

**Multi Modal Intelligent Traffic Signal System**

**Server Based Deployment – User Manual**

**(For Portland Connected Streetcar Project)**

Revision 0.0

November 11, 2020

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**Revision History**

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| --- | --- |
| **Revision No. (Date)** | **Description** |
| 0.0  (11/11/2020) | 1. Initial Revision |

# Purpose of Document

The purpose of this document is to explain the procedure to run MMITSS applications in server-based environment, in Portland

# Systems Requirements

Server-based MMITSS deployment uses Docker container images that contain the MMITSS applications. Following are the system requirements for running docker containers:

1. Processor architecture – x86
2. Operating system – Ubuntu 18.04 LTS
3. Install Docker engine following: <https://docs.docker.com/engine/install/ubuntu/>
4. Install docker-compose following: <https://docs.docker.com/compose/install/>
5. Install Git following: <https://git-scm.com/book/en/v2/Getting-Started-Installing-Git/>

In addition, to prevent unexpected behavior of the signal controller in case the network connection between the server and intersections is disrupted, set the NTCIP backup time of signal controllers to lower values. Recommended value is < 5 seconds.

# Deploy Server-based MMITSS

Once the system requirements are fulfilled, perform the following steps to start docker containers for intersections inside a server.

Step 1: Clone the portlandStreetcar repository. Note: This is a private repository. Please email MMITSS team to get an access to this repository.

Step 2: Set MMITSS\_ROOT environment variable in the ~/.bashrc file by adding the following line

export MMITSS\_ROOT=<path where portlandStreetcar repository is cloned>

Step 3: From a terminal, go to the root of portlandStreetcar repository

Step 4: See the docker-compose.yml file in the portlandStreetcar repository for configuring it to the local environment, then run the following command to start intersection containers.

docker-compose up -d

Note: To stop MMITSS containers, run the following command:

docker-compose down