

# Sound Transit

AMCL+



## CASE STUDY

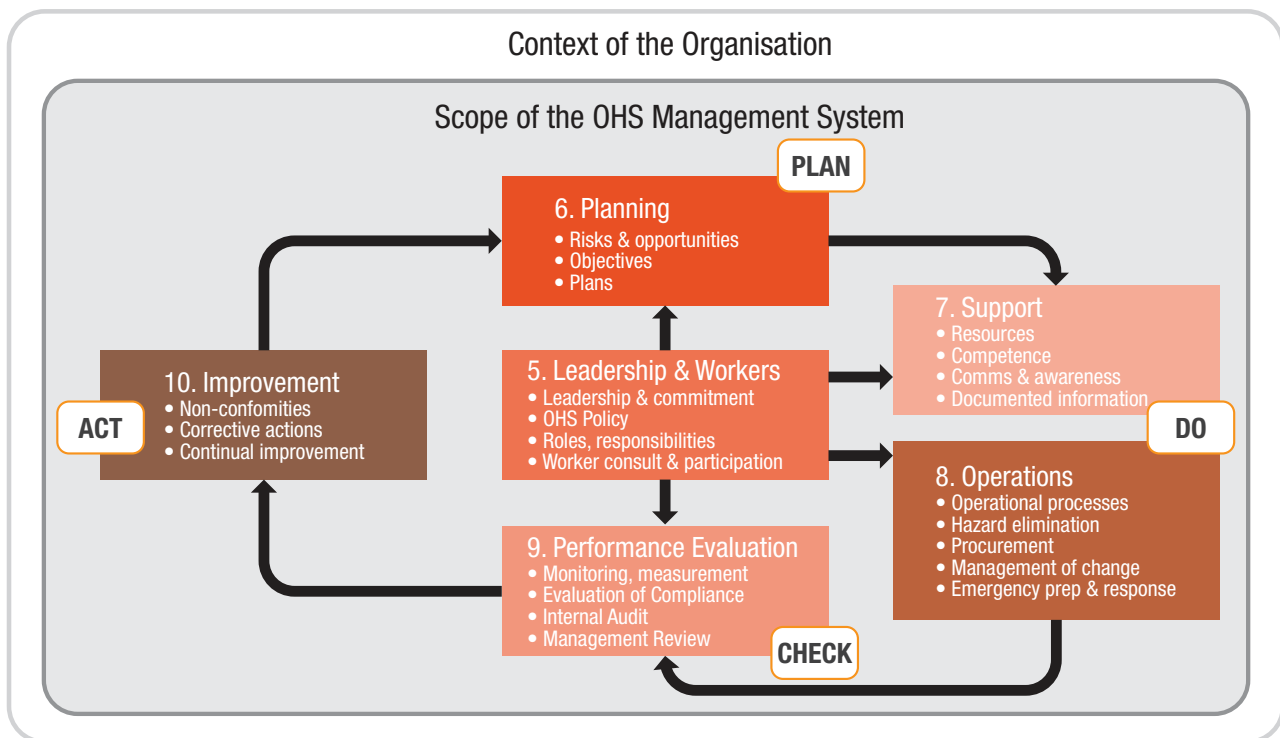


### Overview

Sound Transit (ST), is the public transit agency serving the Seattle metropolitan area in the U.S. state of Washington. It operates both light and heavy rail and the Express bus service.

Sound Transit was Formed in 1993 by King, Pierce and Snohomish counties to build a regional rapid transit system. It began operating its express bus service

in September 1999, taking over existing routes from local transit agencies. The region's first commuter rail line, between Tacoma and Seattle, started in December 2000; the agency's first light rail line, Tacoma Link (now Line T), began service in August 2003. Light rail service in Seattle on Central Link (now Line 1) began in 2009 and is the largest part of the Sound Transit system in terms of ridership.



AMCL and Vertex have since 2018 been assisting Sound Transit in developing its Asset Management and Safety Management system. From 2020 we have commenced the detailed works to develop Sound Transit to become accredited against ISO55001 and 45001. This is a long-term assignment over multiple years to assist the client in the development of the controls, its people and the stakeholders in the application of asset and safety management controls.

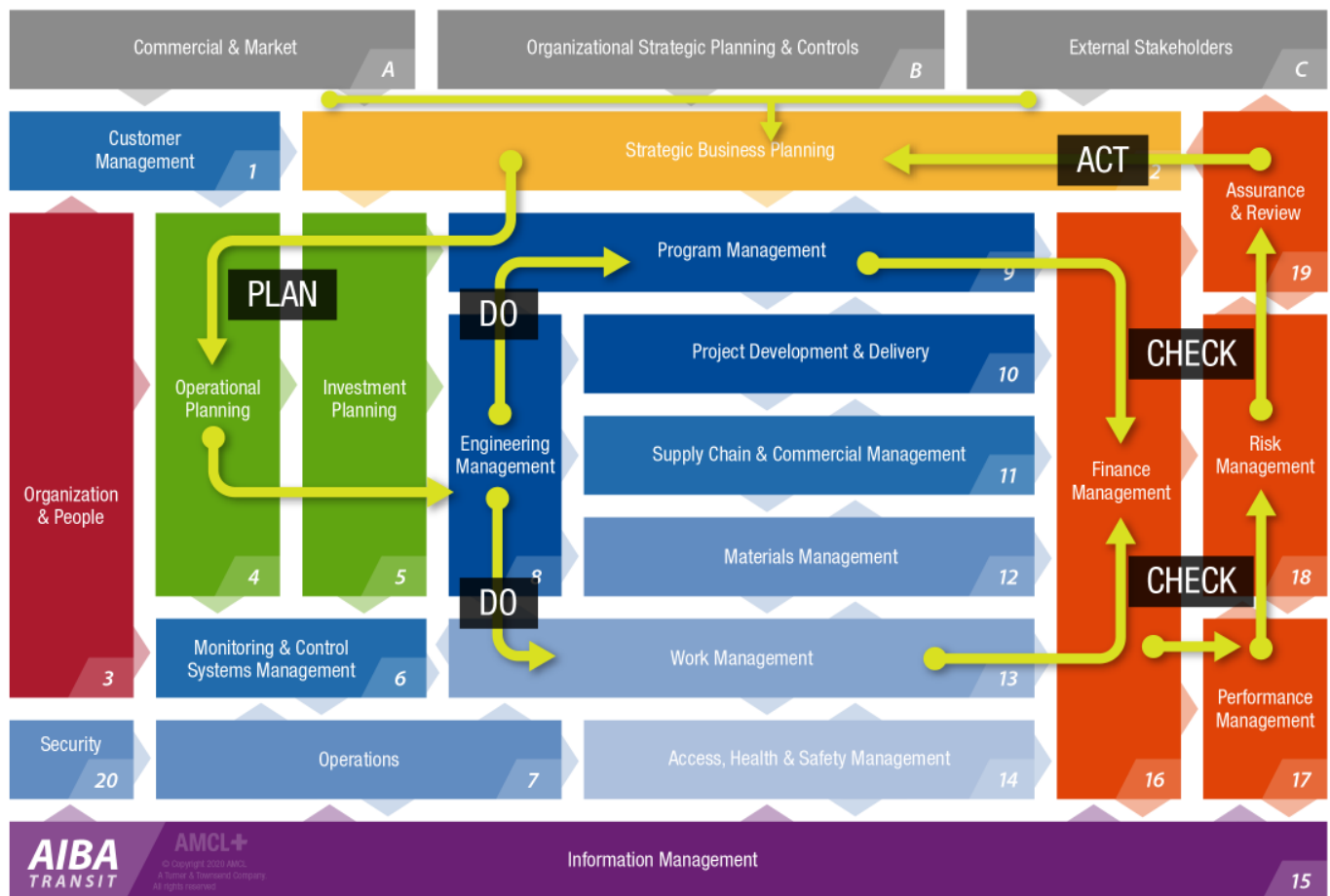
AMCL is leading the ISO55001 development and Vertex the ISO45001 development.

The works require review of all current controls to then develop the artifacts such as Safety Management System and Asset Management Plans, this is not just for certification, but also to enhance Sound Transit maturity in both subject areas.

Our methodology was based around the use of a highly experienced team who have both worked for and with transit agencies globally. This provides unparalleled understanding of what has and hasn't worked elsewhere with respect to operations and maintenance and what is appropriate for Sound Transit given the current and future organisational context, objectives and constraints. Our teams provide practical and real-world guidance working directly and in collaboration with the client team. The experience within Vertex enabled the client to not overly rely on its own staff in the development of the outputs, this has been invaluable since the unfortunate worldwide Covid-19 pandemic.

This simple, common sense approach is supported using our international good practice Asset Intensive Business Architecture (AIBA) tool, the Asset Management Excellence Model (AMEM) and our safety engineering capability.





The AIBA is a tried and tested tool – including during comparable projects with Metrolinx Canada, High Speed 1, Fugro, Rail for London (Crossrail), New York MTA, MBTA and Scottish and Southern Energy – that consolidates our international experience and knowledge of good practice into an existing SMS. The AIBA documents how different disciplines, departments and contractors interact to deliver train services every day and how the objectives and strategy are embedded into business activities. This tool is used for a range of outputs such as identifying key interfaces, interactions and information flows, key business processes and activities that enable a ‘line of sight’ between organisational objectives and expenditure, as well as the ‘closed-loop’ continuous improvement process for safety and asset management.

The tool covers all disciplines from Operations, Finance, HR, Information Management to QHSE. The generic good practice AIBA is shown above. We proposed to use the Transit specific variation of the AIBA to support this project.

The model provides the following for both Asset and Safety Management:

- Aligns the business with best practice
- Clarifies alignment of objectives and goals through the business
- Enables the organisation to robustly develop its Strategy
- Identifies areas where more detailed process mapping is required to support the business outcomes
- Clarifies the high-level information flows
- Provides a complete understanding of the touch points and interfaces
- Identifies gaps and opportunities for improvement
- Enables the organisation to robustly scope its Information Systems to support effective decision making
- Enables maximum value to be gained from Information Systems and suppliers

The first stage of the works for Sound Transit commenced in 2020 where we completed a high-level gap assessment against both ISO 45001 and 55001, the aim to enable the client and its stakeholders to gain a common understanding of the standards requirements, identify all existing processes that meet/contribute to the specific requirements, determine the gaps and then provide a detailed roadmap from current state to certification.

The work involved interviews across a broad range of functions within the business, and meetings with over fifty senior individuals.

The scope also includes development of the client in both subject areas, our base methodology is to always develop the client so that they become an informed 'owner', therefore not having to rely on others to effectively use the outputs provided.

All of this work took place during restrictions imposed by the 2020/21 pandemic. AMCL and Vertex used their own online tools supported by video conferencing to deliver the outputs required for the first stage of works on time and budget.



Asset Management  
Diagnostic &  
Roadmapping



Asset  
Management  
Training



Asset Information  
& Digital Strategy  
Development



Investment  
Planning



Asset Management  
System in a box



Reducing  
Maintenance  
Costs



Asset Info  
Requirements  
and Standards



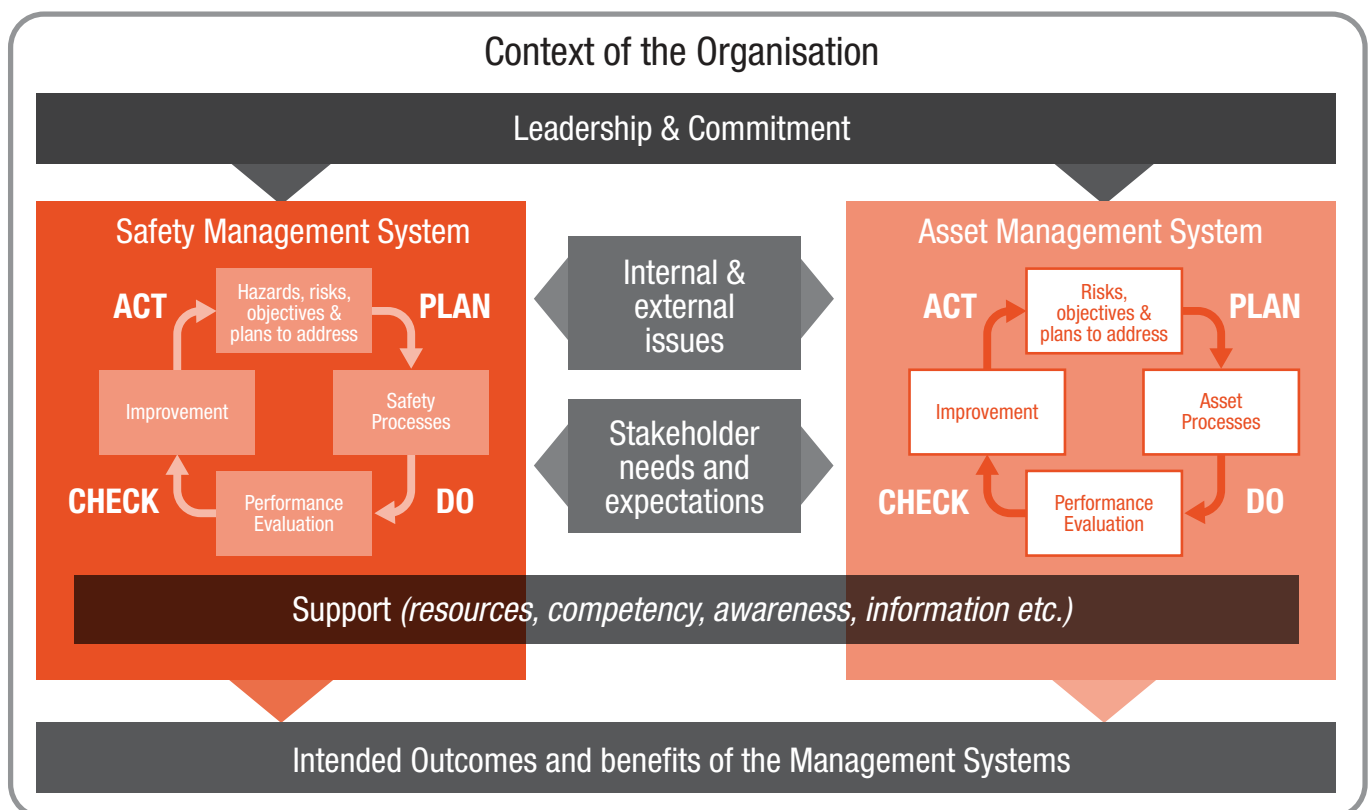
Asset Info  
Systems  
Implementation  
Assurance



Asset Intensive  
Business  
Operating Model



Risk  
Management





We have also since the late 1990's, provided similar Asset and Safety Management services to numerous rail operators, equipment suppliers, constructors and regulators.

Common elements of these works are:

- Detailed understanding of rail and other asset intensive complex industries
- With regards to rail, detailed understand of the asset lifecycle, operations, maintenance, capital change and regulations (such as EU norms, TSI, Common safety Method)
- Use of our proprietary tools such as the AIBA described earlier
- Leverage of our Safety Case and Safety assessment experience including access to our railway hazard log that encompasses findings from many hundreds of assessments and for those within Europe, outputs from all works that were subject to the Common Safety Method regulations (EU) 2018/762 and Technical Specifications for Interoperability.

## A selection of our clients



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