

“Cost-Effective Alternative Methods for Steel Bridge Paint System Maintenance”

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Introduction

- Objective
- Program Overview
- Achievements
- Conclusions
- Future Visits

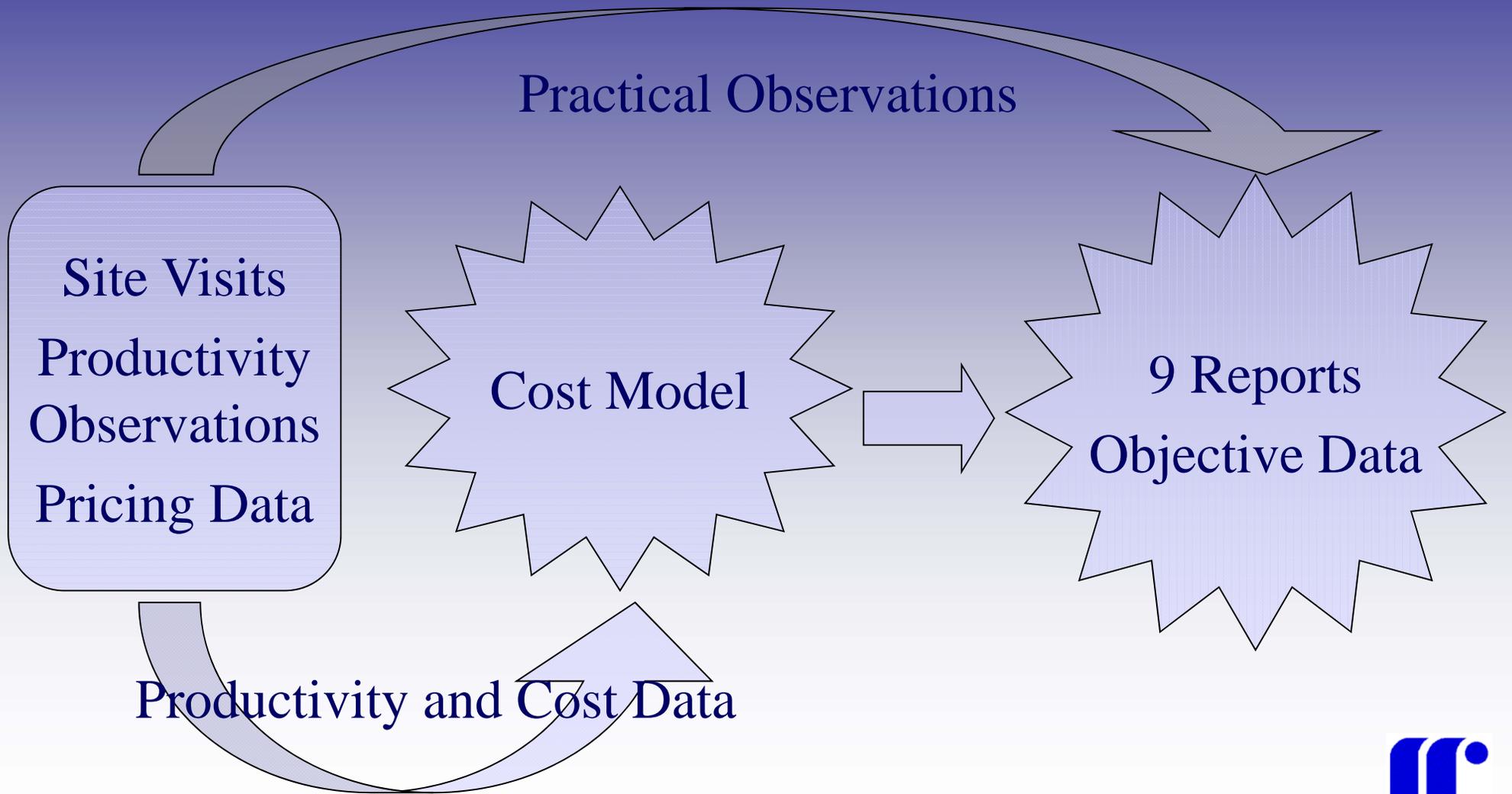


Objective

- To identify methodologies and technologies that will reduce the cost of bridge maintenance painting for steel bridge owners.
- Compare these technologies and associated costs to the current “state of the art” in bridge painting.



Program Overview



Achievements

- Investigated 9 technologies at over 25 job sites
 - gathered cost data
 - productivity data
 - made comparisons
- Produced a separate report for each technology
- Developed Cost Model Spreadsheet and User's Guide



Reports

- ElectroStrip
- Abrasive Injected Water Blasting
- Rapid Deployment
- Recyclable Steel Grit
- Torbo™ System
- Lead Stabilizers (abrasive additive and pre-applied coating)
- Water Jetting
- Metallizing
- Adhesive Foil





ElectroStrip

- Applicable to “small” areas
- No dust
- Needs high-ampere DC electric source
- Relatively slow production
- Supplement with hand tool cleaning

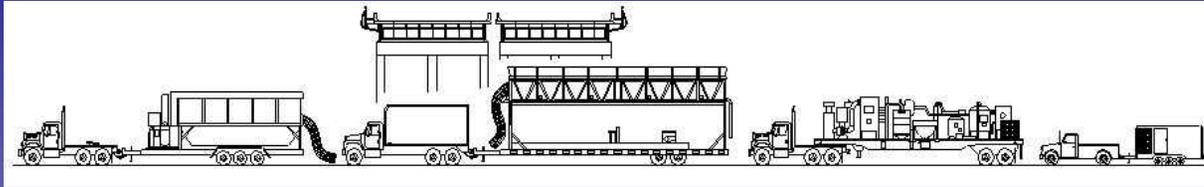


Abrasive Injected Water Blasting



- Imparts profile unlike water blasting
- No dust
- Must contain water





Rapid Deployment

- No peak time traffic disruptions
- All work cycles in one shift
- Substantial coordination required





Recyclable Steel Grit

- Less dust than disposable abrasives
- Larger equipment costs
- Less waste generated





Torbo™ System

- Low dusting
- Operator control of “mixture”
- Must rinse surfaces after preparation
- Collection of slurry



Lead Stabilizers (abrasive additive and pre-applied coating)

- Lower disposal costs
- Possible extra application
- Greater material costs





Water Jetting

- Higher Equipment costs
- Water disposal required
- Low dusting
- No profile generation





Metallizing

- Higher Equipment Costs
- Superior coating durability
- Higher material costs





Adhesive Foil

- Relatively slow application rates
- Requires primer coating
- Higher material costs
- Good “rust through” performance over SP-2 surfaces



Cost Model

- A Cost Comparison Tool
 - Designed to provide activity-based cost estimates
 - Allows comparisons of alternative technologies by initial cost
 - Validated through field observations
 - Fully adjustable cost factors (e.g. for regional labor differences)
 - Default data based on this study



Summary

- Cost Oriented Project
- Nine Technologies
- Cost Model Developed
- This Project Does Not Address Life Cycle Economics or Durability of Painting Options

