Using Data Analysis to Improve On-Time Customer Bill Payments: One Utility's Journey

Glenn Barnes, Water Finance Assistance

Opelika Utilities, Alabama

OPELIKA UTILITIES

- 46,000 people served through about 15,000 connections

- Serving a typical mix of residential and non-residential customers

Radical Redesign of their Rates

- Changing the price
- Lowering the gallon allowance in the base rate from 4,000 gallons a month to 0 gallons
- Dynamic volumetric rate that changes monthly based on actual costs of providing water service
- Concern: **Affordability**

Are our rates affordable?

Can customers afford our rates?

We ran the standard affordability metrics...

- **Nothing** stood out!

- Some low-income households, of course, but most of their numbers were close to state and national averages

Can customers afford our rates?

Are customers affording our rates?

One More Reason!

"Affordability" can be a controversial subject for utility leadership

Getting more customers to pay their bills on time is **not**!

Bill Payment Rate

- We often measure this as the number of bills or amount billed annually that is paid

- Opelika Utilities had a high percentage of bills that were paid...**eventually**

The Utility Management Conference™ AWWA | WEF

1 out of 6

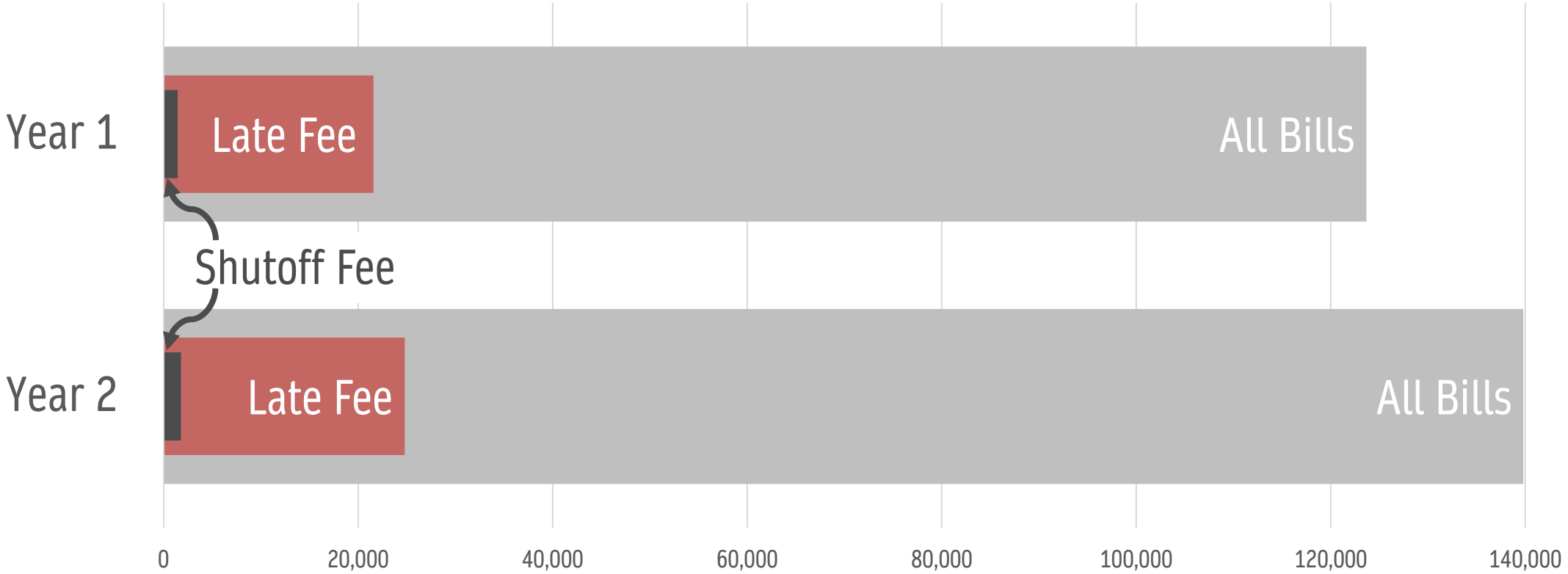
bills was paid late

So what?

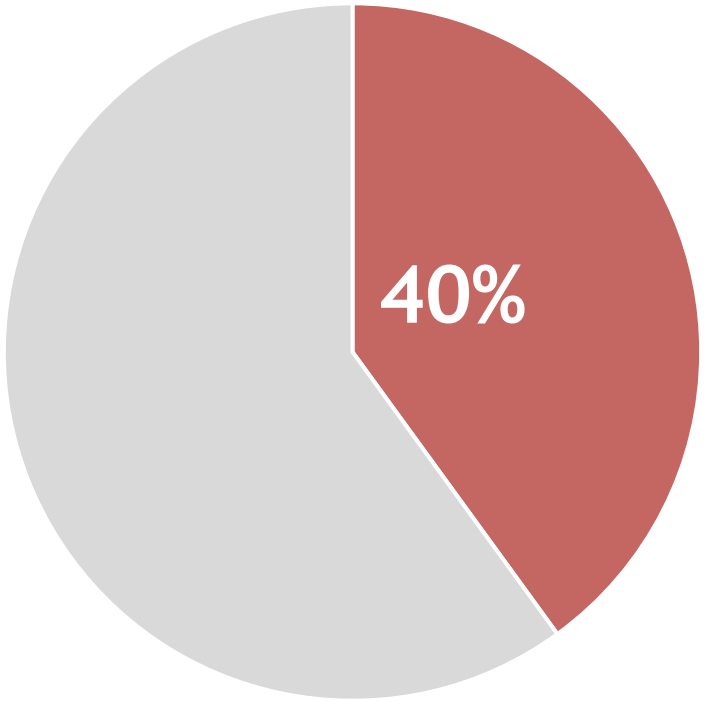
Opelika's Delinquency Policy

- Payment is due in 15 days
- Late bills are assessed a $5.00 fine and given 5 business days to pay up
- After five days, the account is levied a $35.00 fine and service is disconnected

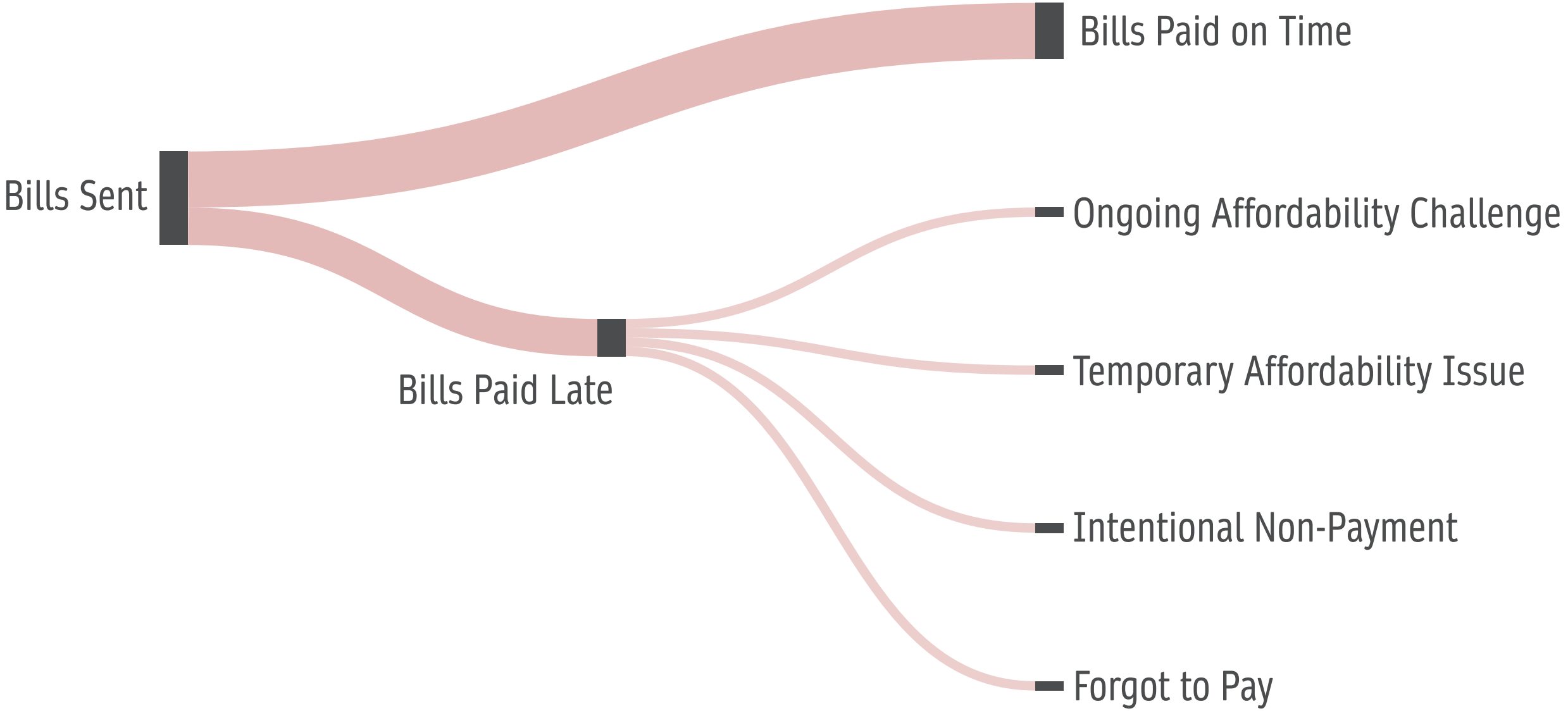
A Tiny Percentage of Bills that Received at **Late Fee** Also Received a **Shutoff Fee**



40 percent of all customers had at least one late payment each year



Why does someone pay a bill late?



Approach Inspired by Water Audits

AWWA Free Water Audit Software v6.0

FWAS v6.0

This spreadsheet-based water audit tool is designed to help quantify and track water losses associated with water distribution systems and identify areas for improved efficiency and cost recovery. It provides a "top-down" summary water audit format and is not meant to take the place of a full-scale, comprehensive water audit format. Auditors are strongly encouraged to refer to the most current edition of AWWA M36 Manual for Water Audits for detailed guidance on the water auditing process and targeting loss reduction levels. This tool contains several separate worksheets. Sheets can be accessed using the tabs at the bottom of the screen, or by clicking the TOC links below.

Table of Contents (TOC)

Start Page	The current sheet. Enter contact information and basic audit details.
Worksheet	Enter the required data on this worksheet to calculate the water balance and data grading.
Interactive Data Grading	Answer questions about operational practices for each audit input, and the data validity grades will automatically populate.
Dashboard	Review NRW components, performance indicators and graphical outputs to evaluate the results of the audit.
Notes	Enter notes to explain how values were calculated, document data sources, and related information about data management practices.
Blank Sheet	By popular demand! A blank sheet. The world is your canvas.
Water Balance	The values entered in the Worksheet automatically populate the Water Balance.
Loss Control Planning	Use this sheet to interpret the results of the audit validity score and performance indicators.
Definitions	Use this sheet to understand the terms used in the audit process.

Enter Basic Information

Name of Utility:	City of Asheville
Name of Contact Person:	Brandon Buckner
Email:	
Telephone | Ext.:	
City/Town/Municipality:	Asheville
State / Province:	North Carolina (NC)
Country:	USA
Audit Preparation Date:	Nov 01 2020
Audit Year:	2020
Audit Year Label:	Fiscal (Fiscal, Calendar, etc)
Audit Period Start Date:	Jul 01 2019
Audit Period End Date:	Jun 30 2020
Volume Reporting Units:	Million gallons (US)
Water System Structure:	Retail
Water Type:	Potable Water
System ID Number:	01-11-010
Validator Name/ID:	Will Jernigan, P.E.
Validator Email:	will.jernigan@cavanaughsolutions.com
Estimated Total Population Served by Water Utility:	200,000

Key of Input Acronyms

In order of appearance in the Worksheet

VOS	Volume from Own Sources
VOSEA	VOS Error Adjustment
WI	Water Imported
WIEA	WI Error Adjustment
WE	Water Exported
WEEA	WE Error Adjustment
BMAC	Billed Metered Authorized Consumption
BUAC	Billed Unmetered Authorized Consumption
UMAC	Unbilled Metered Authorized Consumption
UUAC	Unbilled Unmetered Authorized Consumption
SDHE	Systematic Data Handling Errors
CMI	Customer Metering Inaccuracies
UC	Unauthorized Consumption
Lm	Length of mains
Nc	Number of service connections
Lp	Average length of (private) customer service line
AOP	Average Operating Pressure
CRUC	Customer Retail Unit Charge
VPC	Variable Production Cost

Color Key User input | Calculated | Optional default

Guidance for the Worksheet

Guidance for the Interactive Data Grading

Method #1: Ask

- Contact every customer with a late payment
- Ask why they didn't pay their bill on time
- **Hope** they tell you the truth

Method #2: Data Analysis

- How often has this customer not paid the bill on time?
- How often have they been shut off?
- How **many days** between late notice/disconnection and payment?

Customer #1

- Shut off 7 times in the past two years, sometimes for as long as a week
- Often incurs a late fee in other pay periods

Most likely an **ongoing affordability challenge**

Customer #2

- Over a two-year period, received a late fee three times in non-consecutive months
- Always paid bill 1-2 days after receiving the late notice

Most likely **forgot to pay**

Customer #3

- Always paid on time, but last January did not pay and had water shut off for 5 days
- Has maintained service since then

Most likely a **temporary affordability issue**

For Opelika

- The most likely reason for the number of late payments, based on the data analysis, was customers **forgetting** to pay their bills

The Solution?

- Text and email reminders about bills due
- Push notifications through the utility's app
- Encourage more people to enroll in the auto-pay program

Those with Ongoing Affordability Challenges

- ~115
- Referrals to local social service agencies
- Low-Income Household Water Assistance Program (LIHWAP)

The Future

Thank You!

Glenn Barnes

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