

Oraya Wongsuksri 2010: Simulation Modeling to Determine the Optimal Sequencing of AGV for an Automotive Assembly Line. Master of Engineering (Industrial Engineering), Major Field: Industrial Engineering, Department of Industrial Engineering. Thesis Advisor: Assistant Professor Roongrat Pisuchpen, D.Eng. 73 pages.

This research studies an AGV routing of an automotive industry in Chachengsao province. This production system consists of 23 workstations and pick up some kit from each station by AGV. This factory faces a vehicle collision problem that causes cycle time increase. This paper presents a simulation modeling using Arena for simulate the system in factory and finding the optimal routing and sequencing of AGV. Two performance measures are average cycle time and average number in queue. In addition, this research will find new route for improve capability. This model can be applied to a factory that has similar operation system and also be used as a decision making tool. The best rule that give the minimum average cycle time is launch the same group of AGV in the same time by sorting Smallest data balance First (SDF). From this, the average cycle time decrease by 19.62% from old system.

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Thesis Advisor's signature