Large Wheel Loader Engine Sub-Assembly Relocation & Design

Project Objectives:
- Relocate Sub-Assembly Line to a pre-determined location more proximate to the Main Line
- Consider consolidation of 3 zones to 2 zones in redesigned layout
- Evaluate current process using Industrial Engineering tools to eliminate waste and improve efficiency

Final Design:
After analysis of all the collected data and provided information:
- Three layouts were proposed for the final design
- 3 zones were condensed into 2
- Distance traveled was reduced by 98%

Design Tasks:
- Time studies
- Heat map
- Spaghetti diagram
- Comparison of VA NVA NNVA & Idle time
- Pareto Chart
- Line Balancing
- Precedence Diagram
- New Design Layout

Cost Analysis and Results:
- Inventory cost per engine is $49,515 a day
- 1.7 engines built per day
- Operator costs are $57,000 per year