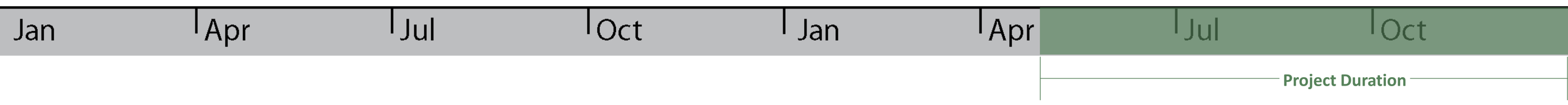
Project Results from Lean Efforts

Central Traffic Sign Fabrication Shop Process Review

Washington State Department of Transportation



Problem

The efficiency and reliability of the traffic sign fabrication process is being impacted by unpredictable and irregular traffic sign orders resulting in routine adjustments to the pricing model to maintain cost recovery.

Causes

- The fabrication process is not directly connected to the traffic sign asset management process in a way that predicts and programs the ordering volume based on life cycle needs.
- Ordering volume, timing, frequency and shipping destinations are based on emergent, localized needs and available budget rather than a coordinated system wide approach driven by overall life cycle needs.
- The typical fabrication order is a result of 3rd party damage and other responsive programs which are unpredictable by nature.
- Current funding for traffic sign replacement is significantly below estimated life cycle needs and is subject to further reductions dependent upon varying snow and ice control maintenance.

Solutions

Adjust Planning and Programming Processes:

- Reduce sign order volatility
- Reduce the number of emergency and rush orders
- Adjust the pricing model to align cost and value
- Standardize the ordering process and communication with the customer

Adjust Sign Order Volume and Reduce Fabrication Process Waste:

- Adjust the volume of signs per order
- Reduce ordering process handoffs / redistribute workload
- Realign the recycling program to eliminate a significant handoff
- Consolidate shipping locations
- Capture fabrication capacity metrics to improve the pricing model while monitoring ongoing performance

Reduce Sign Fabrication Material Costs:

- Pursue additional sources for recycled aluminum
- Rebid aluminum and sign sheeting contracts

Results

Preliminary results include:

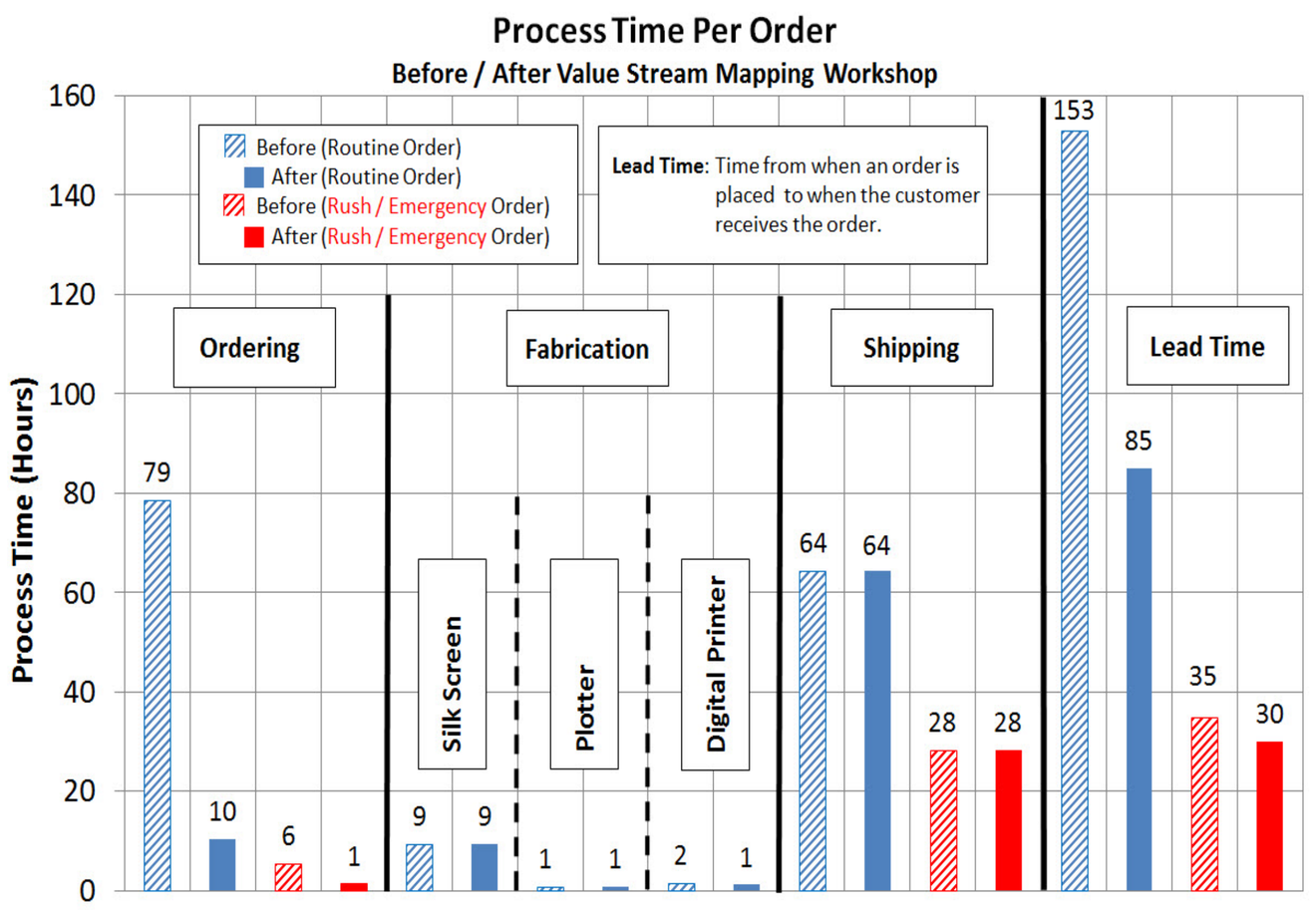
- Reduced the gross price per square foot for routine orders by $3.25 across the board or 20% on average.
- 45% reduction in routine sign order lead time, which is the time from when an order is placed to when the customer receives the order *(1 month to 2 weeks).*

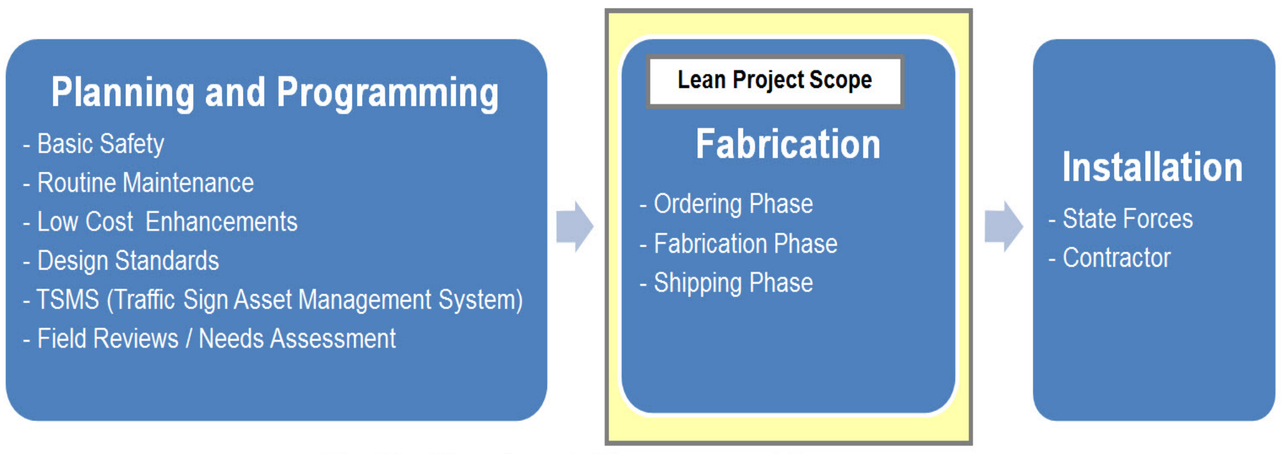
Next Steps

Upcoming Lean Project: Review the planning and programming phase of the traffic sign asset management process.

Primary Objectives:

- Review how traffic sign improvement and replacement needs are identified prior to the decision to place a fabrication order in an effort to increase efficiency.
- Ensure new and existing signs are managed from a lowest life cycle cost perspective while meeting the safety and mobility needs of the traveling public.





Traffic Sign Asset Management Process

Lean Methods Used:

Value Stream Mapping, Delivering Just-in-Time Introductory Training, Kaizen Brainstorming, Root Cause Analysis – 5 Whys, Standard Work, PICK

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