**Software Requirement Specifications**

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**1 Introduction**

**1.A Purpose**

The purpose of this SRS is to lay out a set of requirements, functions, and features for the Centralized Traffic Control Center and Signaling System for the North Shore Extension of the Pittsburgh Light Rail Transit system.

The intended audience of this document is the Port Authority of Allegheny County.

**1.B Scope**

The software this project will produce includes the Centralized Traffic Control (CTC) Center and Signaling System.

The project will include the following five systems:

Track Model: Simulates the actual track of the North Shore extension.

Train Model: Simulates the physics behind a Flexity 2 Tram moving across the track.

Train Controller: Safety Critical component that controls the movement of the train.

Track Controller: Safety Critical component that controls the track and reports back to the Central office.

CTC Office: Allows a dispatcher to schedule, dispatch, and monitor trains.

The project will have an automatic mode with preset scenarios to demo the systems listed above, and this demo will be capable of running faster than wall clock time.

Implementing the North Shore extension of the Pittsburgh Light Rail system will improve the status of public transportation throughout the city of Pittsburgh. Public transportation is important, as it provides jobs, minimizes traffic, and greatly reduces a city’s carbon footprint.

**1.C Definitions, acronyms, and abbreviations**

**1.D References**

American Public Transportation Association

<http://www.apta.com/mediacenter/ptbenefits/Pages/default.aspx>

IEEE Recommended Practice for Software Requirement Specifications

<https://courseweb.pitt.edu/bbcswebdav/pid-20285500-dt-content-rid-7299133_1/users/jap182/Labs/Lab%201/IEEE%20830.pdf>

**1.E Overview**

Section 2: Provides a background for requirements to be detailed later in the document.

Section 3: Provides detailed requirements for the system that enable designers to design the

system accordingly, and testers to test the system accordingly.

2 Overall Description

**2.A Product Perspective**

This is an independent and totally self-contained product.

**2.B Product Functions**