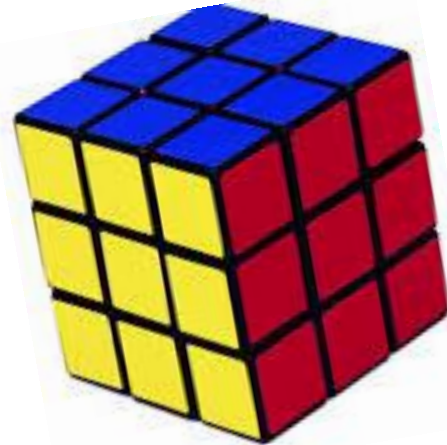




Webinar Series:

Solving the Rubik's Cube of Vegetation Management Costs



Joe Purohit, Founder & President



**Mark Mann, CEO & Owner
of**



The Critical Management Strategies



Prioritized Critical Management Strategies based on Potential Cost Savings

- 1. Tree Growth Regulator***
- 2. Herbicide Application***
- 3. Mechanical Clearing***
- 4. Planning/Auditing***
- 5. Tree Trim/Removal***
- 6. Data Collection for System Surveys***

Previous unsuccessful attempts to integrate the critical strategies included:

- *Excel based tools*
- *Access based tools*
- *Mobile apps tools*
- *Custom GIS tools*

However each of the tools failed to coordinate all of the strategies together within the ROW maintenance program.

The search for a program that coordinated all the critical strategies culminated in a meeting between Joe Purohit and Mark Mann.

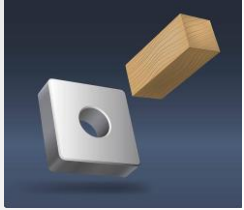
The result of working together for several years was the creation of the IMAM program.

Integrated Maintenance Asset Management

Which is supported by the TreeAM platform.



Right Tools for the Right Strategies: the TreeAM difference



Existing VM tools

- Vegetation managed as “built” assets
- Reinforcing data and process silos



TreeAM

A new class of software to manage vegetation as environmental assets:

- Exist as integrated systems
- Constantly changing, slowly or rapidly (fires)
- No design or performance standards

Work Management System (WMS-GIS)

Vegetation

Utility Assets

Other Assets

TreeAM Vegetation Management Platform

Work/Asset
Maintenance System

Other tools, e.g. GIS

Right Tools for the Right Strategies: the TreeAM



A single software platform for all VM needs

Tree Asset Manager (TreeAM)

Utility Vegetation
Management

Utility-funded Urban
Forestry Programs

UVM Products &
Service Providers

TreeAM - IMAM

Right Tools for the Right Strategies: the TreeAM/IMAM

Integrated data, VM programs, organizations, and users

Inventory ▶ Create Service Requests / Jobs ▶ Manage Jobs ▶ Benefits ▶ Summary ▶ Map User Interface ▶

≡ Active tree list Projects Select Data Template

Select	CustomerTreeID	Maint. Program	Customer	Tree Address	Map#	City	Substation (Zone)	Com
<input type="checkbox"/>	15767	TGR		21 lake street		Edwardsburg		Silver
<input type="checkbox"/>	15766	TreeTrim		st street		Edwardsburg		
<input type="checkbox"/>	15765	Mow&Herb						
<input type="checkbox"/>	15764	Mow&Herb						
<input type="checkbox"/>	15763	Mow&Herb		amilton street	edwardsburg 1	Edwardsburg	edwardsburg	
<input type="checkbox"/>	14724	Mow&Herb		76th Road	5	Zionsville	East	
<input type="checkbox"/>	14249	Mow&Herb		200 S	5	zionsville	roosevelt	
<input type="checkbox"/>	14248	TGR		990 E 200 S	5	zionsville	roosevelt	Black
<input type="checkbox"/>	14247	TGR		990 E 200 S	5	zionsville	roosevelt	Silver
<input type="checkbox"/>	14246	TGR		990 E 200 S	5	zionsville	roosevelt	Silver
<input type="checkbox"/>	14245	TreeTrim		200 S	5	zionsville	roosevelt	
<input type="checkbox"/>	14244	TreeTrim		/ 156th St	5	zionsville	roosevelt	
<input type="checkbox"/>	14242	Mow&Herb		950 E	5	zionsville	roosevelt	
<input type="checkbox"/>	13989	TreeTrim		/ 156th Street	5	Zionsville	Roosevelt	
<input type="checkbox"/>	13988	TGR		802 W 156th Street	5	Zionsville	Roosevelt	Bass

Map

Create Custom Map Folder

Inventory

Add New tree to Inventory

Herbicide

Calculate Tree data

Calculate Herbicide data

Job

Create Job

Project

Project: New/Trees+

ATL

Convert TO ATL

Create ATL of ALL Trees

Work Package

Create Work Package

[X] [CustomerTreeID] [Maint. Program]

Showing 16 to 1,515 of 2,096 entries Show 15 entries

Right Tools for the Right Strategies: the TreeAM/IMAM

TGR, Mowing, and Herbicide managed as separate programs

Custom Search - Herb

Maintenance Program

▼

City

▼

Substation

Schedule Herbicide Appl 1 From Date

Schedule Re-Treats Appl 2 From Date

Mow From Date

Mow Status

▼

☐ Untreated herbicide areas

☐ Retreat herbicide areas

Customer

▼

Map#

Work Status

▼

Schedule Herbicide Appl 1 To Date

Schedule Re-Treats Appl 2 To Date

Mow To Date

OK

Maintenance Program

▼

City

▼

Substation

DBH From

DBH To

Appl 1 From Date

Customer

▼

Map#

Common Name

Height From

Height To

Appl 2 From Date

Right Tools for the Right Strategies: the TreeAM capabilities

UVM modules

- GIS-based field inventory and inspections, online and offline:
 - Individual trees
 - Grouped trees
 - Customer address
 - Mow/herbicide areas
 - Spans
- Android-based drive-by surveys at 40-50 mph
- Custom risk assessments
- Line clearance - planning, work management, timesheet, and audits
 - With or without tree inventories
- Tagging/service requests
- Mowing
- Herbicide, integrated with Mowing
- Tree Growth Regulator application
- IVM for right-of-way habitat and pollinators
- Tree replacement programs with canopy cover management
- Shade tree programs for energy conservation

Integration – VM 2.0

- TreeAM as middleware software platform integrating:
 - Existing UVM tools
 - Enterprise servers, e.g., AMS, WMS, and GIS
- Diverse data: LiDAR, satellite, weather/outage predictions, fire maps, real-time sensors, photos, documents
- Utility assets for integrated UVM, e.g., circuits, poles, and substations
- Asset classes: Different environmental and built assets
- Assets with point, line, and polygon geometries
- Different analytics and models for risk assessment and optimization
- Utility operations, e.g., SCADA, distribution automation system
- Different UVM programs, e.g., Pruning, TGR, IVM, mow/herbicide



The Results of Solving the Rubik's Cube:



Significant Cost Savings:

- **Decreased management cost**
- **Increased system reliability**
- **Decreased need for additional labor (managerial & physical)**

Utility Benefits:

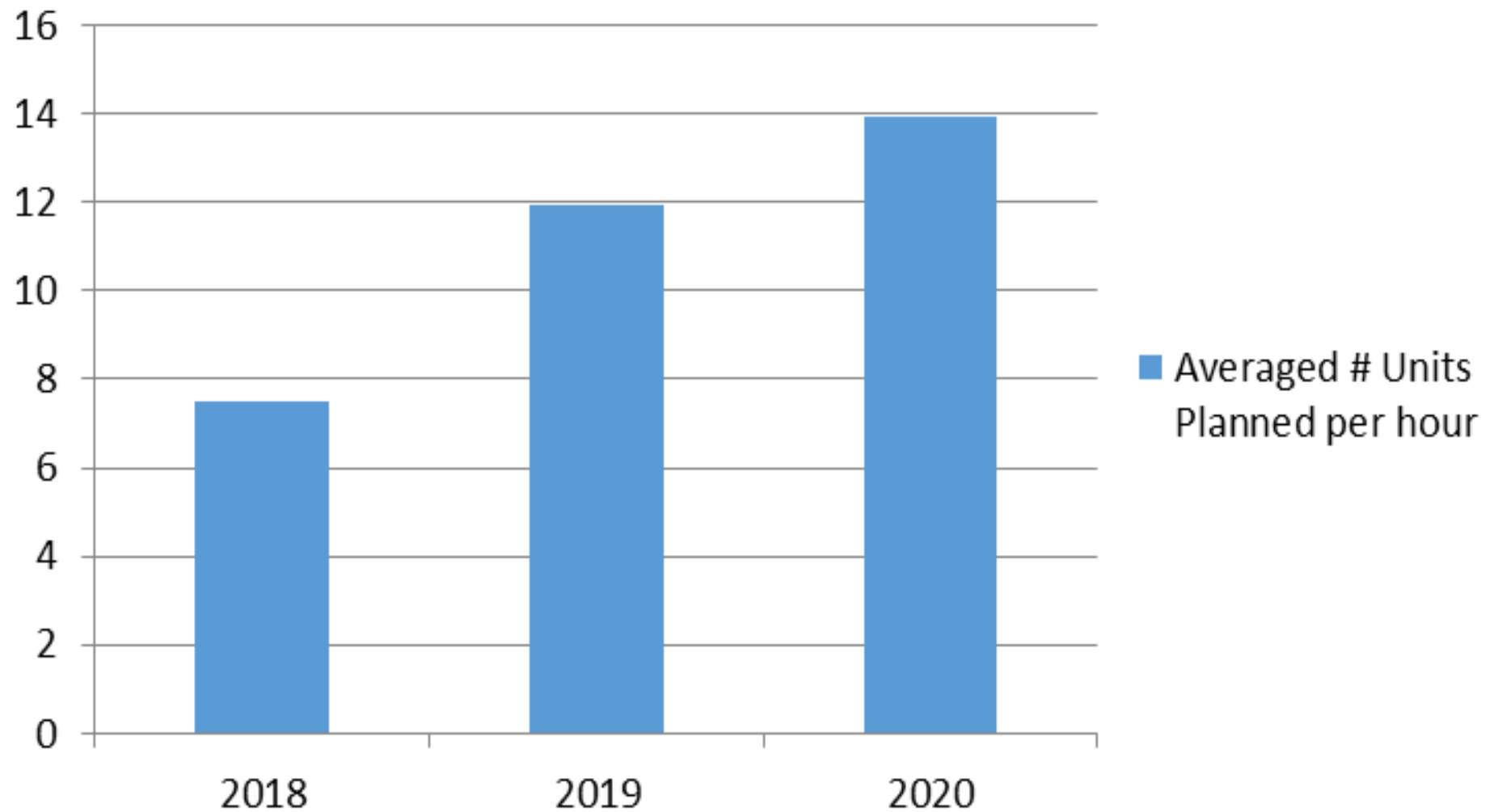
- **Utility saves money and time which translates into increased profit margin**
- **Decreased office support for billing and tracking of completed work**

Contractor Benefits:

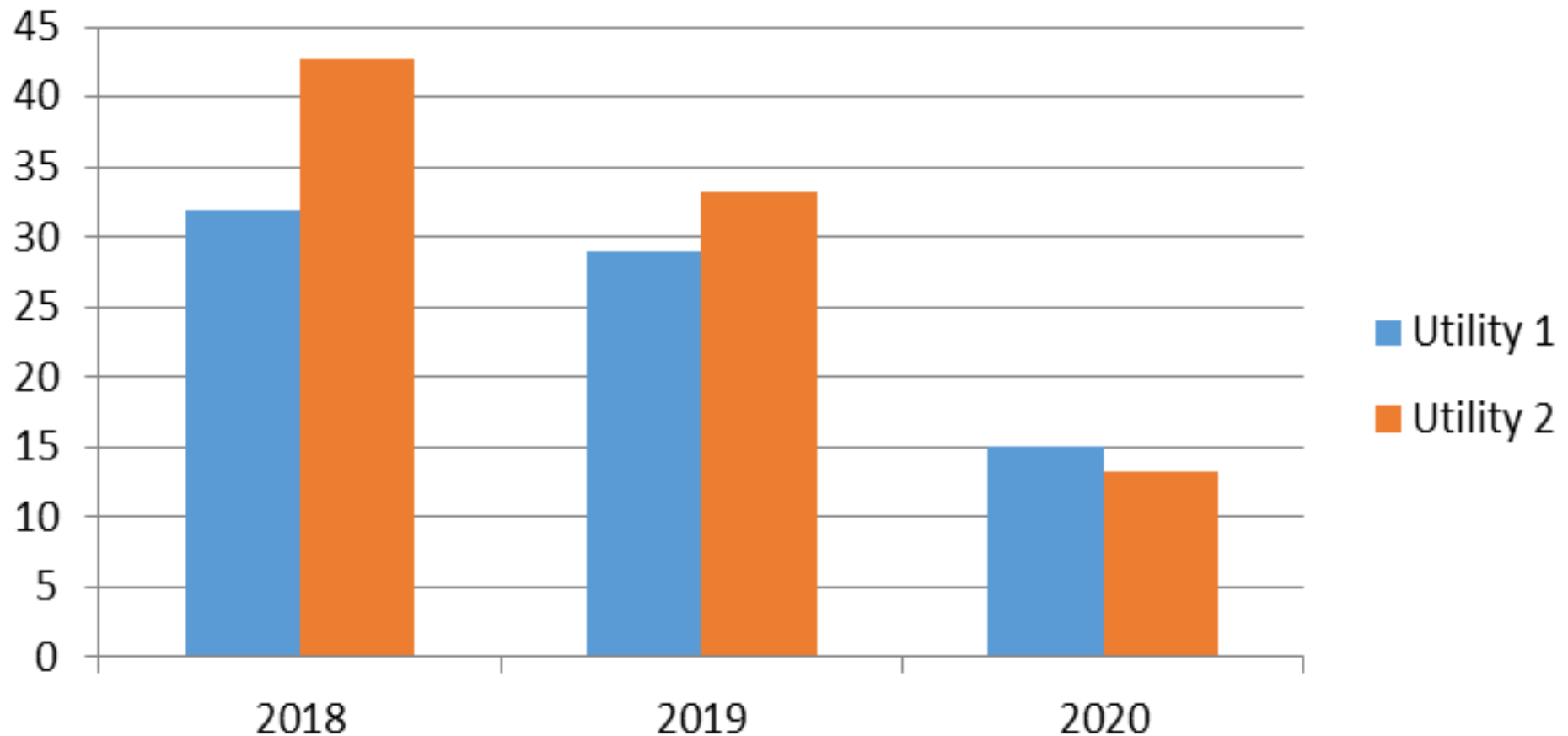
- **Increased crew productivity**
- **Increased overall profit margin**

Ultimately increases “Peace of Mind” that the assets are managed properly for the Utility and the Contractor.

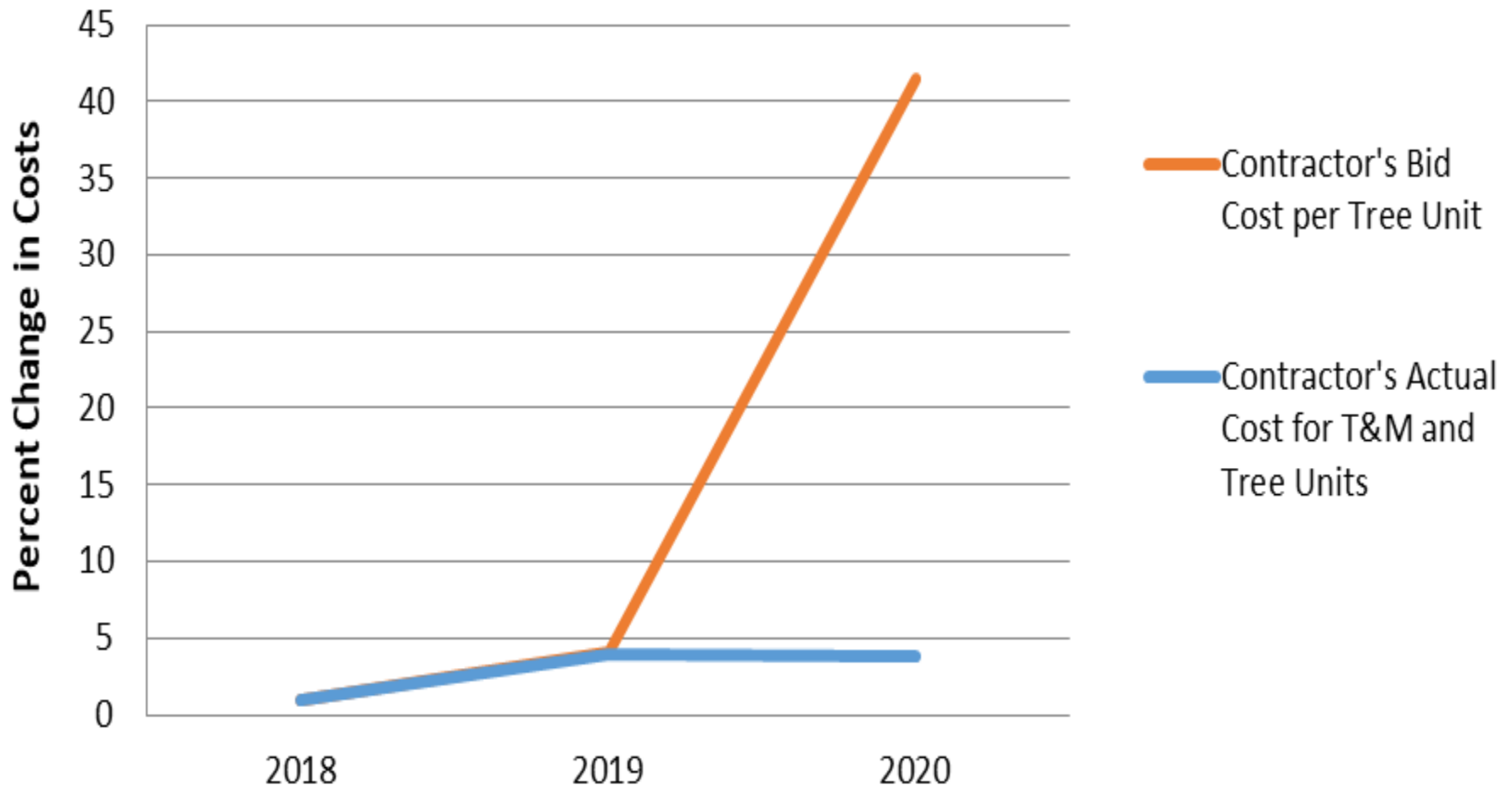
Number of Units Planned per Hour



Comparison of Unit Costs for ROW Planning



Efficiency Neutralizes Cost Increase



Technology like the IMAM program on the TreeAM platform will increase the “Peace of Mind” of Utilities and the Contractors alike.





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Thank You

