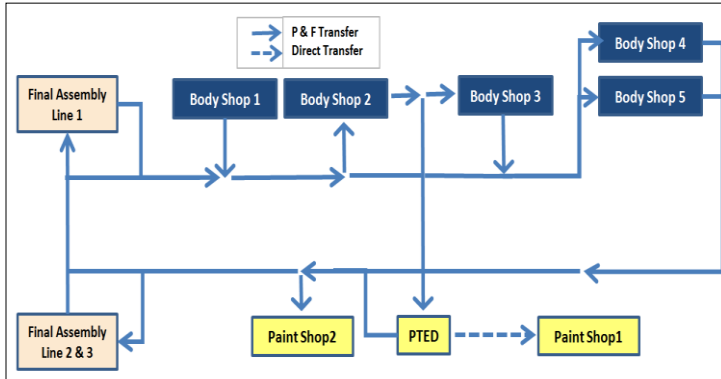# Congestion Analysis: Closed Loop Material Handling System

Key Points
-Closed loop power & free(P&F) system
-This P&F system transports:
- -Empty Hangers
- -BIW
- -CED Bodies
- -Painted Bodies
-Different production levels across five body shops
-Staggered placement of body shops complicates the empty hanger distribution

Client's Challenge_____
-Whether P&F conveyor is capable to meet required production volumes
-If not, actions required to meet the target
-Finished BIW Buffer requirements

PMI's Approach_____
-Data analysis, 2D model building, verification & validation
-Bottleneck Identification
-"What If" experimentation to achieve set target
- -Impact of Change in no. of Hangers
- -Distribution of hangers on various junction points
- -Buffer analysis

Findings & Recommendations_____
-Facility was unable to meet target production volume
-Distribution of hangers at various junctions played key role
-Production volume also dependent on number of hangers
-Reduce the number of empty hangers to meet the target
-Distribution of empty hangers at various junction points
-Number of empty hangers to be parked in different places
-BIW Buffer size was estimated

Time in State Chart

DL12 Drops each day
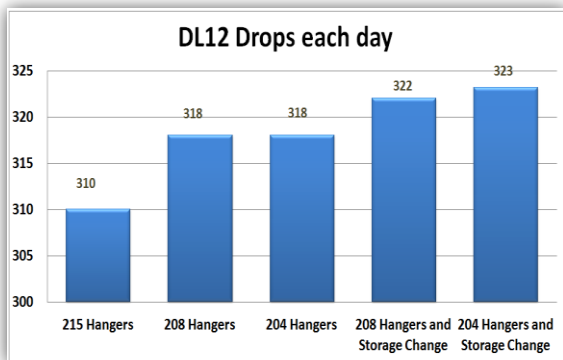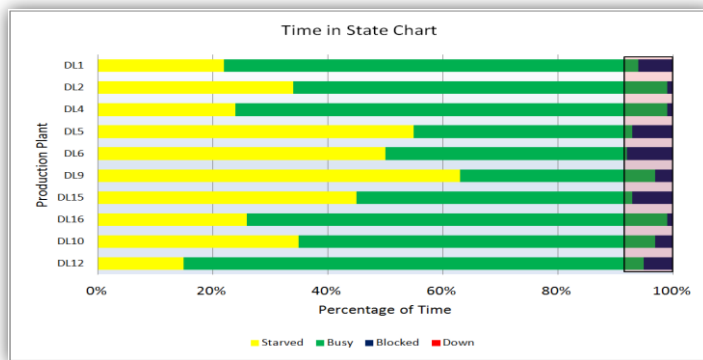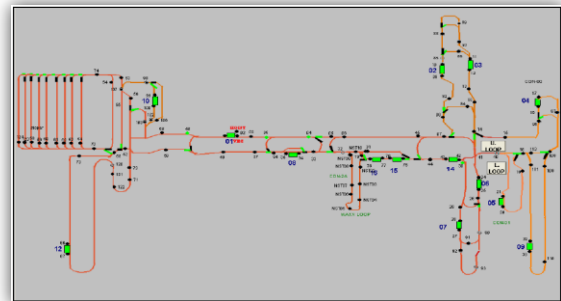
*Data shown here has been modified to protect client confidentiality