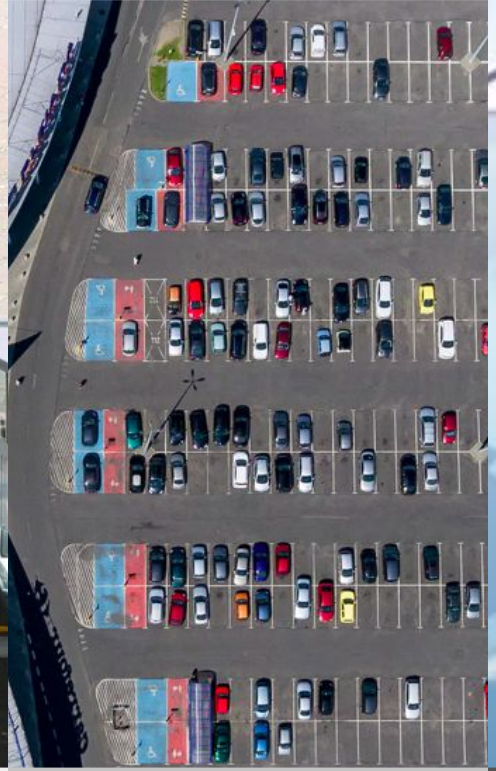
UBER

Driving Low Carbon Mobility

MARCH 2018

1.2B



95%

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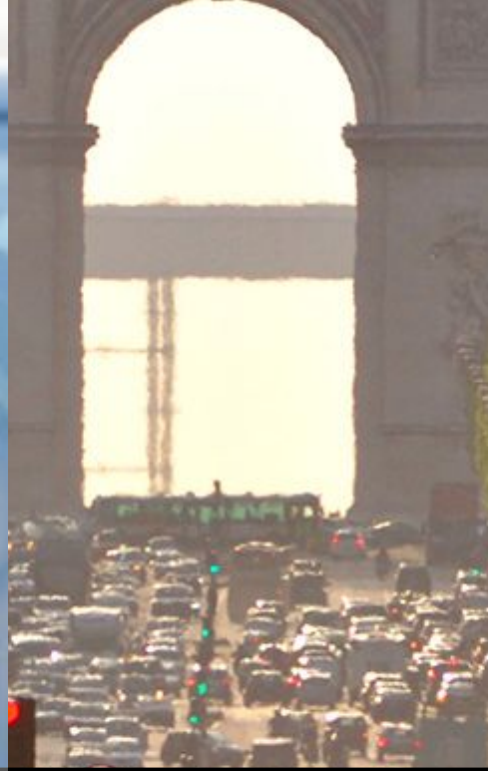
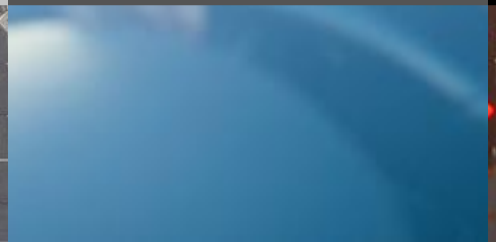


>50%



1.2 billion people in OECD countries

17.7 trillion passenger kilometers, in 2012

80% by car & light-duty truck

Outdoor air pollution…

… 3.7M premature deaths per year

… >75% from car emissions in cities

Transport's carbon footprint…

… >20% globally

… >60% in developed cities

Continuing a mobility system based on private cars poses **fundamental growth challenges**

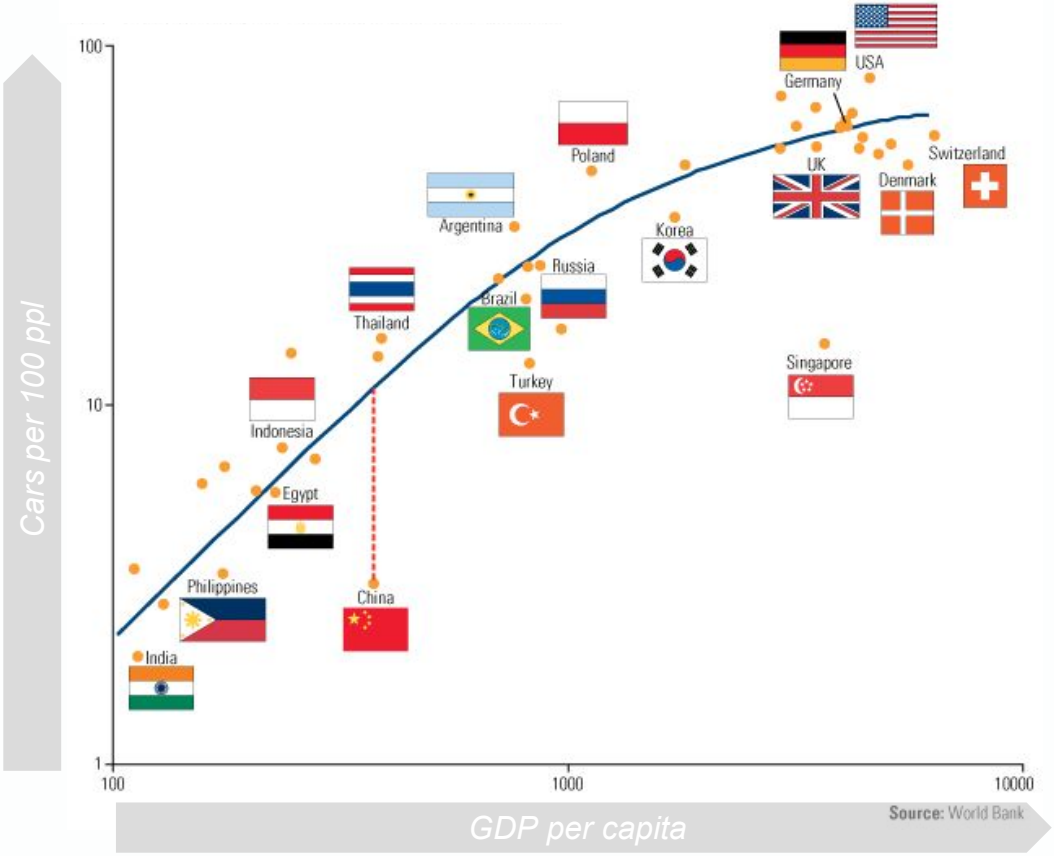
2 billion+ cars globally (if business as usual) by 2050

Next 1 billion to be mostly absorbed by emerging markets

Commuting time inversely related to potential for escaping poverty (Harvard)

Average US household spends $9 - 10k per year on car ownership

CAR OWNERSHIP VERSUS ECONOMIC GROWTH



Cities and regions spend lots of **time and money** dealing with these challenges

“Cities taking matters into their own Hands…"

The mayors of Paris, Madrid, Athens and Mexico City plan to take diesel cars and vans off their roads by 2025.

theguardian

“Pittsburgh, 50 other North American cities join Chicago Climate Charter”

Mr. Peduto and hundreds of other U.S. mayors pledged in June [2017] that they would continue to follow the Paris climate agreement inked in 2015.

Pittsburgh Post-Gazette

“Gov. Brown is America’s leader on climate change”

Brown determined to reduce petroleum use in vehicles by as much as 50% in the next 15 years. Worthy, aggressive goals ... but the path to achieving them is still strewn with obstacles.

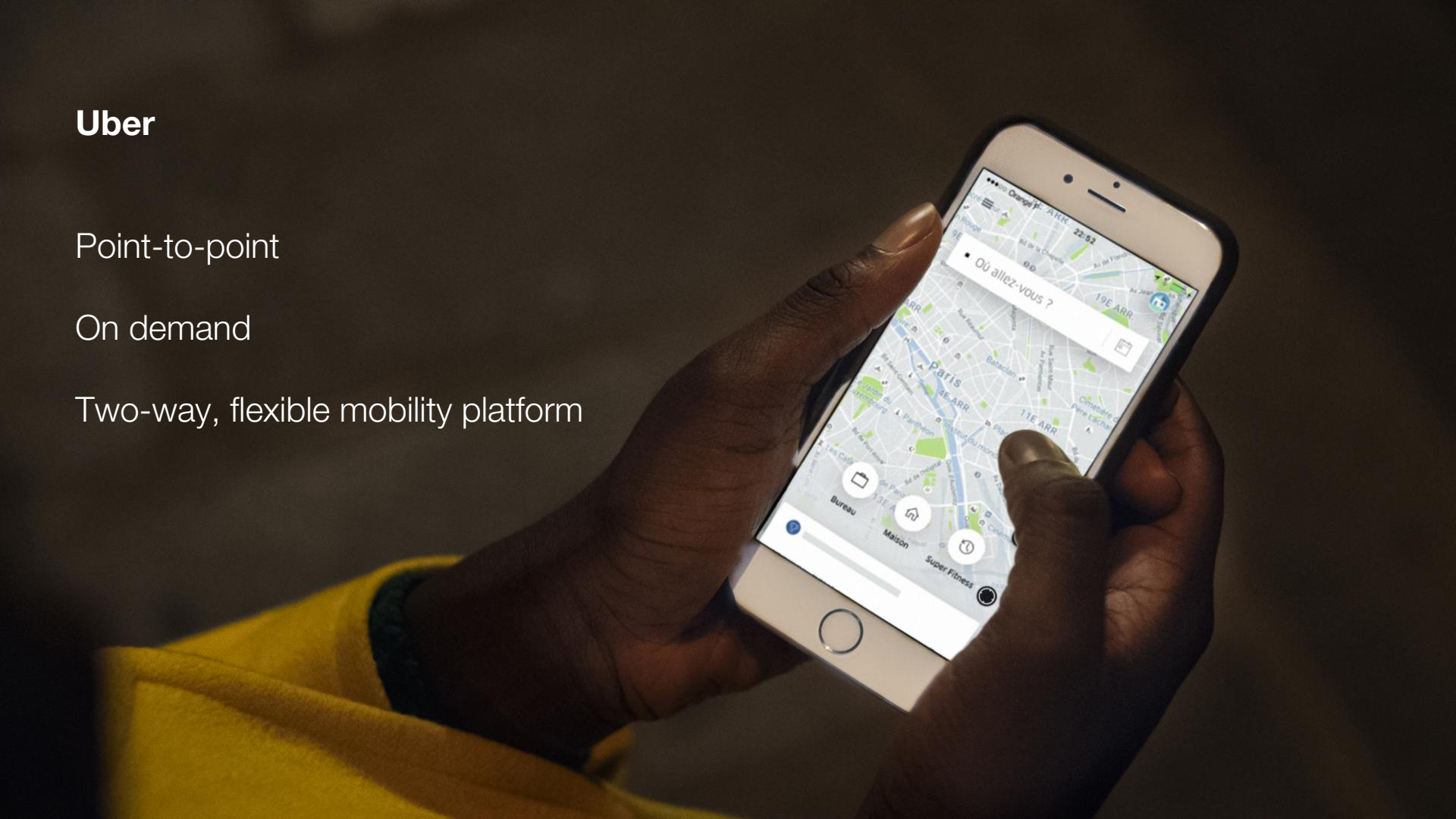
San Francisco Chronicle

Uber

Point-to-point

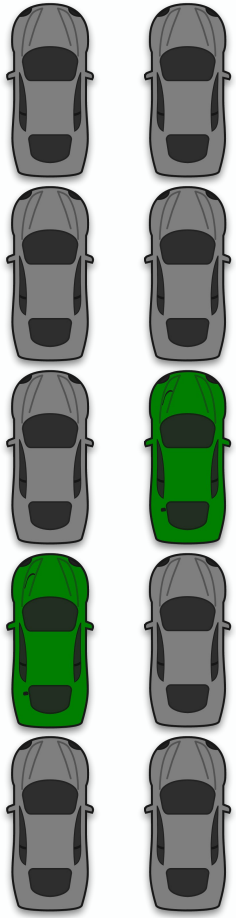
On demand

Two-way, flexible mobility platform



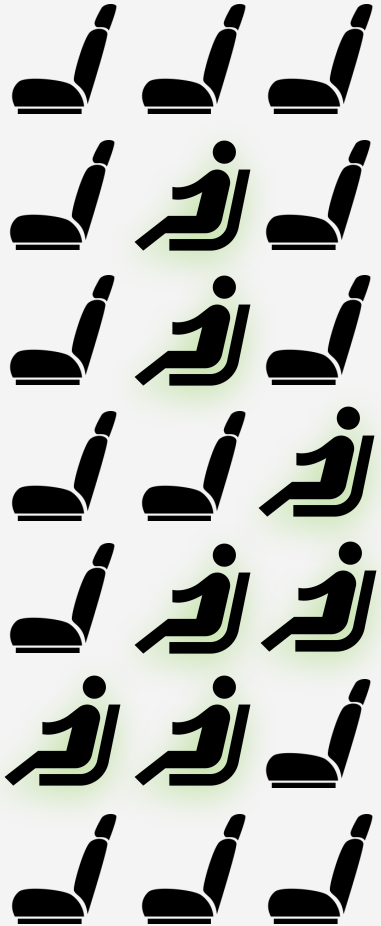
DRIVER

Personal →
shared vehicles



RIDER

Personal →
shared journeys



Sharing by design

Uber's business works better when we ***ENABLE MORE PEOPLE TO MOVE WITH...***

FEWER

FULLER

MORE EFFICIENT

...VEHICLES & TRIPS

FEWER

One driver on Uber's network can serve as many as 10 or more riders per day

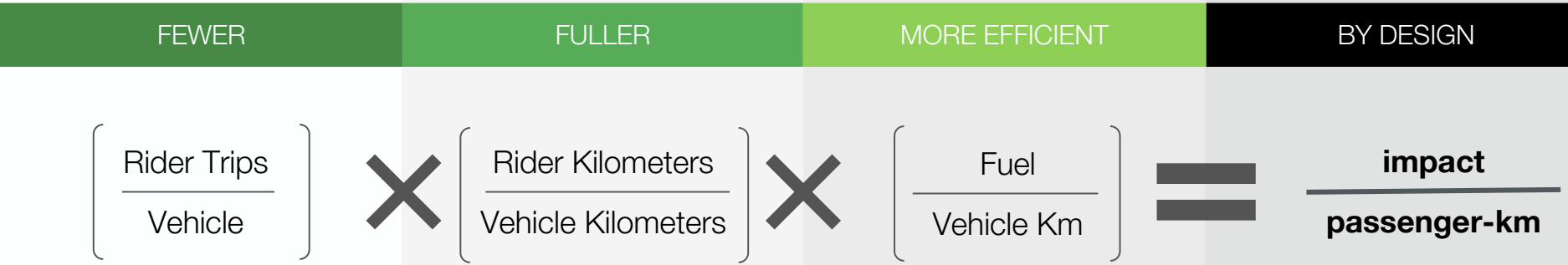
FULLER

2 strangers in 1 car is how we began…

...3 or more is UberPool & other innovations

MORE EFFICIENT

A driver on Uber's network knows every dollar saved on fuel is a dollar in their pocket


FEWER
FULLER
MORE EFFICIENT
BY DESIGN
Rider Trips / Vehicle
×
Rider Kilometers / Vehicle Kilometers
×
Fuel / Vehicle Km
=
impact / passenger-km

capacity utilization

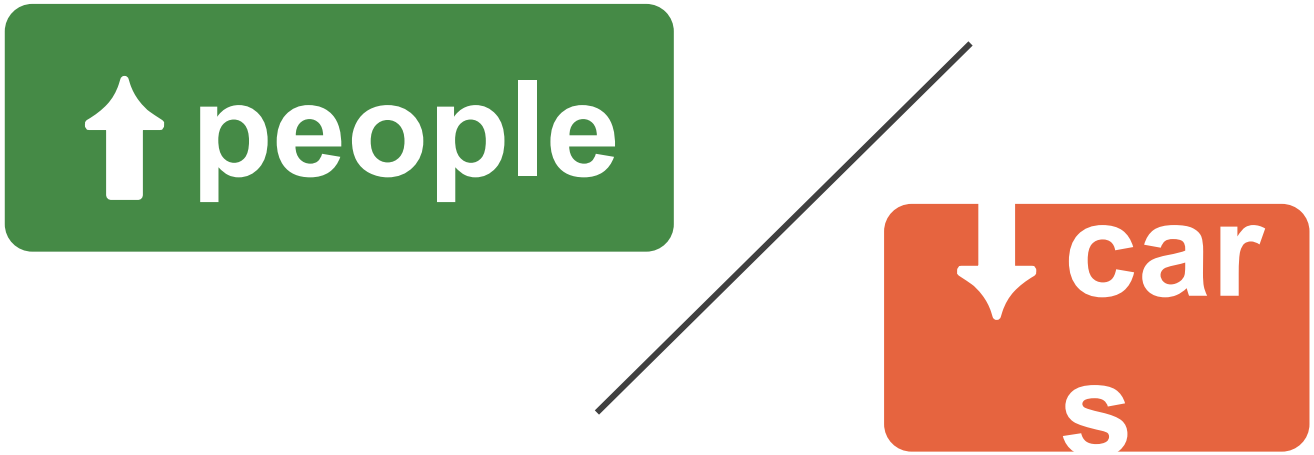
FEWER	FULLER	MORE EFFICIENT	BY DESIGN

$$\left[\frac{\text{Rider Trips}}{\text{Vehicle}}\right] \times \left[\frac{\text{Rider Kilometers}}{\text{Vehicle Kilometers}}\right] \times \left[\frac{\text{Fuel}}{\text{Vehicle Km}}\right] = \frac{\textbf{impact}}{\textbf{passenger-km}}$$

Key metric: capacity utilization

Optimizing for the movement of people over vehicles

$$\left[\frac{\text{Rider Trips}}{\text{Vehicle}}\right] \times \left[\frac{\text{Rider Kilometers}}{\text{Vehicle Kilometers}}\right] = \frac{\textbf{passenger-km}}{\textbf{vehicle-km}}$$

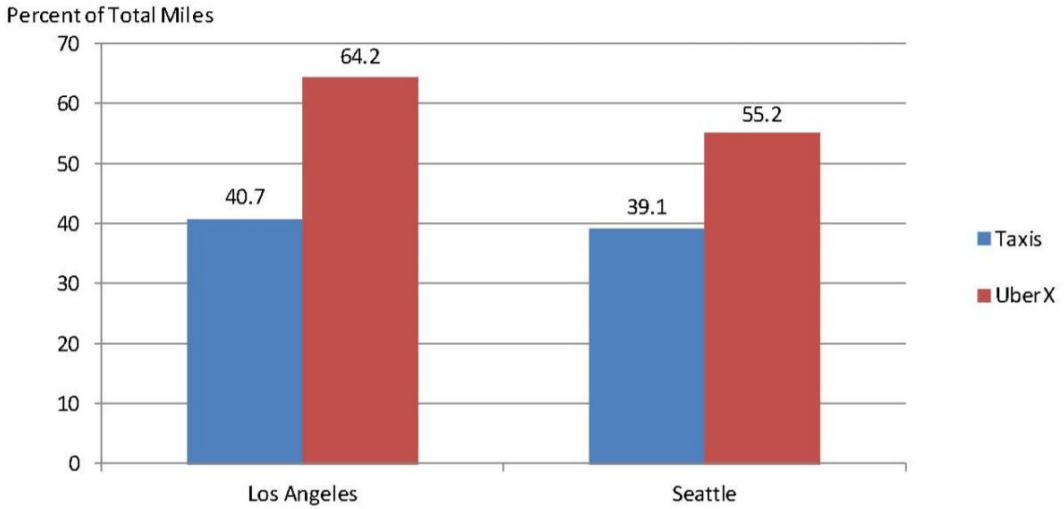


Ridesharing platforms can increase efficiency for on-demand mobility efficiency

Peer reviewed research on capacity utilization

- According to research in 2016, and data from Uber and taxi services from 2015
- Uber's efficiency at optimizing the movement of people while minimizing that of vehicles is 38% greater than previously available point-to-point, on-demand mobility services

Figure 1: Capacity Utilization Rate (Percent of Miles Driven with a Passenger) for Taxi and UberX Drivers in Los Angeles and Seattle



SOURCE: National Bureau of Economic Research, 2016


SHARED


ELECTRIC


AUTOMATED
UBER

Experts: future of mobility is **shared**, **electric** and **automated**

By 2050

Up to 80% climate emissions reduction

Up to 90% vehicle population reduction

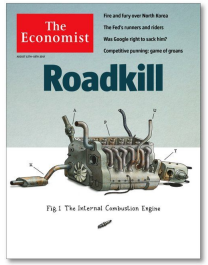
International Transport Forum

ITS UCDAVIS INSTITUTE OF TRANSPORTATION STUDIES

BERKELEY LAB

McKinsey&Company

Goldman Sachs

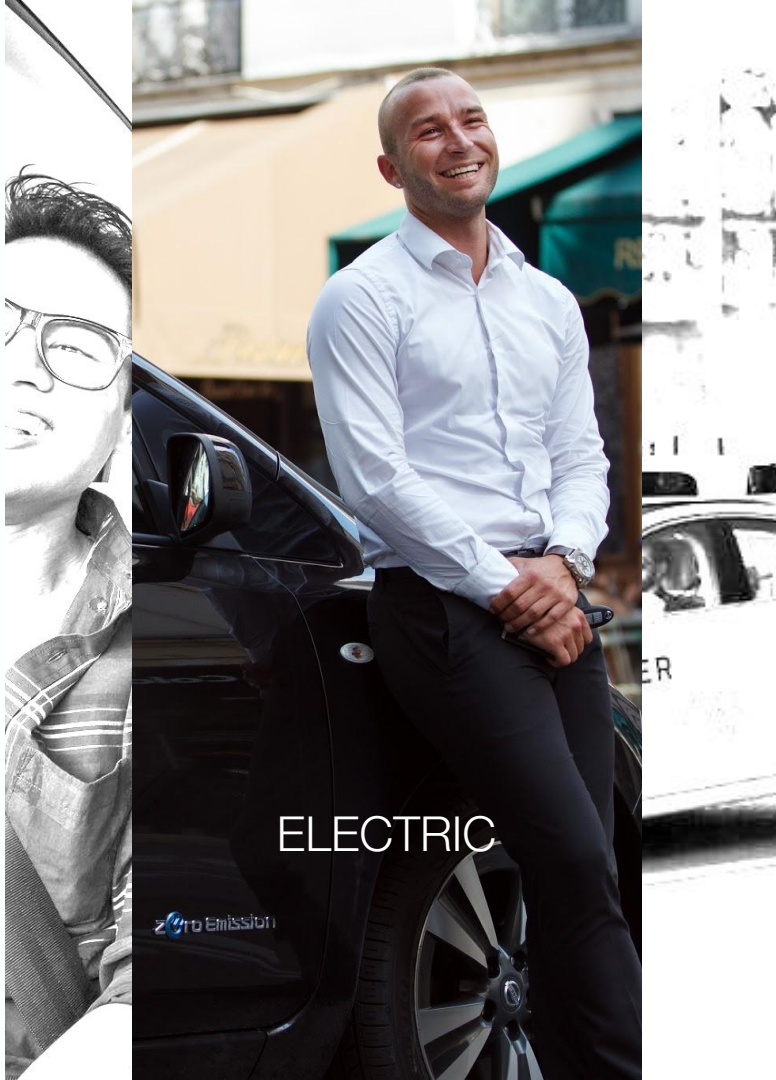


Ridesharing helps EV adoption,
EVs help ridesharing expansion

Electric vehicles <1% global new car sales after decades of government spending … today, a hundred EVs on Uber's network can serve 100,000's of riders

In 2017, on Uber's network in the US & Europe:

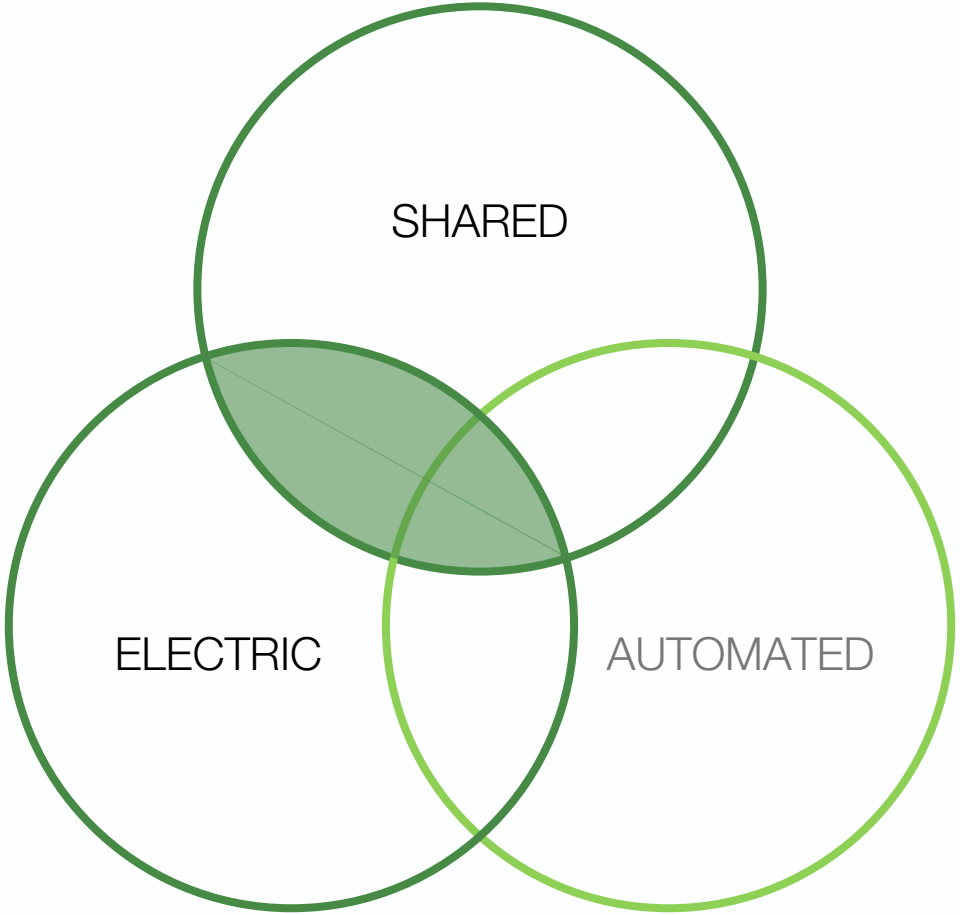
thousands of EV drivers delivered millions of rides



We're on the **first leg** of a long journey

As of 2017

- Ridesharing ~1% of trips globally
- EVs ~1% global annual car sales



Learning about shared + electric mobility

EV Pilots & Demonstrations

Active, Publicly Announced	Past Efforts
Amman	Beijing
Amsterdam	Boston
Bucharest	Cape Town
Dubai	Chicago
Lisbon & Porto	Hong Kong
London	Johannesburg
Madrid	Kazan
Munich	Mexico City
Paris	New York City
Pittsburgh	Prague
Portland	Wuhan
Salt Lake City	
Singapore	
Zurich	

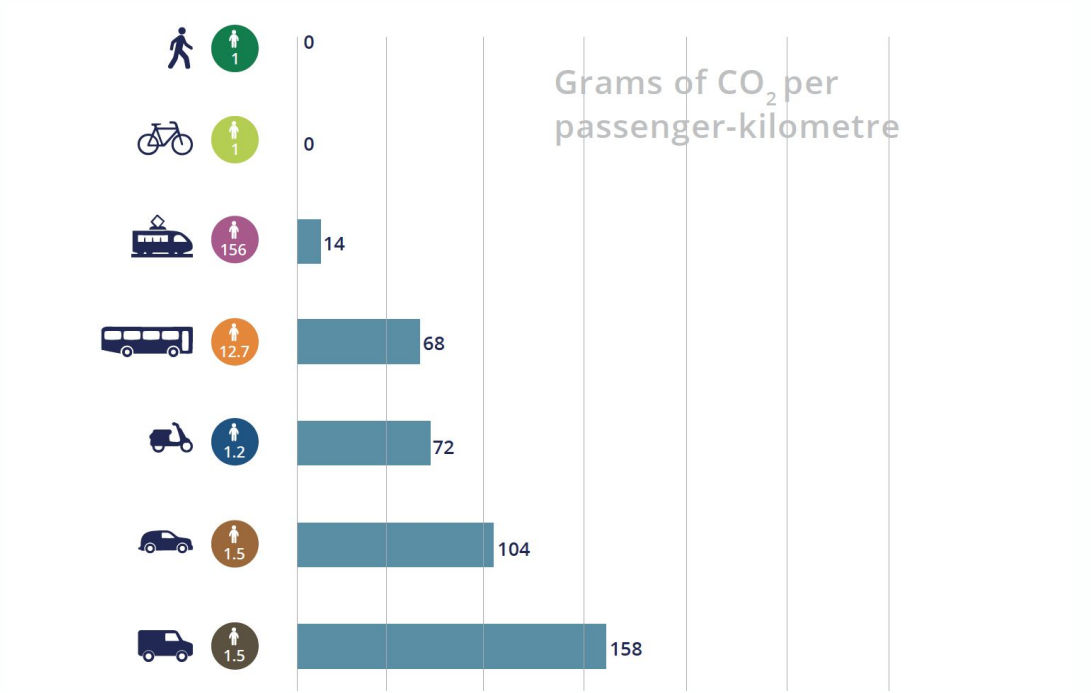
Key metric: impact per passenger-mile

Observations

Personal driving causes greatest impact (DOT: 84% of trips in US by car; >60% of VMT solo-driver)

Pooling could drive dramatic carbon intensity reduction, on passenger-kilometre basis

More sustainable mobility requires dramatic shift from personal trips to shared & active modes



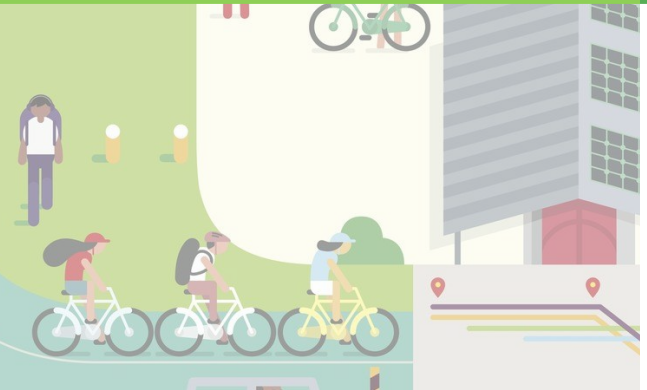
SOURCE: European Environment Agency, 2016

Shared Streets Principles

UITP

Transit Partnerships

Uber Bike



UBER | Innisfil

Thank you

Adam Gromis
Uber, Sustainability Lead