

Village of Villa Park Water System Audit



Stanley Consultants INC.

Agenda

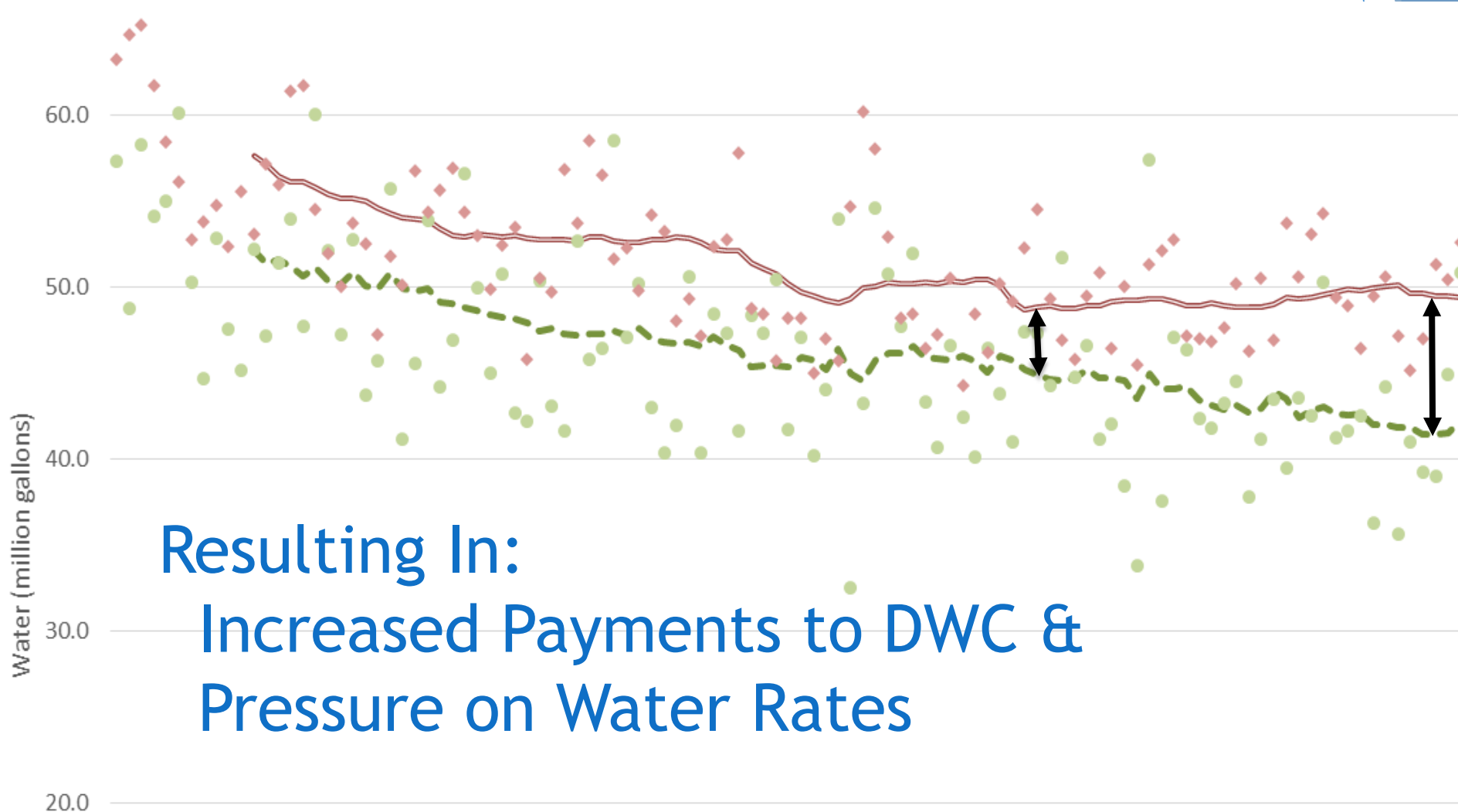
- ▶ Background Information - Why perform an water system audit?
- ▶ Audit Findings
- ▶ Recommendations

IDNR Requirements

- ▶ Old requirement: 8% Unaccounted-For-Flow
 - ▶ Provided allowances for Unavoidable Annual Real Losses and firefighting in addition to the Unaccounted-For-Flow.
- ▶ Current requirement: 12% Non-Revenue Water
 - ▶ Does not provide the same allowances
- ▶ Future 2019 requirement: 10% Non-Revenue Water
 - ▶ Villa Park is currently at 18.6% Non-Revenue Water



Increasing Water Losses



Resulting In:
Increased Payments to DWC &
Pressure on Water Rates

The Need to Prioritize Expenditures

- ▶ We know losses are increasing & we don't conform to IDNR limitations:
 - ▶ Where best to spend the money?
 - ▶ Leak surveys & repairs?
 - ▶ Improved metering?
 - ▶ Accounting modifications?

AWWA Water Audit

- ▶ Categorizes water losses into:
 - ▶ Apparent Losses
 - ▶ Real Losses
 - ▶ Unavoidable Annual Real Losses
- ▶ Determines amount of Non-Revenue Water

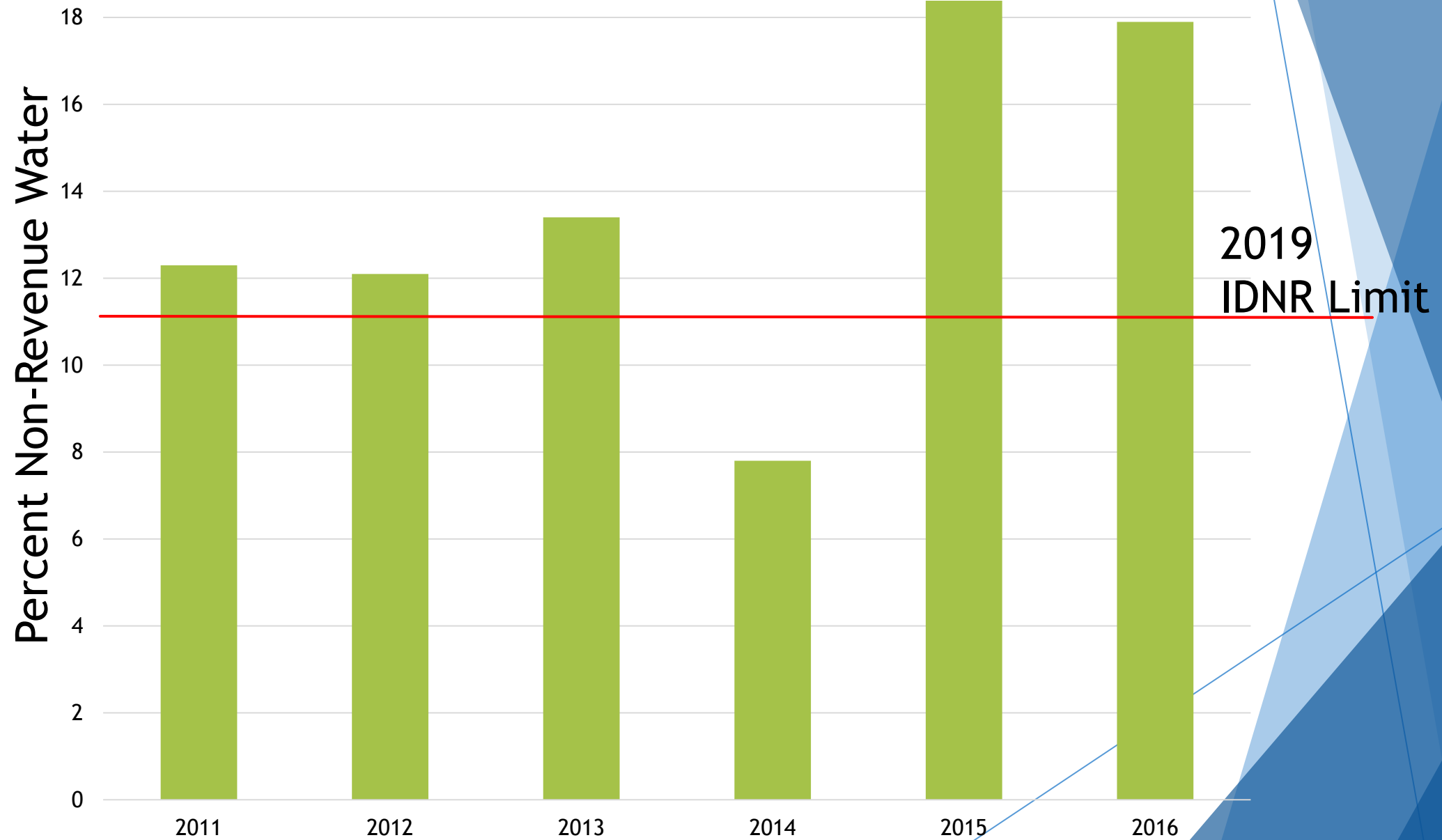


**American Water Works
Association**

Yearly Water Audit Results

2011-2016

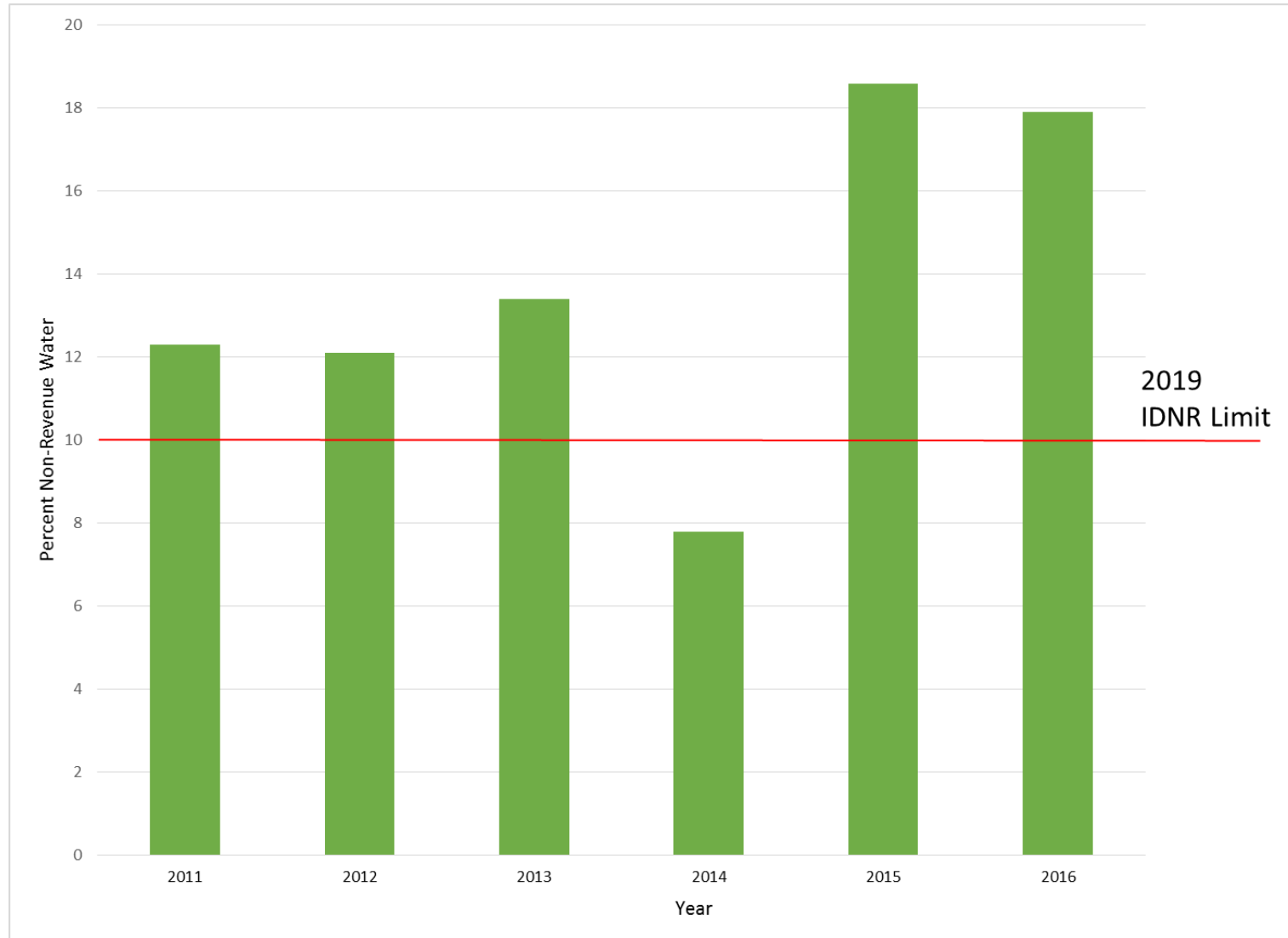
Non-Revenue Water Trends



Non-Revenue Water Is....

- ▶ Total Water Losses
 - ▶ Apparent Losses
 - ▶ Real Losses
- ▶ Plus: Unbilled Metered Water
- ▶ Plus: Unbilled Unmetered Water

Non-Revenue Water Trends



2015 Water Losses & Costs

Avoidable Real Losses

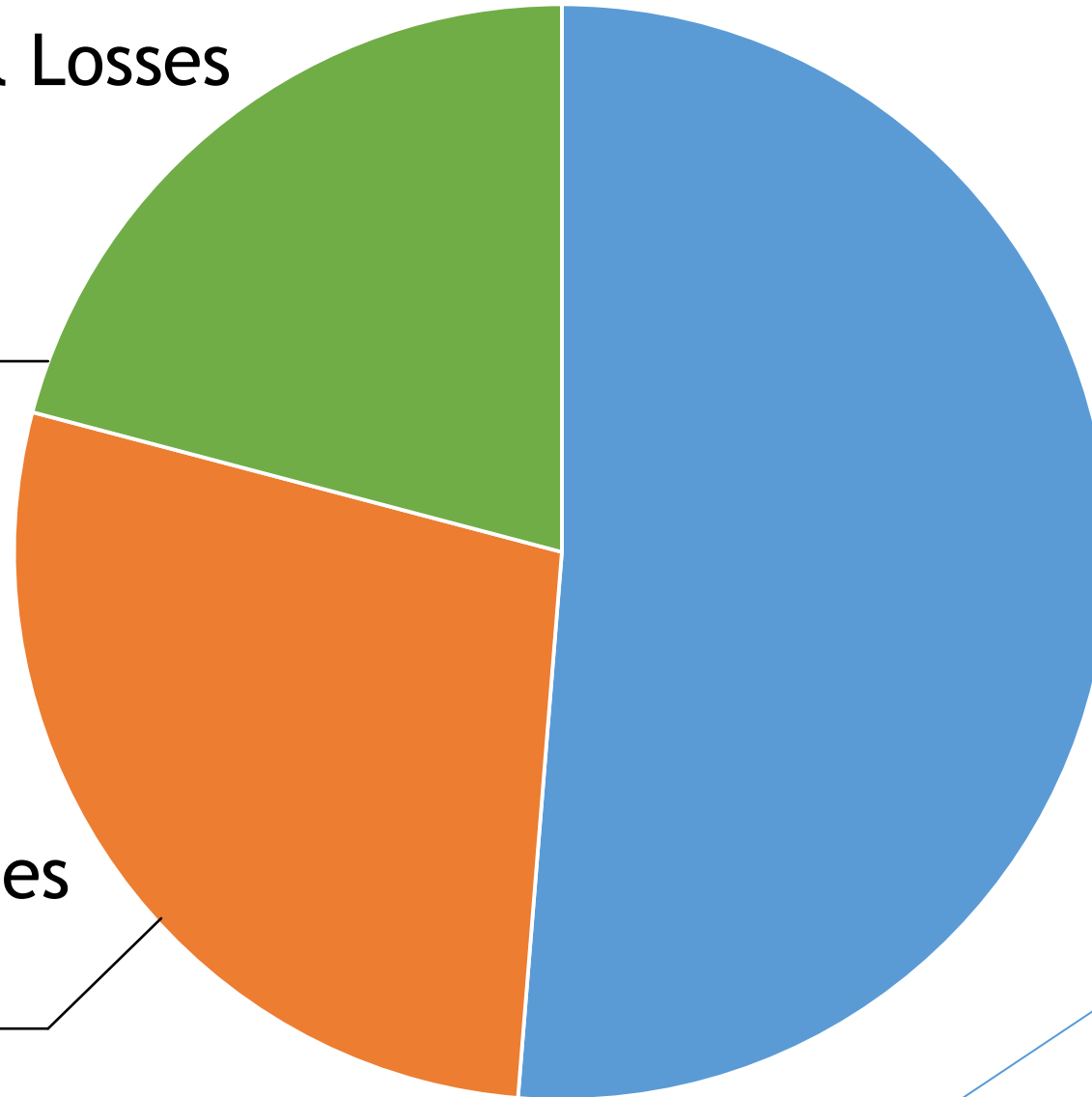
- 20.9%
- \$87,700

Unavoidable Annual Real Losses

- 51.3%
- \$215,150

Apparent Losses

- 27.8%
- \$205,400



National Comparison

	Villa Park (2015)	WRF Report Median
	gallons/service connection/day	
Apparent Losses	9.24	5.73
Real Losses	23.96	39.88
Infrastructure Leakage Index (ILI)	1.41 (dimensionless)	2.48 (dimensionless)

Recommendations

Priorities:

1. Apparent Losses
2. Unbilled water
3. Real Losses

Reducing Apparent Losses

- ▶ Continue/accelerate the customer meter replacement program
 - ▶ IEPA Low Interest Loans are available to capitalize meter replacements
- ▶ Continue with improved meter testing program & meter size optimization
- ▶ Continue inspections of interior water systems

Reducing Unbilled Consumption

- ▶ All metered water consumption should receive an invoice, including municipal and governmental uses
- ▶ All identified unmetered water consumption should receive an invoice, including system flushing and firefighting
- ▶ Private fire line connections should be charged an annual fee ranging from \$5-\$125

Reducing Real Losses

- ▶ Continue the annual leak detection program
- ▶ Continue repairing detected leaks
- ▶ Expenditures on leak detection & repair are appropriate at current levels (\$30,000)

Questions?

