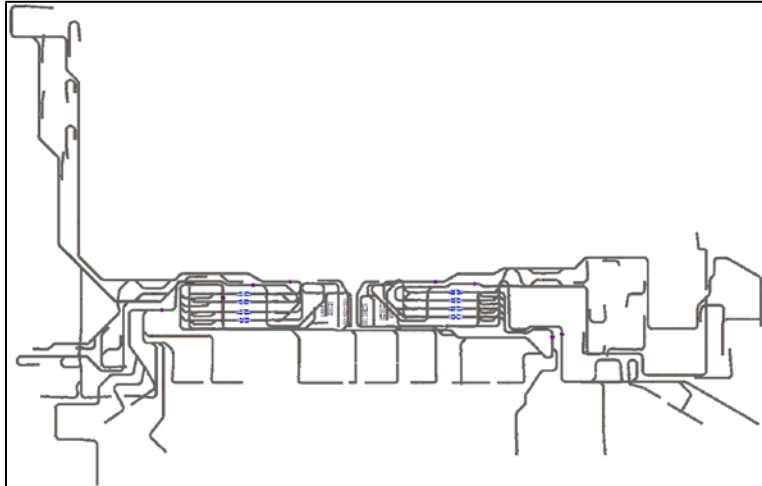




## Portland International Airport Checked Baggage Inline System (2003-2015)



*Portland Checked Baggage Inline System*

**Client Name:** PGAL

**Date Started:** September 2003

**Date Completed:** 2015

TransSolutions worked closely with PGAL Architects and CAGE to develop and evaluate inline baggage screening options for the Port of Portland (Port). Models were developed at each stage of the project to evaluate the benefits and shortcomings of each proposed alternative. Throughout the design process, TransSolutions assisted in design review meetings with local TSA, airport staff, and project stakeholders, including the tenant air carriers.

In 2006, the PDX system was evaluated with four medium speed EDS machine in the North matrix and four machines for the South matrix. In 2007, the recommended design consisting of four XLB-1100 high-speed EDS with capacity 1.050 bags per hour screening machines was evaluated. TransSolutions worked with the system designers to develop a control logic strategy to balance diverting of bags to EDS lanes in both matrices and to maximize overall system throughput. Simulation results showed that the conveyors feeding the EDS machines and those taking away bags required speed changes. The vertical sorting devices also required modifications to allow for the required cycle time to sort bags.

Currently, the Port of Portland is in the process of updating its checked baggage inspection system (CBIS) operations by balancing the volume of bags between the North and South Matrices. This is expected to be accomplished by relocating airline operations in the check-in hall.

The purpose of the 2015 study is to update the simulation model from 2007 to reflect the current operating conditions. Subsequent phases of this study will include future operating conditions that include increase in bag volume for the next five years, and alternative check-in locations for the airlines. This simulation study will provide guidance for the Port of Portland by identifying the best alternatives for future baggage handling operations. The components of these CBIS studies have been modeled using AutoMod™, a 3D modeling tool, widely employed for material handling applications. The model tracks all individual bag movements from check-in through TSA screening until they reach their respective make-up units.