MOSIMTEC
future proof your business.

Government Agency

Security Screening Design

SECURITY

BACKGROUND

A government agency campus has more than 95 buildings located on over 300 acres. This large campus has one primary security building where visitors and vehicles must go through a security inspection. The security building was built prior to 9/11. The security requirements in effect today were formulated after 9/11 and require more time per visitor. The building cannot efficiently manage high visitor volumes during certain periods of the day, causing backups and delays. The government agency developed plans for a facility expansion to reduce both vehicle and pedestrian congestion.

MOSIMTEC developed a vehicle and pedestrian simulation model using AnyLogic to provide insight on the impact of potential layout changes in a sandbox environment. The simulation engagement revealed the costly building expansion did not significantly improve the system. Instead, the project demonstrated operational improvements could be achieved within the existing building footprint which did improve the system.

CHALLENGE

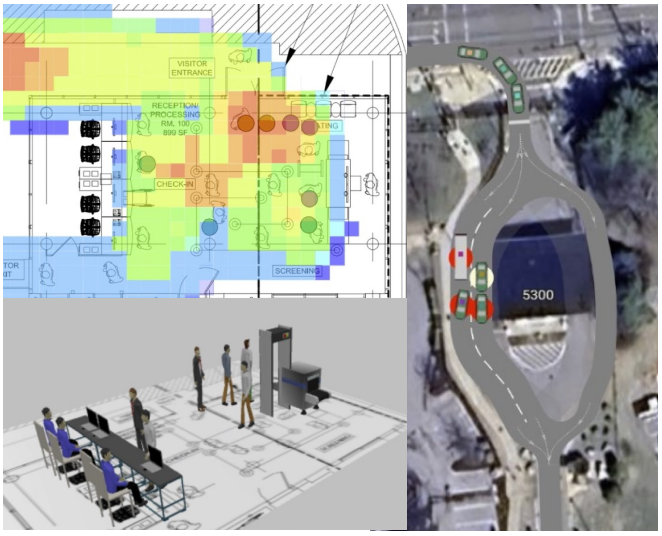
The visitor security building, built before 9/11, was later repurposed as a screening facility. Consequently, it cannot efficiently manage high visitor volumes during certain periods of the day. This causes bottlenecks in the flow of visitors and vehicles. Furthermore, the congestion poses a security concern as it makes it difficult for staff to identify potential threats.

The government agency proposed designs to enhance the screening experience for visitors and improve situational awareness for staff. These designs ranged from expanding the footprint of the building, to relocating equipment and furniture in the existing space.

SOLUTION

The AnyLogic simulation model featured to-scale layouts of the security building's internal pedestrian areas and its surrounding roads. The animation also included a heat density map to show how different layouts impacted visitor movement during the security screening process.

The front-end to the simulation model enabled users to easily configure the security screening layouts. In addition to the animation, the model reported key metrics, such as time in system, in tables and graphs. This allowed understanding the impact of proposed layouts combined with other factors such as hourly arrival rates, staffing levels and processing times.

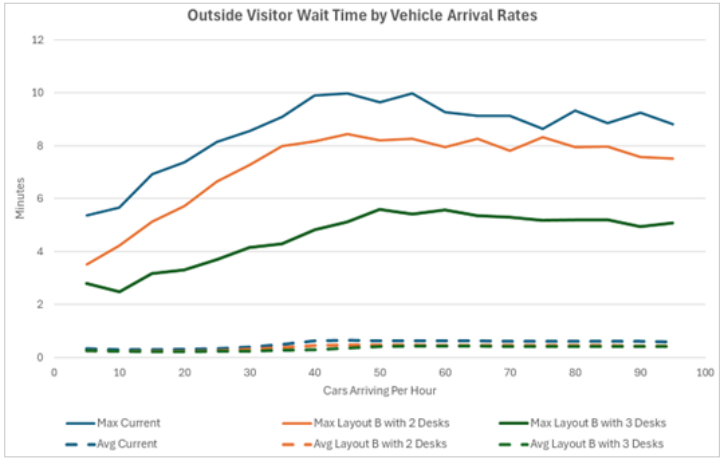


BENEFITS

Simulation modeling allowed quickly testing different security layouts with various visitor and arrival patterns. Testing future layouts in a virtual environment required significantly less capital than testing in a live system.

Some of the benefits of the project included:

- Quantifying staffing requirements by time of day.
- Quick buy-in from team members to understand the recommendations and visualize operations.
- Showing it was possible to improve the operations in the existing footprint, eliminating the need for costly building expansion.



MOSIMTEC expertly guides clients – from pharma to farming, from climate change to change management – through simulation modeling so they get the MOST knowledge, the MOST insight, and the MOST intelligent answers to Future Proof their Business.