

From Contract Consultant to Trusted Advisor – Relationship Development with the Indiana Department of Transportation

Jon Padfield, PhD

Polytechnic Summit
Lima, Peru

Relationship Development

- “Contract Consultant” Projects
 - Paint Striping
 - Chip Seal
- “Transitional” Projects
 - Local Public Agency Program
 - JTRP Implementation Improvement
- “Trusted Advisor” Projects
 - LEAN Training
 - Logistics Assessment

Paint Striping Project



Paint Striping Project

Areas for Improvement

- Loading beads quicker
- Carry more paint on truck
 - Greenfield ~ 1,390 gallon tank
 - Crawfordsville – Load paint totes directly on truck
- Spray center & edge line at same time

Paint Striping Project

Filling Bead Tank - Before



Loading reflective beads into tank via a vacuum hose took approximately 55 minutes every morning

Paint Striping Project

Filling Bead Tank - After



Pouring reflective beads into tank via a “sling bag” only takes 10 minutes

Paint Striping Project

Loading Paint Totes Directly onto Truck



Truck capacity went from 800 to 1,100 gallons of paint



Paint Striping Project

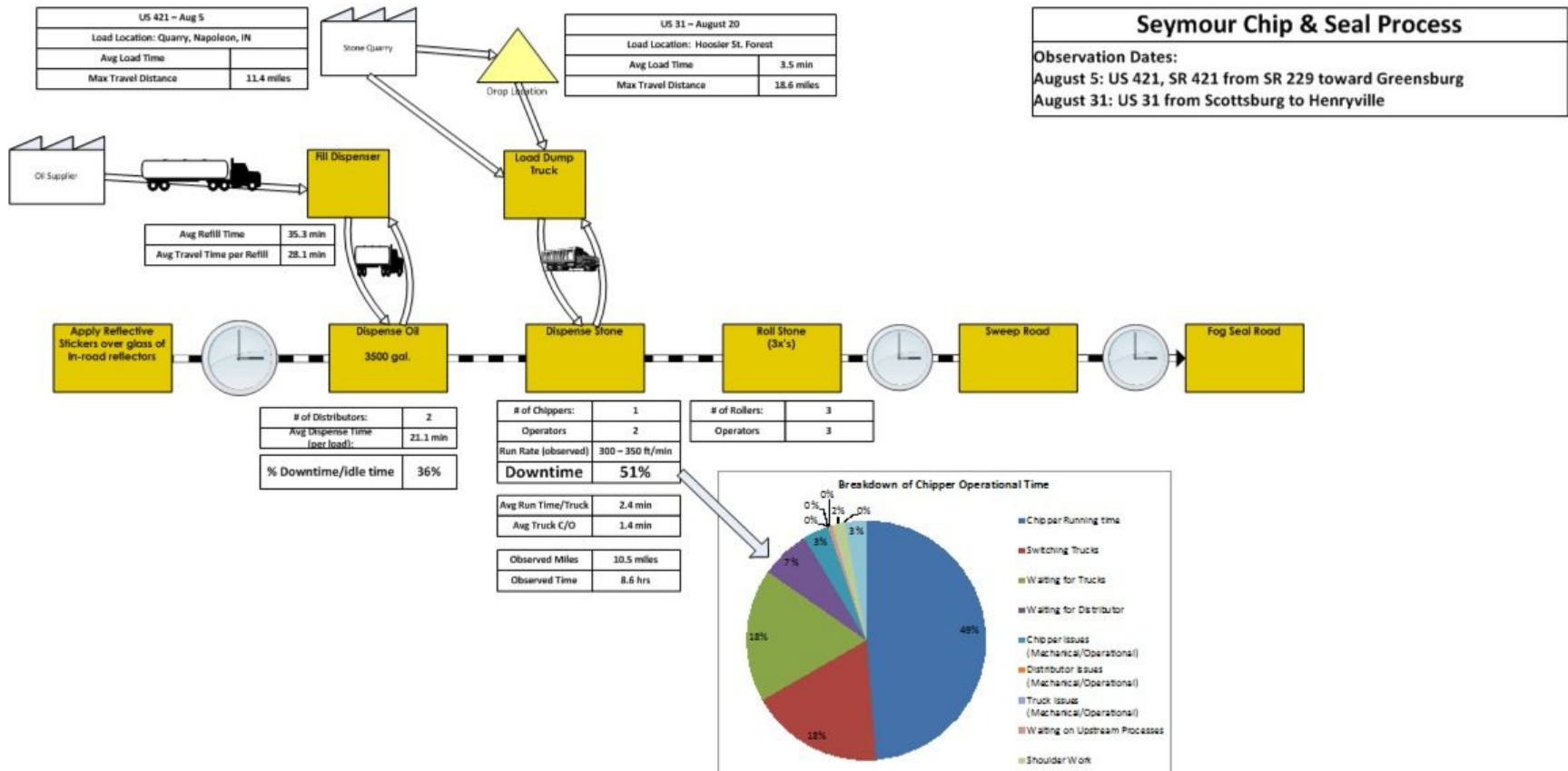
Results

- Districts can accomplish all their miles of painting with 1 truck instead of 2
 - \$2,400,000 capital saving for INDOT only replacing 6 trucks instead of 12
 - \$80,000 in labor saving per year

Chip Seal Project



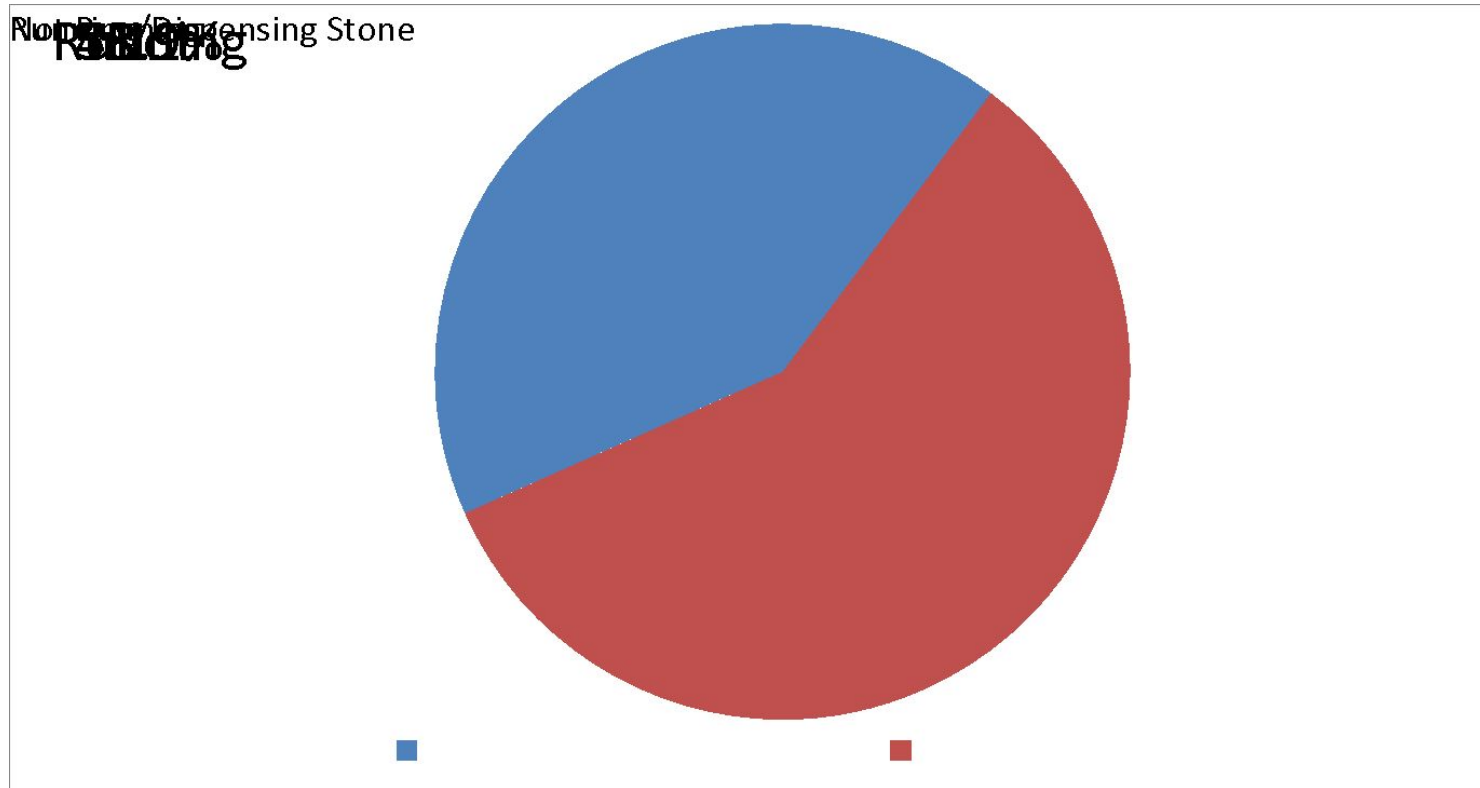
Mapping the Current Process



By actually drawing the process we can identify wastes and opportunities for improvement

Chipper Runtime vs. Downtime

All Districts, 10 Observation Days 2013



On-site chipper observations ranged from 44% downtime up to 70% downtime

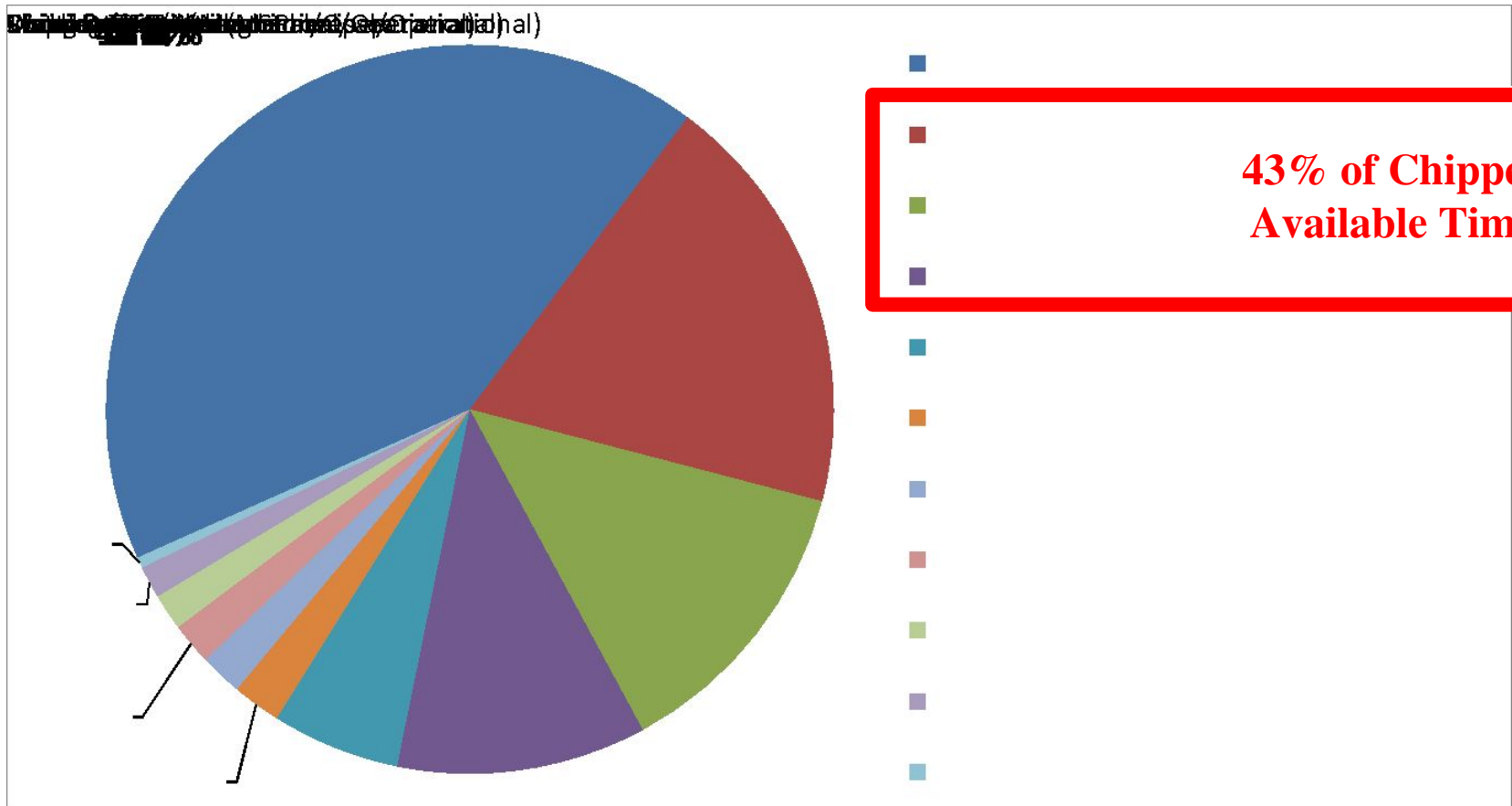
Impact of Reducing Downtime

- Task: Chip Seal 40 lane miles of SR “X”
 - Chipper planned run time = 8 hours per day
 - Chipper Run Rate = 400 feet per minute
 - 40 people on site to complete project

Chipper Downtime	Miles Per Day	Days to Complete Road	Total Labor Hours
70%	10.9	3.7	1173
60%	14.5	2.8	880
50%	18.2	2.2	704
40%	21.8	1.8	587

Chipper Runtime vs. Downtime

All Districts, 10 Observation Days



Chip Seal Project



Side boards added to increase hauling capacity of trucks

Chip Seal Project



CHIP SEAL IMPLEMENTATION

The Vincennes District successfully implemented the JTRP Chip Seal Productivity research project recommendations, which are documented on the back of this card. From FY 2014 to FY 2016, labor and equipment unit cost were reduced from \$2039 to \$1544 per lane mile, for a savings of 22%. The district reduced the overall time to accomplish the 145 lane miles just under 6 weeks.



“Transitional” Projects

- Local Public Agency (LPA) Improvement
 - Federally funded, locally administered projects
 - Years from project approval to contract letting
 - Project focused on identifying and eliminating non-value added steps and streamlining process
- JTRP Implementation Project
 - Some research projects not being implemented
 - Required many interviews on sensitive subjects (miscommunications, failed projects, etc.)

“Trusted Advisor” Projects

■ LEAN Training

- Conducted series of four, 5-day workshops around the State for 60 INDOT employees
- Exposed to details of numerous frustrations for front line employees
- Worked with INDOT Sr. Leadership to prioritize and improvement opportunities

■ Logistics Project

- Collected data to assess tangible impact of a pilot program started 18 months earlier

Relationship Development

- Contract Consultant
 - Hired expertise to help improve processes
 - Viewed as “outsider” – unknown to most, have to build trust
- Familiar Face
 - Starting to be build reputation
 - Known by more people – seen more as “new guy” than “outsider”
 - Still building trust

Relationship Development

- Trusted Advisor
 - Reputation based on multiple projects
 - Known by many for expertise and objectivity
 - Trusted with increasingly sensitive type of projects and analysis
 - More access to key decision makers
 - Input is sought on what projects to launch and how to best work together

Best Practices for Relationship Building Outside the University

- 1) Early Success is Vital
- 2) Trust and Discretion are Crucial
- 3) Learn what is most important to them
- 4) Remember the “Rule of 5”
- 5) Do Your Homework
- 6) All healthy relationships have to be mutually beneficial

Questions?

Jon Padfield, PhD
jpadfiel@purdue.edu
(812) 593-3013