Productivity Analysis and Management

If you Measure It

They will come

Insight-WFP
Advanced Work Packaging

Case Study: Advanced Work Packaging and Tool Time Analysis

- North American Project
- $5 Billion
- 2 Year above ground schedule
- Advanced Work Packaging
- Tool Time Activity Analysis

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AWP Procedure

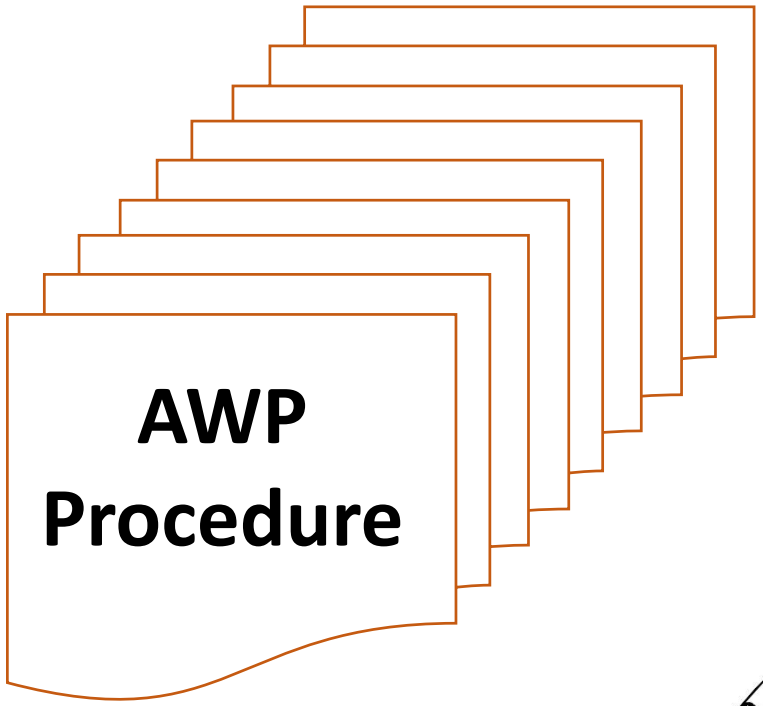
Comprehensive Procedure (60 Pages)

Flow charts

Templates

Job Descriptions

Definitions



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Methodology

- Trained Observers, from Construction
- Detailed Standard Procedure
- Random Patterns
- Balanced calls across Hours and Areas
- 000’s of Observations per Survey

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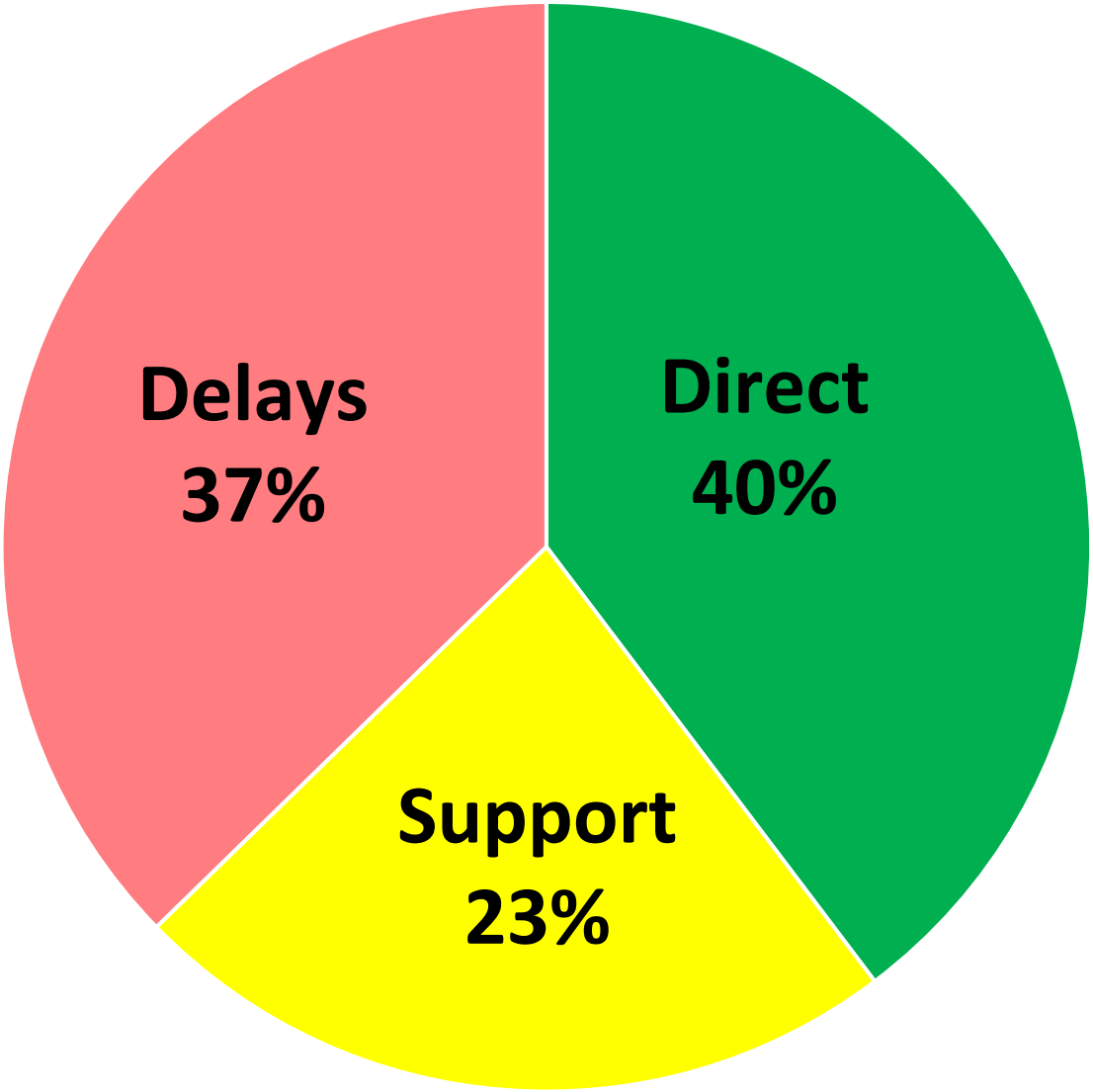
Tool Time Analysis



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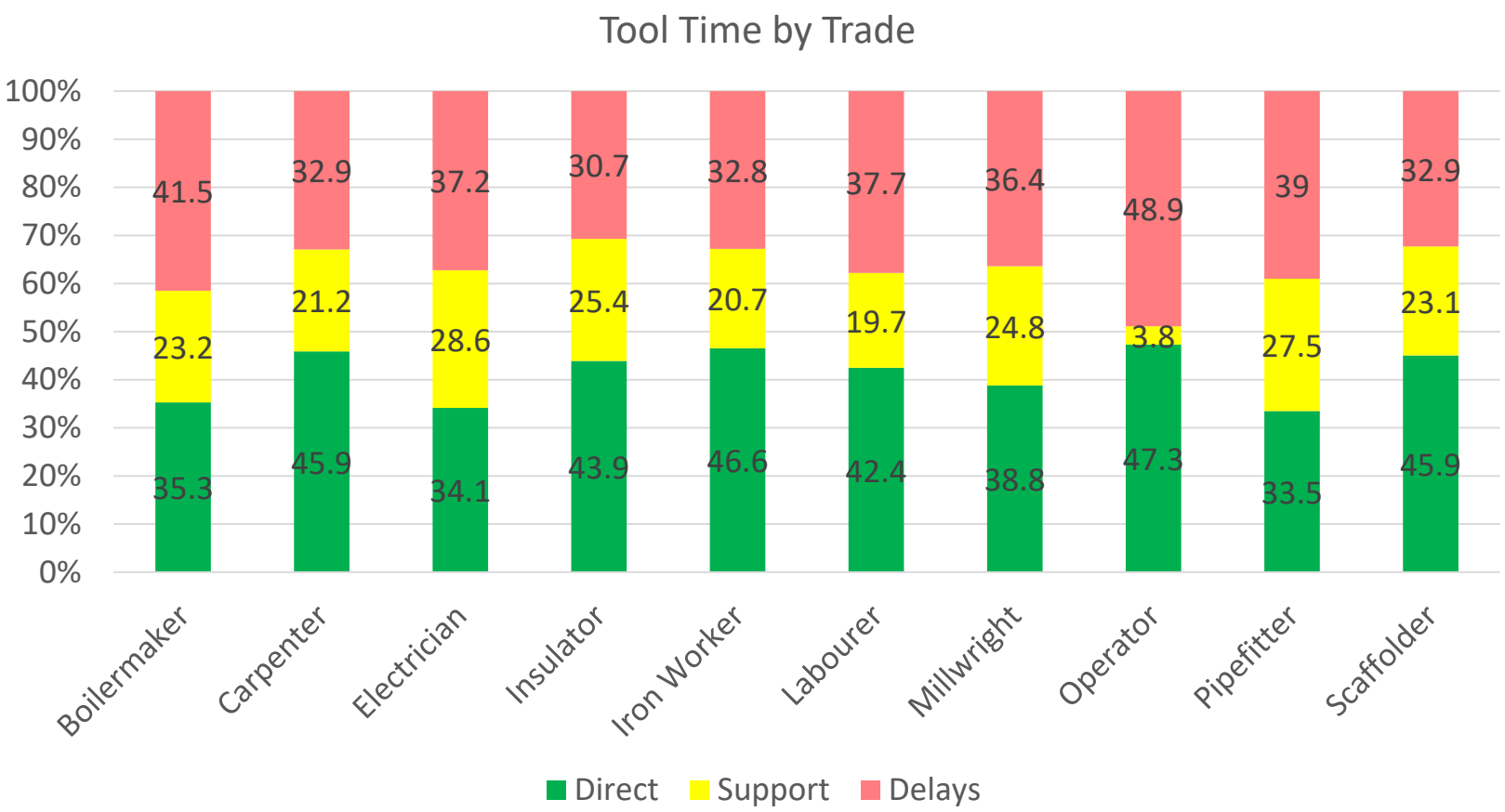
Tool Time by Trade



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Tool Time

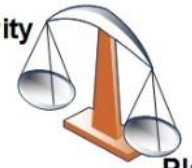
Trade Workers

Productivity Analyst

Observations

Access Database

Weekly Report



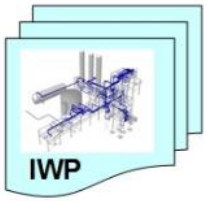
Activity

Planning

Area CMT

Action Items

Workface Planner



IWP

Progress

Trade Workers

WFP Analyst

Scorecard
& Report
for each Area (8)

Chair

Area Steering Committee

Workface Planning Compliance

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Sample size

- 5 Companies
- 8 Unique areas
- 5000 workers
- 8 Months
- 2 Cycles each
- 80,000 observations

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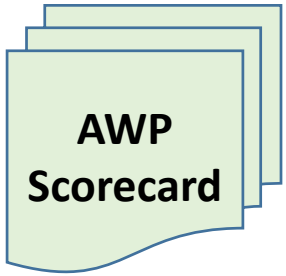
Compliance with AWP

- Detailed procedure issued with the contract
- Contractors left to interpret and apply the process
- Interviews and **AWP scorecard** used to measure compliance
- No companies achieved substantial compliance with ‘constraint free’ or short duration (1 week) IWPs.


1.0 Advanced Work Packaging Procedure

AWP-IM-WFP PROCEDURES

1.0 ADVANCED WORK PACKAGING PROCEDURE



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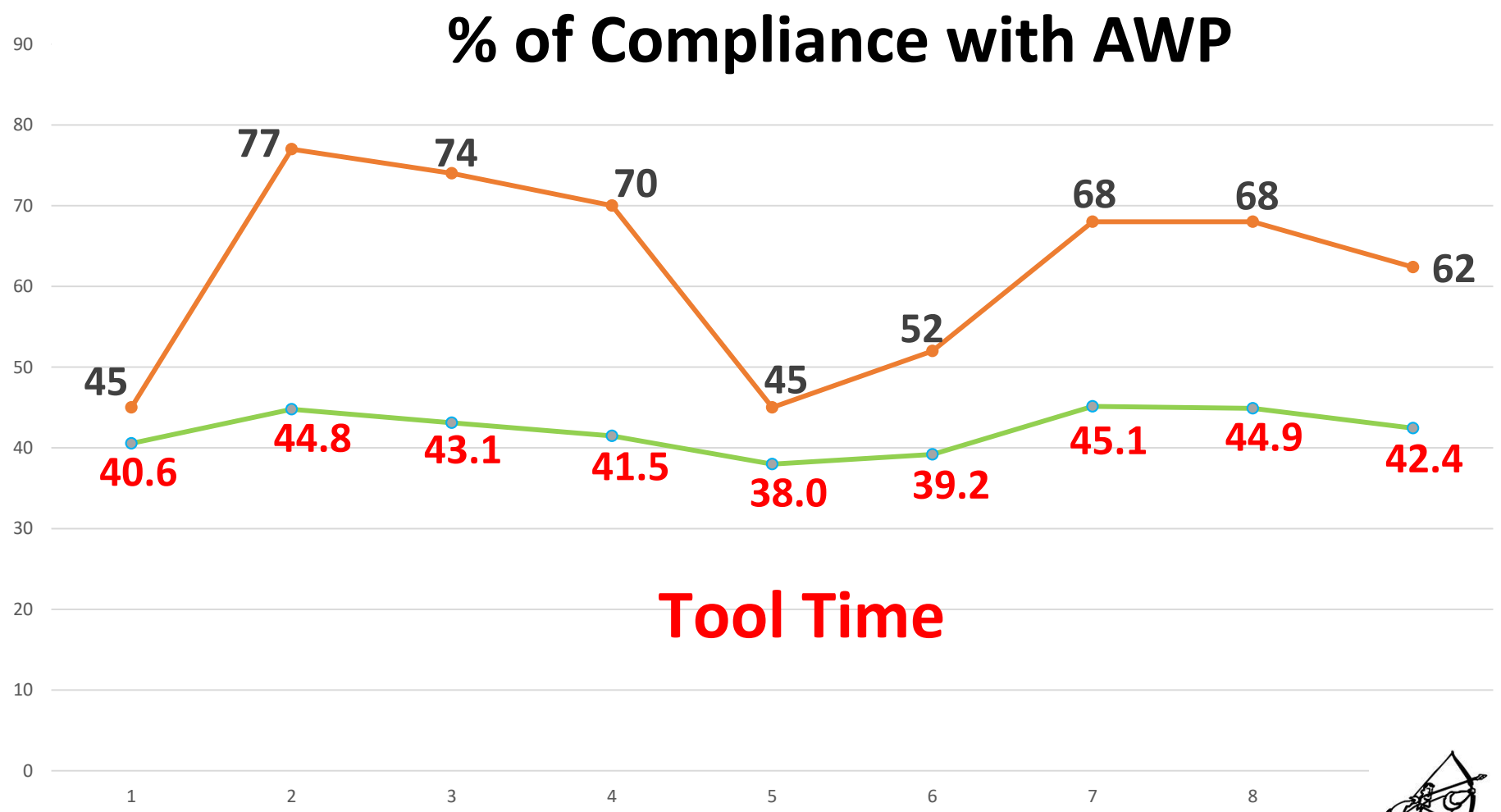
The True Influence of Advanced Work Packaging



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AWP Attributes

- Best in Class Contractor:
  - Workface Planners had Construction Expertise.
  - 1 to 50 ratio
  - SmartPlant Construction
  - Engineering and Procurement alignment
- Worst Performing Contractor:
  - Summer Students developing Packages
  - 1- 200 Ratio
  - Shared SmartPlant Review Station
  - Over the fence Engineering and Procurement

The impact per $Billion / Year

- Delta between the Best and the Worst
- 38 – 45.1 Direct Activity = 7.1%
- 7.1/40 is a **17.8%** increase in Productivity
- 17.8 % of $400 Million (the construction portion of the TIC)

= **71.2 $Million** cost reduction/$Billion

+ **65 days** of schedule per year

Cost of implementation is about 2% (1-50)

ROI > 900%

This is based on only 77% compliance.

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+

- World class Safety Performance
- Minimal Punch Lists
- Reduced Indirects (Document Control, Project Controls, Material Management)
- Best in Class Scaffold Performance (18% of Direct)

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Any
Questions