

# Case Study: Sound Transit

## Implementing a Safety and Security Information Management System using BPM

This paper is the third in a series of papers applying the approach of business process management (BPM) to managing hazards and risks in public transportation. In our first paper, *The Power of Process Thinking*, we made the case for managing logical groupings of hazards with structured business processes, rather than a series of lists and spreadsheets. In our second paper, *Safety, Security, and Compliance*, we outlined what the idea of process thinking means within the context of a Safety Management System (SMS); and laid out how the principles of business process management (BPM) can improve your SMS by making your agencies' work safer, more efficient, and by default, compliant. In this third paper, we provide a case study of Sound Transit, a forward-thinking transit agency successfully implementing the business process management approach through their Safety and Security Information Management System.

## Sound Transit

The Central Puget Sound Regional Transit Authority, generally referred to as "Sound Transit", is a public transit agency that provides link rail, commuter rail, and express bus services to the Seattle metropolitan area in Washington State. Sound Transit served nearly 43 million riders in 2016, with average weekday ridership at 143,000<sup>1</sup>. Due to the demand for expanded services, along with analyst projections of population growth over the next 25 years, Sound Transit responded with plans to add 62 miles of light rail, longer trains for the commuter rail, additional bus routes and rapid transit lines, and two additional transit stations.

In this highly regulated industry, Sound Transit must comply with rigorous federal, state and local agency standards around safety and security. Compliance is achieved through adherence to Sound Transit's Safety and Security Certification Process (SSCP), developed "to verify and validate compliance with applicable safety and security requirements, design criteria, standards, and codes to ensure safety and security requirements are incorporated into the planning, design, construction, testing and operation of the transit system."<sup>2</sup> However, at the time of the expansion plan, the system was a largely manual process; maintaining compliance at the extended scale would require a massive increase in staff, or a major move towards process automation. It was clear that their existing approach would not scale. When no single or integrated commercial-off-the-shelf software solution met Sound Transit's needs, OTB Solution consultants were engaged to assist Sound Transit with automating their SSCP.

## Safety and Security through BPM

Working with Sound Transit's System Safety team in the Safety and Quality Assurance (SQA) division, we began to lay out the vision for the new system by weaving Sound Transit's safety and security certification program processes within the BPM approach. Because Sound Transit were looking at it as stand-alone processes, we reframed their thinking to look at it as one large, integrated and interdependent process that identifies, tracks, and mitigates hazards through every stage of construction. With this new system, named the Safety and Security Information Management System (SSIMS), Sound Transit can now

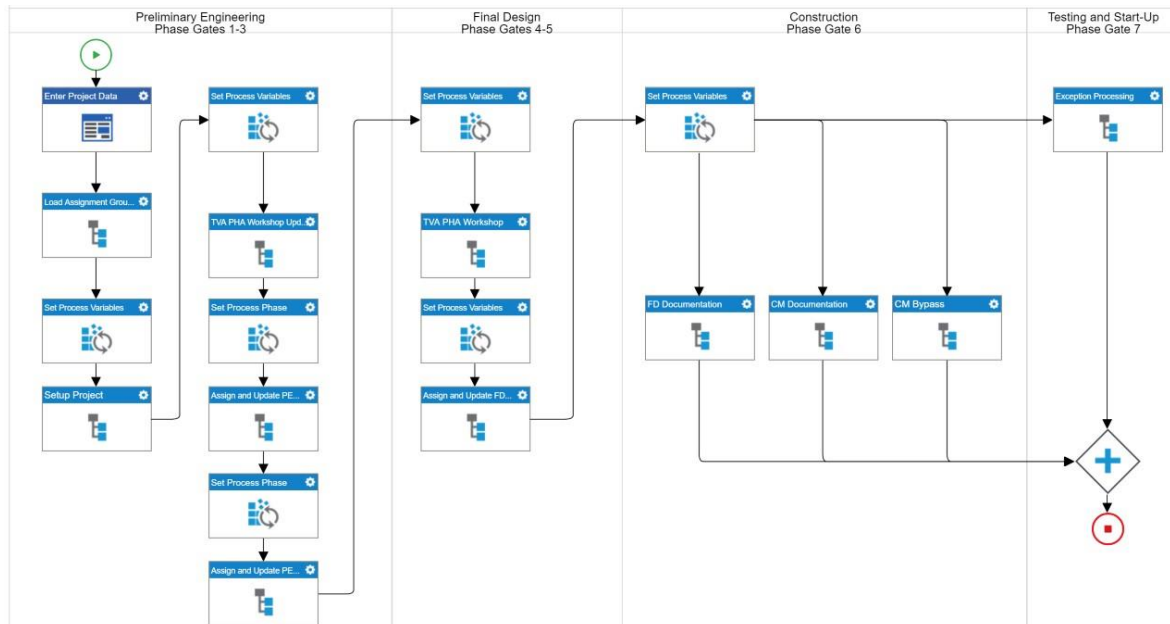
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<sup>1</sup> "[Fourth Quarter 2016 Service Delivery Quarterly Performance Report](#)". Sound Transit. February 17, 2017.

<sup>2</sup> "Agency Safety and Security Certification Plan". Sound Transit. February 2017

perform, track, store and report all Safety and Security tasks that are related to the certification of their new or rehabilitated systems, as mandated by state, federal, and local agency regulations requirements. Figure 1 outlines the overall process, major phases, and major tasks involved in the SSIMS solution.

**Figure 1.** Safety and Security Information Management System (SSIMS) at a Glance



Designed to interact with Sound Transit’s existing software systems, the SSIMS allows for the automation of identifying, implementing, tracking and storing information about the process using cloud-based software. The system is secure and utilizes the same login credentials as the Agency (usernames and passwords). The software provides a workflow in which Safety and Security Certifiable items flow from Preliminary Engineering through Final Design, Construction, Integrated Testing, Pre-Revenue Operations, and Revenue Operations and for project closeout of Open Items. With this automation, a single manager has a real-time birds-eye view of over 1000 processes, which are managing each individual certifiable items; previously, this information was managed in an excel spreadsheet and updated after the fact. The ability to see the processes in this way saves significant cost and certification time because a manager can identify and remedy any items during the process rather than holding up certification at the end. Through this process automation, a Sound Transit manager can now manage over 1000 processes real-time.

*“With our new information management system, we were able to streamline the Safety and Security Certification Process and provide end-to-end visibility in all of our certification activities,”*  
- Supervisor, Sound Transit Safety and Quality Assurance Division

## Beyond Sound Transit

OTB Solutions approach to this challenging problem has enabled Sound Transit to rapidly and efficiently address the issues outlined in the three white papers. This approach is broadly applicable to other transit agencies and, by virtue of the use of the underlying technical solution, it can be rapidly and reliably adapted to meet any transit agency’s specific needs; and at a very reasonable level of effort and cost. We like challenges. Contact us if you’d like us to help you overcome yours.