

# CE 474 – Class 04

August 31, 2015

## **Class 04 (8.31)**

Discuss: A07

Mini-lecture: A08

Discuss: A08 CTQ

Homework (due 9.02)

- Do: A09 (individual, task 2 only)
- Preview: A10 (individual)

Slides

# TRANSPORTATION ... in the news



## Is Apparently



## 6

## Design Team Agreement



- One thing in today's class that I found most meaningful was creating the agreement in our groups. It is important to establish guidelines within our group in order to have an effective group. Now that the agreement is signed, we can do a better job of holding one another accountable to our own expectations as a group.
- I found the most valuable part of this lab was the team agreement, it set the expectations for the group so everyone knows what to expect of one another.

- Of all of the activities we completed today, the most meaningful thing to me was the team agreement. Team projects are a huge part of this class as I have heard and it is important that we follow along with what we agreed upon. The key to success is efficiency and it can be hard sometimes to be efficient in a group of strangers. The agreements we made are a big deal and I think it was the most important thing we did today.
- The one point I found to be most meaningful was the Team Agreement. I felt like this allowed our group to really plan out how we wanted to work together and get a better idea of how to work in a group. It gave me a sense of reassurance in my group and that we will work well together.

- I found it very interesting how much thought was put into the group project. I have never been someone that has enjoyed group projects however I do think that the lessons on how to make a group project more effective will benefit me the rest of my life.
- I believe that the most meaningful thing that I learned today was about getting to know the strengths and weaknesses of your group members before starting tasks or projects. It's important to know how everyone works best, and how to utilize each skill.

# SIGNAL TIMING MANUAL SECOND EDITION

FINAL REPORT

Prepared for  
National Cooperative Highway Research Program  
Transportation Research Board  
of  
The National Academies

Tom Urbanik  
Alison Tanaka  
Bailey Lozner  
Eric Lindstrom  
Kevin Lee  
Shaun Quayle  
Scott Beaird  
Shing Tsoi  
Paul Ryus

KITTELSON & ASSOCIATES, INC.  
Portland, OR

Doug Gettman  
KIMLEY-HORN AND ASSOCIATES, INC.  
Phoenix, AZ

Srinivasa Sunkari  
Kevin Balke  
TEXAS A&M TRANSPORTATION INSTITUTE  
College Station, TX

Darcy Bullock  
PURDUE UNIVERSITY  
West Lafayette, IN

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## PART I SIGNAL TIMING FUNDAMENTALS

CHAPTER 1 Introduction

CHAPTER 2 Signal Timing Program

CHAPTER 3 Signal Timing Concepts

CHAPTER 4 Signal Design

## PART II BASIC SIGNAL SYSTEMS

CHAPTER 5 Introduction to Timing Plans

CHAPTER 6 Intersection/Uncoordinated Timing

CHAPTER 7 System/Coordinated Timing

CHAPTER 8 Implementation and Maintenance

## PART III ADVANCED SYSTEMS AND APPLICATIONS

CHAPTER 9 Advanced Signal Systems

CHAPTER 10 Preferential Treatment

CHAPTER 11 Special Conditions

CHAPTER 12 Oversaturated Conditions

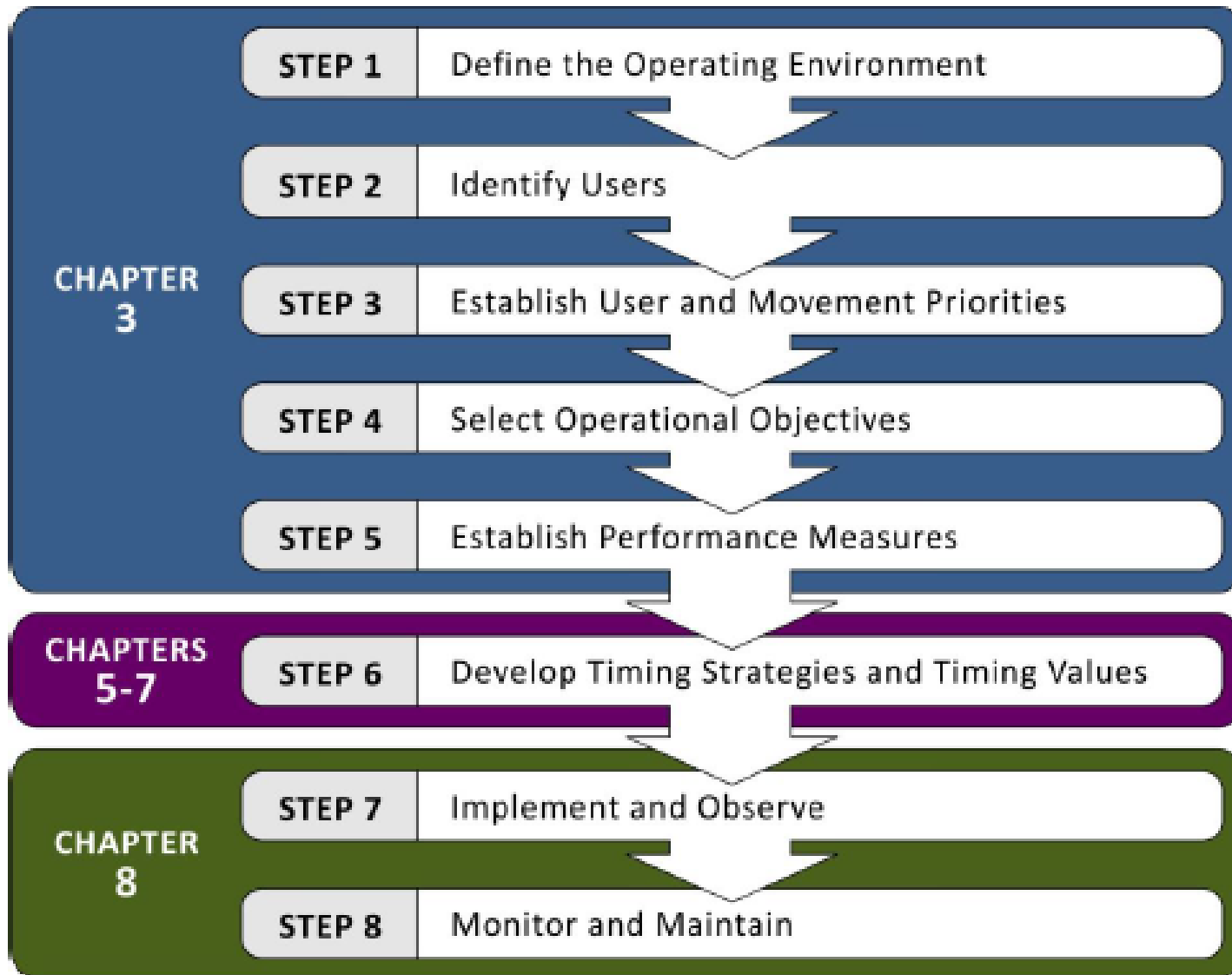


**IN MY PRACTICE...***by Tom Urbanik*

Traffic signal timing has several aspects ranging from a simple signalized intersection to traffic signals adjacent to railroad grade crossings. While the timing engineer may work regularly on isolated and coordinated intersections, occasionally a special problem may arise that the engineer has not worked on such as railroad preemption of a traffic signal. The *Traffic Signal Timing Manual* has practical guidance which the signal timing engineer can use to determine the requirements for operating the traffic signal. It should be noted that there may be situations that are too complex for the timing engineer to comfortably address. By referring to the *Traffic Signal Timing Manual*, the engineer may conclude that they are not comfortable with tackling the problem, but can become knowledgeable enough to seek the appropriate assistance to create a safe and efficient solution.

**Critical Thinking Questions**

1. What is the purpose of the STM2.
2. Describe the outcomes based approach to signal timing.
3. List each of the chapters of the STM2 and describe the purpose of each in one sentence. Briefly describe the three parts into which the chapters are organized.
4. Which two chapters do you think are most pertinent to your work in this class?
5. Identify an advanced traffic control concept in part 3 of the STM2. Conduct a web search and write a one paragraph summary of this concept. Identify your web source.



Number and Title	Type
8 Modeling Traffic Flow at Signalized Intersections	<i>Reading</i>
9 What Do You Know About Queuing Systems?	<i>Assessment</i>
10 Using High Resolution Field Data to Visualize Traffic Flow	<i>Discovery</i>
11 From Model to the Real World: Field Observations	<i>Field</i>
12 Basic Operational Principles	<i>In Practice</i>

## ACTIVITY

## 8

## Modeling Traffic Flow at Signalized Intersections



# 8

## Modeling Traffic Flow at Signalized Intersections







# Some questions – queuing systems

- What is a queuing system?
- Which elements of a traffic control system are included in the queuing system?
- Which elements of traffic flow can you represent in a time space diagram
- What is a queue accumulation polygon and what information does it show about intersection operation and performance?

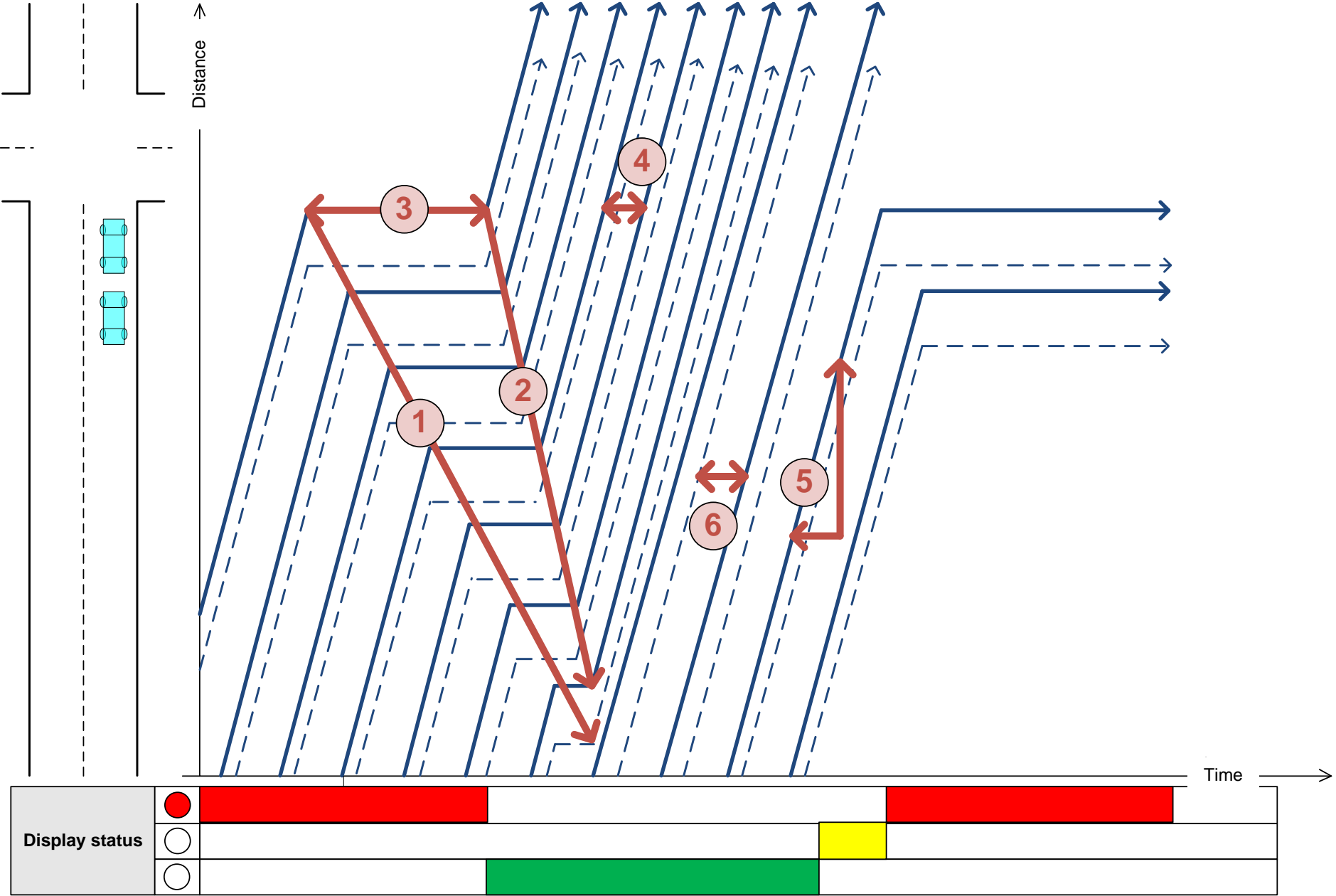




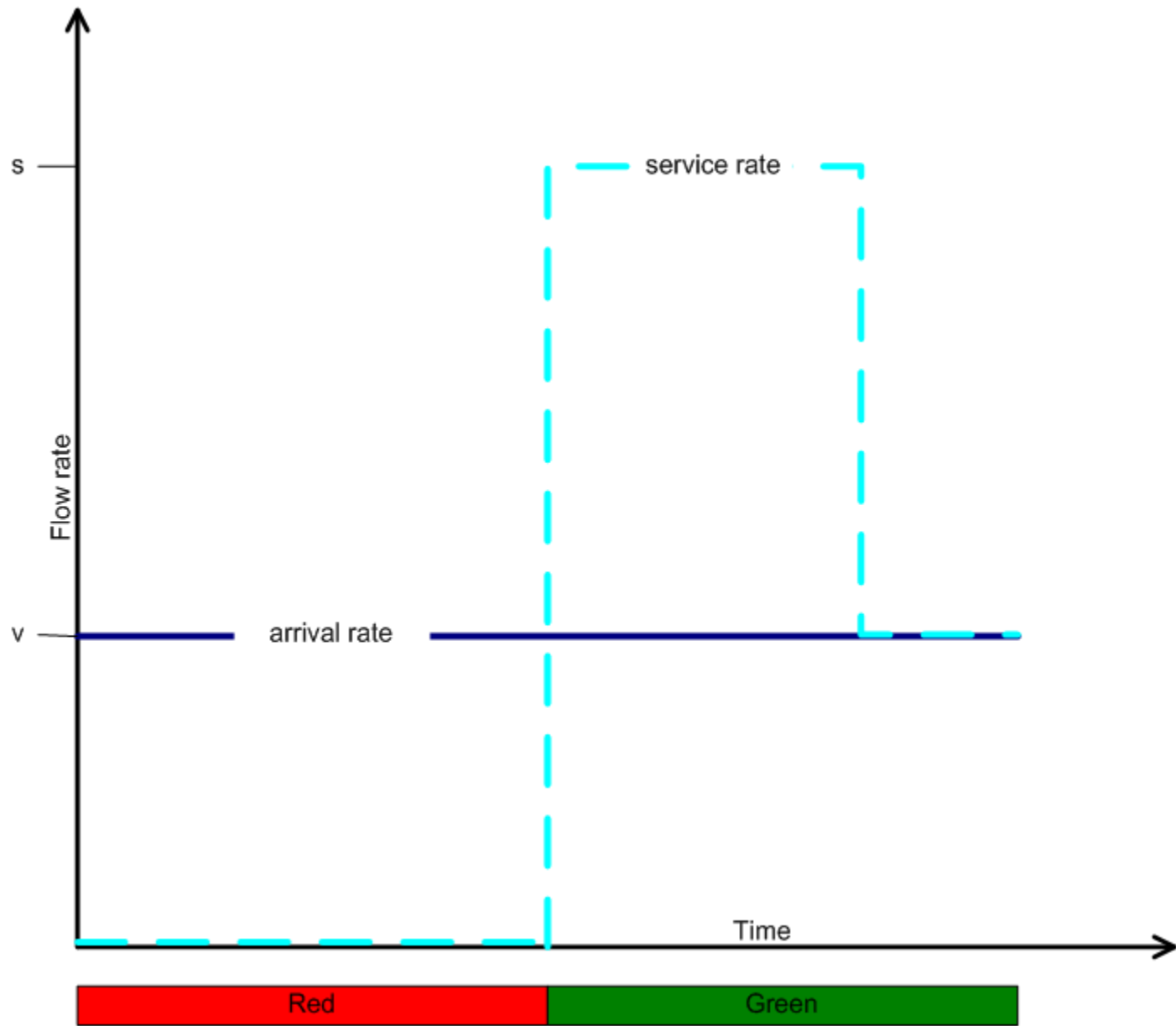


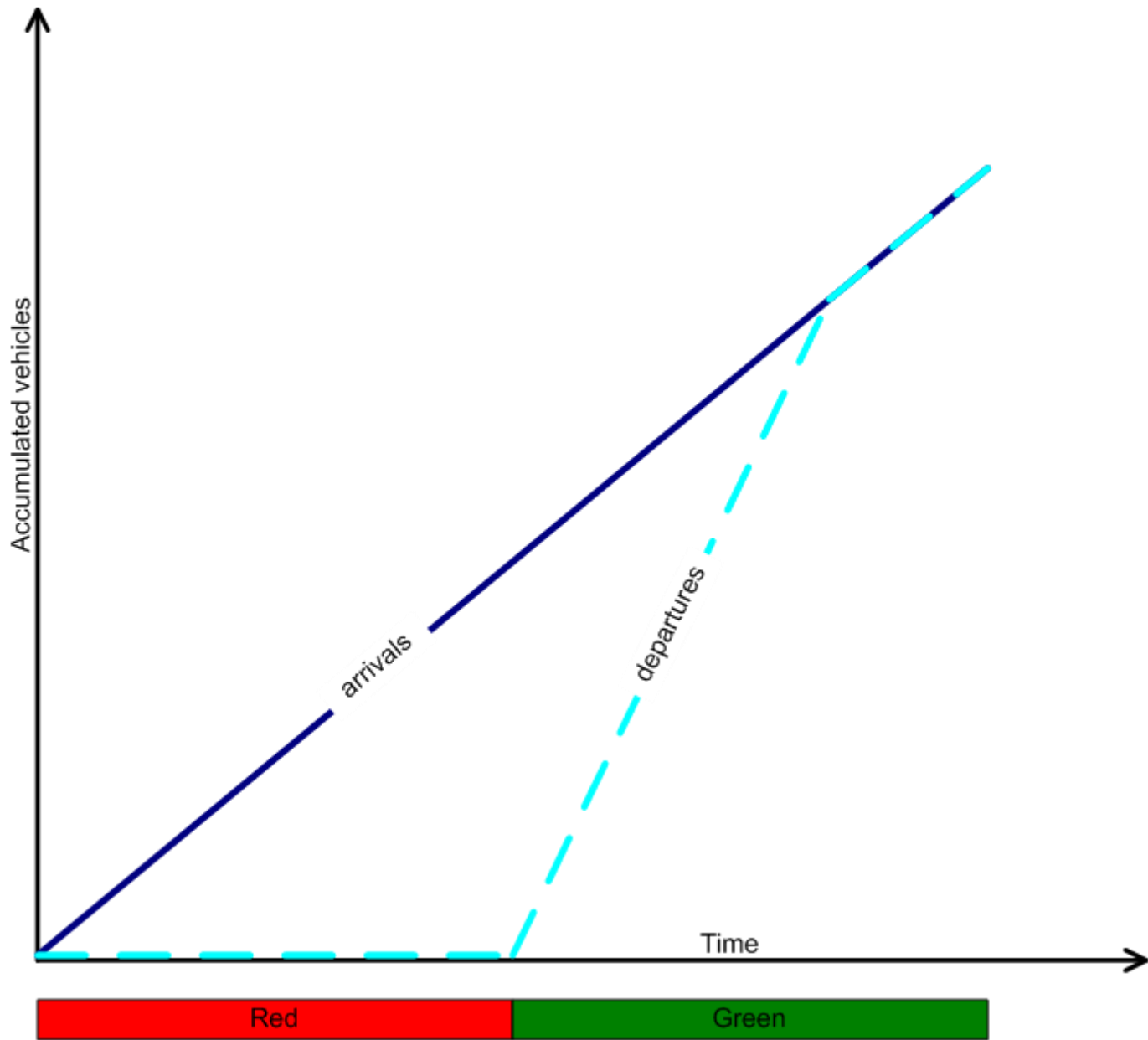
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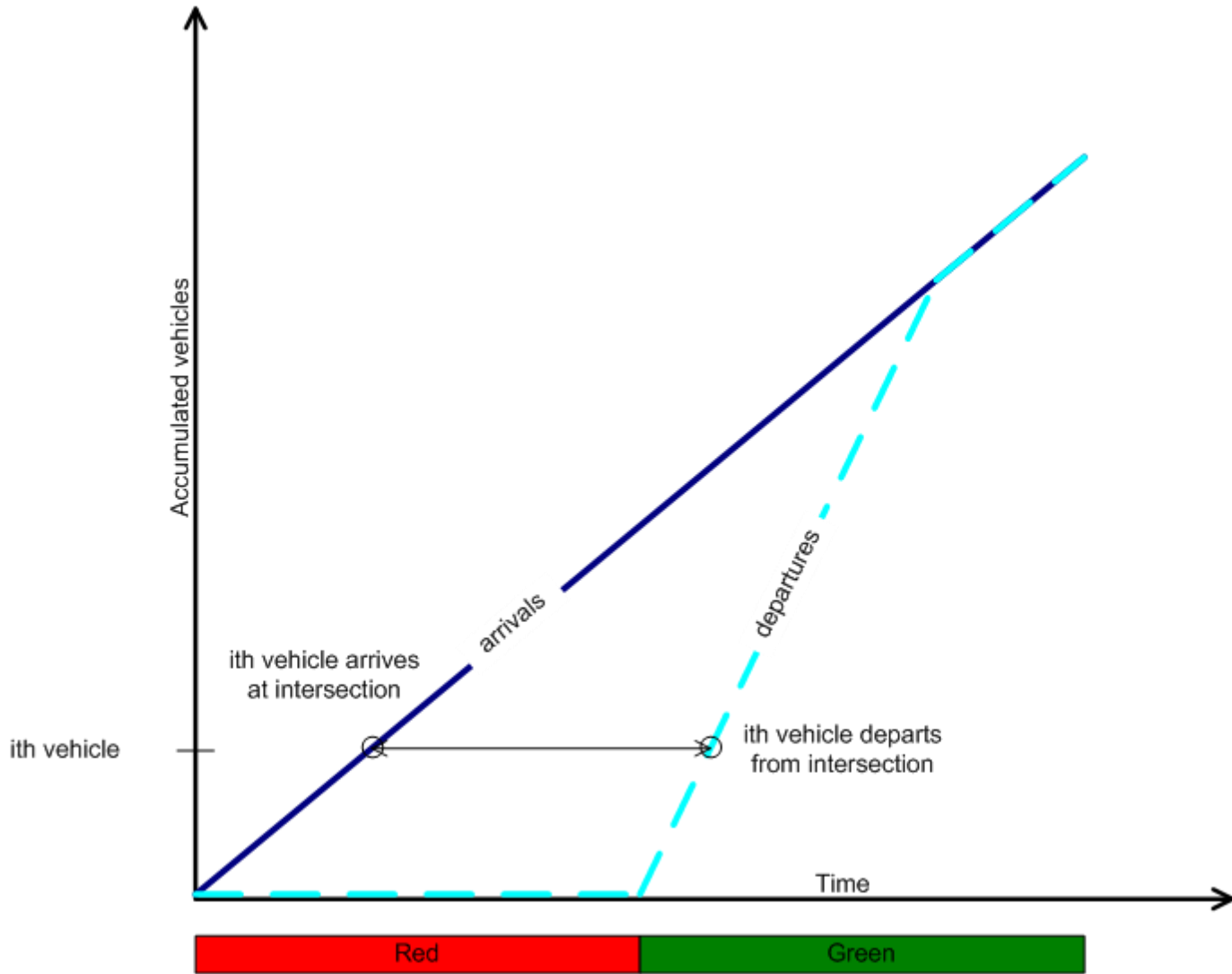


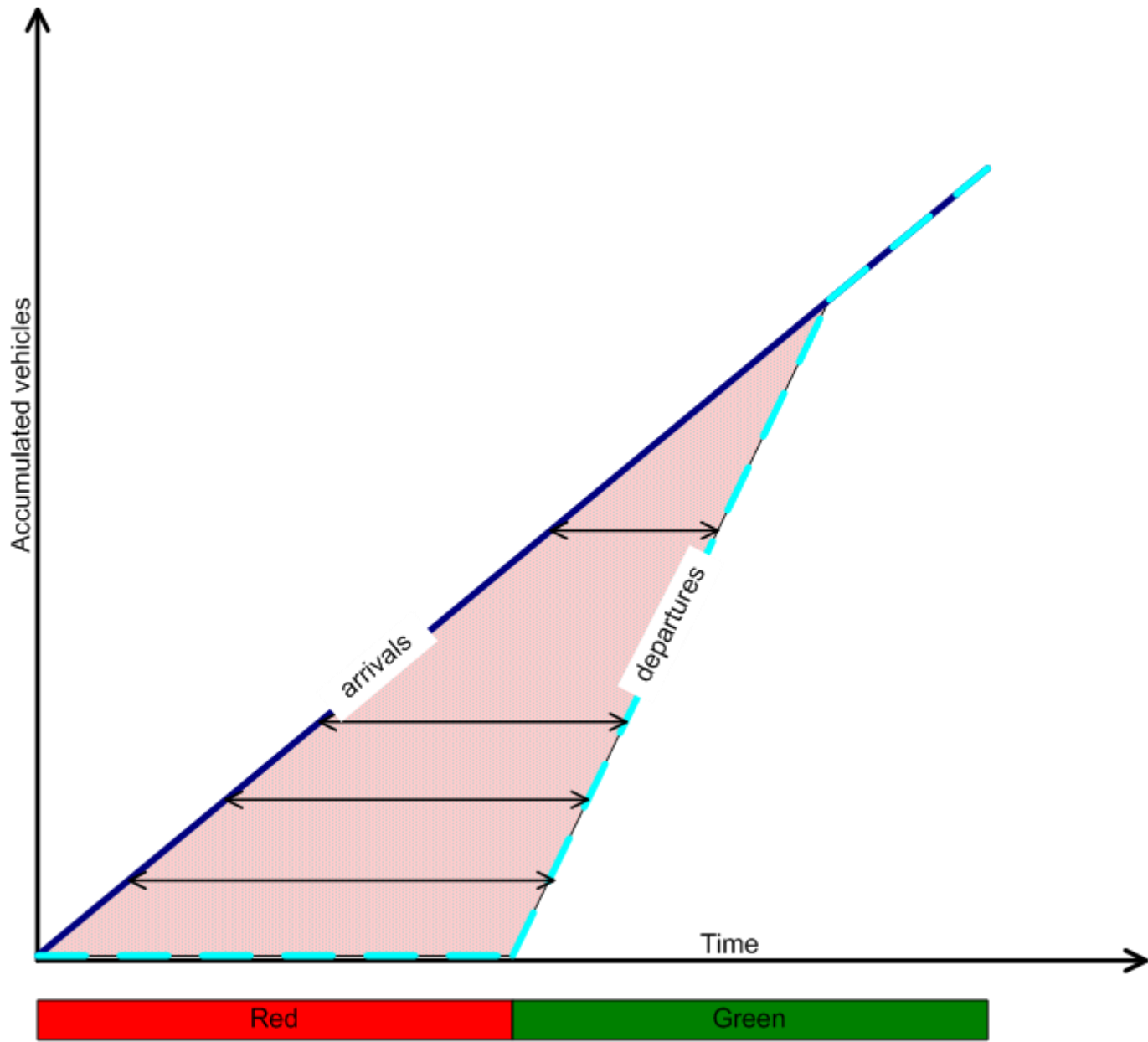


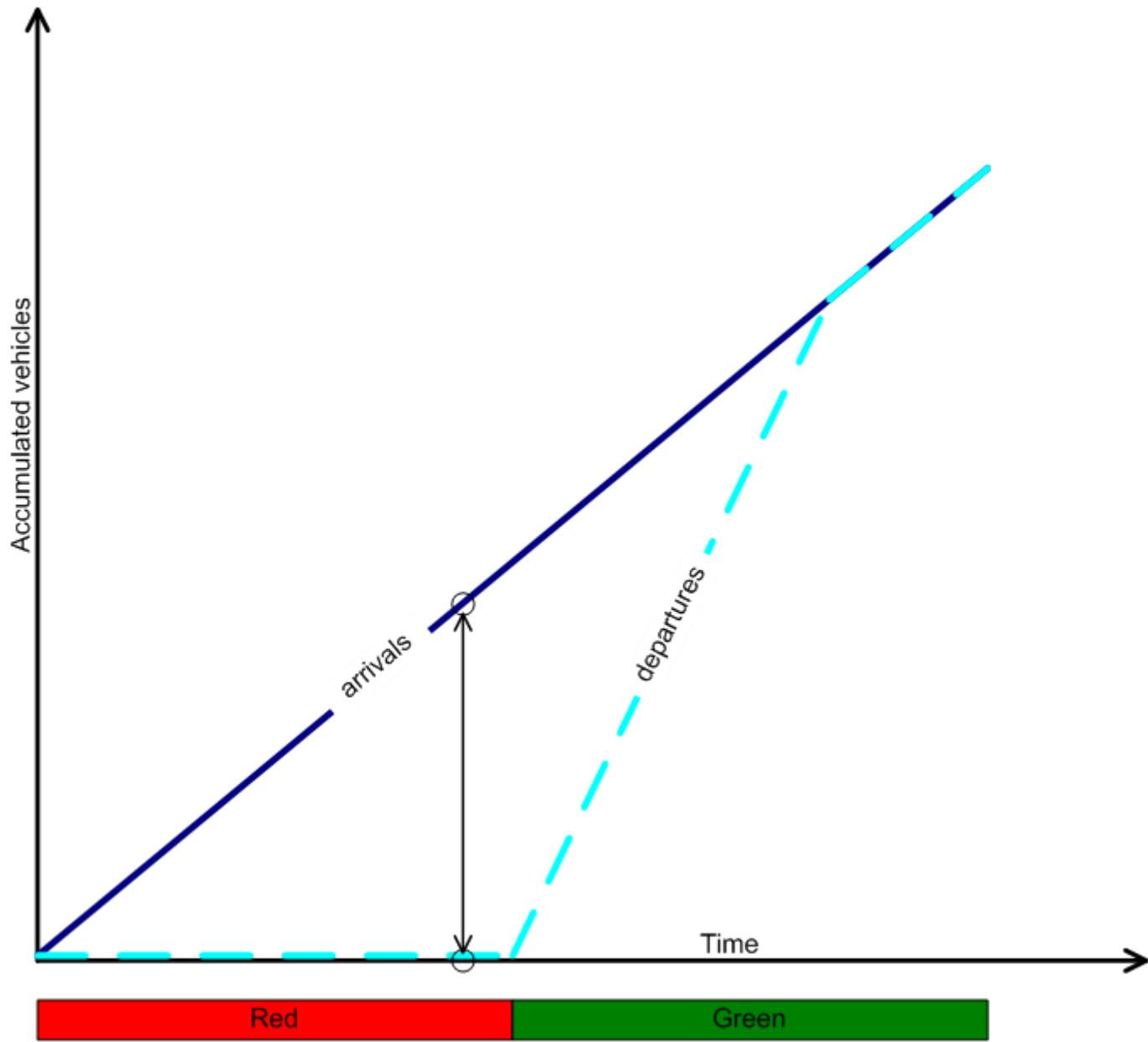


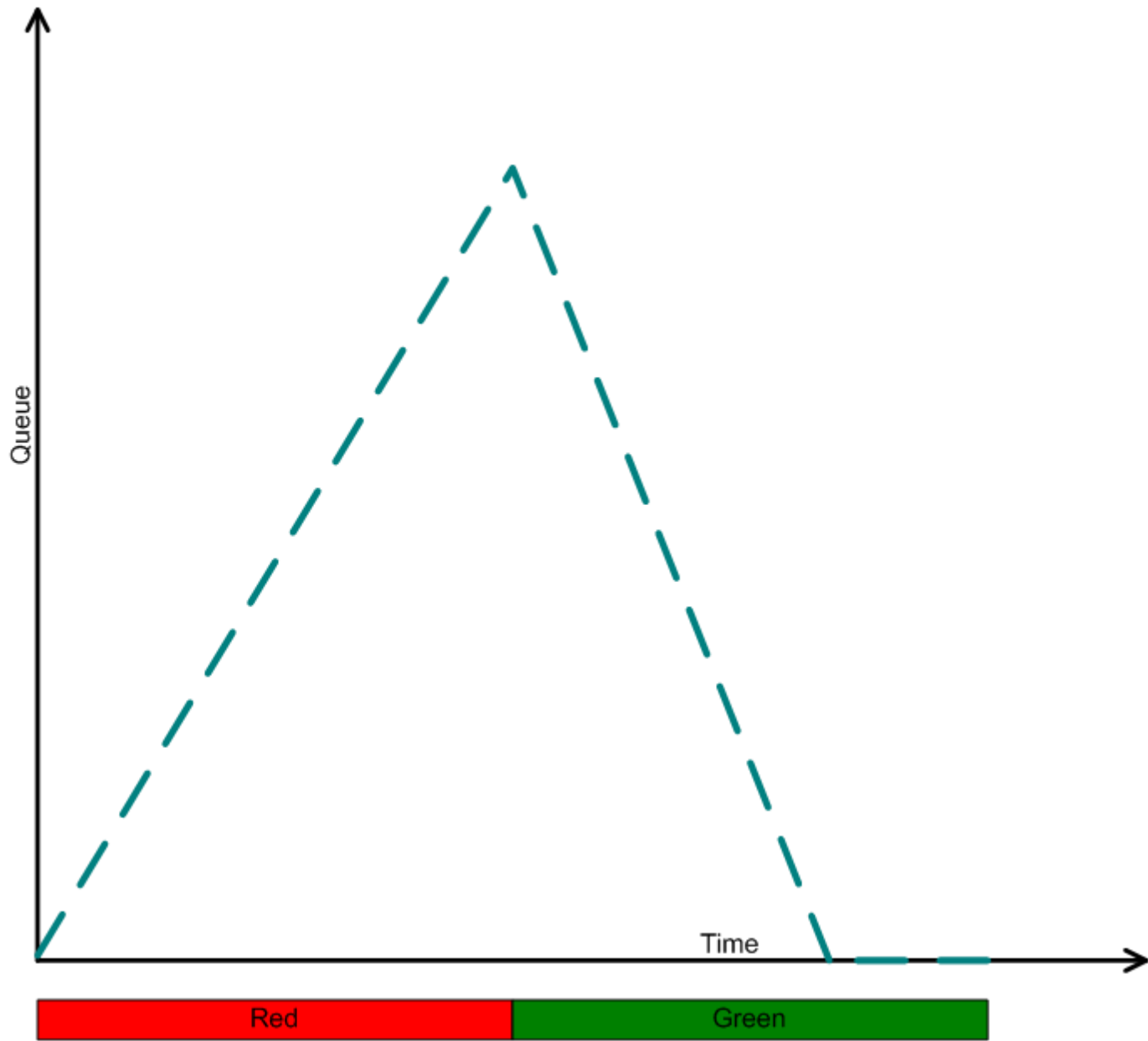




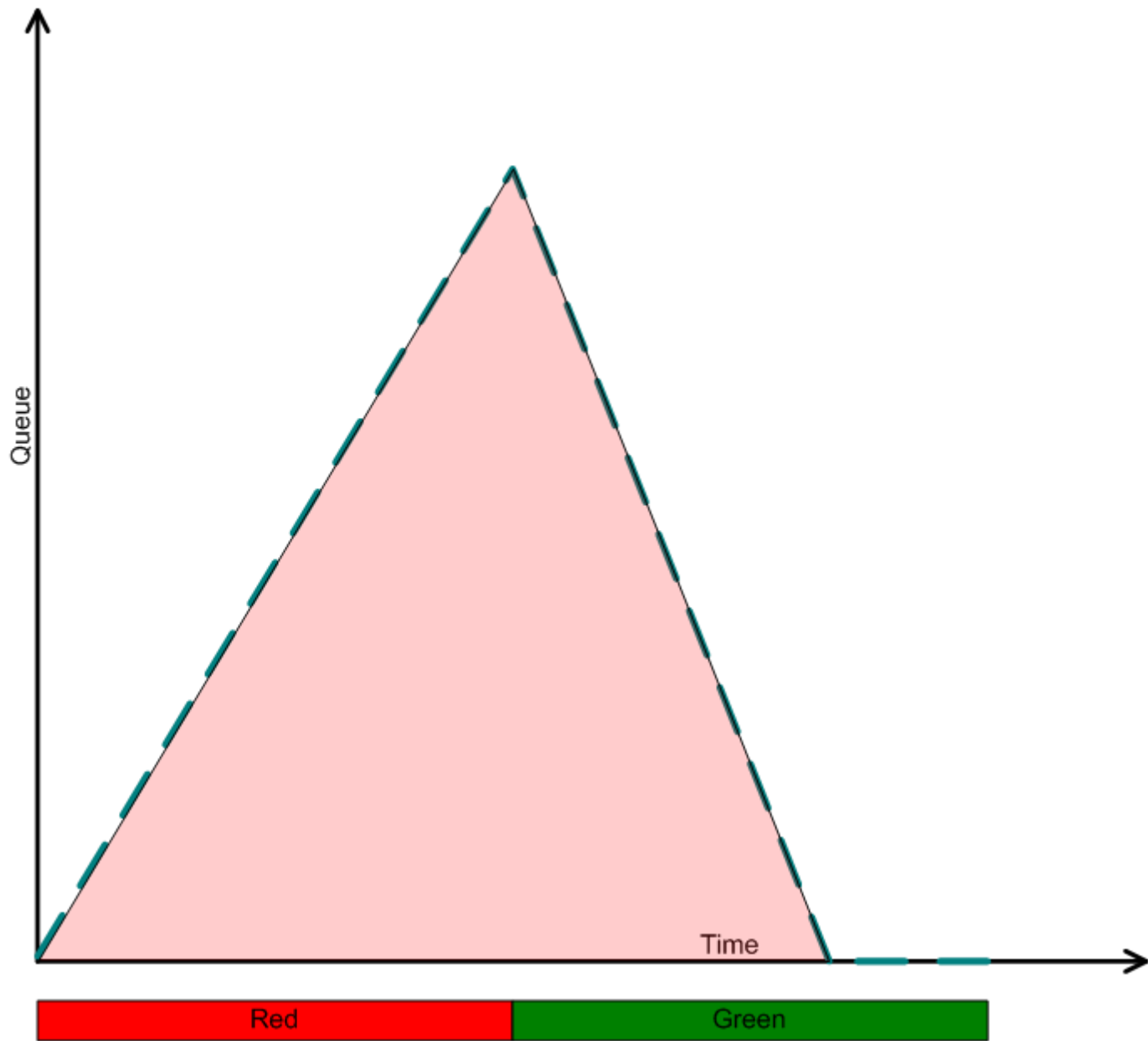












# What's next...

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