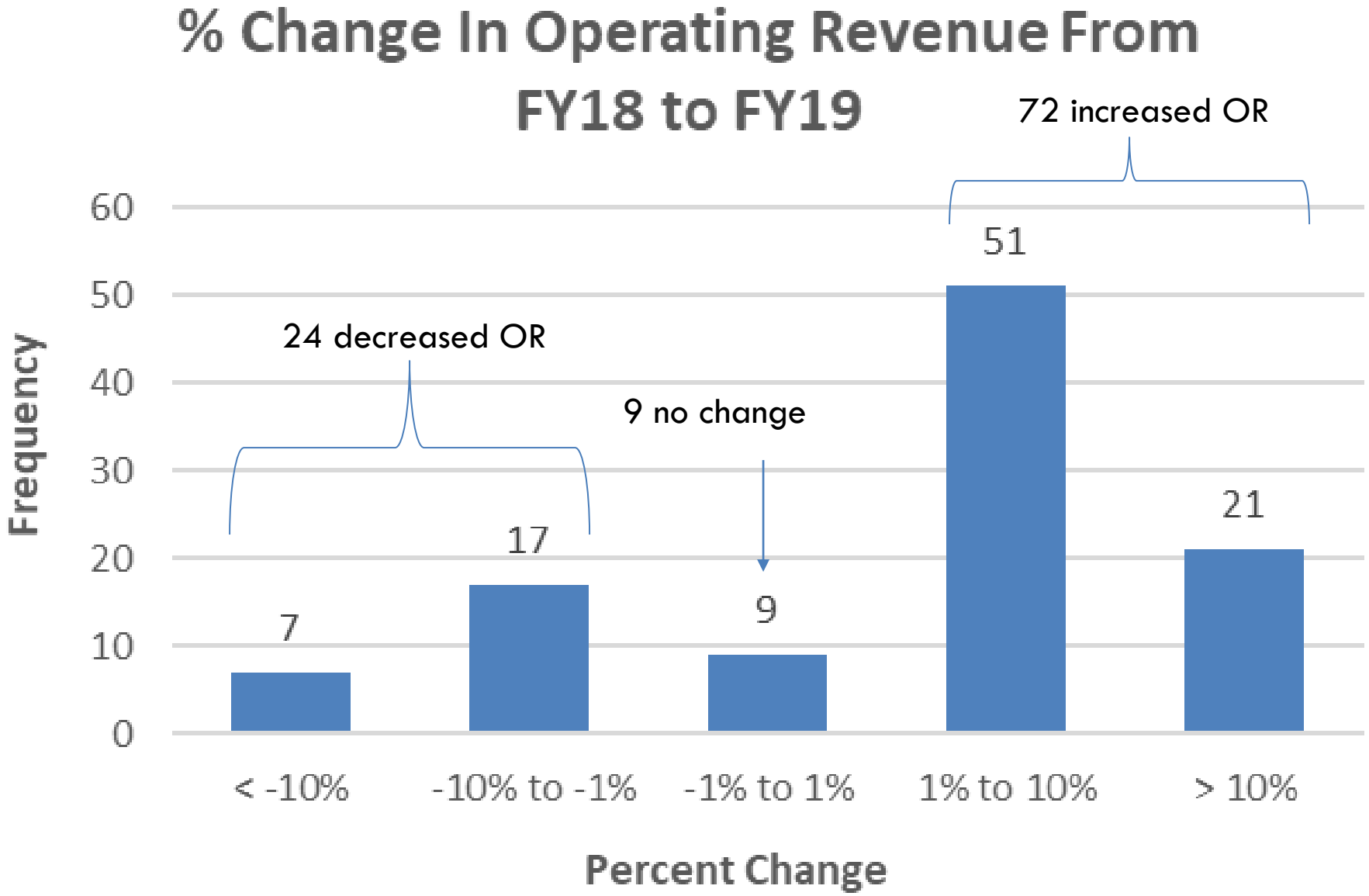
(n=338)

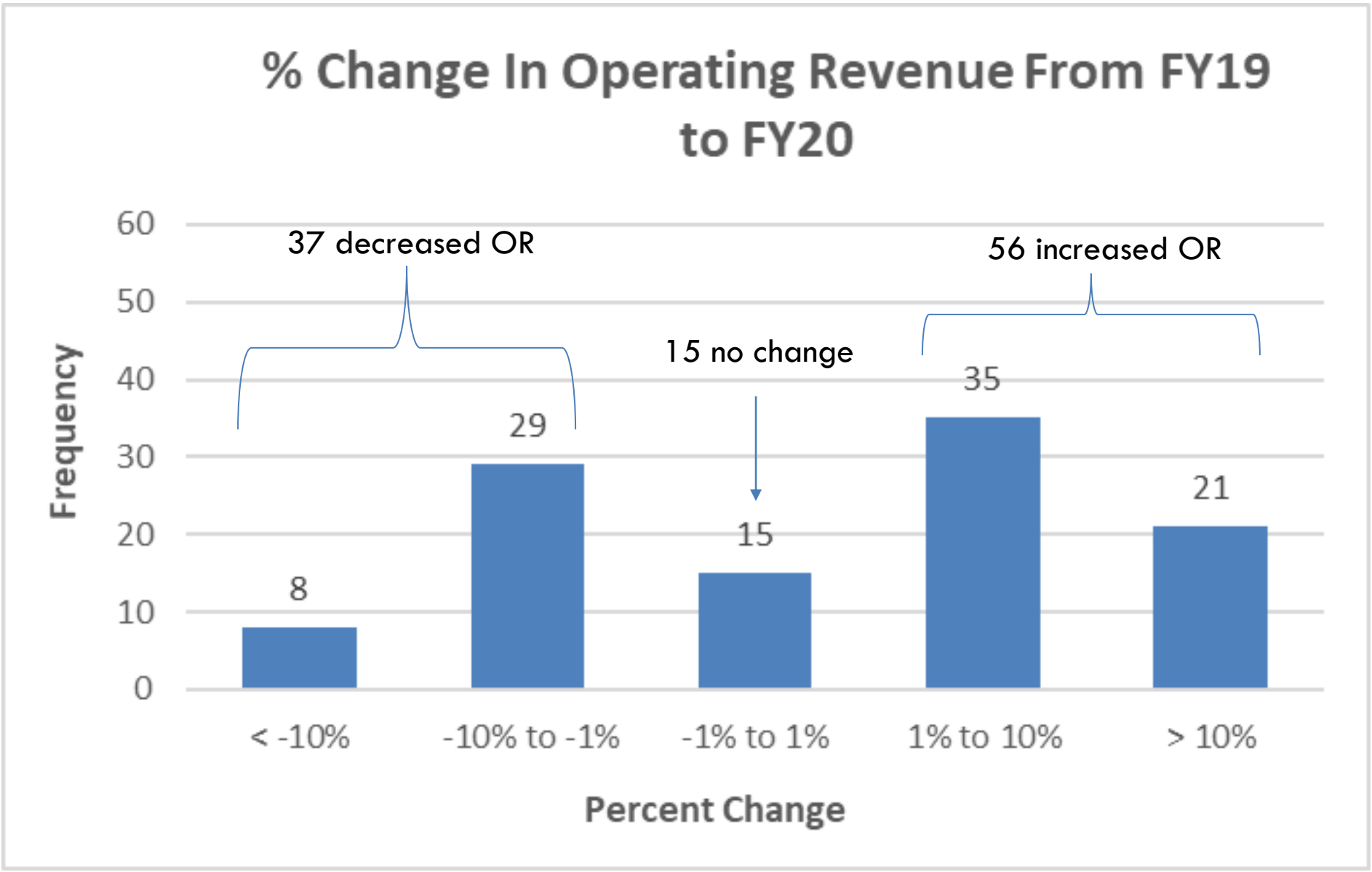


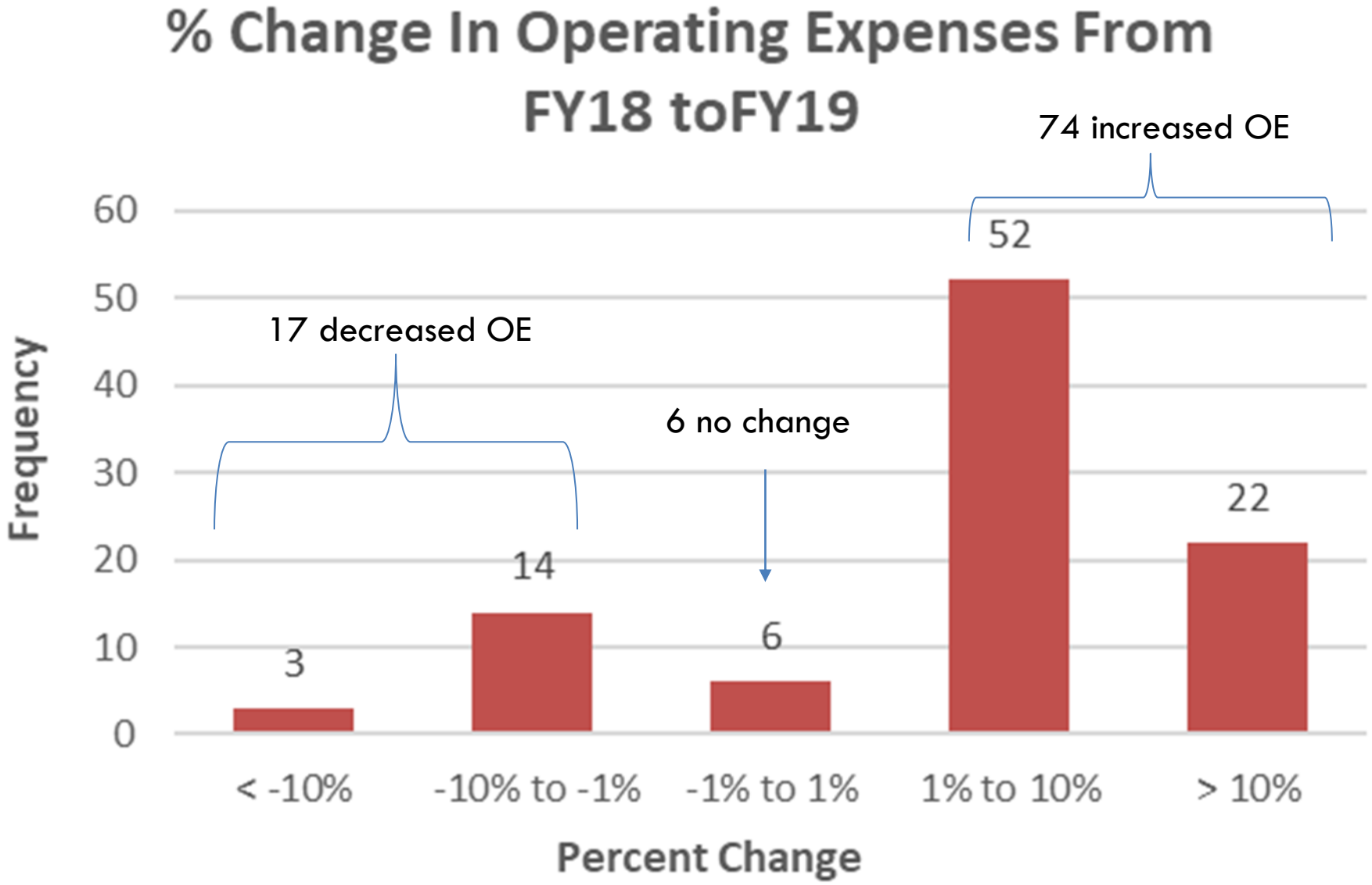
Changes from FY18-19 Compared to FY19-20

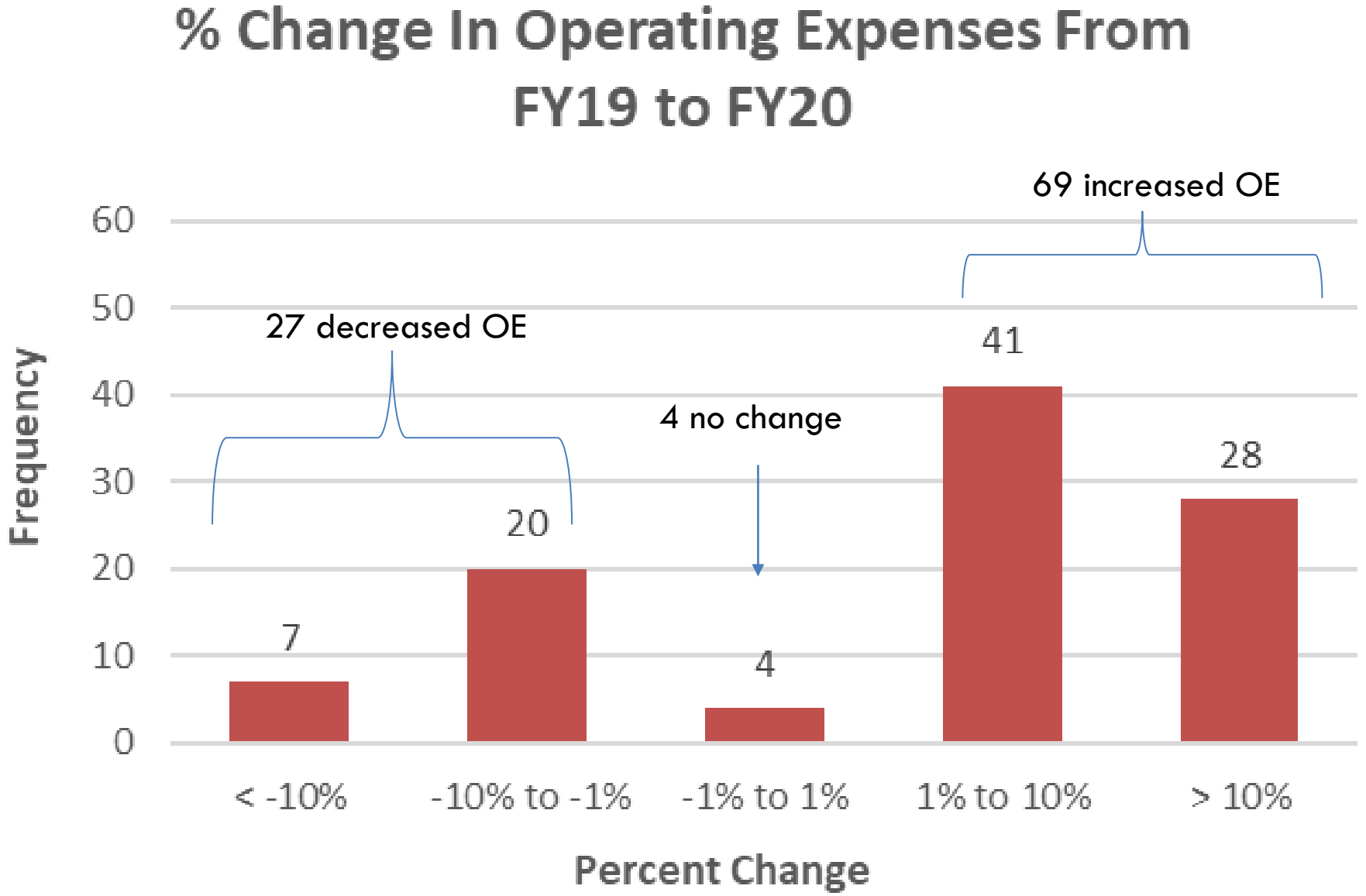
- Analyzed
  - Operating Revenues
  - Operating Expenses
  - Unrestricted Cash
  - Days Cash On Hand

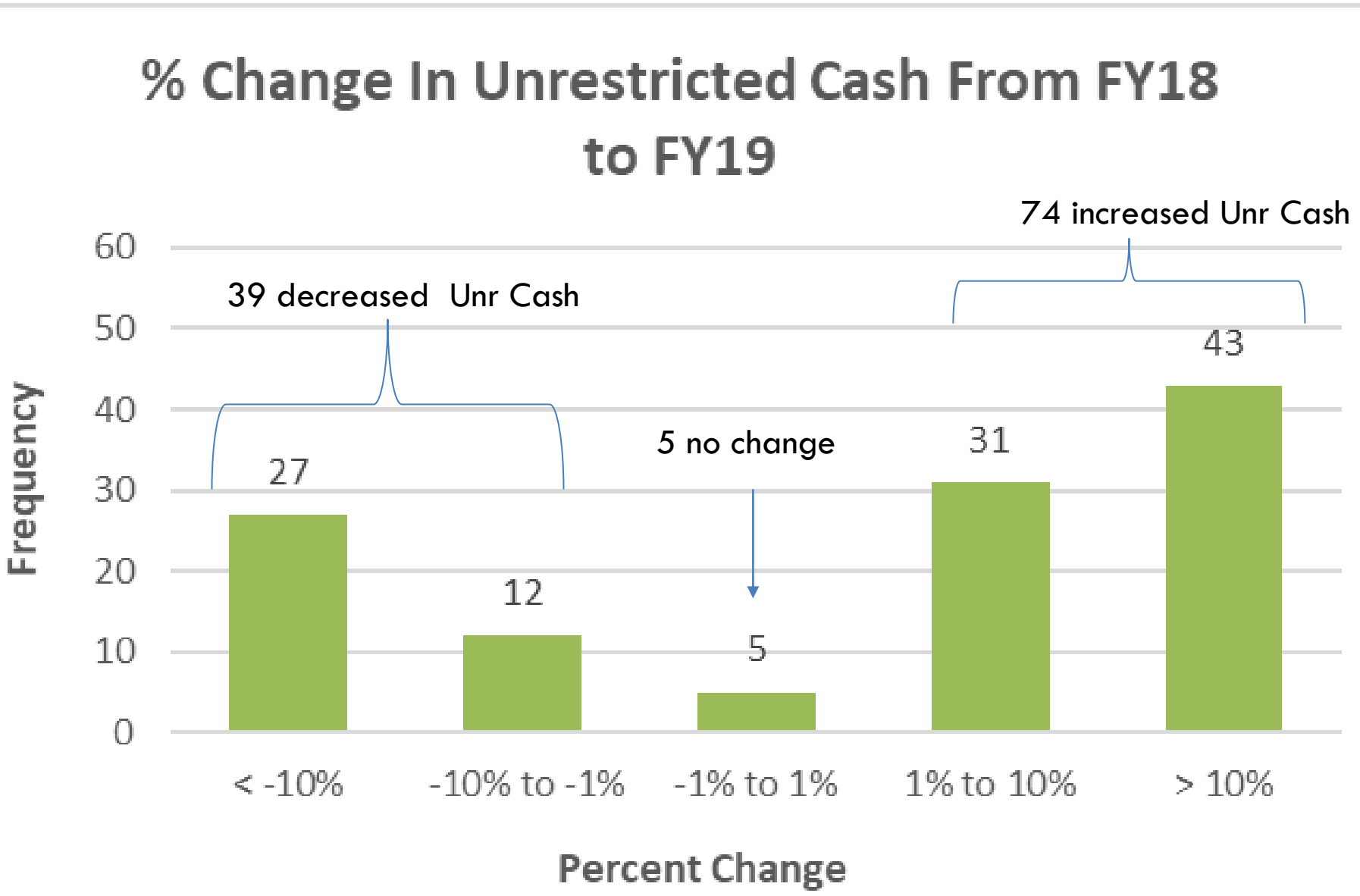
- Significant impacts from COVID-19 ?

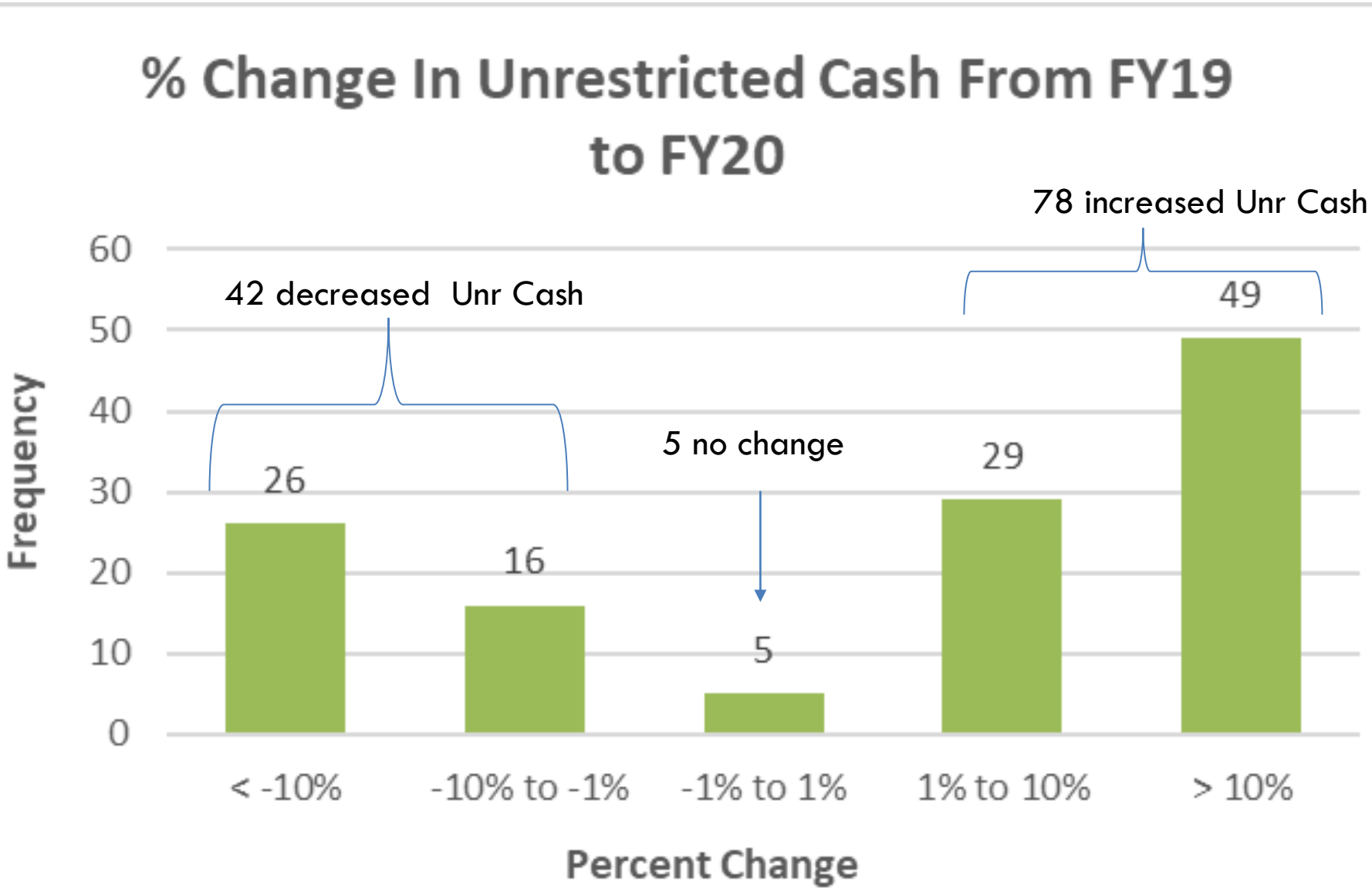

% Change In Operating Revenue From FY18 to FY19
72 increased OR
24 decreased OR
9 no change
Frequency
60
50
40
30
20
10
0
7
17
9
51
21
< -10%
-10% to -1%
-1% to 1%
1% to 10%
> 10%
Percent Change

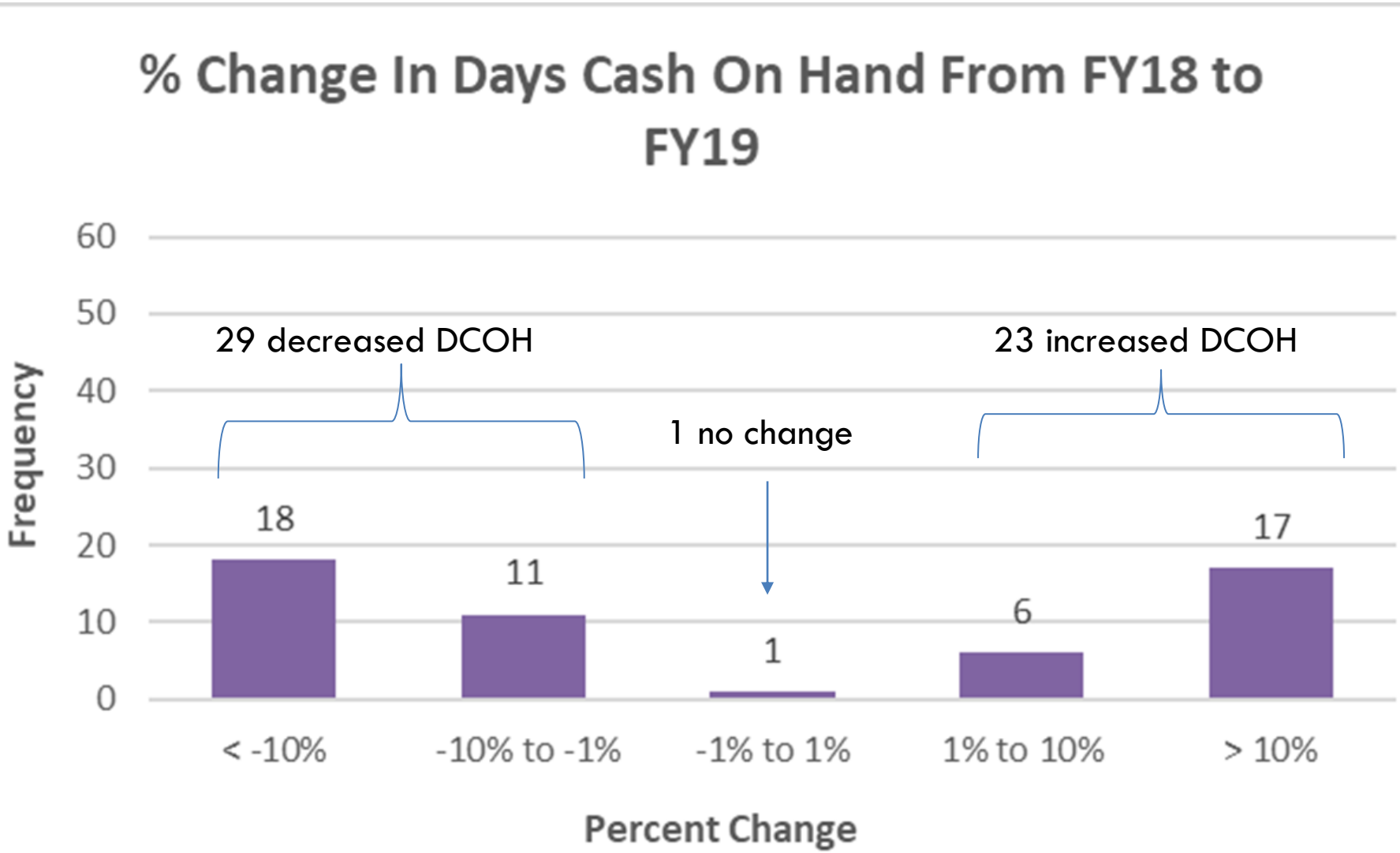

% Change In Operating Revenue From FY19 to FY20
37 decreased OR
56 increased OR
15 no change
Frequency
60
50
40
30
20
10
0
8
29
15
35
21
< -10%
-10% to -1%
-1% to 1%
1% to 10%
> 10%
Percent Change

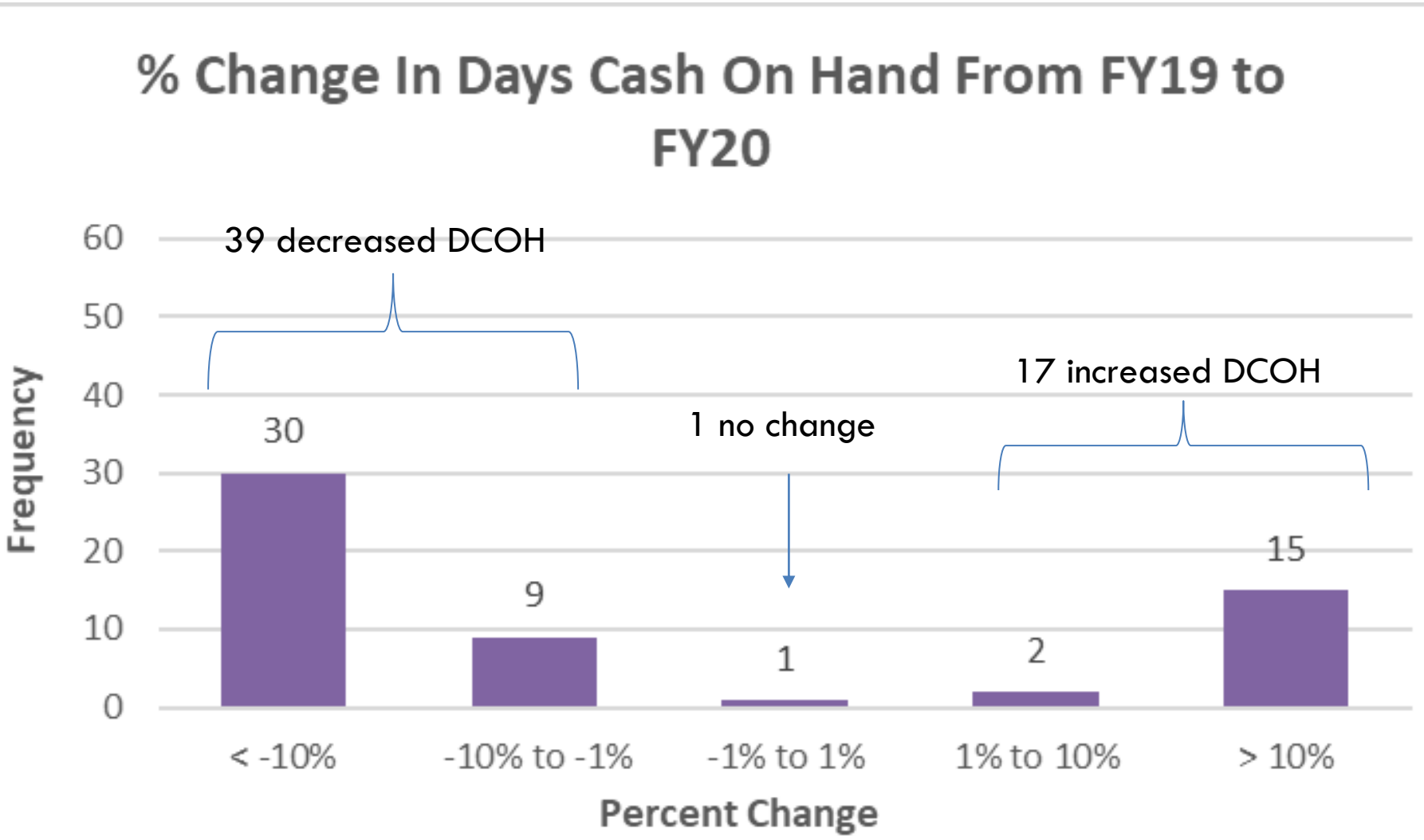

% Change In Operating Expenses From FY18 toFY19
74 increased OE
17 decreased OE
6 no change
Frequency
60
50
40
30
20
10
0
3
14
6
52
22
< -10%
-10% to -1%
-1% to 1%
1% to 10%
> 10%
Percent Change


% Change In Operating Expenses From FY19 to FY20
69 increased OE
27 decreased OE
4 no change
Frequency
60
50
40
30
20
10
0
7
20
4
41
28
< -10%
-10% to -1%
-1% to 1%
1% to 10%
> 10%
Percent Change


% Change In Unrestricted Cash From FY18 to FY19
74 increased Unr Cash
39 decreased Unr Cash
5 no change
Frequency
60
50
40
30
20
10
0
27
12
5
31
43
< -10%
-10% to -1%
-1% to 1%
1% to 10%
> 10%
Percent Change


% Change In Unrestricted Cash From FY19 to FY20
78 increased Unr Cash
42 decreased Unr Cash
5 no change
Frequency
60
50
40
30
20
10
0
26
16
5
29
49
< -10%
-10% to -1%
-1% to 1%
1% to 10%
> 10%
Percent Change


% Change In Days Cash On Hand From FY18 to FY19
Frequency
60
50
40
30
20
10
0
29 decreased DCOH
23 increased DCOH
1 no change
18
11
1
6
17
< -10%
-10% to -1%
-1% to 1%
1% to 10%
> 10%
Percent Change


% Change In Days Cash On Hand From FY19 to FY20
39 decreased DCOH
17 increased DCOH
1 no change
Frequency
60
50
40
30
20
10
0
30
9
1
2
15
< -10%
-10% to -1%
-1% to 1%
1% to 10%
> 10%
Percent Change

Your sneak peak into…

THE STATE OF RATES IN NC IN 2021

PRELIMINARY RESULTS

Final results may be published in the forthcoming 2021 NCLM/EFC North Carolina Water & Wastewater Rates Survey Report

NC Water and Wastewater Rates Survey

- Joint annual surveys since 2005
- 2021 survey: 507 utilities included (98%)
- The 2021 NC Rates Dashboard is live at https://dashboards.efc.sog.unc.edu/nc
- Resources for utilities provided and funded by the Division of Water Infrastructure of the NC Department of Environmental Quality

The Average North Carolinian pays…

$36.38/month for 5,000 gallons for water

$45.00/month for 5,000 gallons for wastewater

For inside residential rates

Half of the utilities charge residential (inside) customers more than

$81.38 for combined water and wastewater

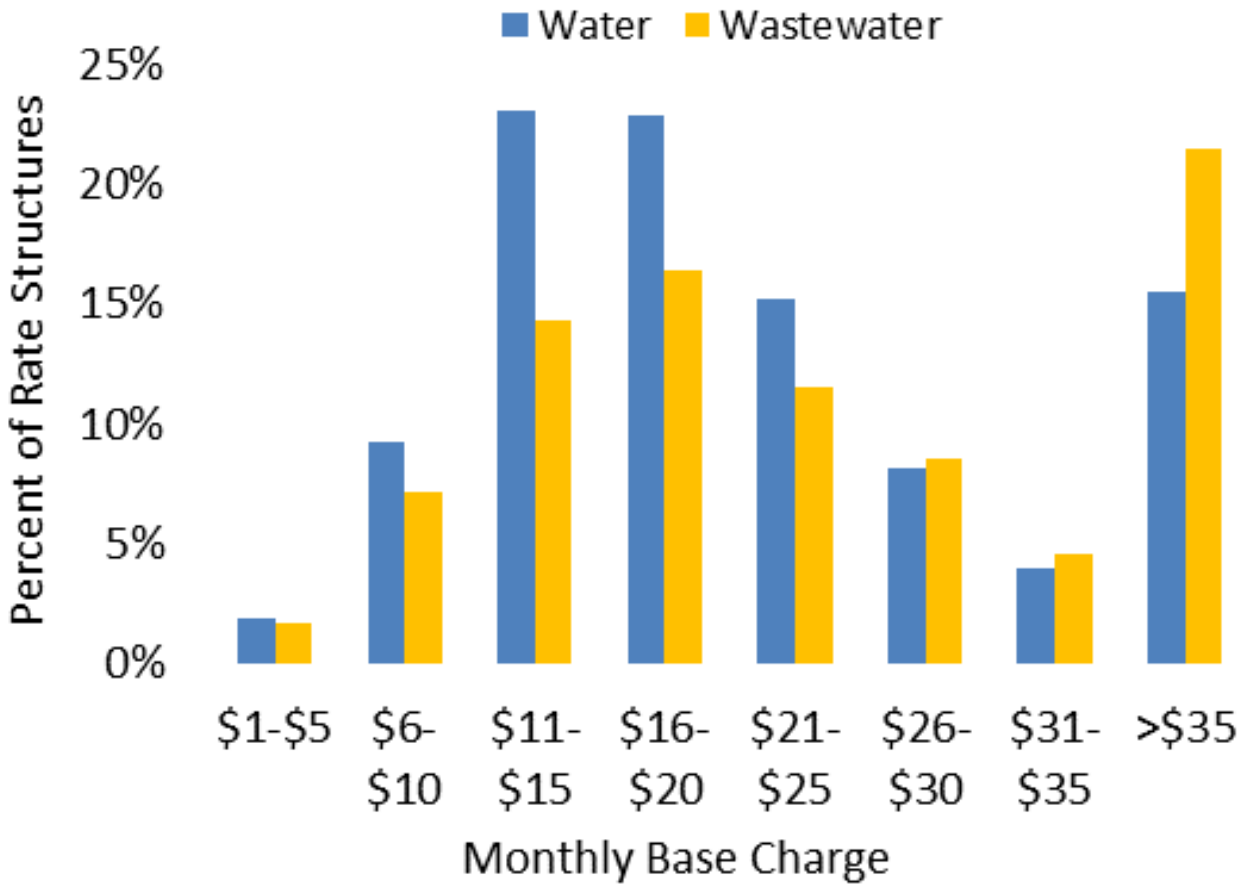
per month

$36.38 for water

$45.00 for wastewater

For “inside” residential customers using 5,000 gallons/month

Monthly Base Charges for Residential Customers Among 503 Water and 416 Wastewater Rate Structures



Median (non-zero) base charge:

Water $17.00

Wastewater: $19.28

Combined: $36.00

Base Charge Highlights

Monthly water base charge

Min non-zero: $3.17 (Asheville)
Median: $17.00
Max: $127.60 (Mount Holly)

Monthly wastewater base charge

Min non-zero: $2.00 (Spring Hope)
Median: $19.28
Max: $90.00 (Lake Lure)

Median percentage of customer bill due to base charge at 4,000

Water: 55%

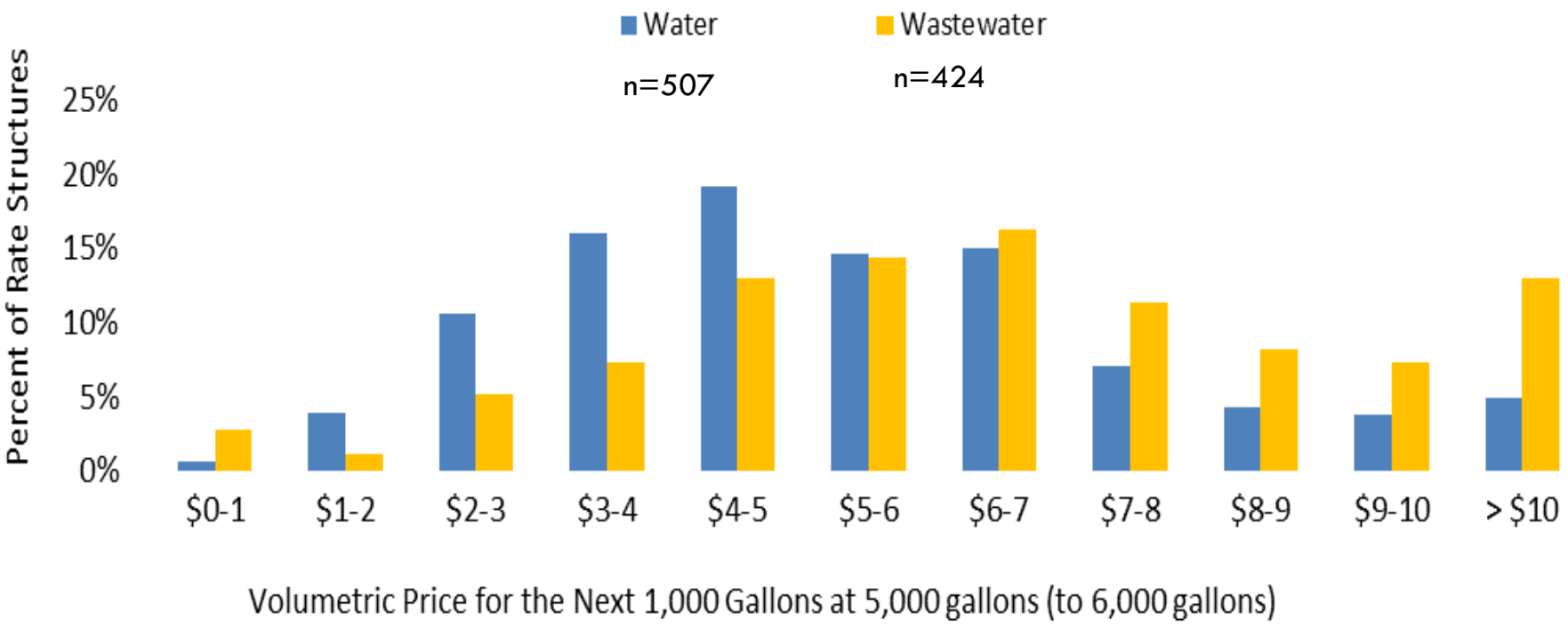
Wastewater: 51%

For inside residential rates

Price for the Next 1,000 Gallons at 5,000 Gallons/Month

Median marginal price at 5,000 (5 to 6kgal)

Water: $5.00 **Wastewater: $6.39** **Combined: $11.50**



Volumetric Charge Highlights

Highest monthly water volumetric charge from 5,000 to 6,000 gallons

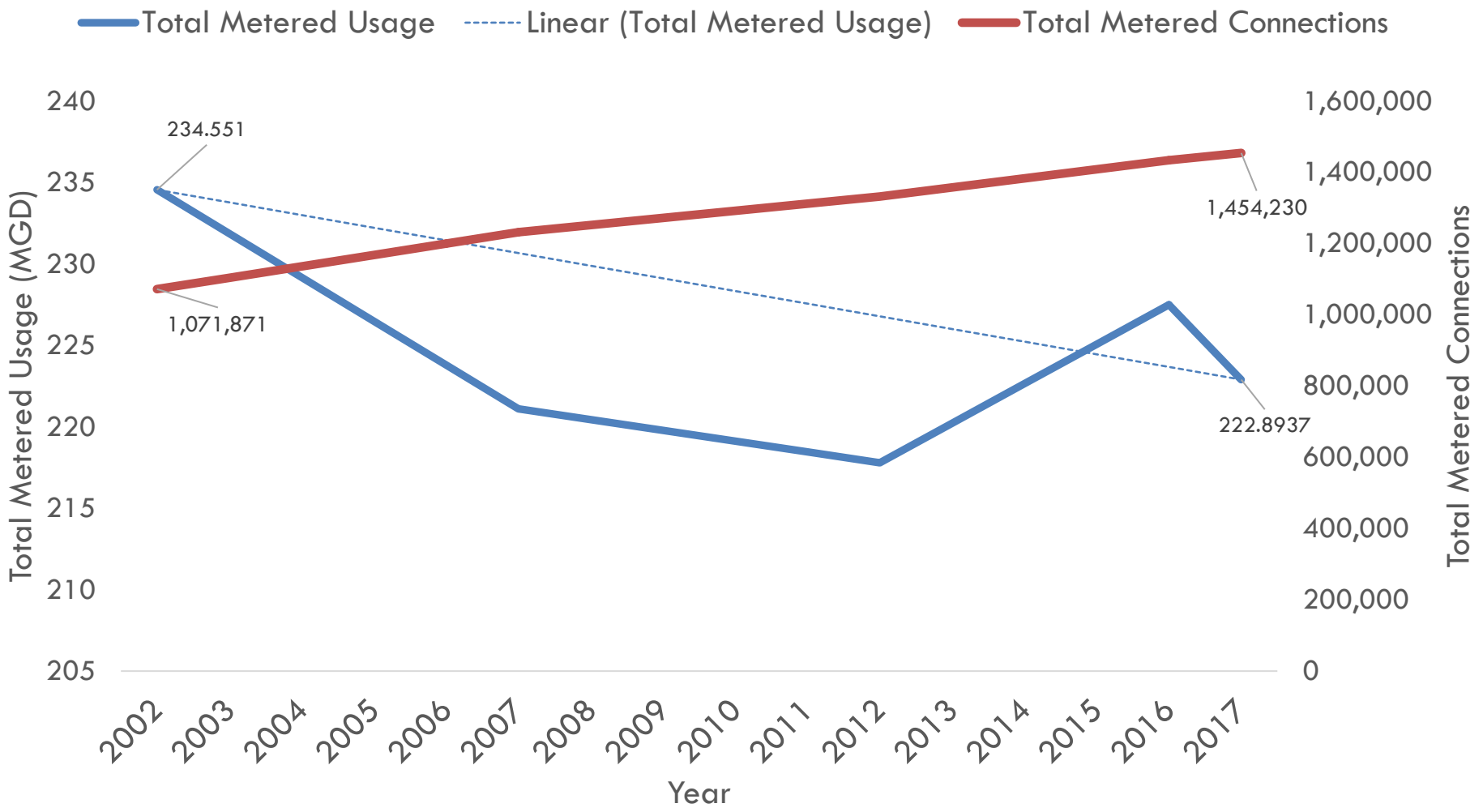
$17.50 per 1,000 gallons
Town of Milton

Highest monthly wastewater volumetric charge from 5,000 to 6,000 gallons

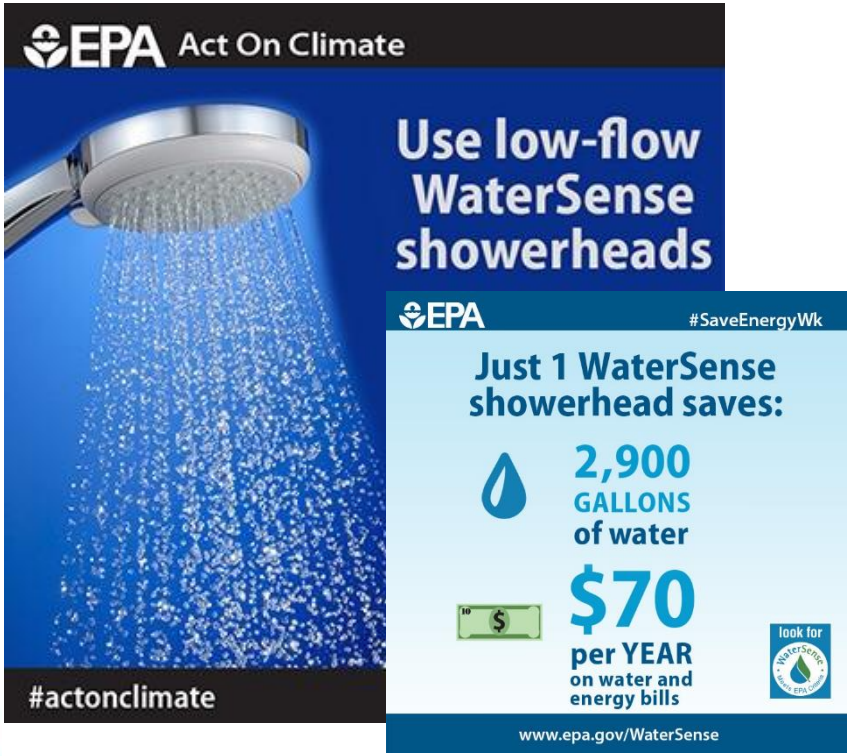
$25.00 per 1,000 gallons
Town of Walstonburg

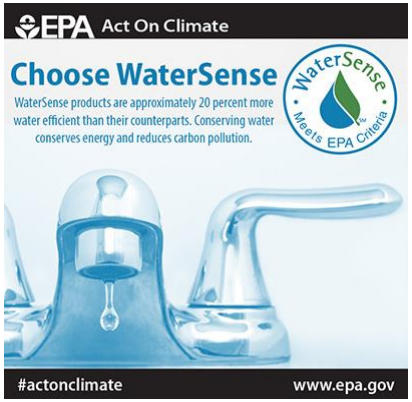
Total **Residential** Usage vs. Total **Residential** Metered Connections

For the Sample of 119 Utilities Present in 2002, 2007, 2012, 2016, & 2017



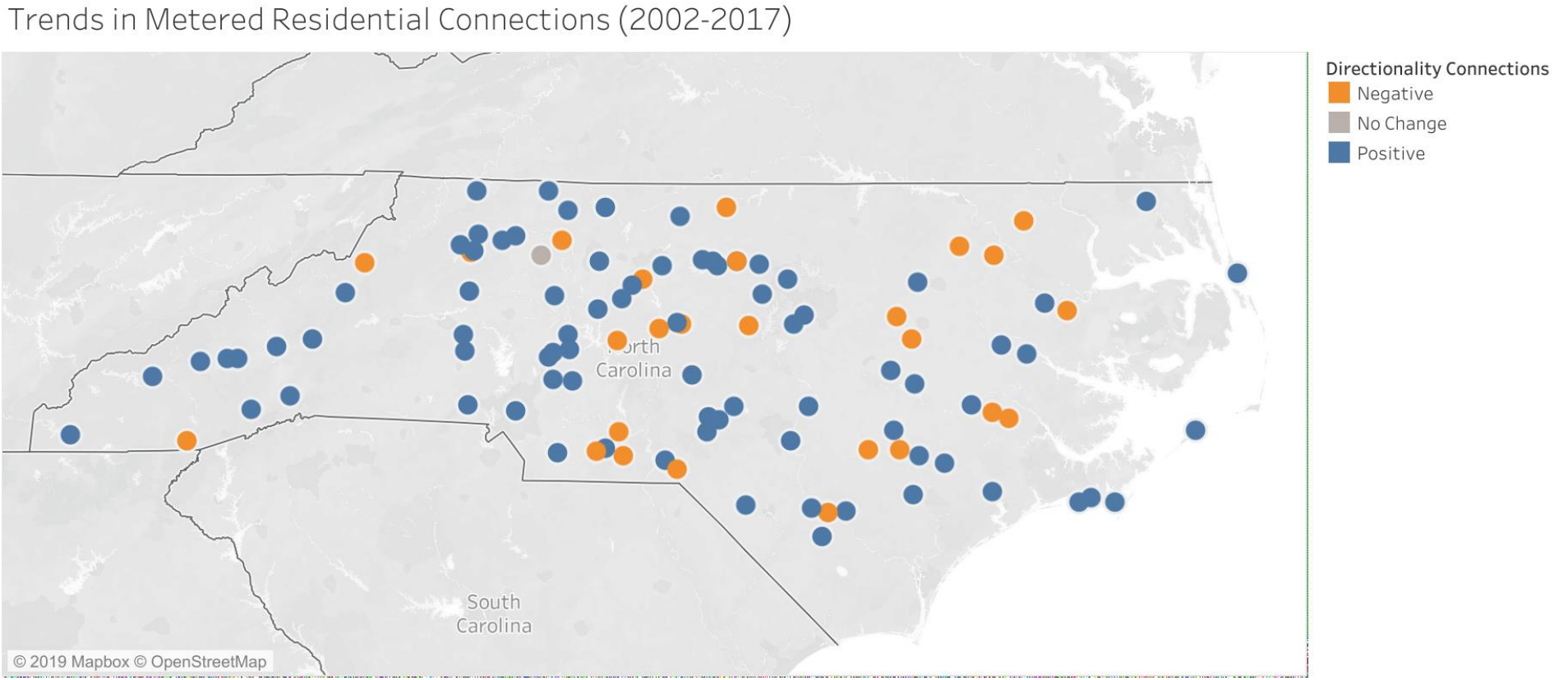
Increased Efficiency





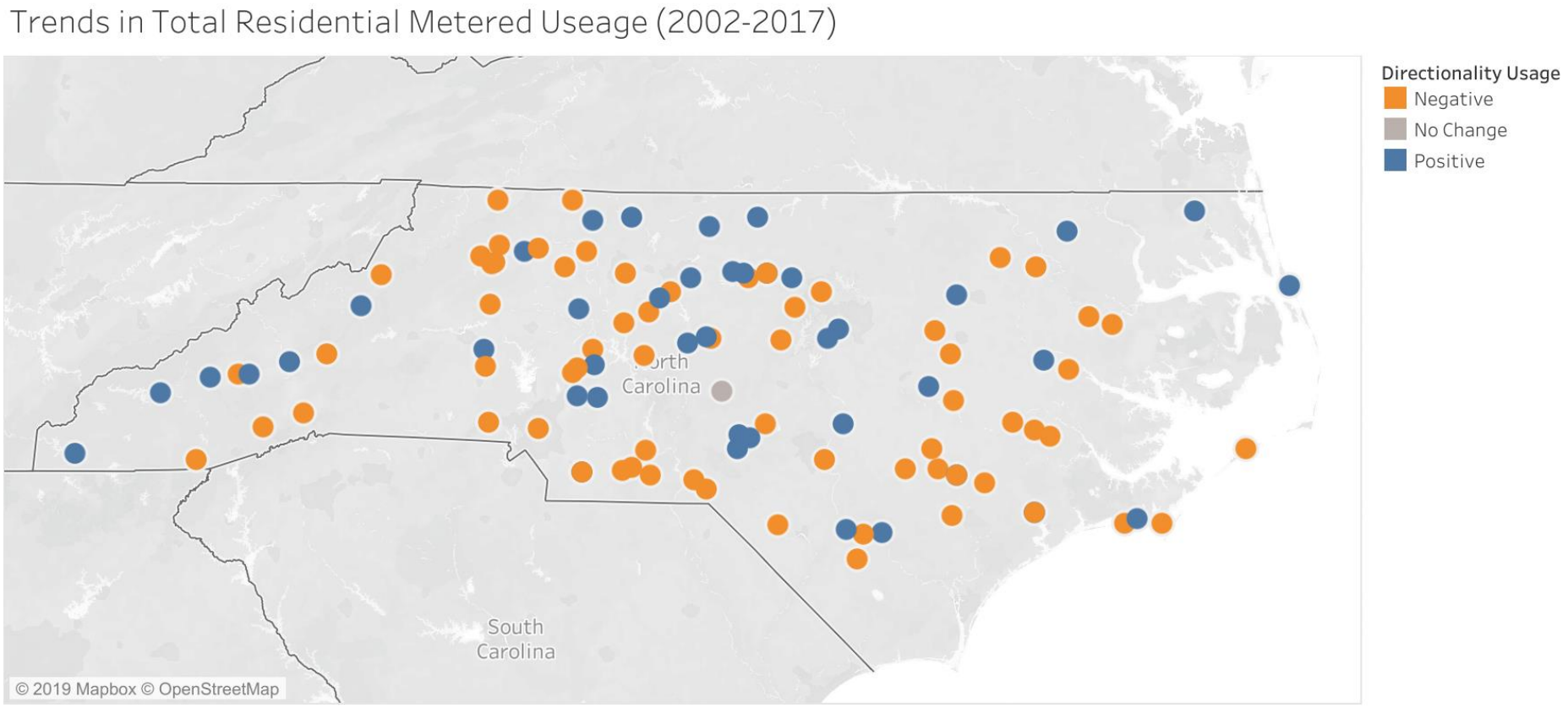
Have Connections Trended Differently Across the State?

For the Sample of Utilities Present in 2002, 2007, 2012, 2016, & 2017



Has Residential Use Shifted Differently Across the State?

For the Sample of Utilities Present in 2002, 2007, 2012, 2016, & 2017



WHAT ABOUT CHANGES IN RATES?

Water rates in 32% of rate structures and

Wastewater rates in 34% of rate structures were

raised last year

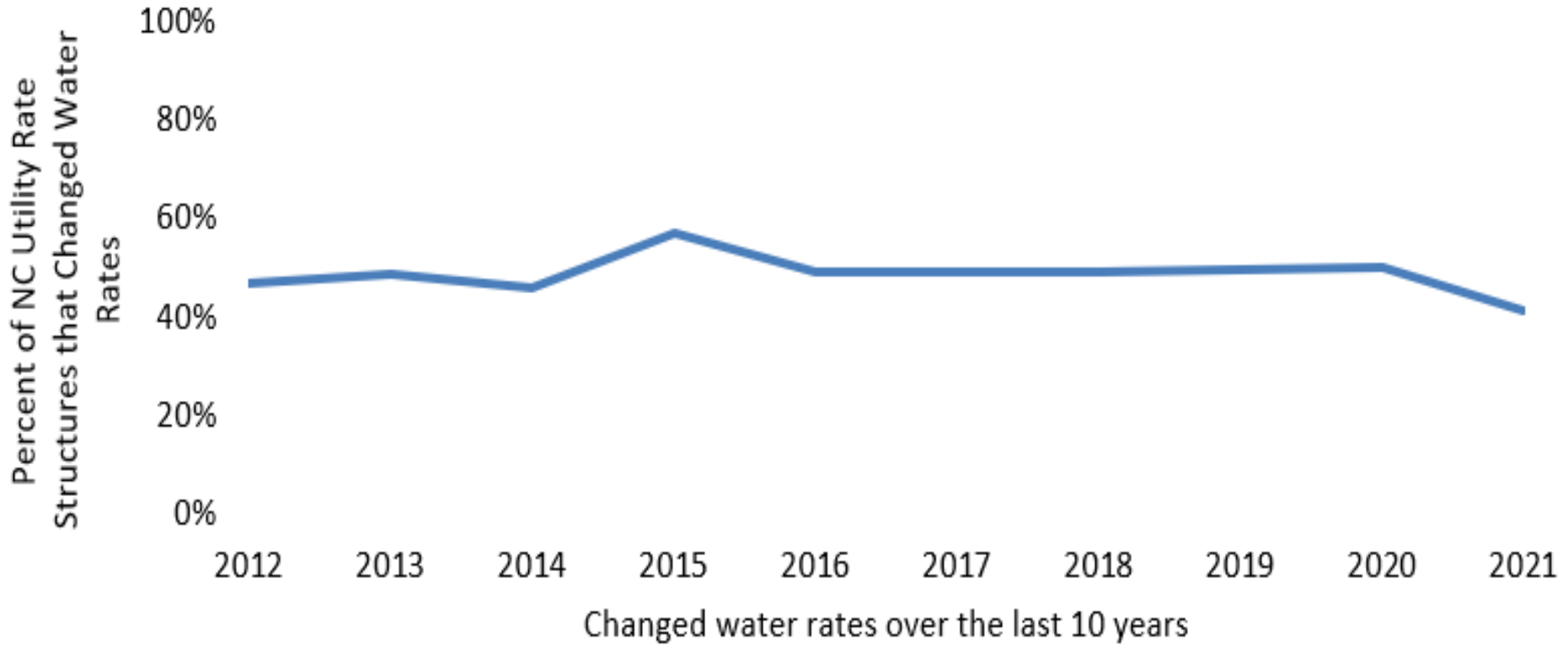
Out of 495 water & 409 wastewater rate structures since last year

Half of the rate increases were greater than

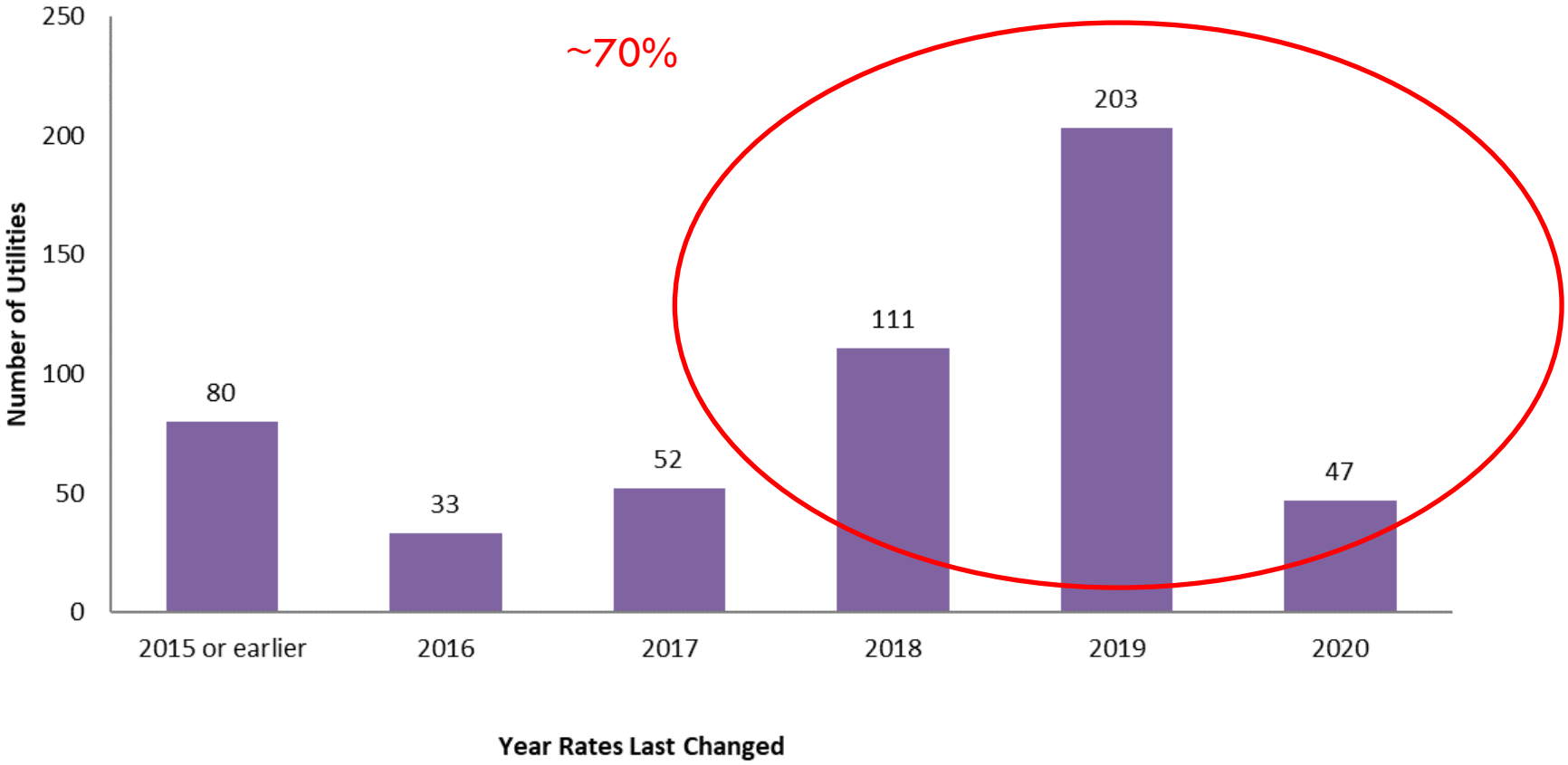
4.0% ($1.39) for water and 4.8% ($1.93)for wastewater

At 5,000 gallons/month

Changing Water Rates Among The Same 302 Water Rate Structures In North Carolina



In What Calendar Year were the Current Rate Structures First Instated?

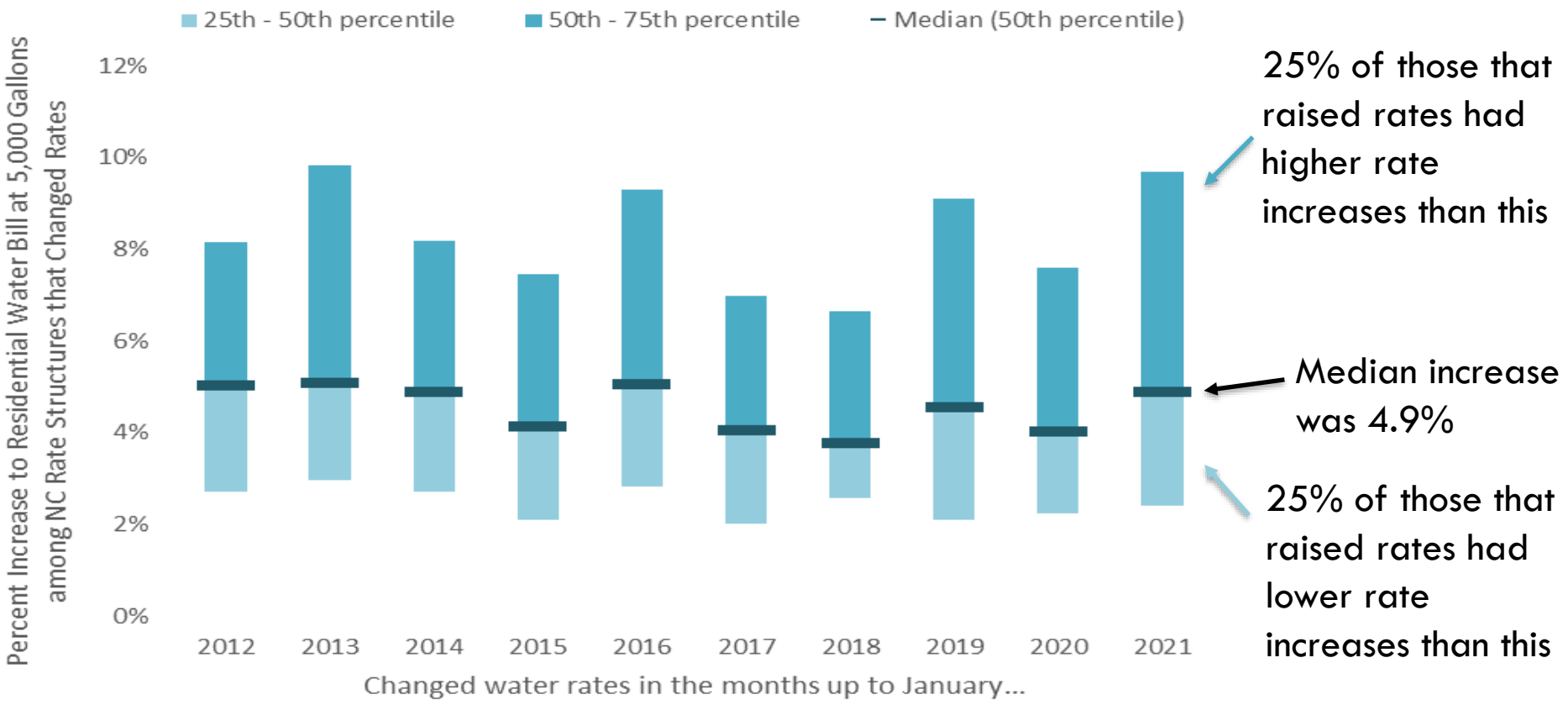


(n=526)

Poll: When were your rates last changed?

- Rates raised in the last 3 years
- Rates raised in the last 4-5 years
- Rates haven't been raised in over 5 years
- Can't raise rates without approval from the NC Utilities Commission
- Don't know/not applicable

Increases to the Water Bill for 5,000 Gallons/Month by Utilities that Raised Rates from Among 302 NC Utilities

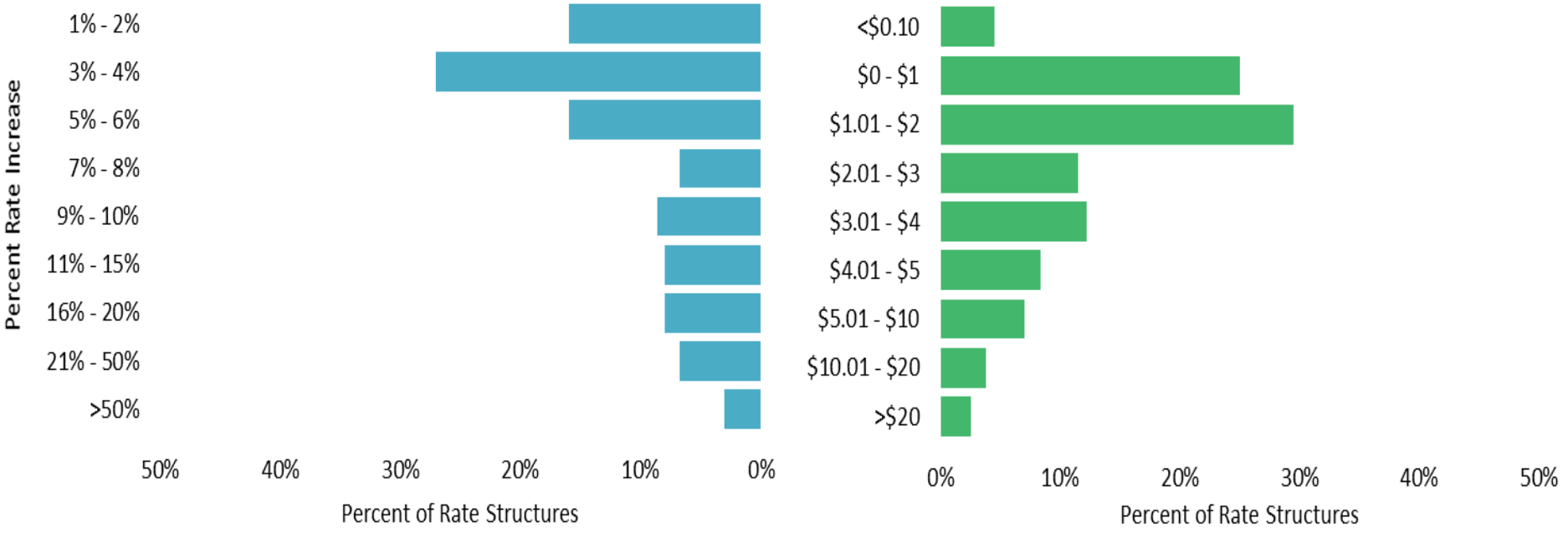


Based on the same 302 rate structures across all years. Analyzed only those that raised rates in each year.

Percent And Amount of Increase In Residential Monthly Bills at 5,000 Gallons/Month

Median Dollar increase for 5,000 Gallon/Month: $1.39 for Water $1.93 for Wastewater

Median % increase for 5,000 Gallon/Month: 4.0% for Water 4.8% for Wastewater



n= 156 (water) n= 140 (wastewater)

AFFORDABILITY OF RATES

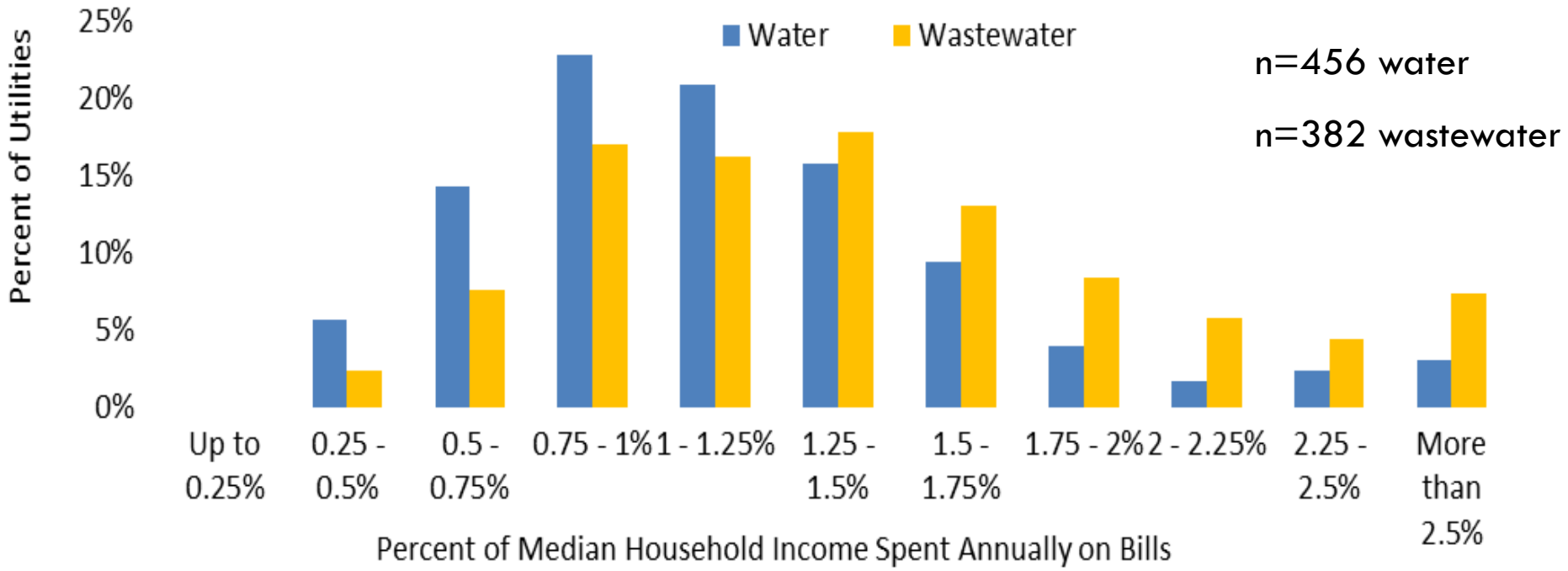
Annual Bills for 5,000 Gallons/Month as a Percent of the Serviced Community's 2018 Median Household Income

Median %MHI of Water: 1.09%

Median %MHI of Wastewater: 1.33%

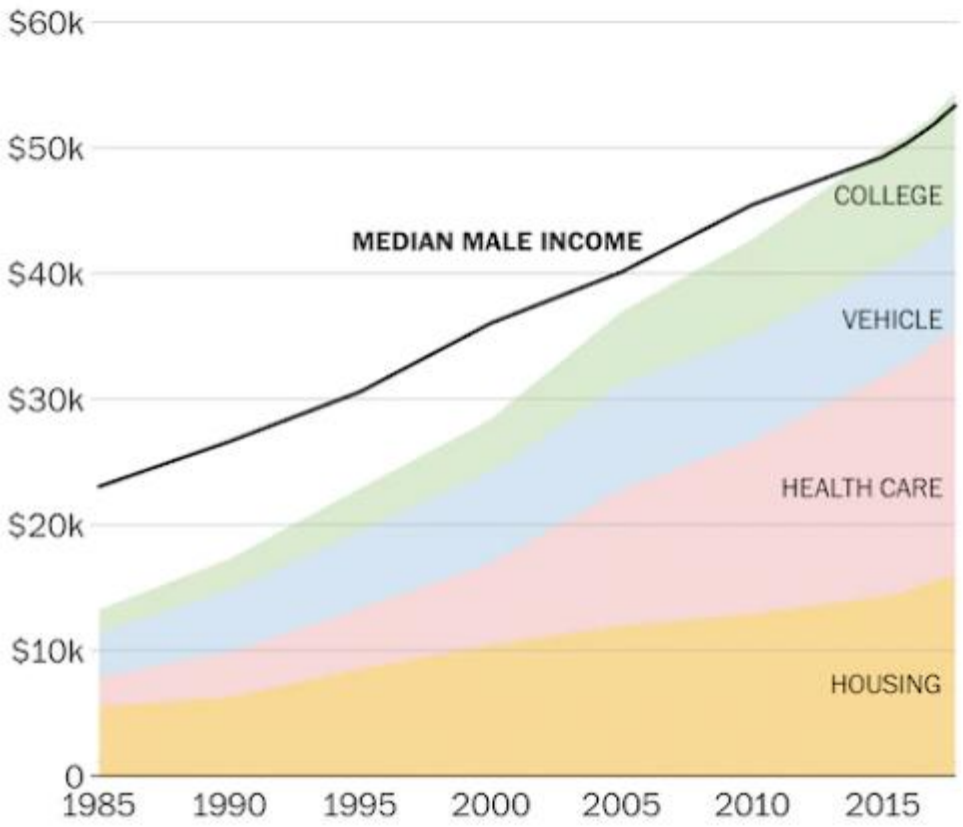
Median %MHI of Combined: 2.42%

Percent of Combined >4.5%: 5%



A year of wages no longer covers a year of family expenses

Major annual household expenditures for a family of four vs. median male income, 1985–2018



Source: The Cost-of-Thriving Index

THE WASHINGTON POST

Looking forward…

- Affordability issues will continue to be a challenge for utilities.

- Although MHI is universally used, it is not a good representation of the *distribution of income*.

- More customers are likely to struggle with rising bills in future years. Customer assistance programs and bill payment assistance programs will likely be even more crucial for customers in the lowest income brackets.

Takeaways

- Address on the local level
  - State MHI may not be reflective of your community
  - Median bills may not be the bill your community pays

- Rethink affordability
  - Impact of water services at the 20th percentile
  - Percent of discretionary income that your bill represents
    - What else do people have to pay for in your community?

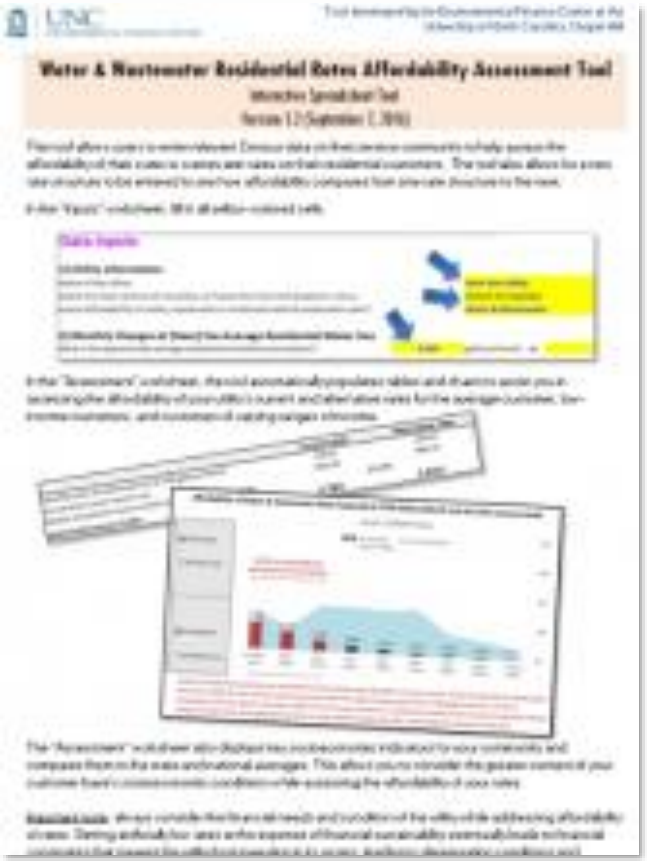
AR = (Cost of Basic Water + Sewer Service) ÷ (Household Income-Essential Non-water Costs)

TOOLS AND RESOURCES

Water and Wastewater Residential Rates Affordability Assessment Tool

Go to
http://efc.sog.unc.edu
and search for
"Affordability Assessment Tool"

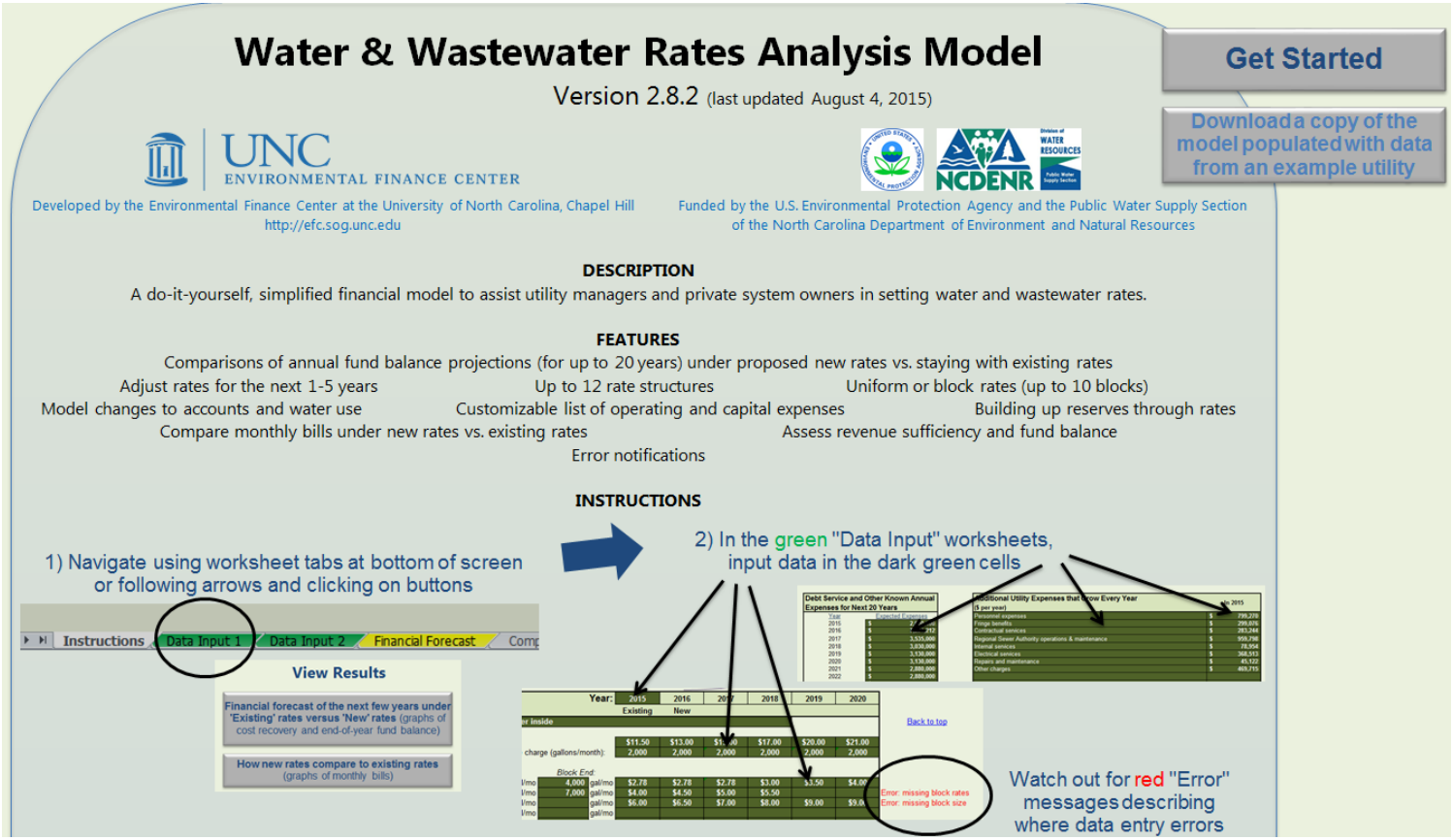
Uses information on rates, average usage, and census data



Water and Wastewater Rates Analysis Model

http://efc.sog.unc.edu or http://efcnetwork.org

Find the most up-to-date version in Resources / Tools



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