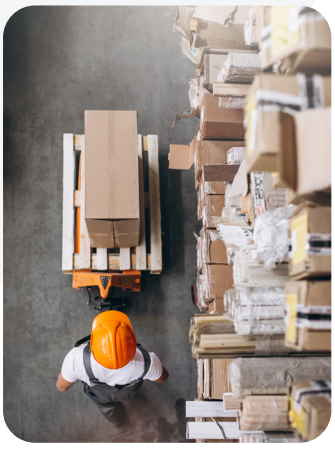
Whitepaper

# Anheuser-Busch
# Warehouse Entrance Study



## Company Overview

Founded in 2008, Anheuser-Busch InBev (AB InBev) was created by the merging of InBev and Anheuser-Busch, and together make up the largest beer, spirits, and soft drinks manufacture in the world. In 2018, AB InBev accounted just shy of $55 billion in revenue and $5.7 billion in net income. After acquiring SABMiller, AB InBev is considered the fastest-growing consumer goods companies in the world. AB InBev has operations in over 50 markets and sell their products in over 150 countries. As a result, supply chain and logistics solutions have become a major opportunity for a company of this size and complexity to cut costs and operate more efficiently.

## Problem Definition

The Anheuser-Busch brand has 12 major breweries located throughout the United States. In addition, distribution centers are located throughout the nation in order move product through different levels of the supply chain, and ultimately, to the final consumer as efficiently as possible. With the rate at which AB InBev is growing, the amount of product being shipped throughout the network is increasing proportionally. However, current warehouse check-in and check-out processes cannot keep pace with increasing demand, causing bottlenecks in warehouse gate (entrance & exit) operations. As a result, large queues of trucks waiting to enter and exit warehouse and distribution facilities decrease system throughput. This case study focused on a single distribution center located in Granite City, IL as the pilot site. While the case study is specific to the site under study, the applied methodology and proposed recommendations are generalizable across various industries. Figure 1 shows the layout of the site under study.

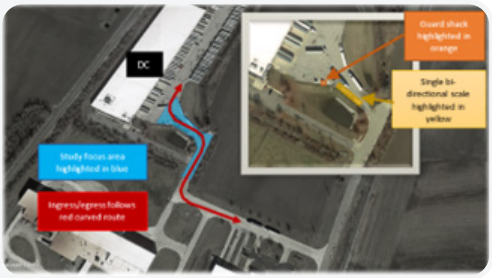



*Figure 1: Granite City DC Site Layout*

## Applied Methodology

In order to eliminate bottlenecks at the distribution center gates and site access points, the following methodology was proposed. Data analysis was conducted over a 2-month period in order to identify peak hours of truck arrivals and departures. In addition, time studies were conducted with respect to truck check-in/check-out processing times for different procedures. A simulation-based approach utilizing VISSIM® discrete event simulation software was applied to model baseline conditions and proposed recommendations. Lastly, proposed recommendations are compared to the baseline model.

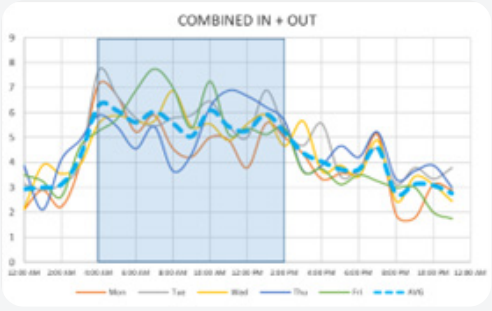



*Figure 2: Truck Check-in/Check-out Frequencies by Hour*

## Results

The preliminary data analysis, summarized in Figure 2, concluded Tuesday, Wednesday, and Thursday (4am – 2pm) as the peak hours of operation throughout the week. The maximum capacity of the current system is approximately 13-14 trucks per hour. Site recommendations (shown in Figure 3) included: (1) Adding a second scale to provide 1 dedicated inbound scale and 1 dedicated outbound scale, (2) Widen entry/exit for 2 inbound lanes and 2 outbound lanes, (3) Provide a center median where the check-in guard shack can be relocated, (4) Provide temporary parking for check-in trucks that do not scale. The proposed recommendations resulted in a maximum peak of 7 trucks waiting to check-in/check-out, which is a 50% reduction from the baseline model. In addition, the time required to check-in/check-out reduced by 8.7 minutes over the 2-hour simulation run time, resulting in a 62% reduction compared to the baseline model.

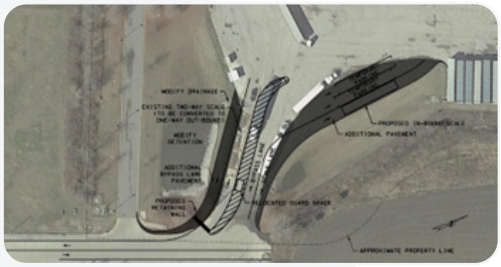


*Figure 3: Site Recommendations*