

Distribution Reliability

Pursuing Top Quartile

Strategic Plan Priority

Presented to Board of Commissioners
June 14, 2020

No Action Requested – Future budget consideration



Why we're here today

- Purpose
- Reliability indices
- Historical reliability and investment
- Cost versus benefit modeling
- Benchmarking
- Investment choices and forecasted benefit
- Recommendations for budget consideration

Purpose

District's 2020-2024 Strategic Plan Priority: "invest in assets and people and seek industry top quartile retail reliability."

Strategic Plan Reliability: "We recently compared our reliability...to other high-performing public power providers. While we are good, we are not in top tier."

Purpose: Develop a set of choices for budget consideration to achieve higher level reliability. Seeking feedback.



Reliability Indices

IEEE Defined – Used for benchmarking with others

- ASAI – Average up time in percent
- CAIDI – Restoration time in minutes
- MAIFI – Momentary
- SAIDI – All customers out equivalent

SAIDI (System Average Interruption Duration Index)

➤ SAIDI recommended and has customer hours out as basis.

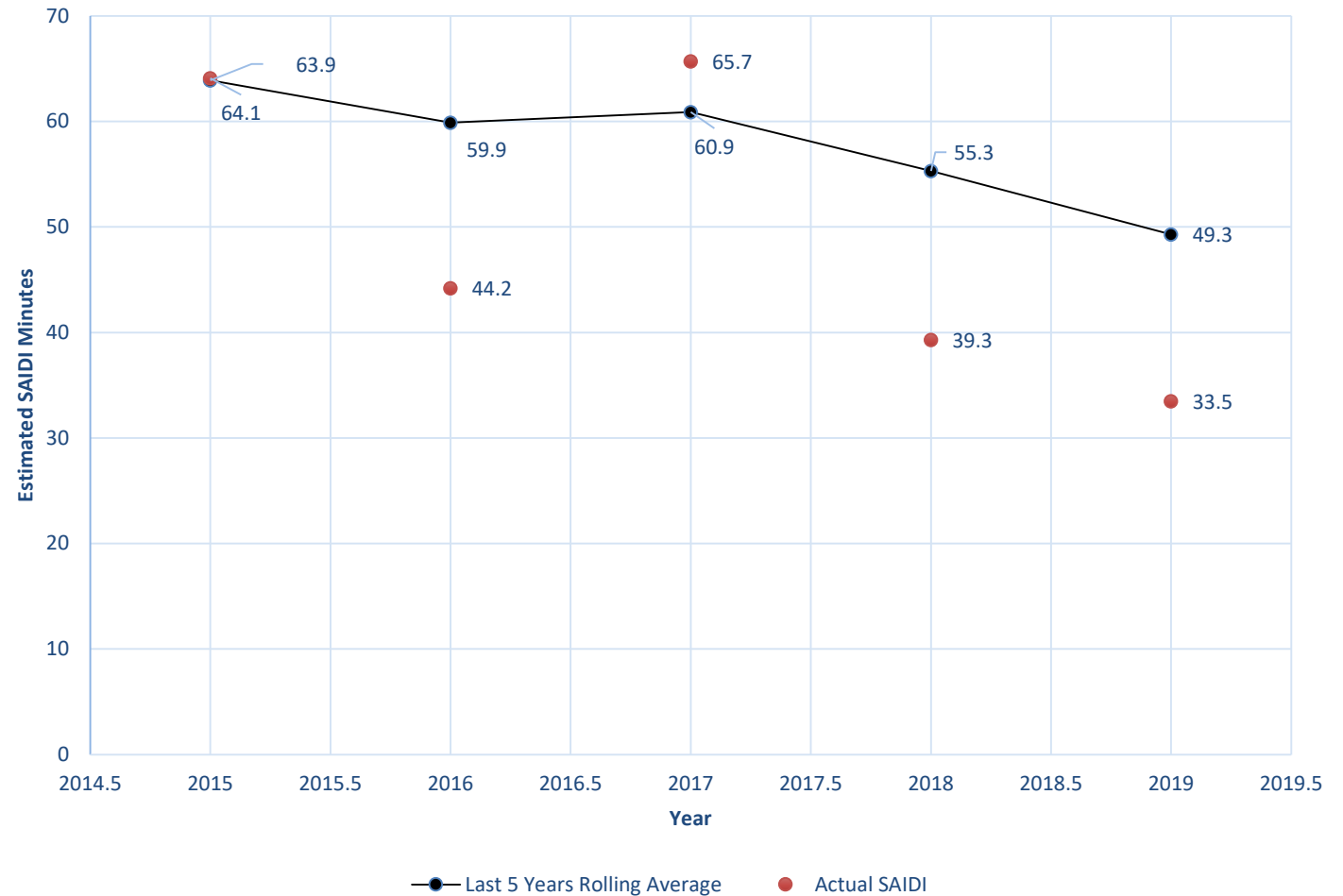


Historical Investments – last 5 years

- Total \$2.3M
- Vegetation \$1.5M
- Cable Replace \$0.8M

➤ Rolling 5-year 49min

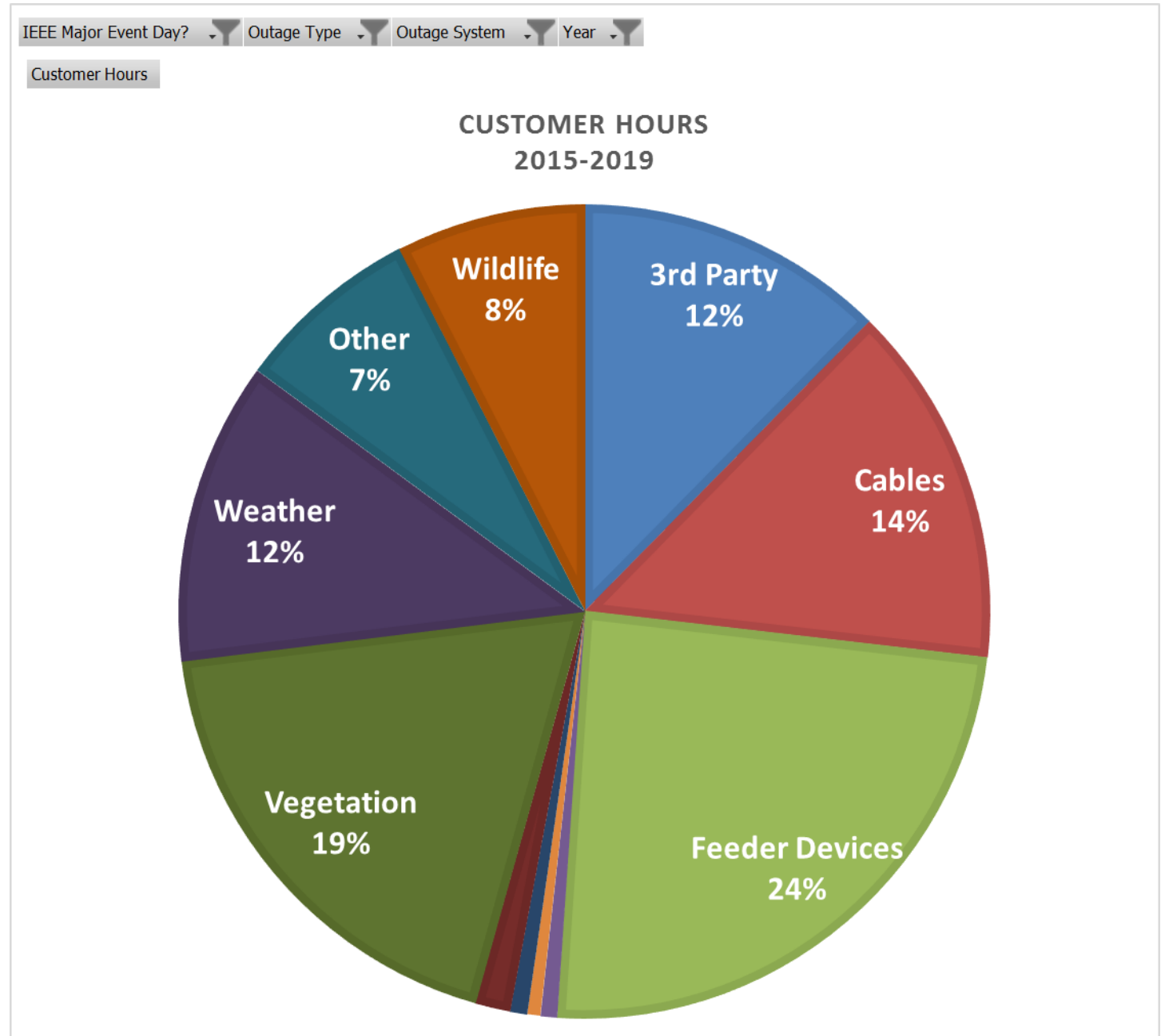
Last 5 Years Rolling Average vs. Actual



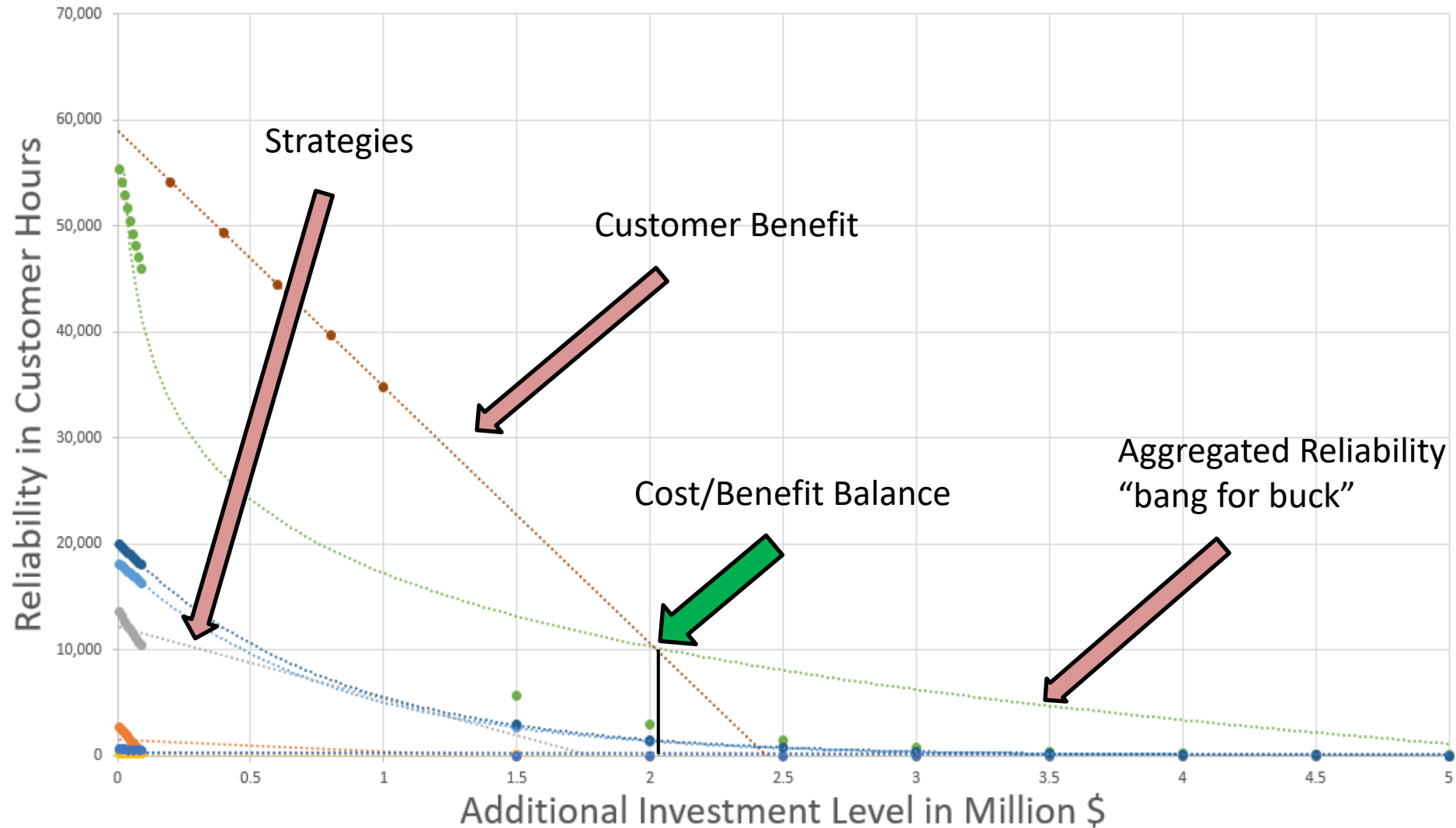
Historical – 5-year Cause Breakdown

Where can we make a difference?

- Overhead system 51%
 - Wildlife
 - Vegetation
 - Feeder devices
 - Underground 14%
 - Cables
- Four controllable causes make up 65% of our data



Cost Versus Benefit Modeling



Benchmarking

Determine top quartile from various sources

- EIA – Federal Energy Information Admin (SAIDI 53 minutes)
- APPA – RP3 eTracker database (SAIDI 13 minutes)
- Chelan PUD's historical (SAIDI 49 minutes)



Investment Strategy Breakdown

Guided by BANG for BUCK, predicted annual additional investment to achieve quartile 1 by outage cause.



Vegetation \$980,000



Cable Replacement \$951,000



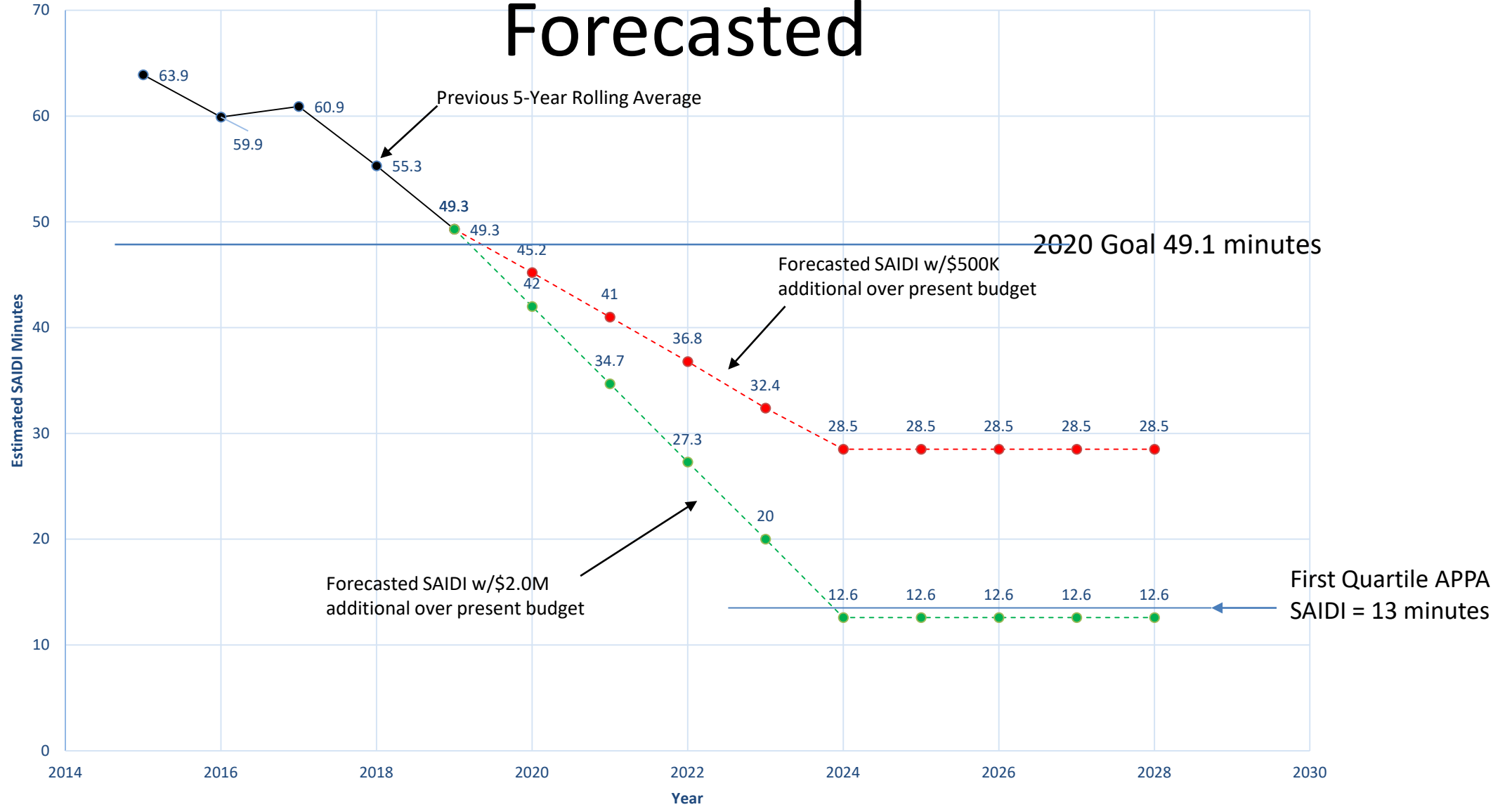
Animal Mitigation \$13,000



Devices, transformers services \$56,000

Total Yearly Additional Investment = \$2 million

Forecasted



Recommendations

1. Changed from ASAI to SAIDI for 2020 with a goal of 49.1
2. Use APPA reliability data to set benchmark goals
3. Increase cable and vegetation by total \$2M annually for a total of \$4.3M.
4. Monitor annual goal and adjust or report differences

Questions and feedback?

