AMAZON–TRUCK UTILIZATION
AMAZON SORT CENTER INBOUND (SCIB) TRUCK UTILIZATION PROJECT

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Amazon.com, Inc. is a leading retailer that was established in 1994 and is publicly listed on NASDAQ Global Select Market as "AMZN." The three segments of its business —North America, International and Amazon Web Services — are worth $430 billion. Amazon's mission is "to be Earth's most customer-centric company, where customers can find and discover anything they might want to buy online, and endeavors to offer its customers the lowest possible prices."

For YTD 2017, trailers from Fulfillment Centers (FCs) to Amazon Sort Centers (SCs) are on average 35% below the target fill of total available air space. For this period, a significant share of transportation cost was spent on underutilized trailers. Hence, there is an opportunity to save transportation dollars through better end-to-end systems alignment and more efficient operations. This project aimed to identify upstream systems and downstream FC opportunities to increase Sort Center Inbound (SCIB) trailer utilization by 5% across the network.

The Tauber team recommended the following Phase One actions over the next six months to deliver 2.6% transportation spend savings through 2020: 1) eliminate ad hoc trucks on non-critical departure times; 2) reduce excess capacity on short haul lanes; and 3) introduce and enforce standard work at the outbound docks through process map visuals (PMVs) and remote technological audits. For visibility of utilization metrics across the network, the team recommended using the control Dashboard built by the team. Deliverables and insight from this project will inform a more comprehensive Phase Two rollout by other teams: a systems integration and systematic automation of FC operational processes over the next 12 months.

Research and experimentation on upstream systems and downstream processes confirm that trailer utilization is heavily dependent on the timing of package flow from order picking to reaching dock doors. Despite occasional success, efforts to improve outbound trailer load quality have not been able to reduce the number of trucks required due to constraints in current upstream systems and network design. Current system challenges identified by stakeholders were addressed in a Kaizen Event and Pilot Experiment, ultimately resulting in phased recommendations.

Phase One actions, as the team has investigated and recommended, are designed to drive a culture that emphasizes load quality and trailer utilization. In addition to saving money and reducing emissions, better load quality will reduce product damage, thus leading to a better customer experience. Phase Two requires the integration of upstream systems with operational outbound dock tools, allowing systematic automation of operations to drive a sustainable, network-wide utilization increase within 12 months. An initiative by a team managing upstream order assignments is planned in 2018 to address package flow to better optimize outbound trailer loading. The Tauber team recommends that, while this new team collaborates with FC Operations for a truly integrated system redesign at the end of Phase Two, the Phase One recommendations are initiated to prepare downstream processes for optimal loading of scheduled trucks. With all systems and operational practices aligned, network-wide trailer air fill utilization is projected to increase by 10% on SCIB lanes, representing a potential savings of 12% on network-wide transportation spend through 2020. Of these savings, an entitlement of 22% through 2020 is attributable to this project's specific findings.