

**TRAFFIC LIGHTS**

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1. Introduction

The system that we are going to design in this document will be based on the Goal-Oriented Modeling.



Figure System-to-be

1. Goal Model of Traffic Lights

We are going to address each sub goal separately because it is hard to fit all of the goals into a single page. Annotations will be interleaved.

* 1. Main Goal



Figure Main Goal - Making traffic flow safer and efficient by traffic lights



Figure Annotation of Main Goal - Making traffic flow safer and efficient by traffic lights

* 1. Sub Goal – Making traffic flow safe and efficient by traffic lights



Figure Sub goals of making traffic flow safer and efficient by traffic lights



Figure Annotations of sub goals of making traffic flow safer and efficient by traffic lights

* 1. Sub Goal – Traffic light to control pedestrian behavior



Figure Sub goals of traffic light to control pedestrian behavior



Figure Annotations of sub goals of traffic light to control pedestrian behavior

* 1. Sub Goal – Traffic light to control vehicle flow



Figure Sub goals of traffic light to control vehicle flow



Figure Annotations of sub goals of traffic light to control vehicle flow

* 1. Sub Goal – Adaptive light durations according to traffic congestion and prioritized vehicles



Figure Sub goals of adaptive light durations according to traffic congestion and prioritized vehicles



Figure Annotations of sub goals of adaptive light durations according to traffic congestion and prioritized vehicles

* + 1. Sub Goal – Adaptive light durations according to traffic congestion



Figure Sub goals of adaptive light durations according to traffic congestion



Figure Annotations of sub goals of adaptive light durations according to traffic congestion

* + 1. Sub Goal – Adaptive light durations according to traffic prioritized vehicles



Figure Sub goals of adaptive light durations according to prioritized vehicles



Figure Annotations of sub goals of adaptive light durations according to prioritized vehicles