Dynamic wayfinding at airport landside

Improving the airport landside connectivity through the Internet of Things

Flying comes with many responsibilities for both the airport and the passenger. One of the responsibilities for the passenger is to be on time at the airport. In case of delays or disruptions, passengers are required to be provided with alternatives to be able to catch their flight on time. The airport is responsible for offering the best services to support the passengers in their journey. This includes the provision of products and services for easy and reliable landside connectivity.

The Kiss and Ride at Schiphol faces capacity and congestion problems. These congestions result in an increase of the stress level of the passengers.

This thesis proposes the use of a dynamic wayfinding system to ensure that drivers are well-informed about the traffic situation at Schiphol. Subsequently, the signs can be used to redirect the drivers in case of disruptions.
The design exists of two parts, the dynamic traffic signs and the sensors. The sensors measure the number of cars and travel speed of the cars to provide an indication of the congestion level in the respective area.
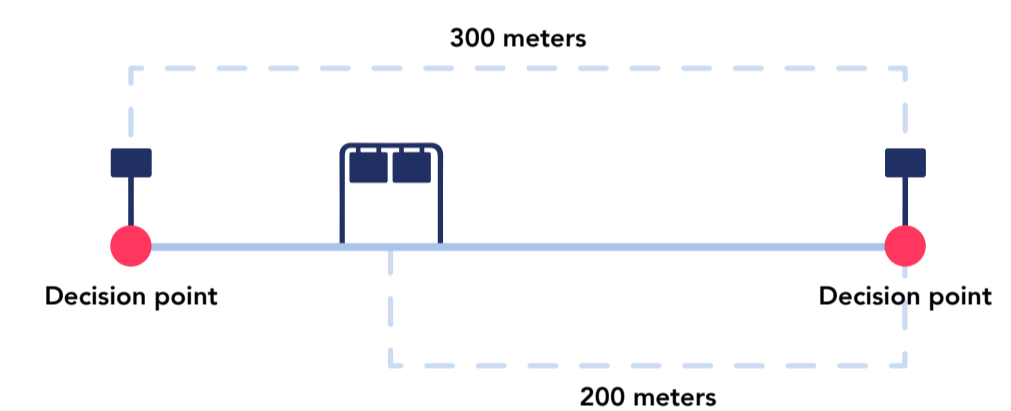For the placement of signs, several principles are defined, such as the distance, height and frequency. Moreover, the content and dynamic elements of the signs are studied with experts to provide intuitive, compact but impactful information provision.

The main benefit of the design is that the operation at Schiphol can take control in case of congestions/contingencies. As a result, unsafe situations can be prevented. Consequently, the insecurity levels of the passengers will be reduced by providing alternative routes.

Working principe of the sensors. The number of cars that enter and exit the area are counted.

Sensor set 3

5

17 cars in the area

20

8

Sensor set 1

Sensor set 2
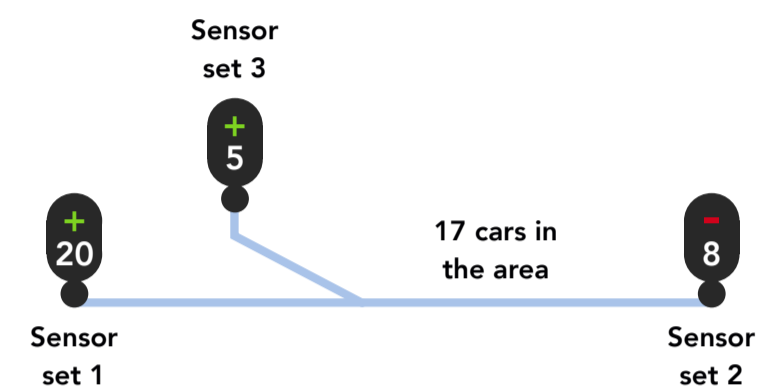
Guidelines for placement of signs with regard to the decision points.

300 meters

Decision point

Decision point

200 meters

Design examples for the dynamic signage. In this scenario 'Departures' is not available, so the driver needs to go to Parking.

1. Advance direction sign to inform the user about the redirection.

Parkeren 0-48 uur   384   **Vertrek** Wegbrengen   Volg A   **Car Rental**

↓   ↙   ↘

2. Interchange direction sign that follows up on the advance direction sign

A

Parkeren 0-48 uur   384   **Vertrek** Wegbrengen   Volg A

↓   ✕

The numbers represent a decision point. In this flow the decision points for dropping off at Schiphol are illustrated.

stands for overhead sign. These can be placed when there are one, two or more lanes.

stands for roadside sign. These are used when there are one or two lanes.

'C' stands for confirmation sign. These are placed after the decision point to confirm the location.

'A' stands for advance direction sign. This sign needs to be placed 200 meter before a decision point

Return to Schiphol
P1 (short parking)
Kiss and Ride
Sheraton loop

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Integrated Product Design

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