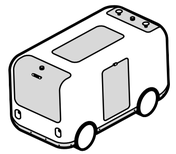
多维策略建构无人驾驶出行体验

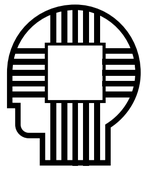
Driving the User Experience for Diverless Urban Mobility:

A Multidimensional Approach and Consideration of Core Issues

周博
ZHOU BO



UISEE.AI



Autonomous

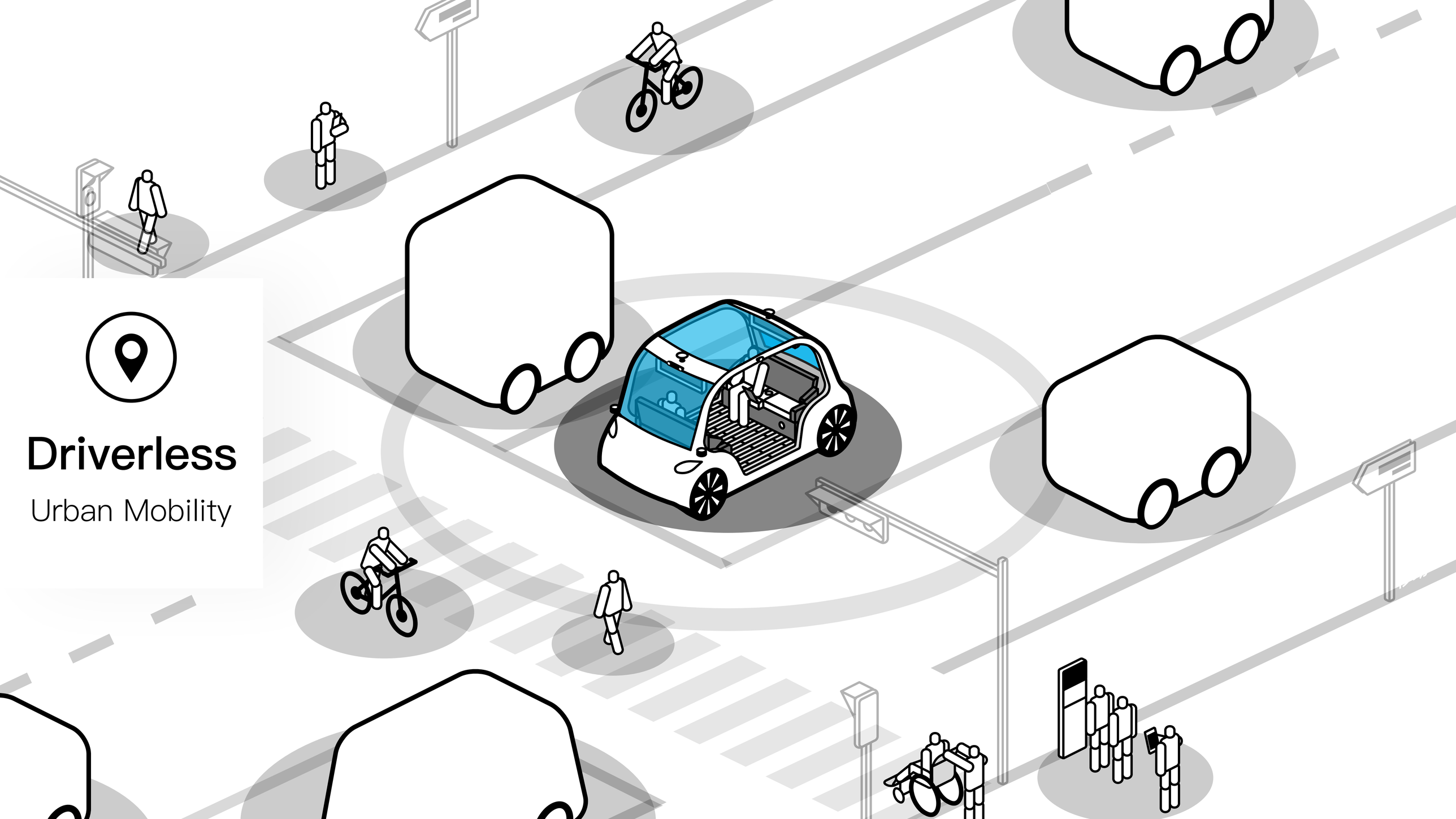
Driving

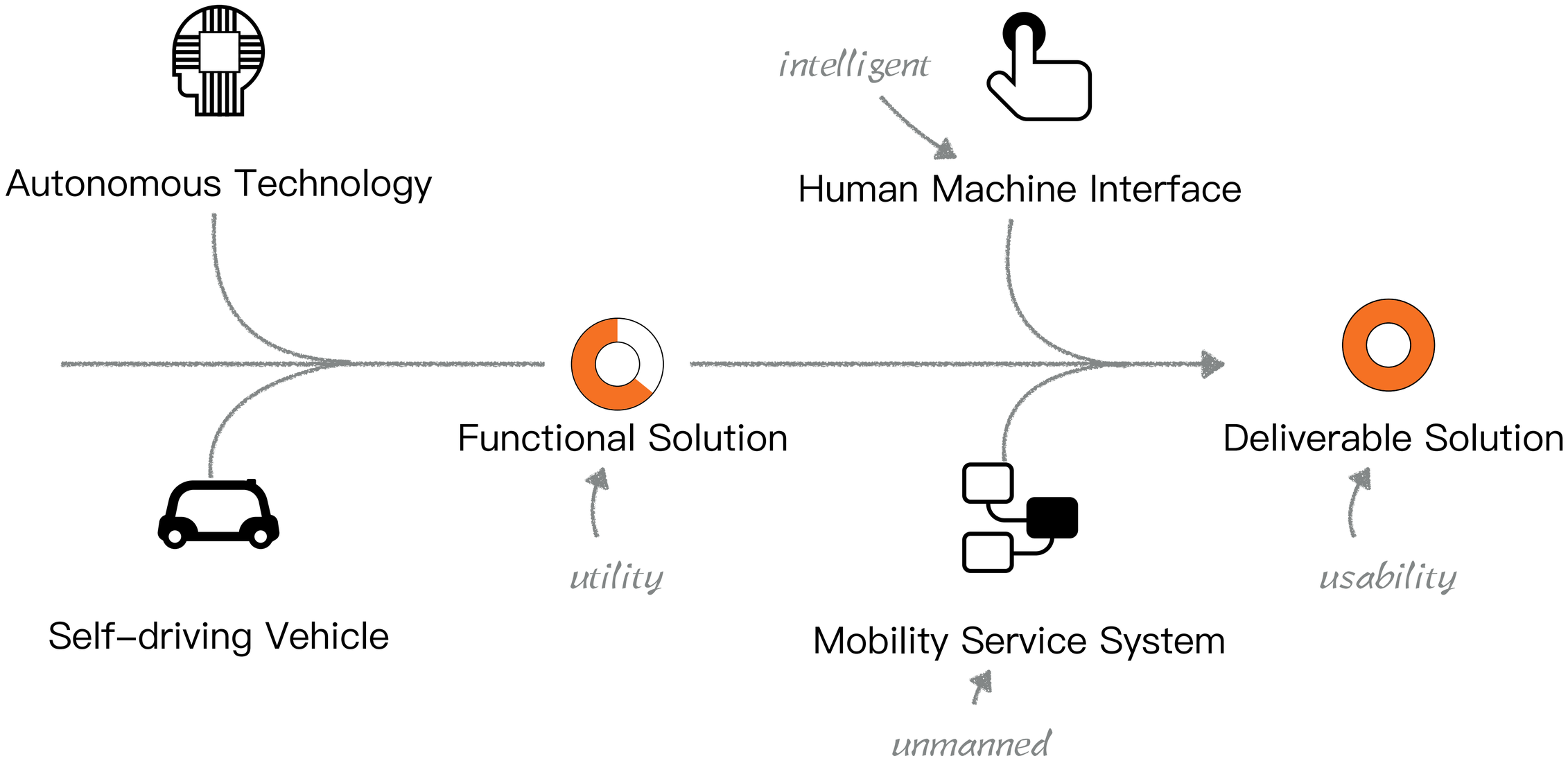
Self-driving

Vehicle

Driverless

Urban Mobility


Driverless
Urban Mobility


Autonomous Technology
intelligent
Human Machine Interface
Functional Solution
Deliverable Solution
utility
usability
Self-driving Vehicle
Mobility Service System
unmanned

Human

Artificial

Human Intervention

每公里人工介入数

Driving

Performance

Smoothness

平顺度

=

HMI

人机交互

Vehicle

Capability

Autonomous Driving

自动驾驶

/

Service System

服务体系

Context

Complexity

Transportation System

交通系统

Human

Artificial

Context

Complexity

UNMANNED

无人化

FTUE

首次用户体验

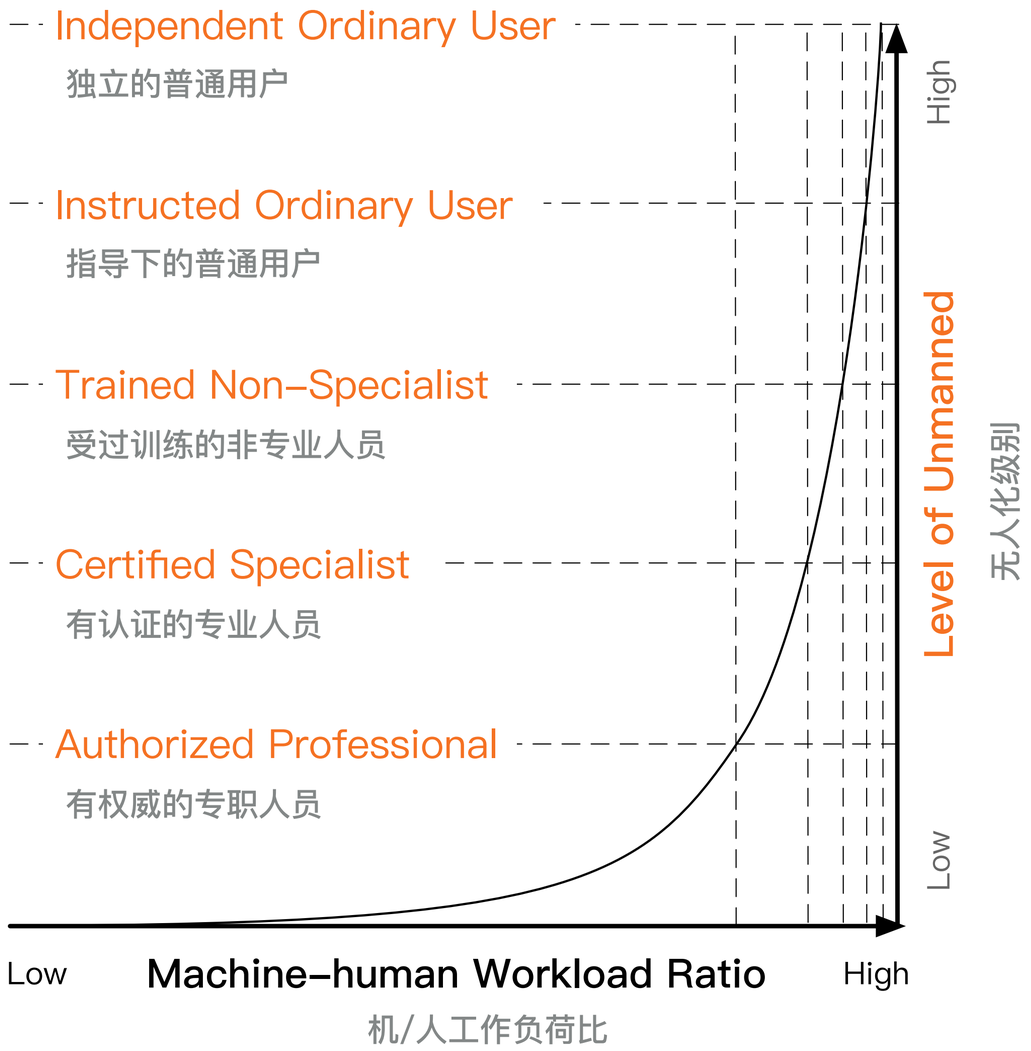
SHARING

共享

Challenge 1

UNMANNED

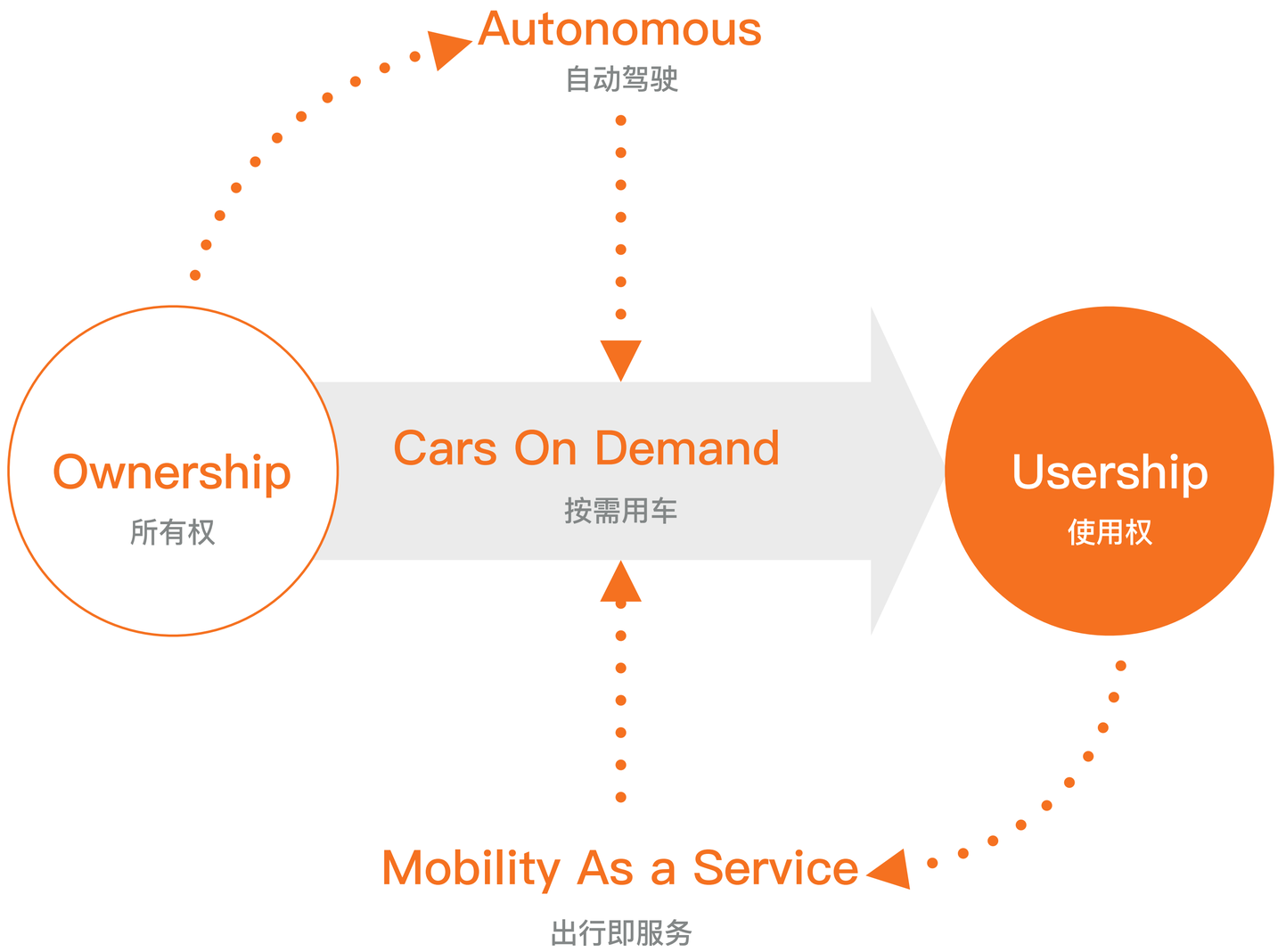
无人化



Challenge 2

FTUE

首次用户体验



Challenge 3

SHARING

共享

Where

在哪儿停

How Long

停多久

When

何时走

Which

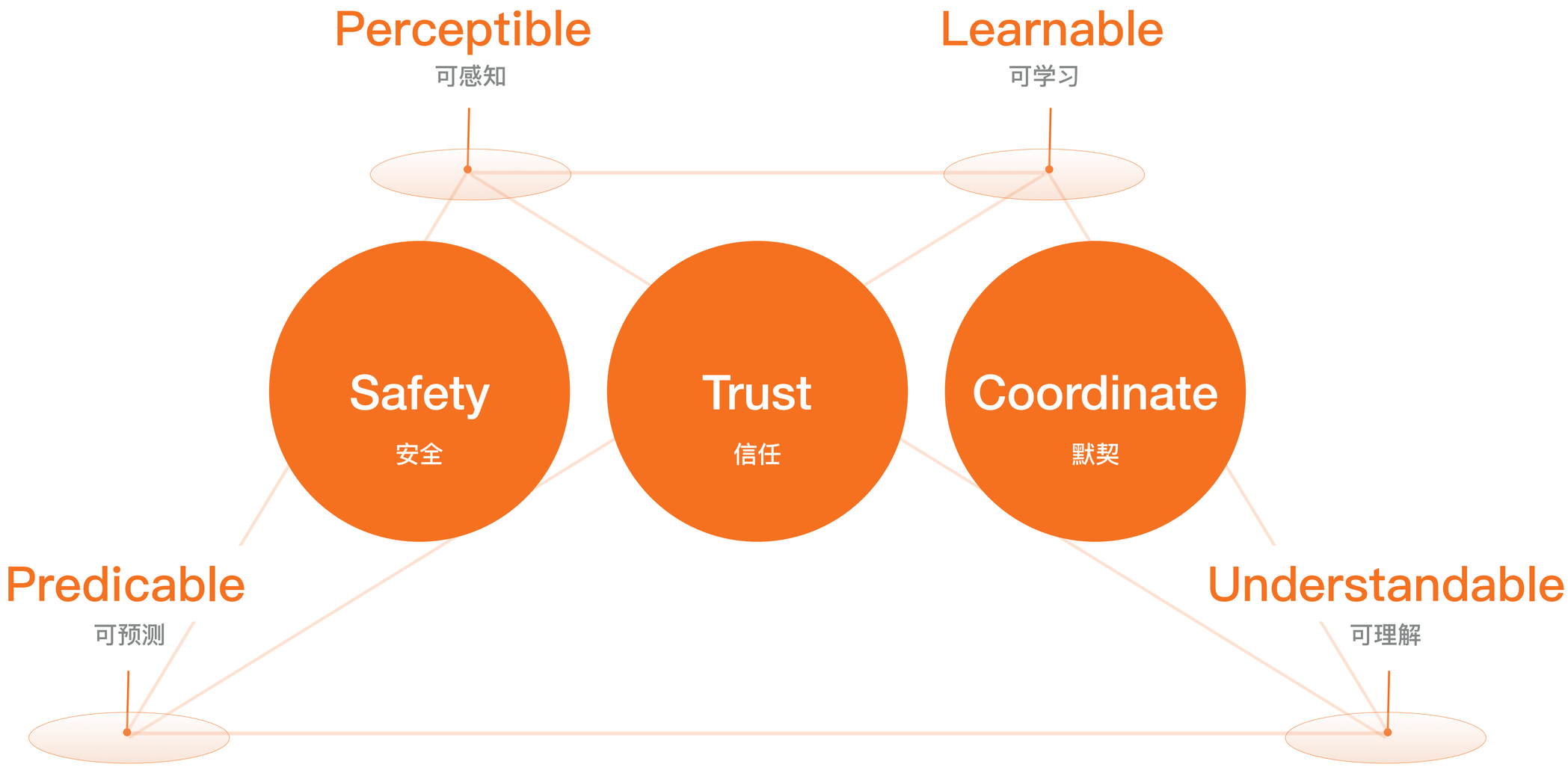
怎么走

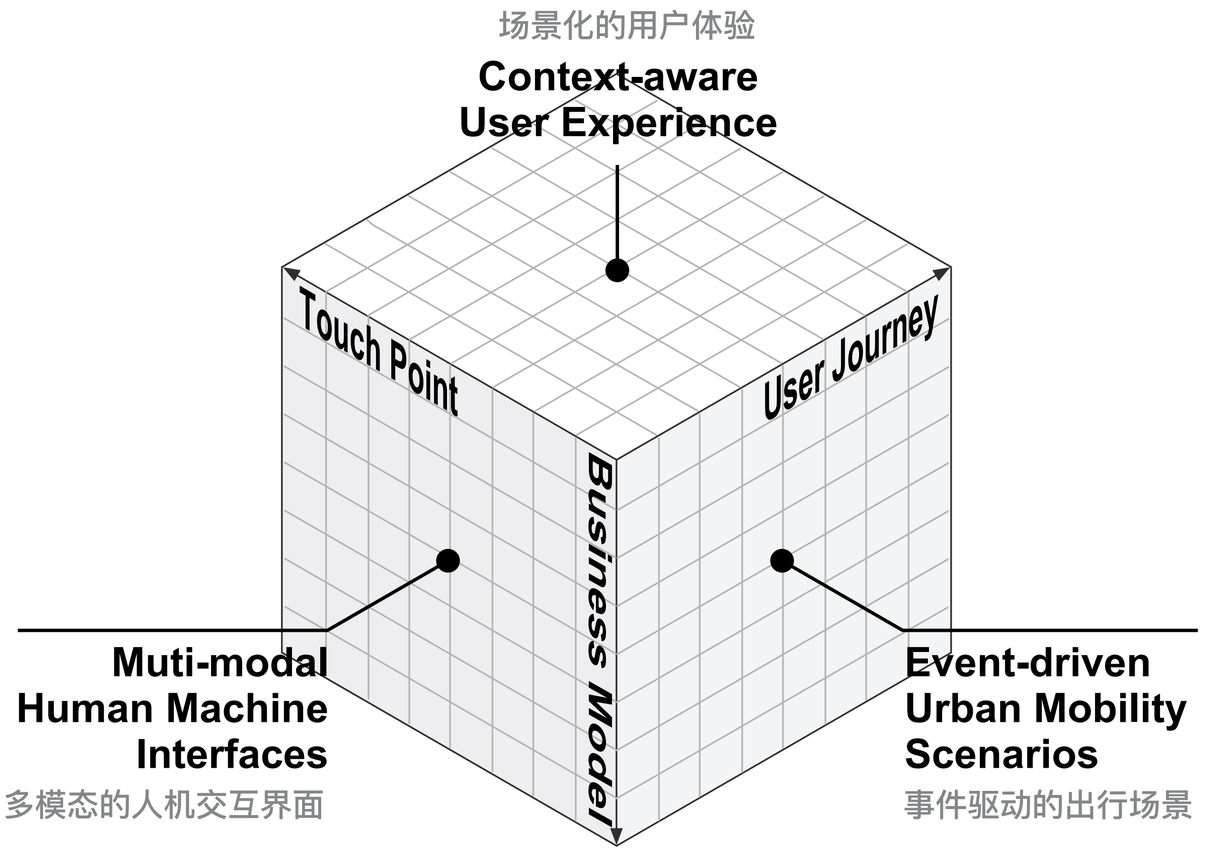
Exponentially Growing Complexity

复杂性呈指数级上升

issues concern to
UX of Driverless Urban Mobility

无人驾驶用户体验的关键问题


Perceptible
可感知
Learnable
可学习
Safety
安全
Trust
信任
Coordinate
默契
Predicable
可预测
Understandable
可理解



Exploring the interaction between the factors and building a general design framework,
so that we can respond efficiently to variable and unknown requirement.

探索多维度因素之间的相关性，并建立一个一般的设计框架，
以高效的应对多变和未知的需求。

I. Build the Framework

建构框架

II. Produce Solutions

产出方案

I. Build the Framework 建构框架

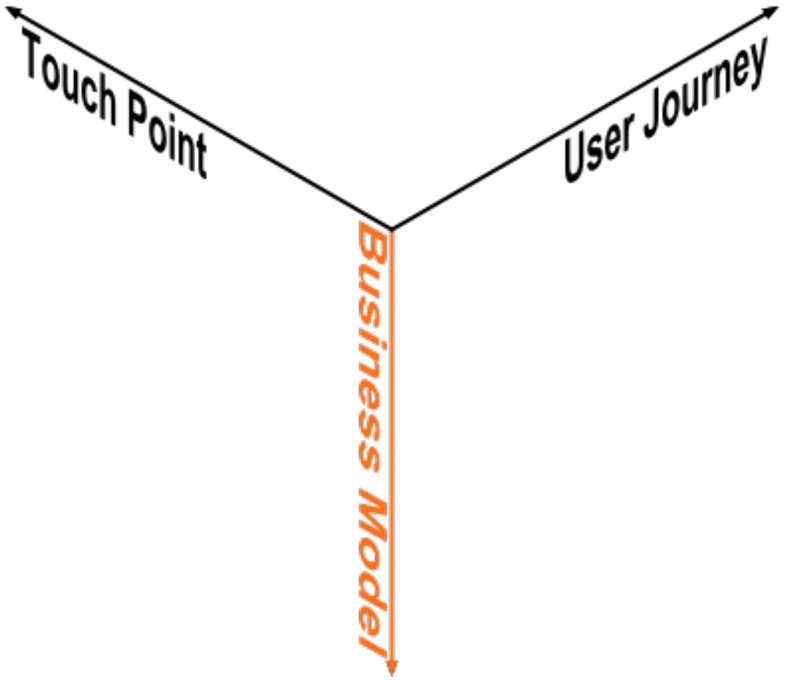
II. Produce Solutions 产出方案

I. Build the Framework 建构框架

II. Produce Solutions 产出方案

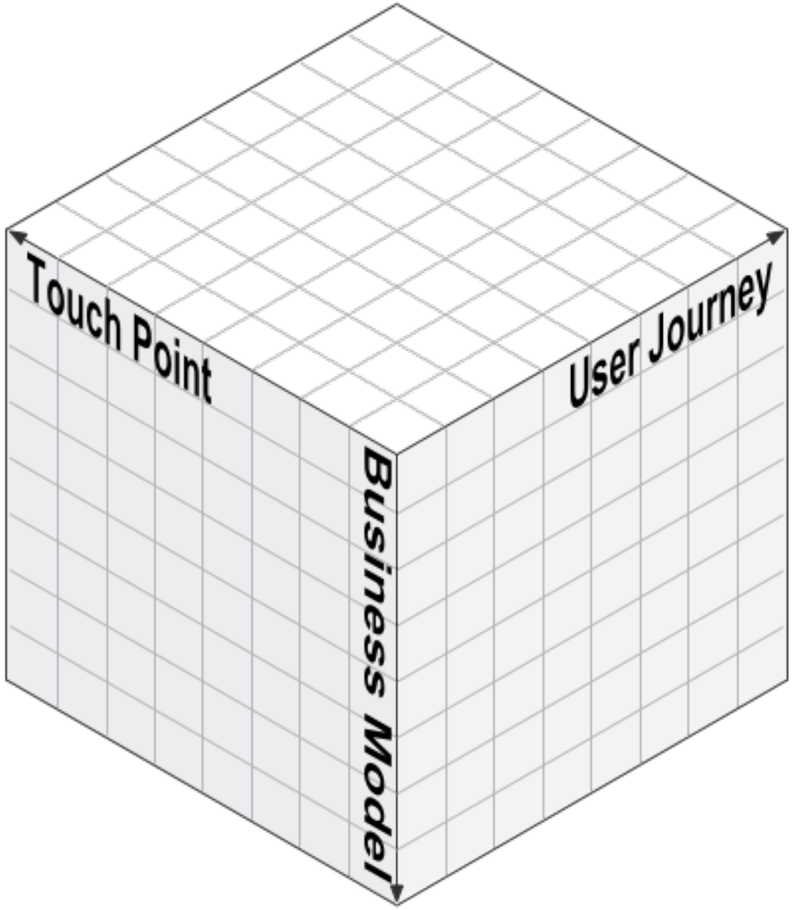
I. Build the Framework 建构框架

II. Produce Solutions 产出方案



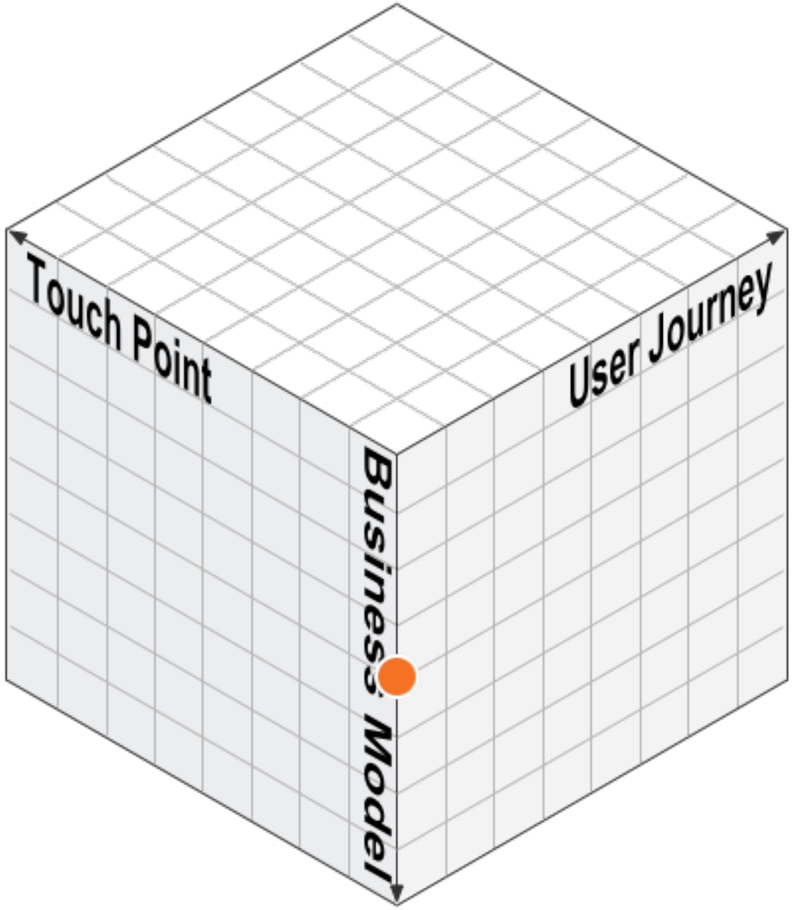
I. Build the Framework 建构框架

II. Produce Solutions 产出方案



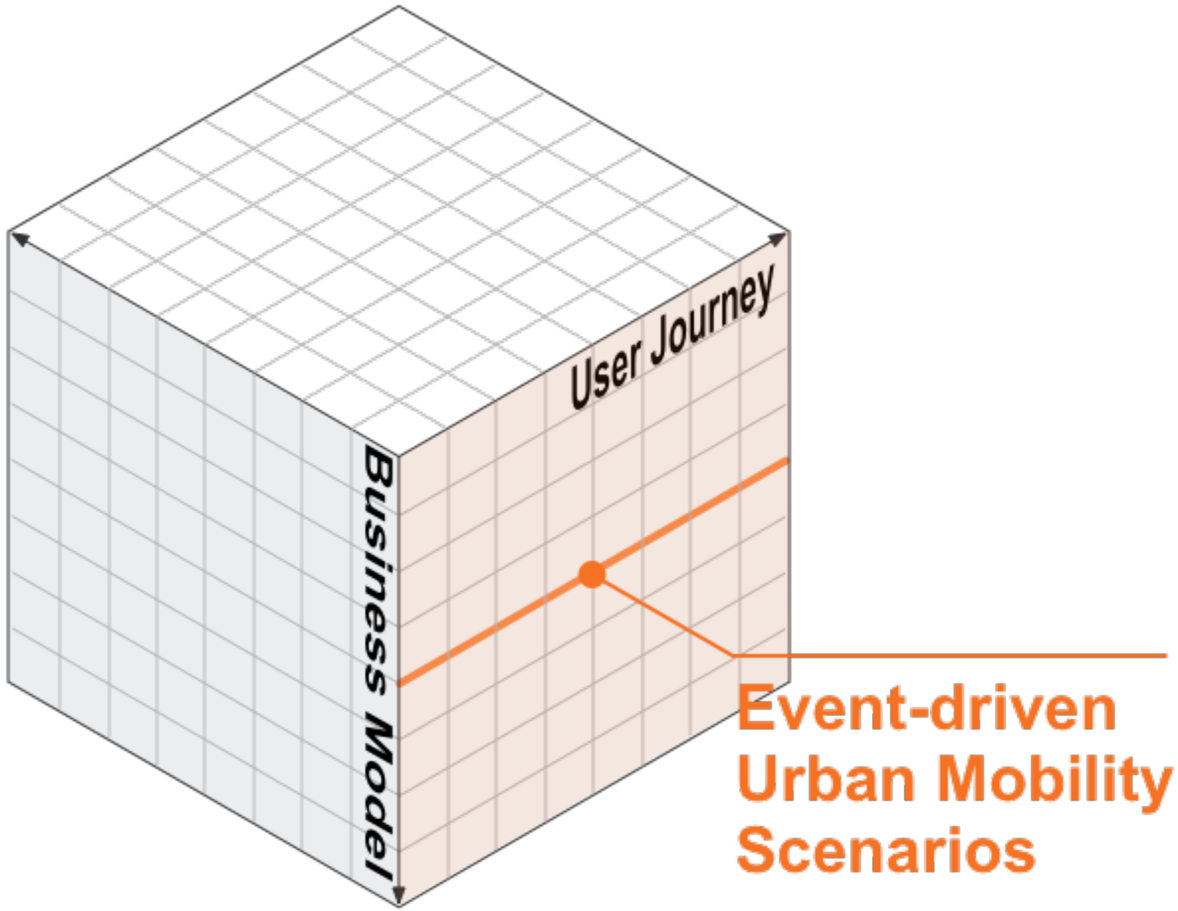
I. Build the Framework 建构框架

II. Produce Solutions 产出方案



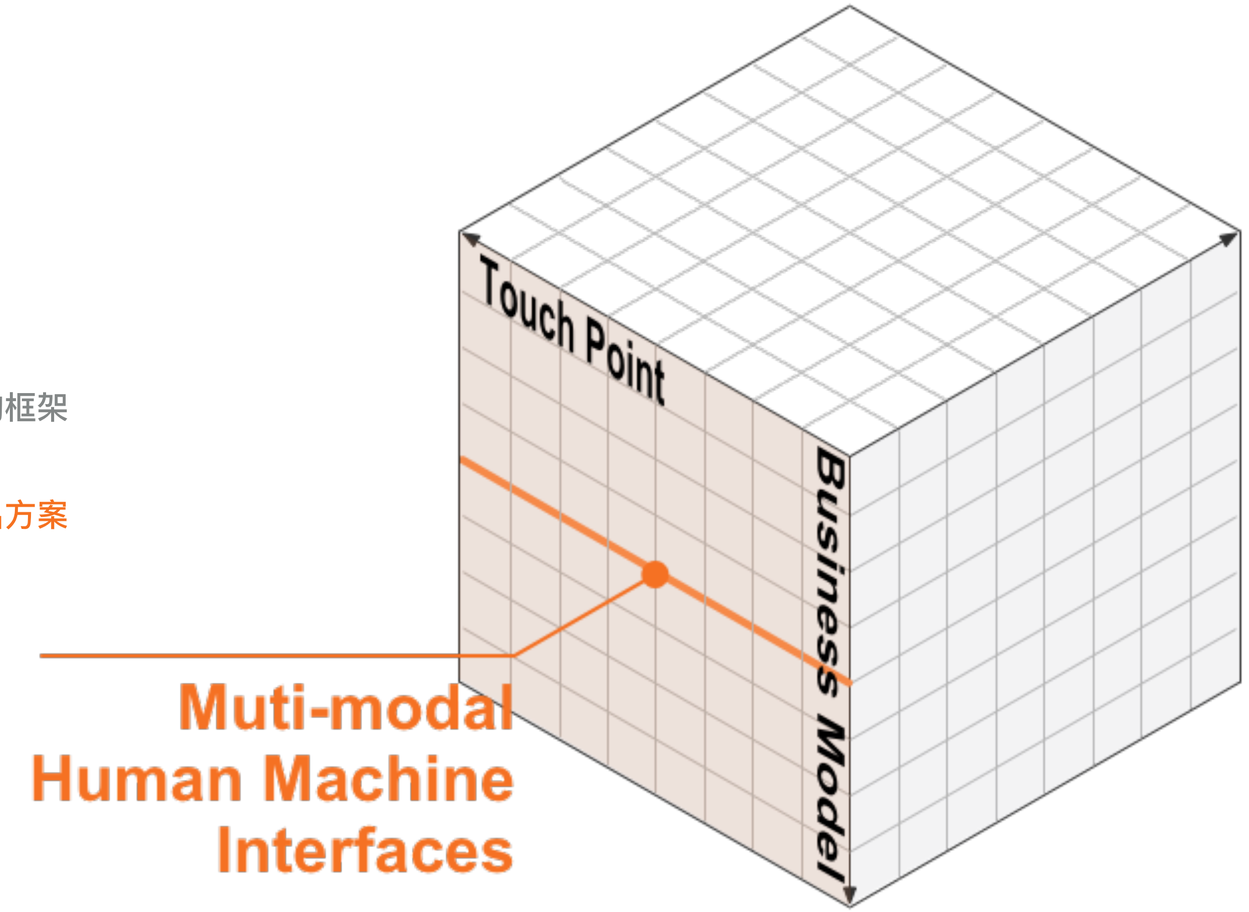
I. Build the Framework 建构框架

II. Produce Solutions 产出方案



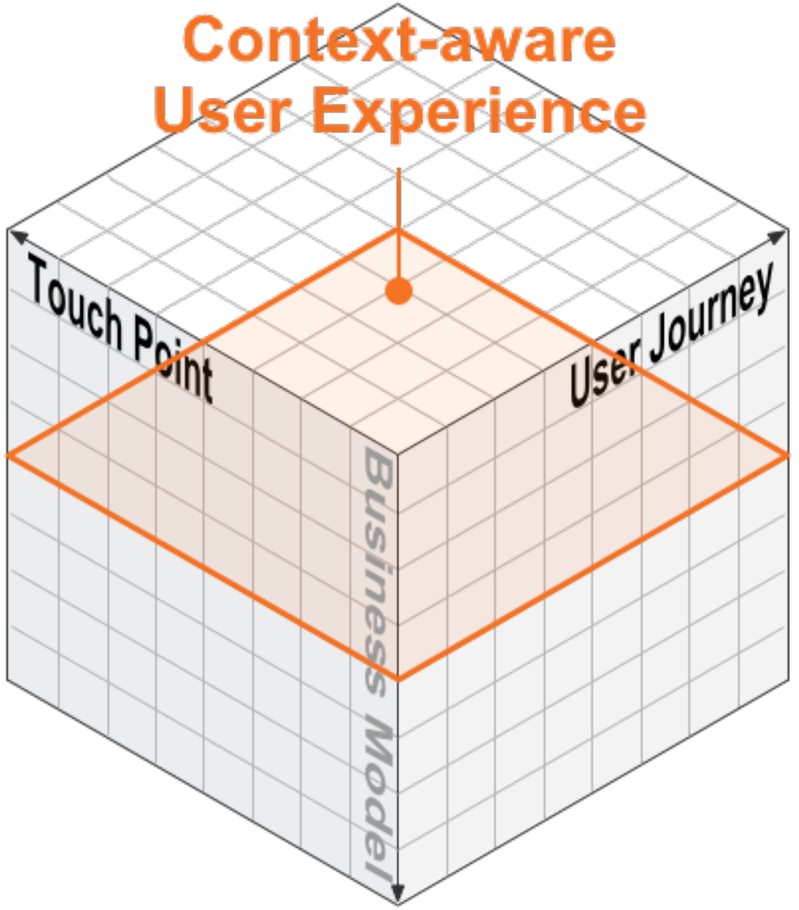
I. Build the Framework 建构框架

II. Produce Solutions 产出方案



I. Build the Framework 建构框架

II. Produce Solutions 产出方案



Abstract

抽象

Balance

平衡

Dynamic

发展

User Journey

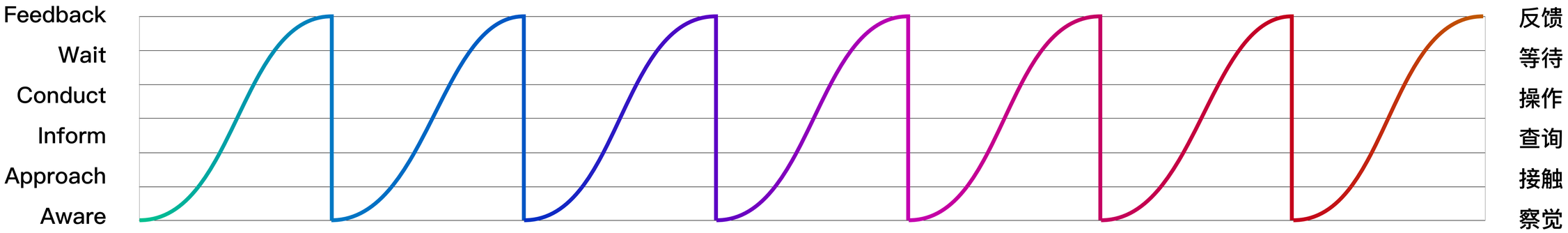
balance between segment & consistency

Planning 计划

Departing 出发

Arriving 抵达

Free Time 回顾



Pick Up 获车

Riding 途中

Ending 离车

User Journey
balance between segment & consistency

User Journey **Segment**

分割

Mental Model

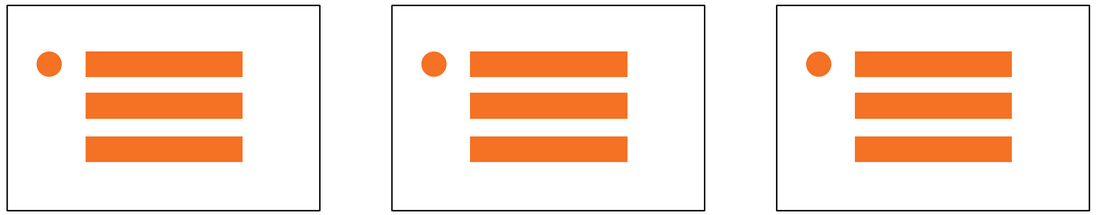
Context Aware System

Workload in Context Transfer

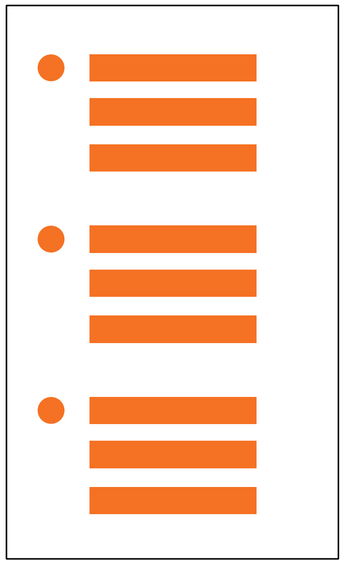
Reduce

Consistency

連続



MS Power Point



MS Word

Touch Point

balance between trust & control

Administrators
运维人员

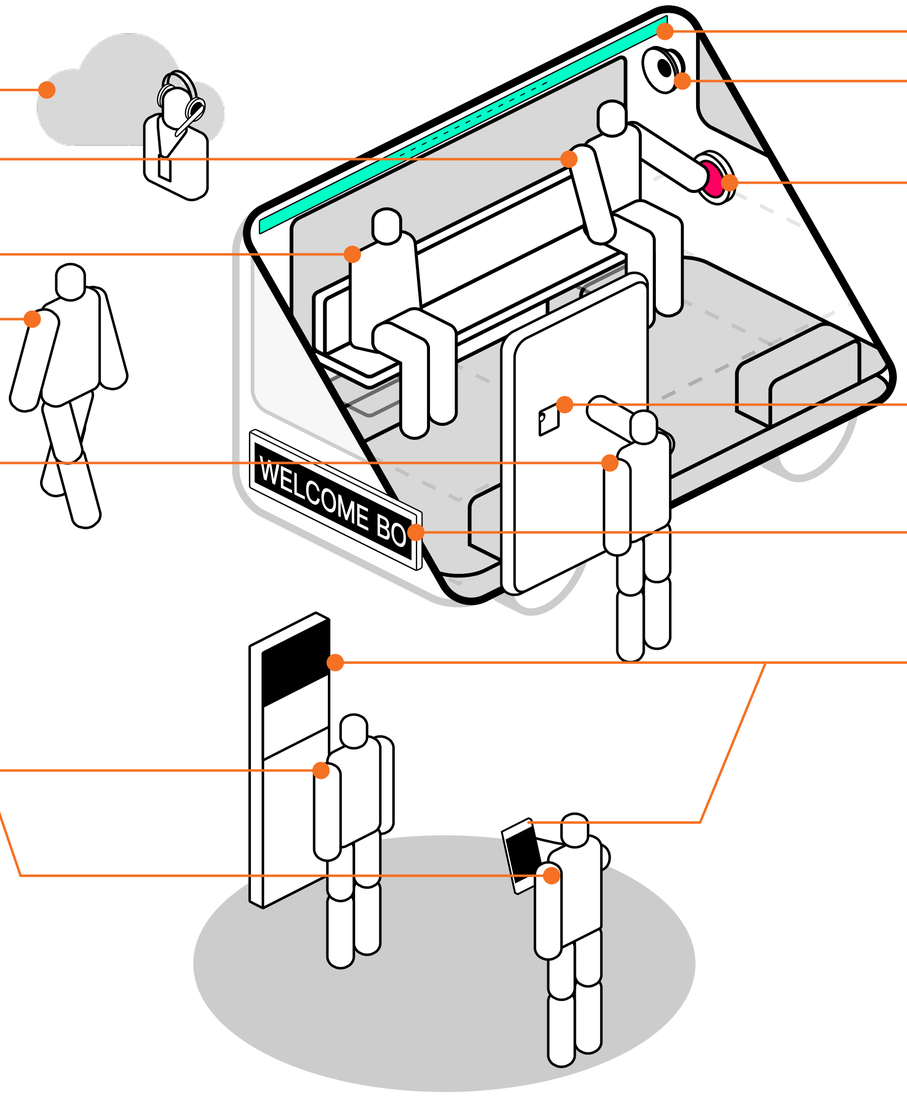
Operators
首席乘客

Occupants
普通乘客

T Participants
交通成员

Visitors
访客

Remote Users
远程用户



Passenger Information System
行程管理系统

Cabin Management System
座舱管理系统

Self-driving Console
身份验证系统

Check-in Unit
身份验证系统

Exterior Unit
车外交互单元

User Terminal
客户端

Touch Point
balance between trust & control

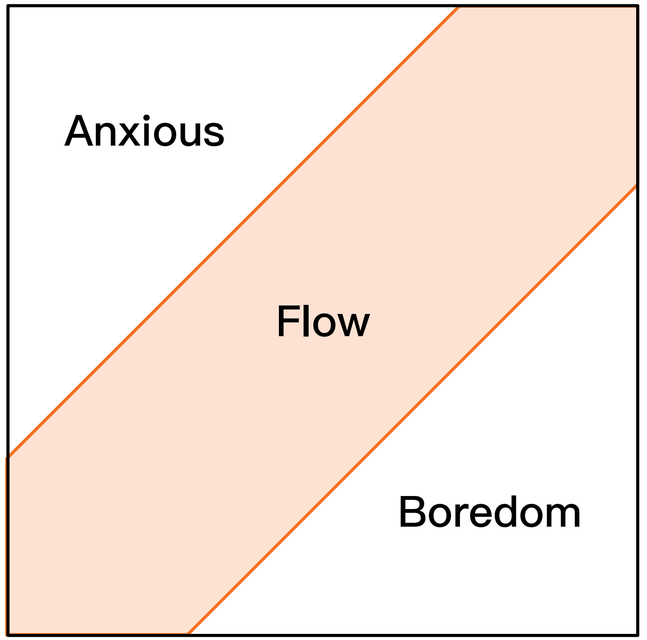
Output 输出	Input 输入	Attention 注意	Field 场域
Signifier 意符	Content 内容	Intention 目标导向	Far Field 远场
Stream 流	Command 指令	Stimulation 刺激导向	Near Field 近场
Signal 信号			Private 私人

Modal							
	Screen 屏幕	Sounds 声音	Haptic 触觉	Light 光	NLP 自然语言	Touch Screen 触屏	Physical 实体键

Touch Point
balance between trust & control

Challenge

Passengers think the scenario is complexity



Control

支配

Trust

信任

Ability

Passengers think the system is reliable

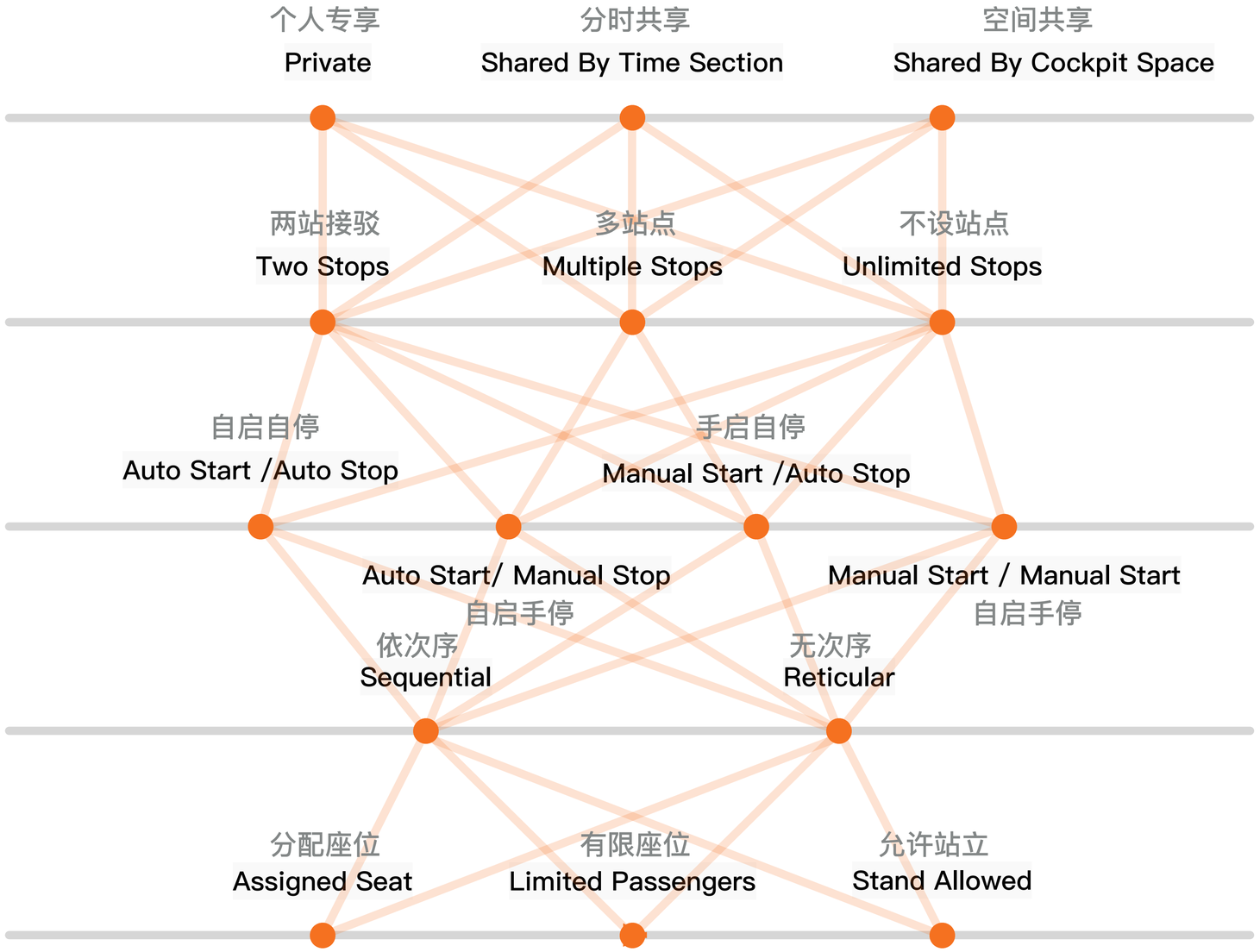
Business Model

balance between flexibility and simplicity

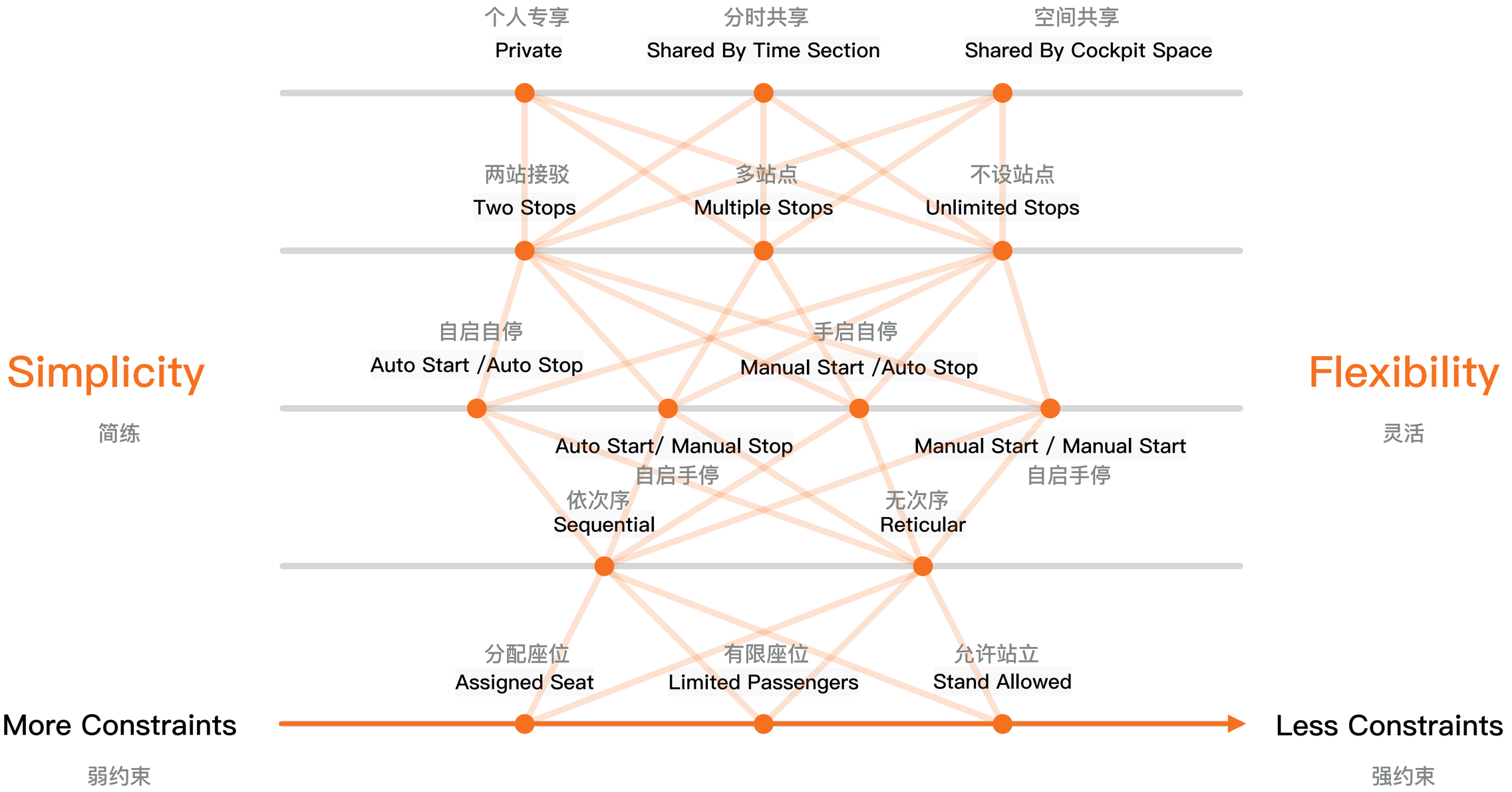
Degree of Freedom

自由度

- Usership
  分配方式
- Stops
  站点
- Trigger of Start/Stop
  起停方式
- Routes
  路线
- Passengers
  荷载数量



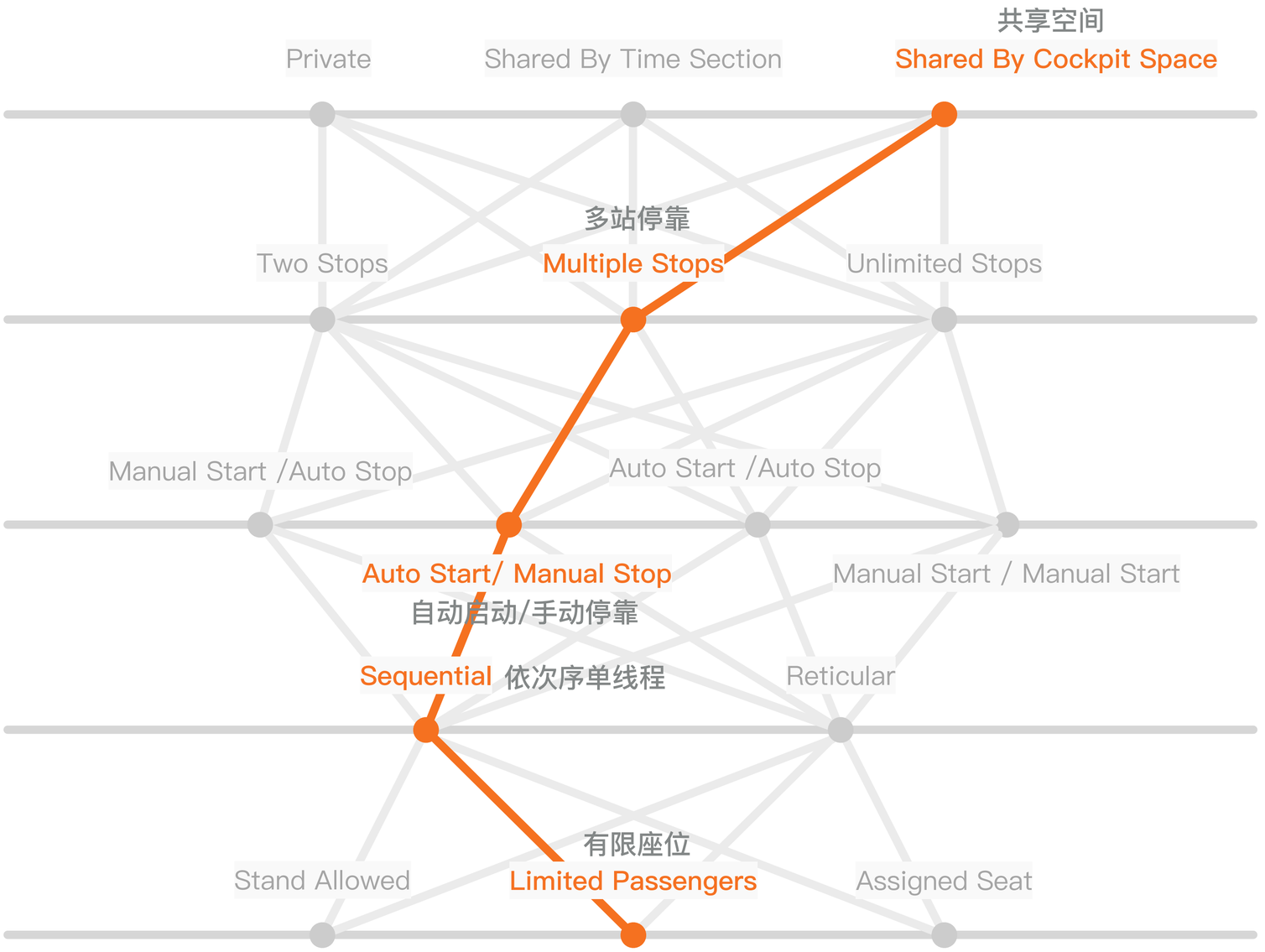
Business Model
balance between flexibility and simplicity



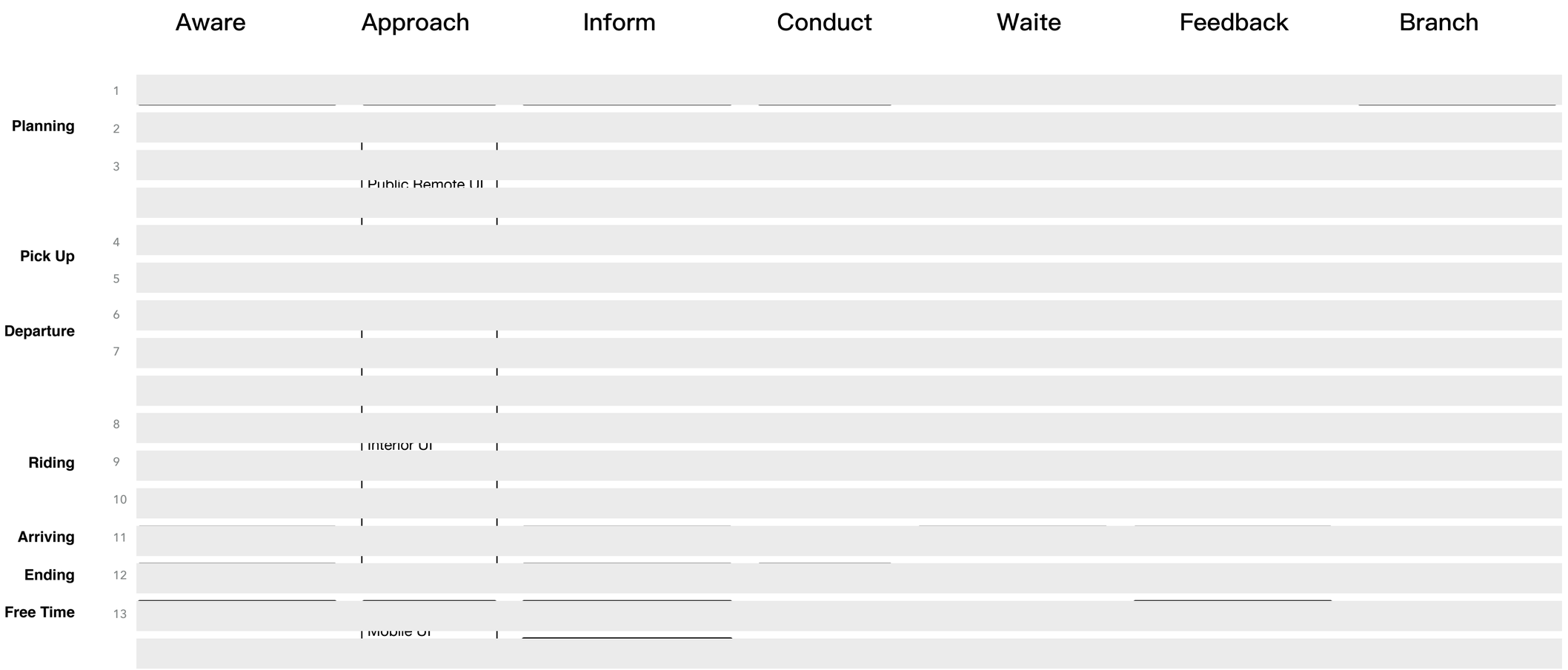
Event-driven
Urban Mobility Scenarios

Degree of Freedom
自由度

- Usership
  分配方式
- Stops
  站点
- Trigger of Start/Stop
  起停方式
- Routes
  路线
- Passengers
  荷载数量



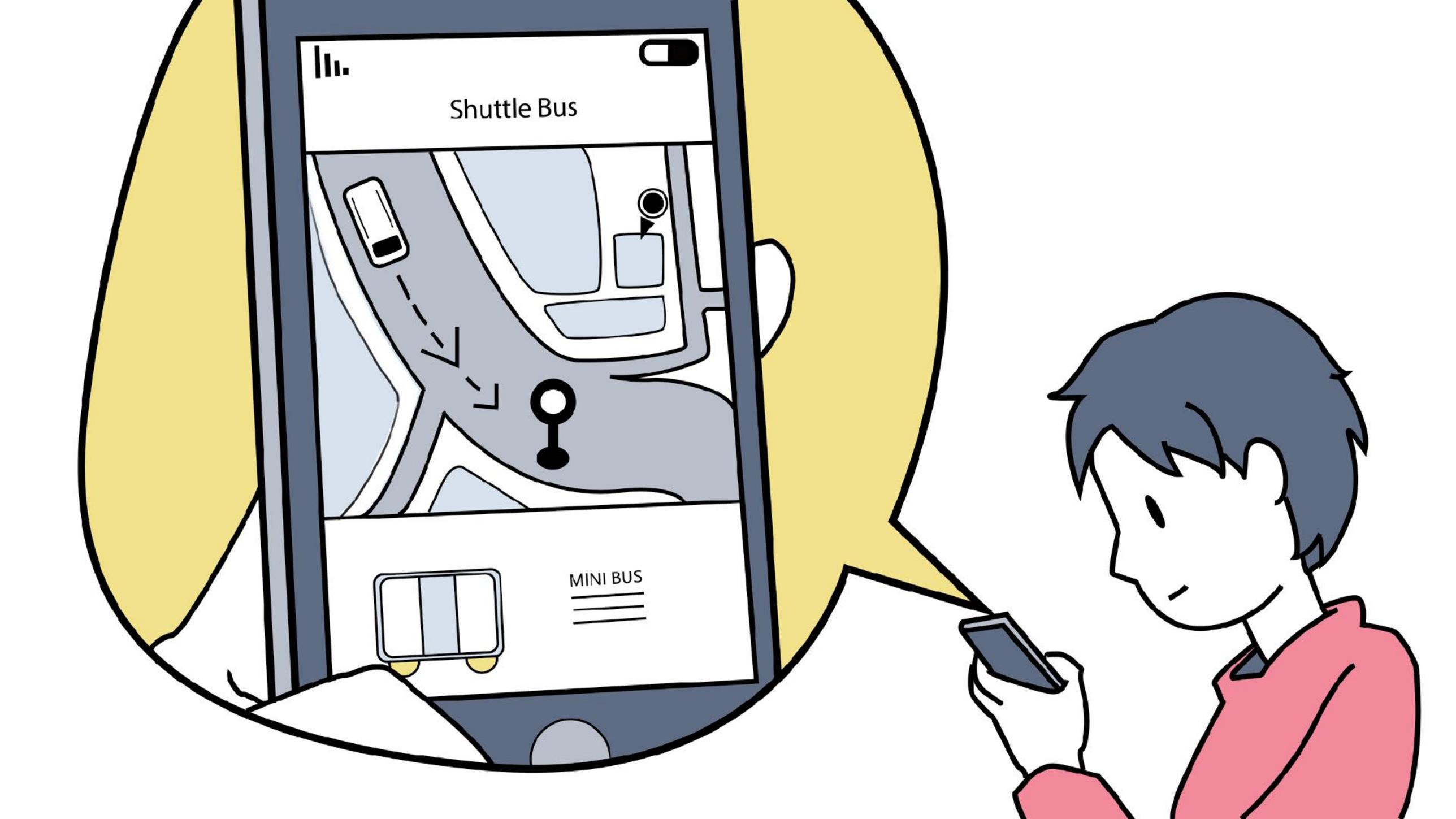
Event–driven
Urban Mobility Scenarios

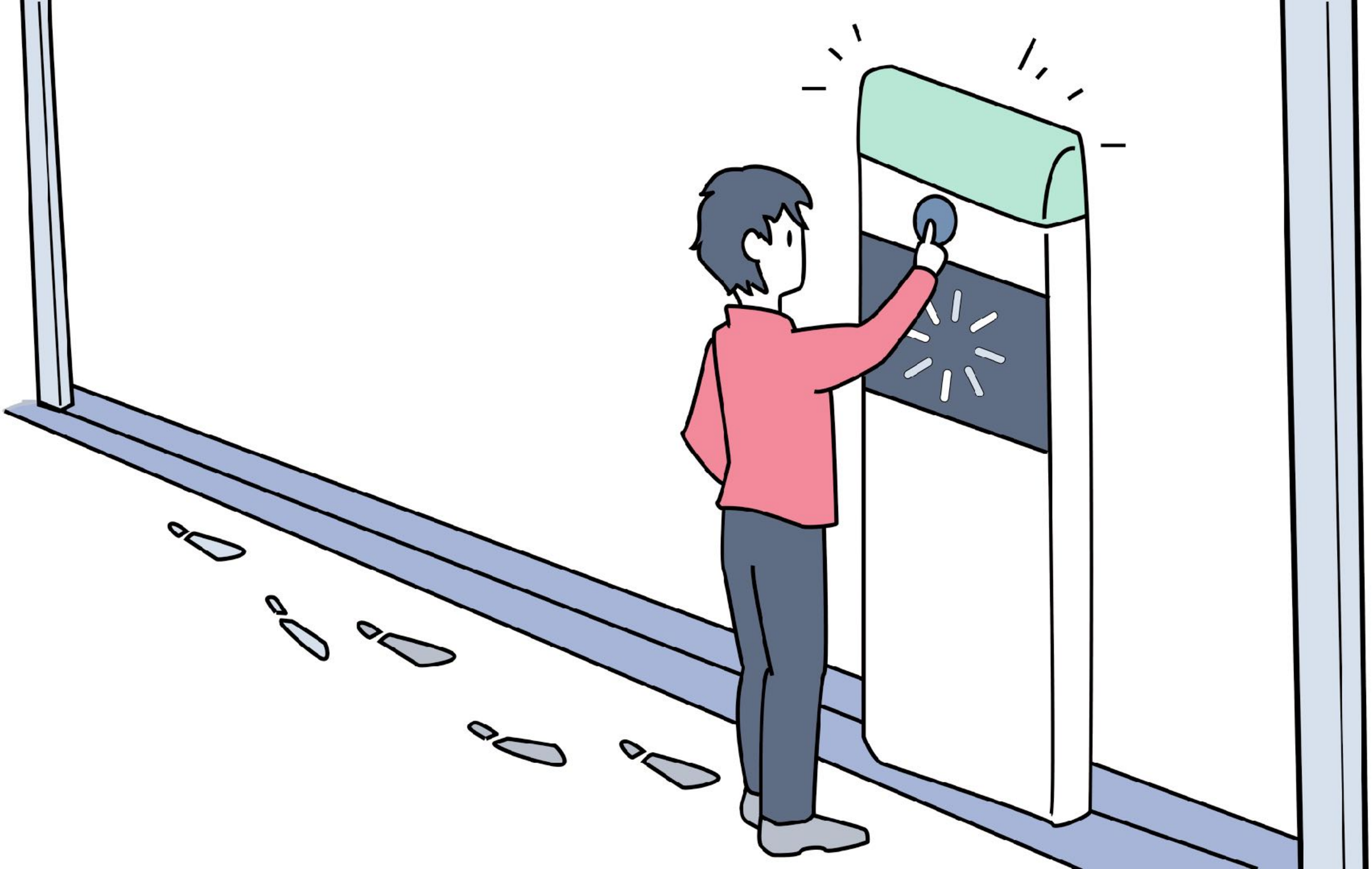


User Journey

Context Aware
User Experience

Context \ UI	Mobile Phone	Stop Machine	Outside Screen	Light Belt	Outside Speaker	Inside Screen	Button	Inside Speaker
Unavailable								
Stand By								
Picking Up								
Queuing								
Dispatch								
Arriving								
Stopped								
Counting Down								
Starting								
Delayed								
Riding								
Paused								
Heading to								


Shuttle Bus
MINI BUS

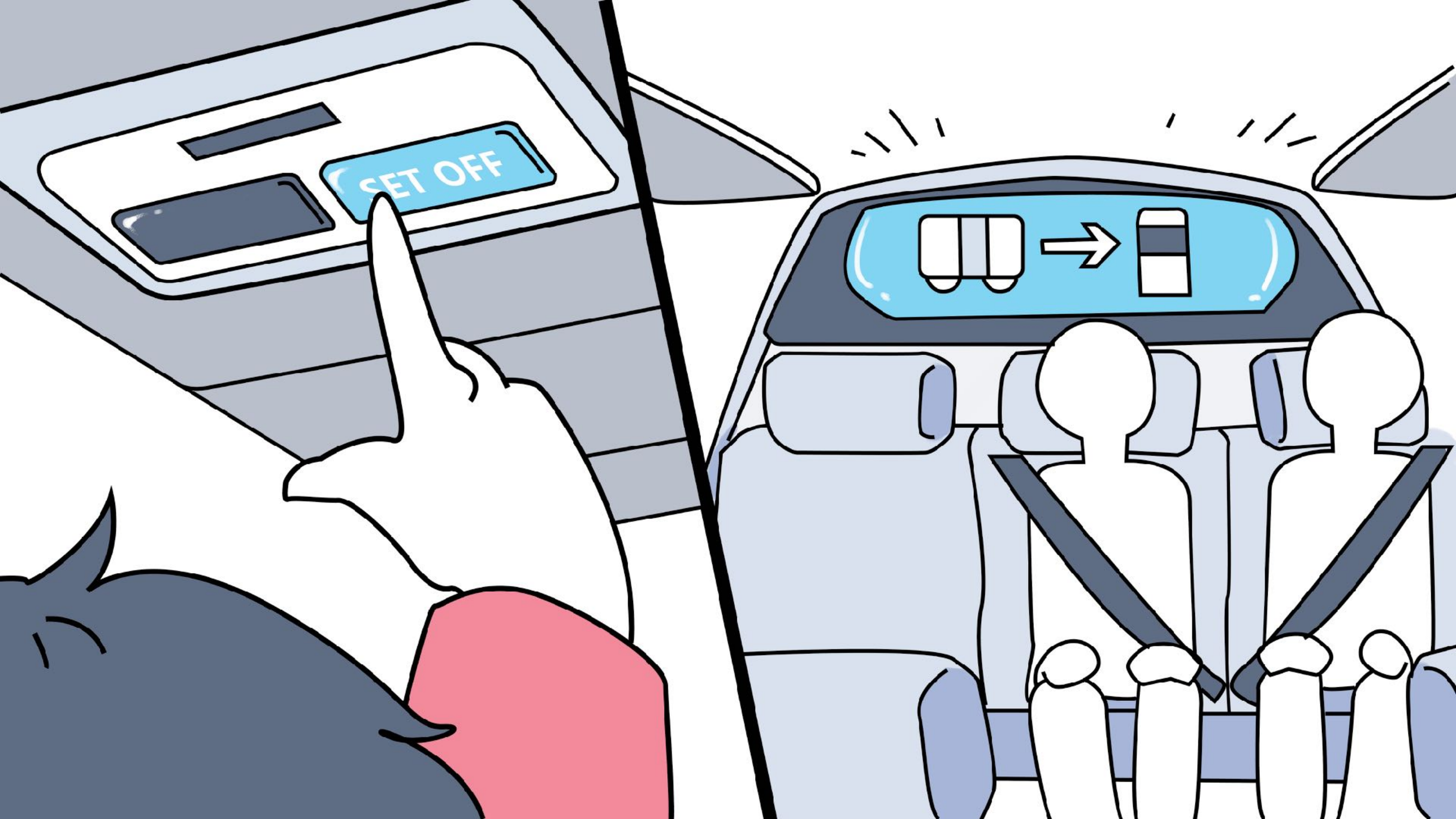


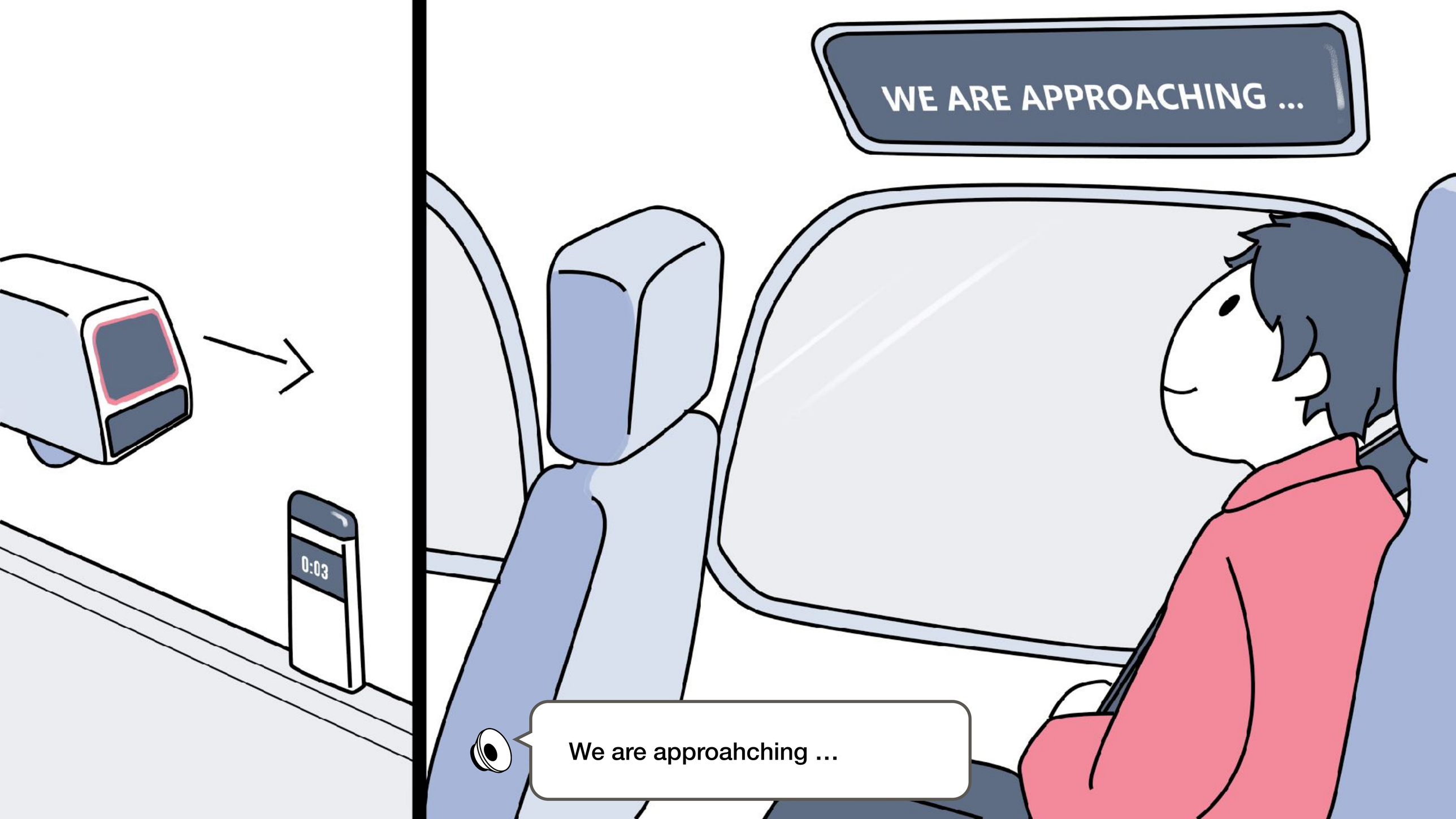
2:01
ALL SEAT TAKEN

WELCOME BOARDING

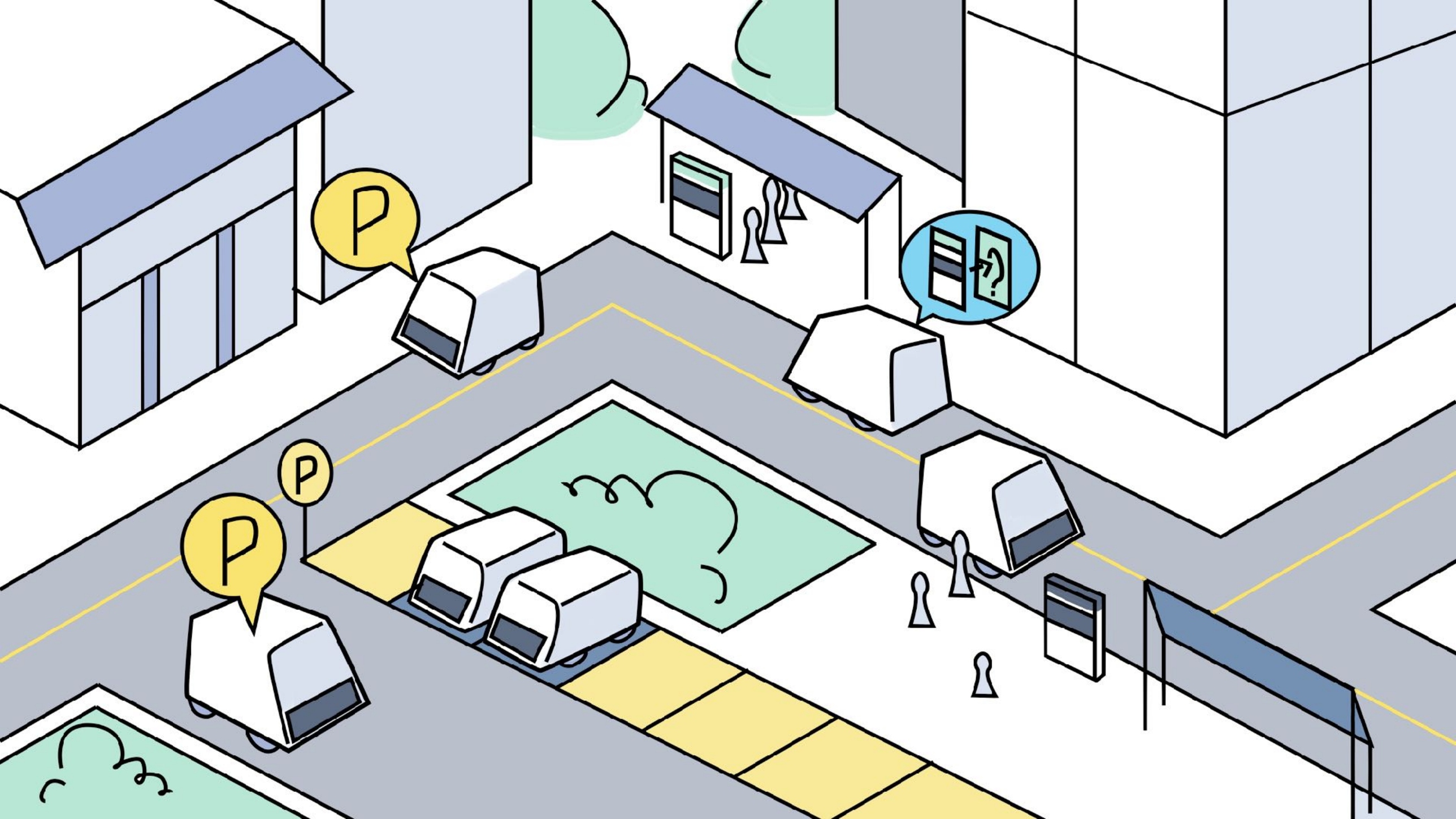
1:07

0:00
Taking Off...
Next Station is ..., Please Press Blue Botton While You Need Get Off There.


SET OFF


0:03
WE ARE APPROACHING ...
We are approahching ...

SEE YOU


P
P
P
?

wechat：id-emo

谢谢

Thanks!

2018. 09. 02
@Shanghai