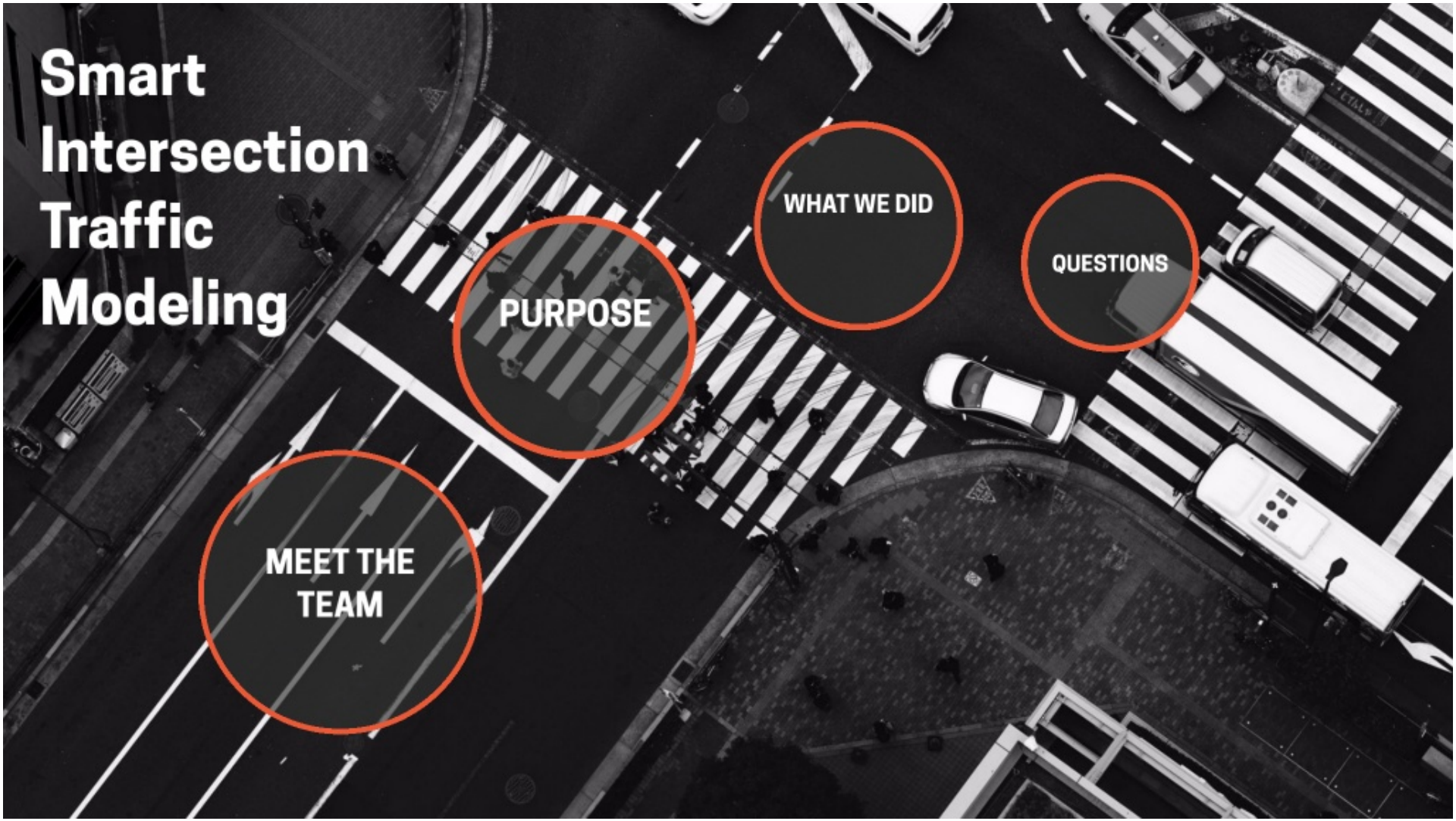
Smart Intersection Traffic Modeling
PURPOSE
WHAT WE DID
QUESTIONS
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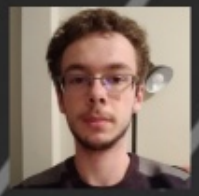
MEET THE TEAM

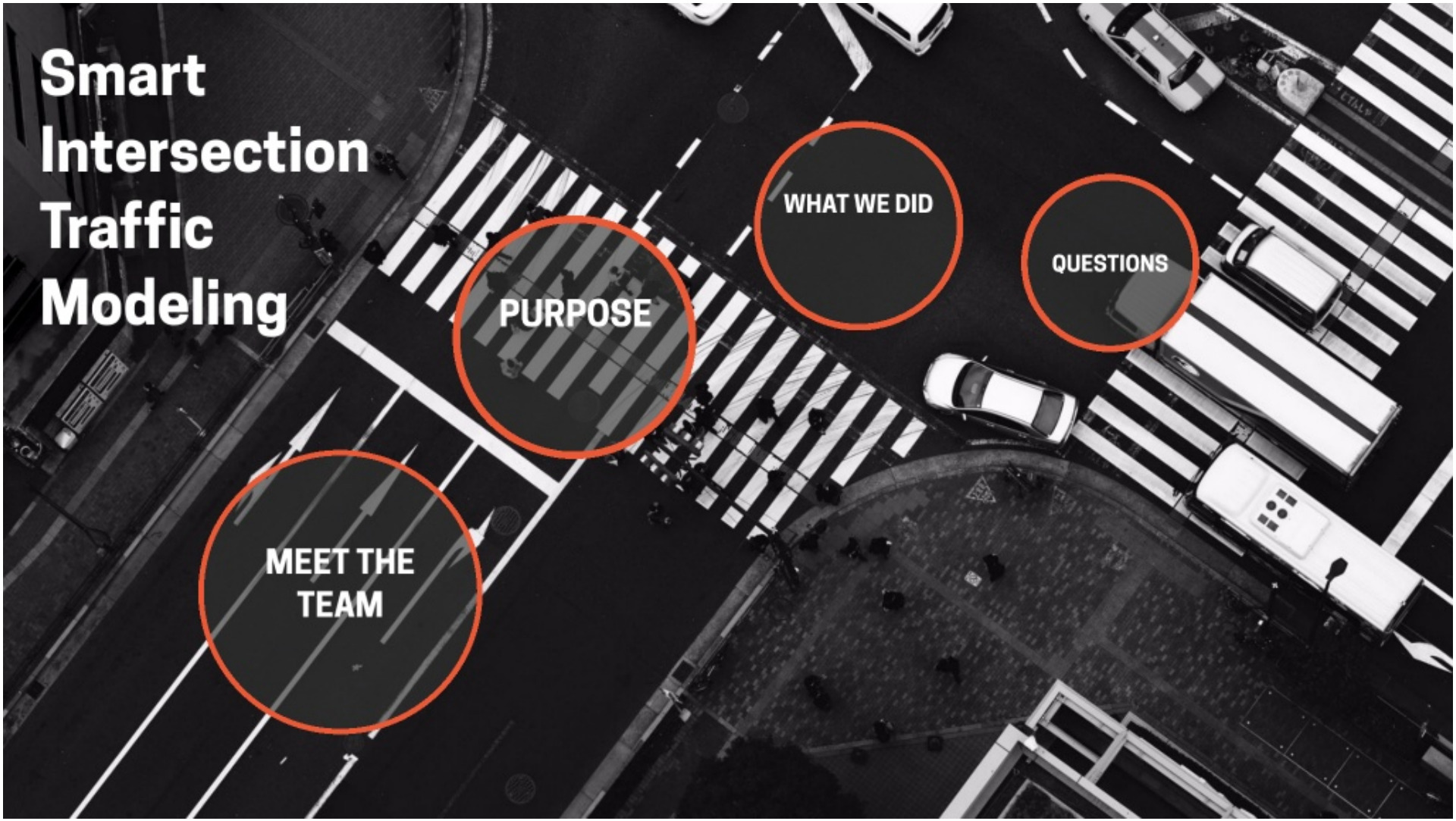
Hicham Elalam
Rutgers University
Major: Industrial and Systems Engineering
Class: 2020

Justine Catli
Rutgers University
Major: Electrical and Computer Engineering and Computer Science
Class: 2022



Pierre Engelstein
Polytech Angers
Major : Automated Systems and Computer Science
Class : 2021

Patrick Yubeaton
Rutgers University
Major: Electrical and Computer Engineering and Economics
Class: 2022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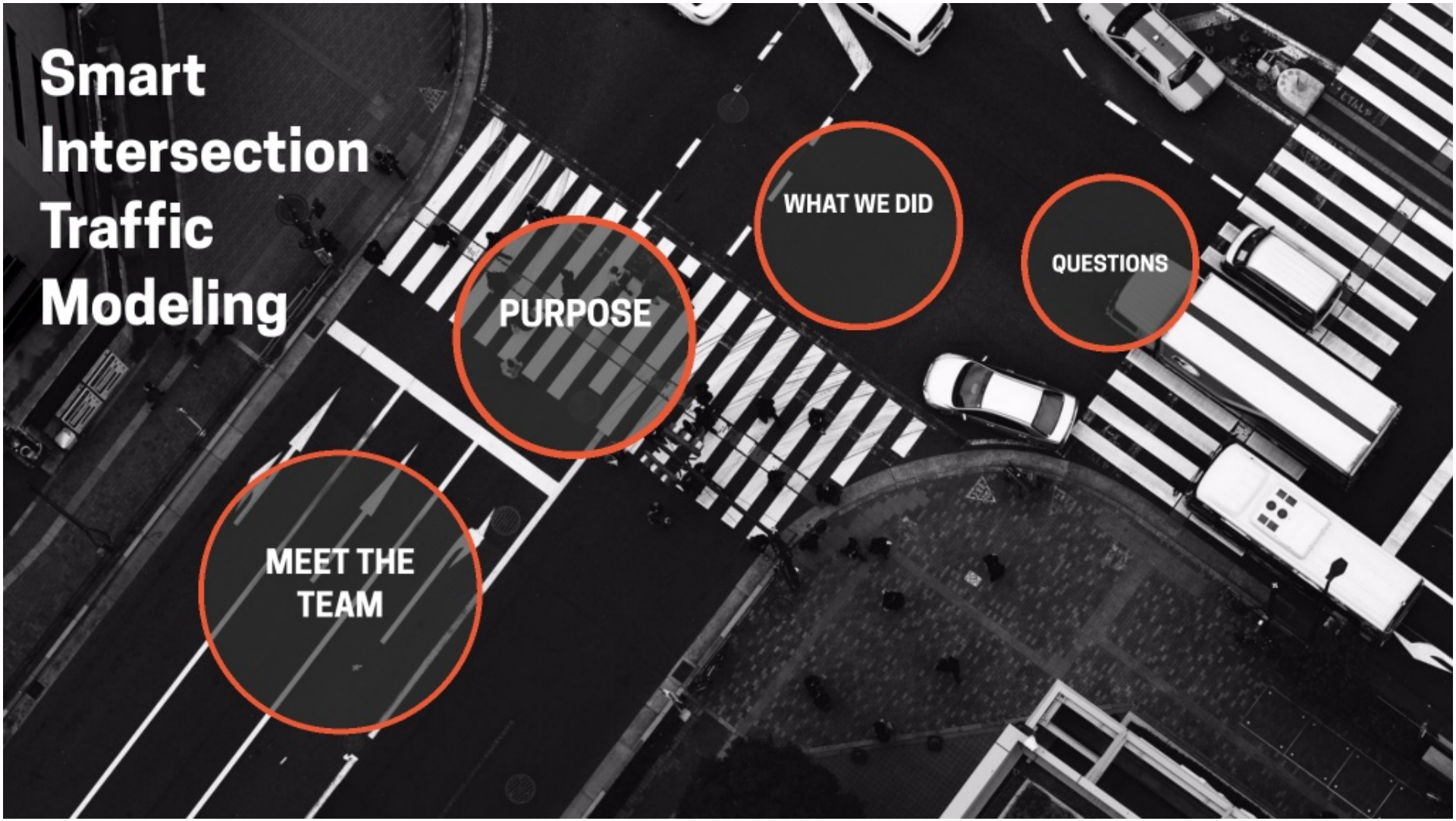
PURPOSE

Model Traffic for Self-Driving Cars

- Physical Intersection
- Simulation
- Automated Driving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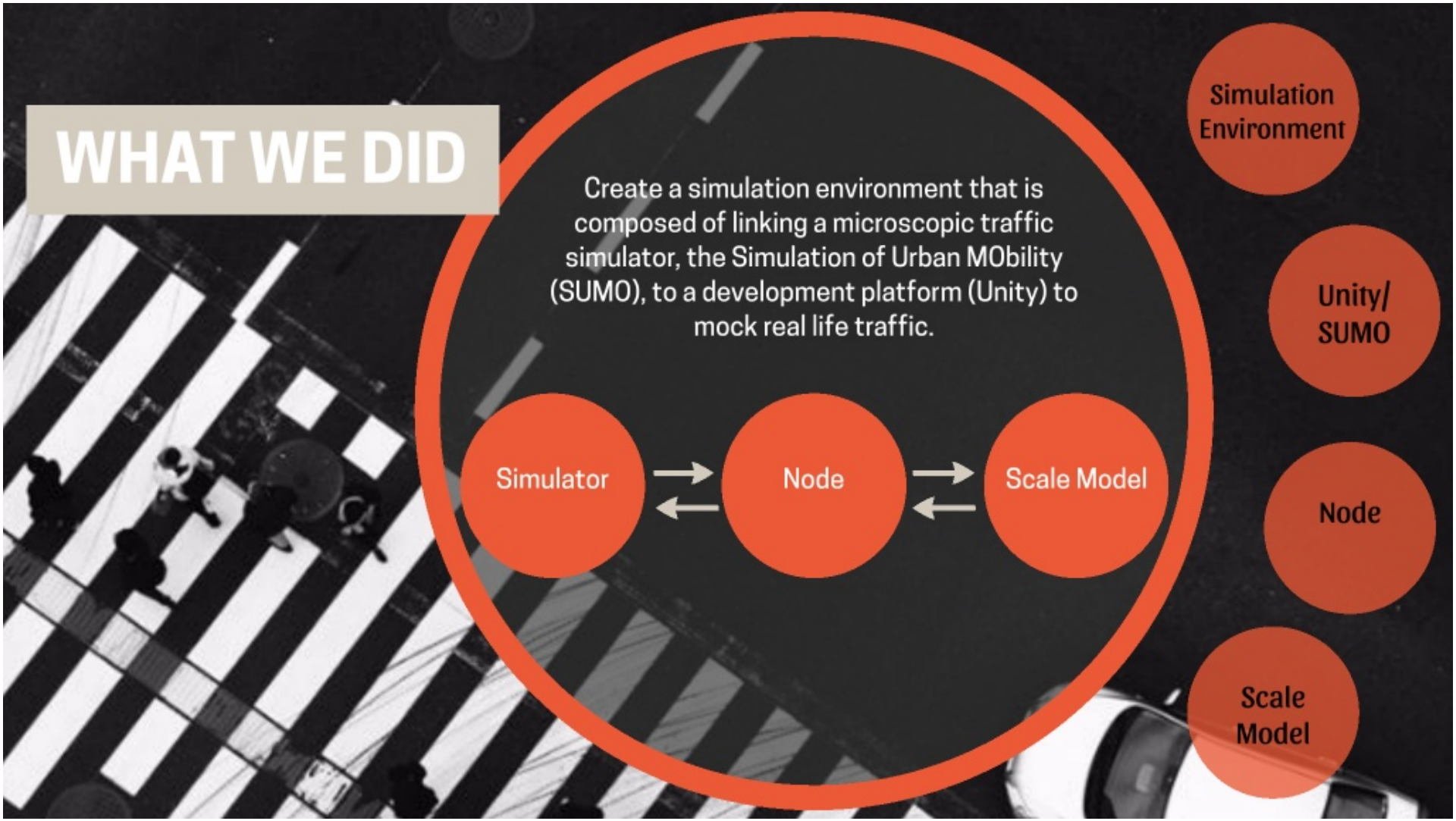
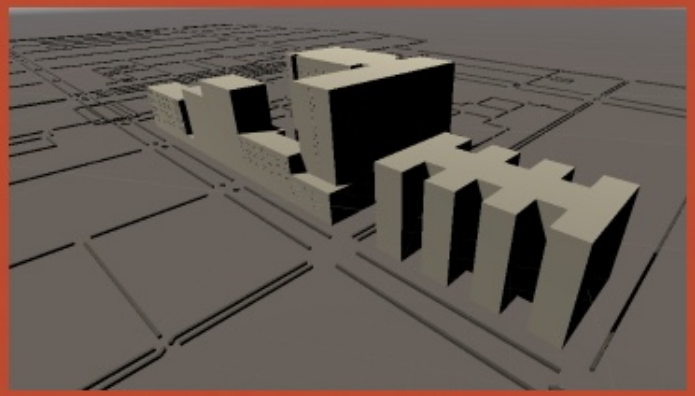
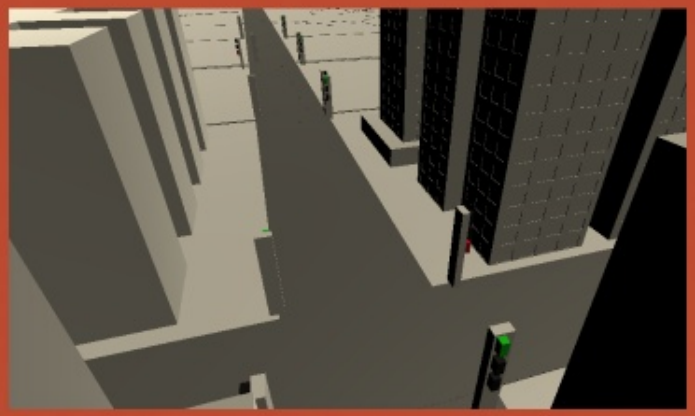

WHAT WE DID
Create a simulation environment that is composed of linking a microscopic traffic simulator, the Simulation of Urban MObility (SUMO), to a development platform (Unity) to mock real life traffic.
Simulator
Node
Scale Model
Simulation Environment
Unity/ SUMO
Node
Scale Model

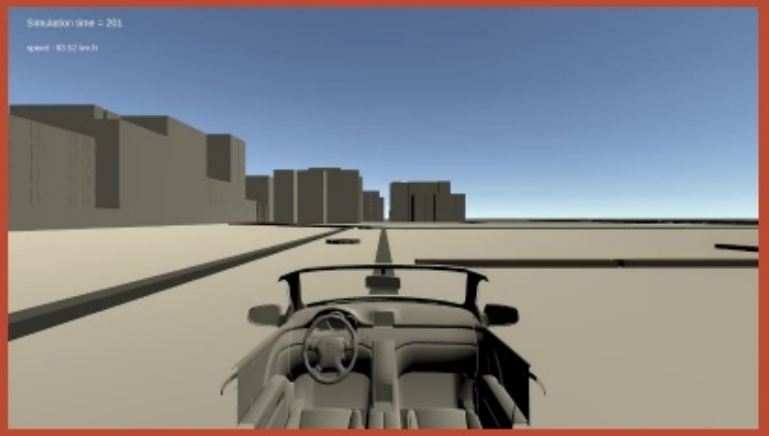
Simulation Environment



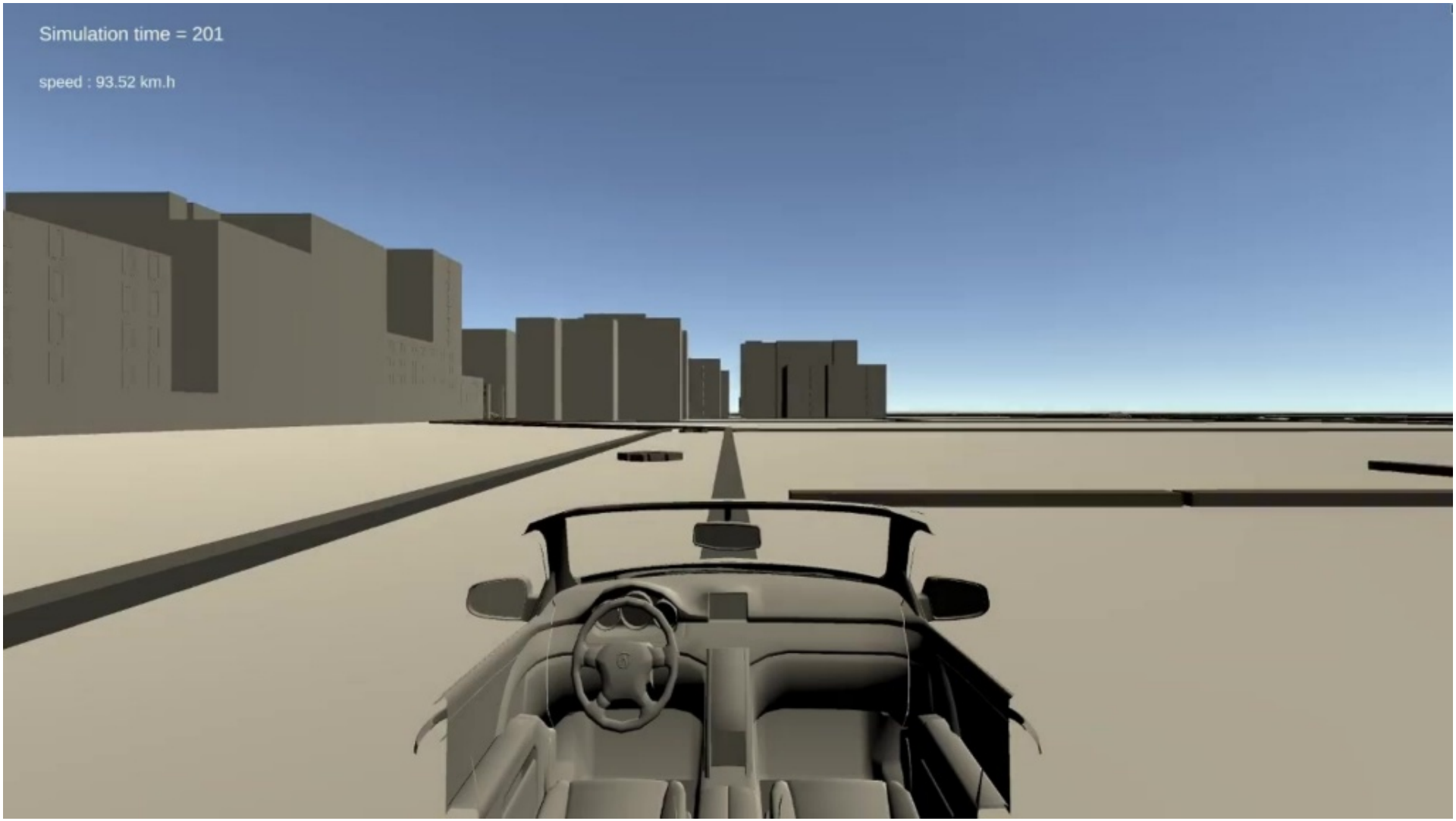
Map on June 11th



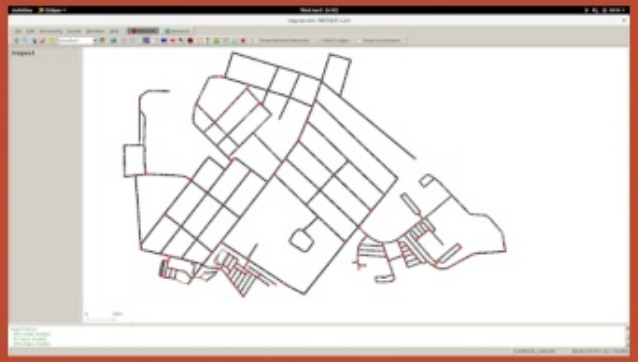
Map on June 17th

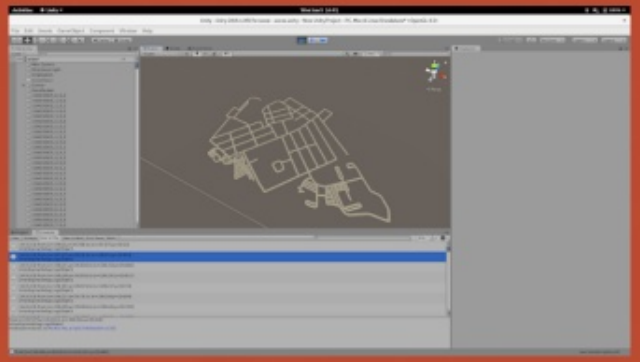


Final Product


Simulation time = 201
speed : 93.52 km.h

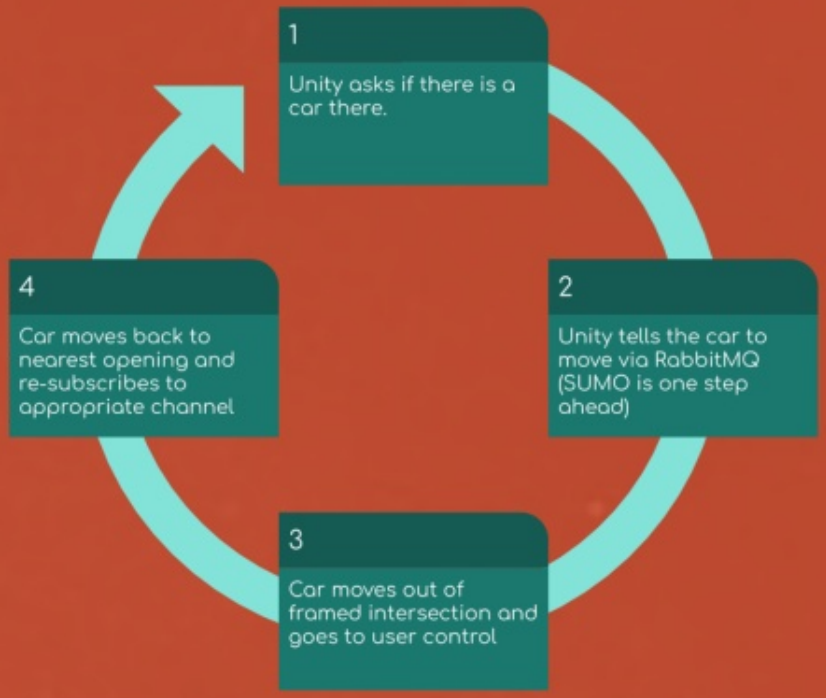
Unity/SUMO



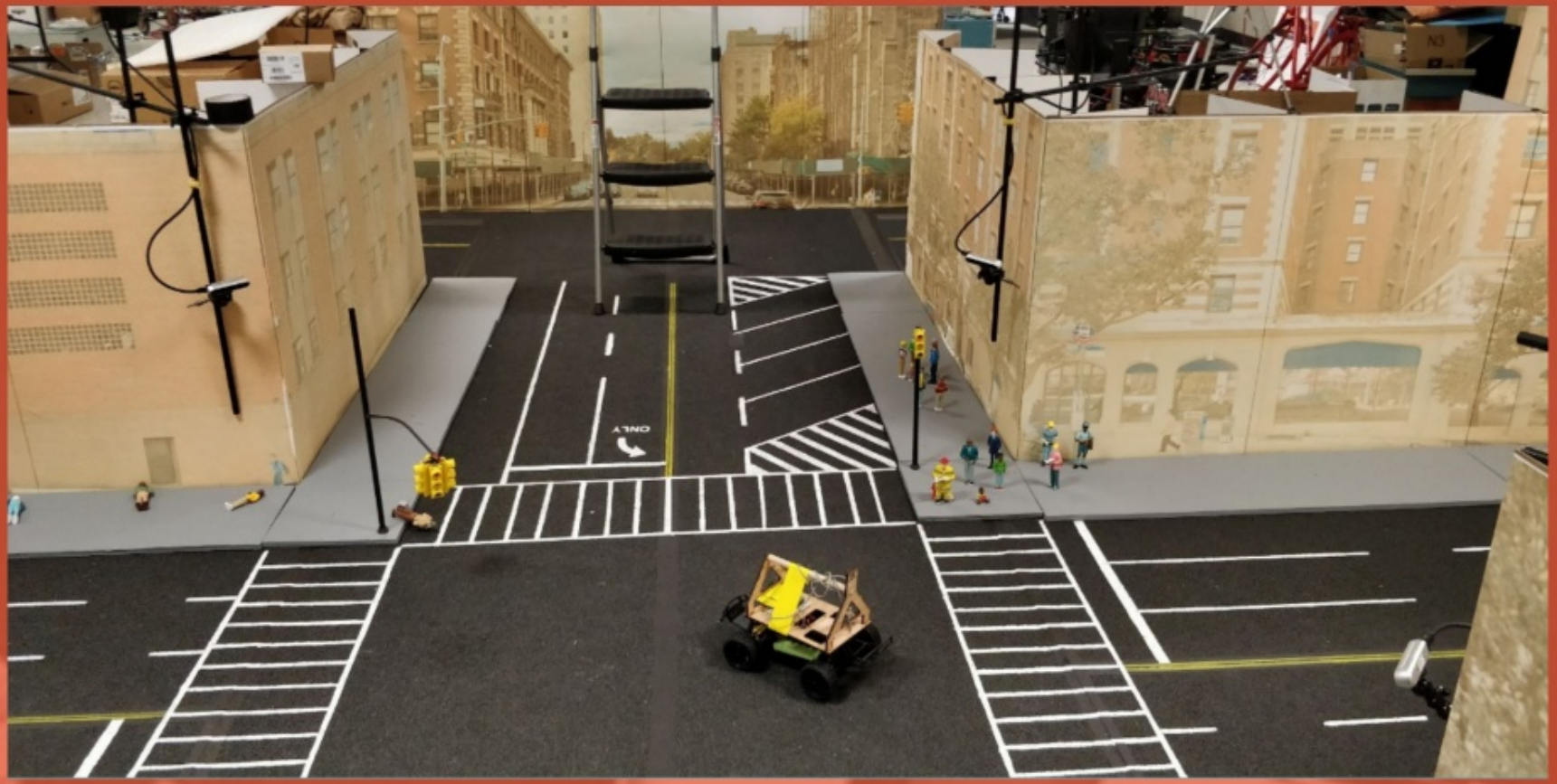


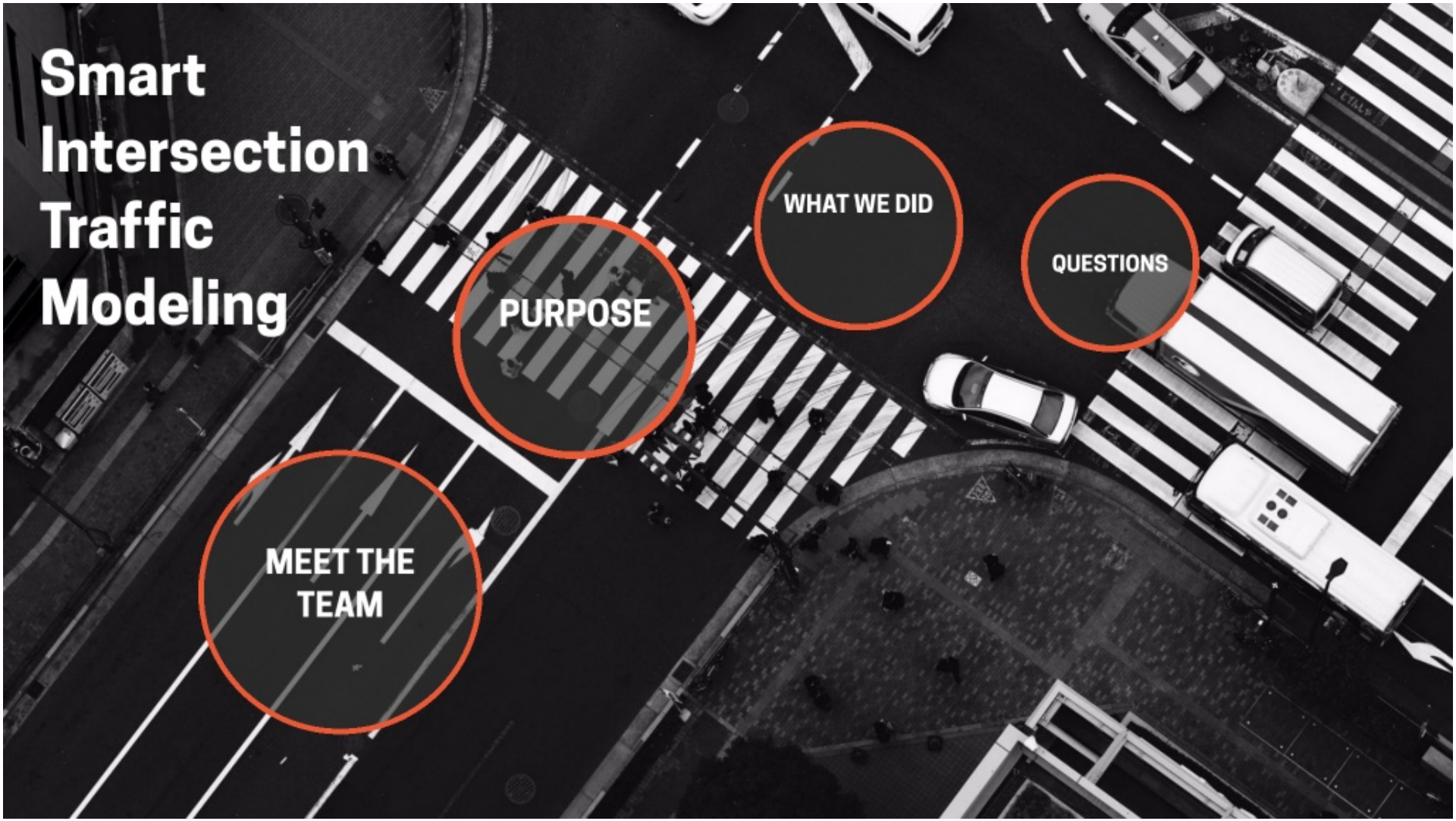
Node


N
W
E
S
West 120th Street
Amsterdam Avenue


1
Unity asks if there is a car there.
2
Unity tells the car to move via RabbitMQ (SUMO is one step ahead)
3
Car moves out of framed intersection and goes to user control
4
Car moves back to nearest opening and re-subscribes to appropriate channel

Scale Model

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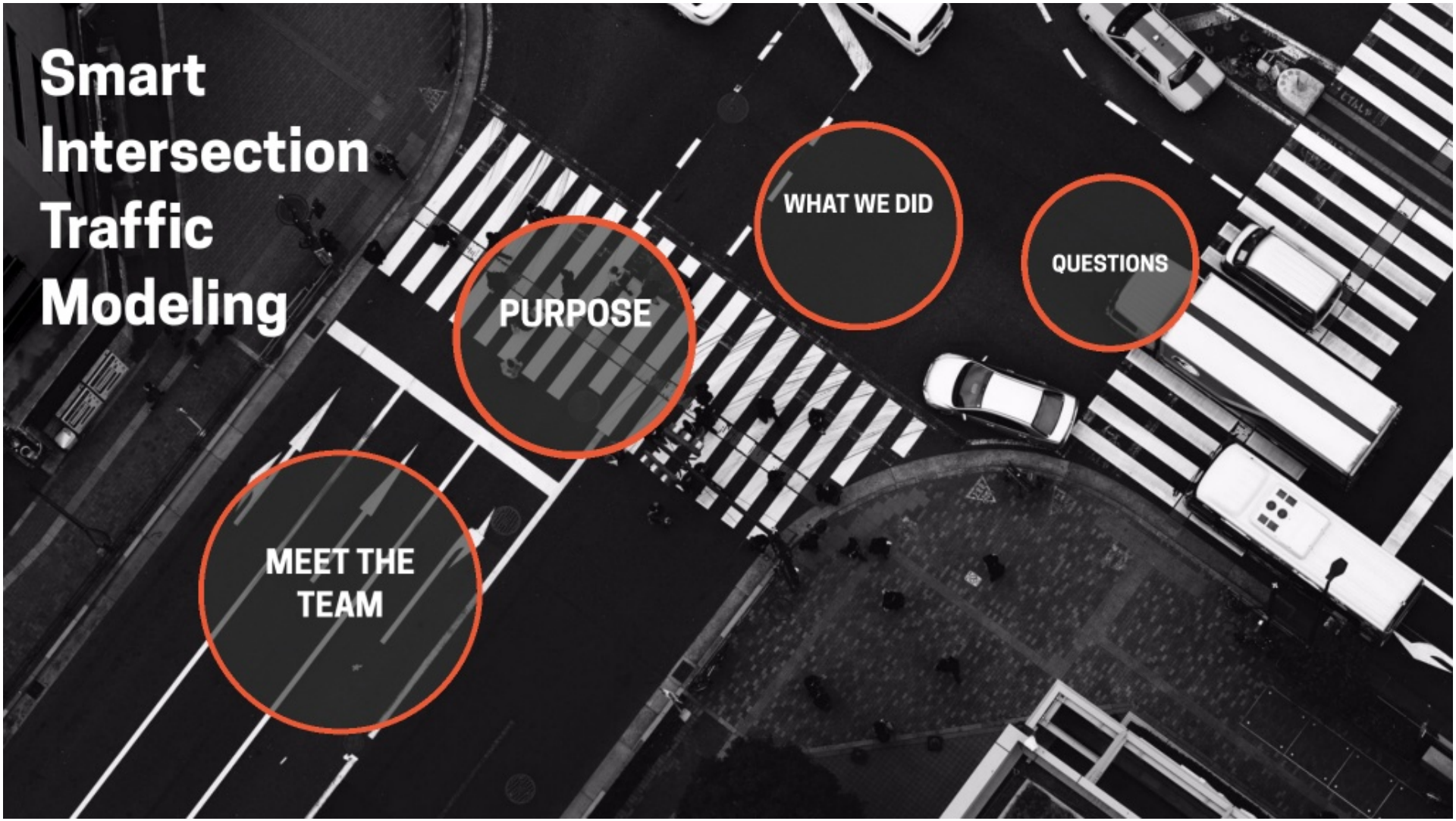
QUESTIONS
?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