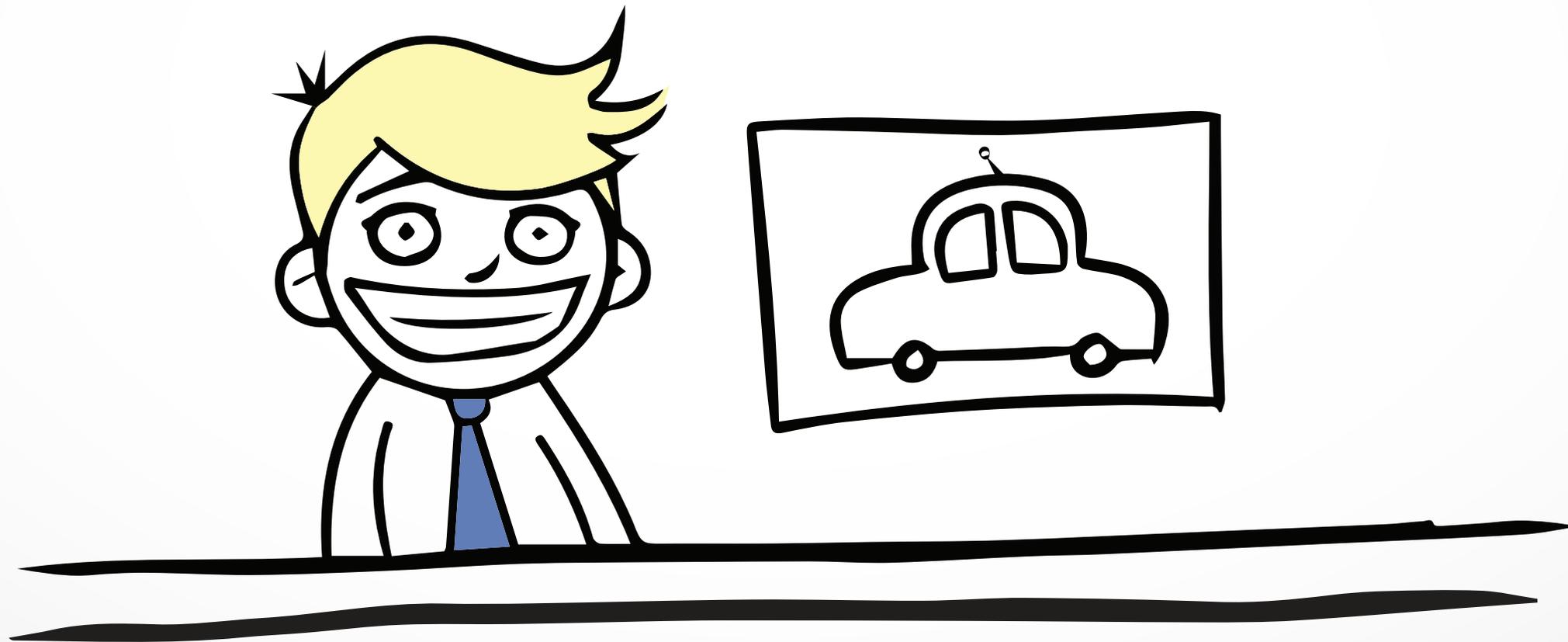


# The **Top Five** Things Planners Need to Know About Self-Driving Vehicles

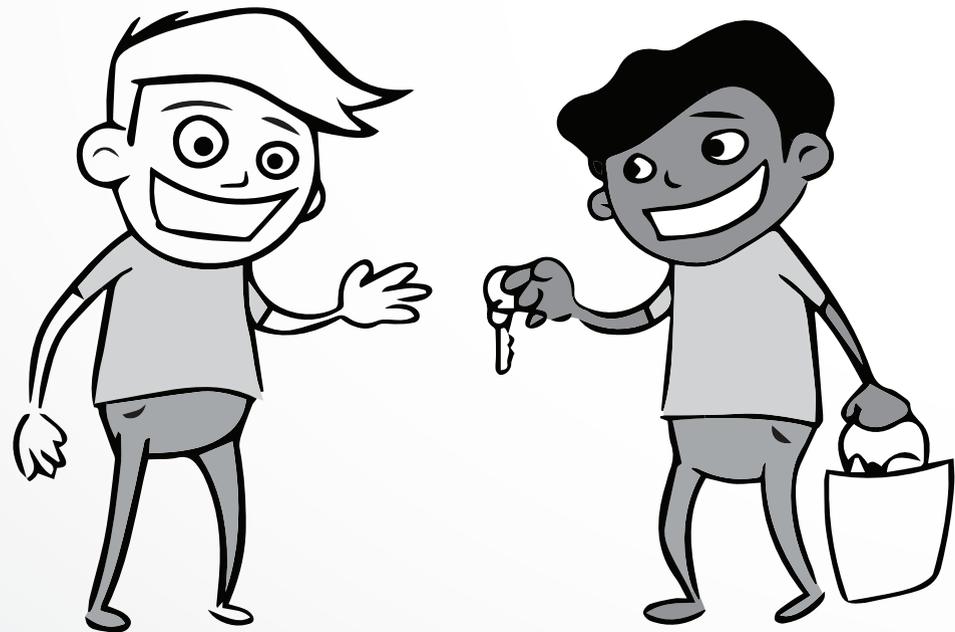


By Chris Hedden & Dan Krechmer with Ron Basile  
<http://www.camsys.com/automated-connected-vehicles.htm>

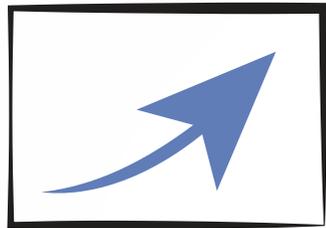
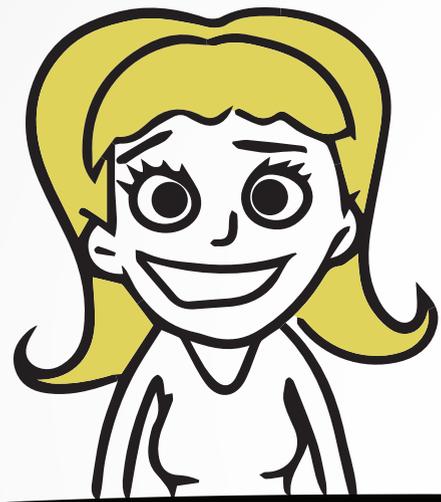
Every day you hear a story in the news about **connected vehicles, automated vehicles, or self-driving cars** and how these vehicles will **transform mobility** in the United States.



These stories talk about things like  
**Shared Economy** and  
**Disruptive Technologies.**



And they give conflicting predictions:



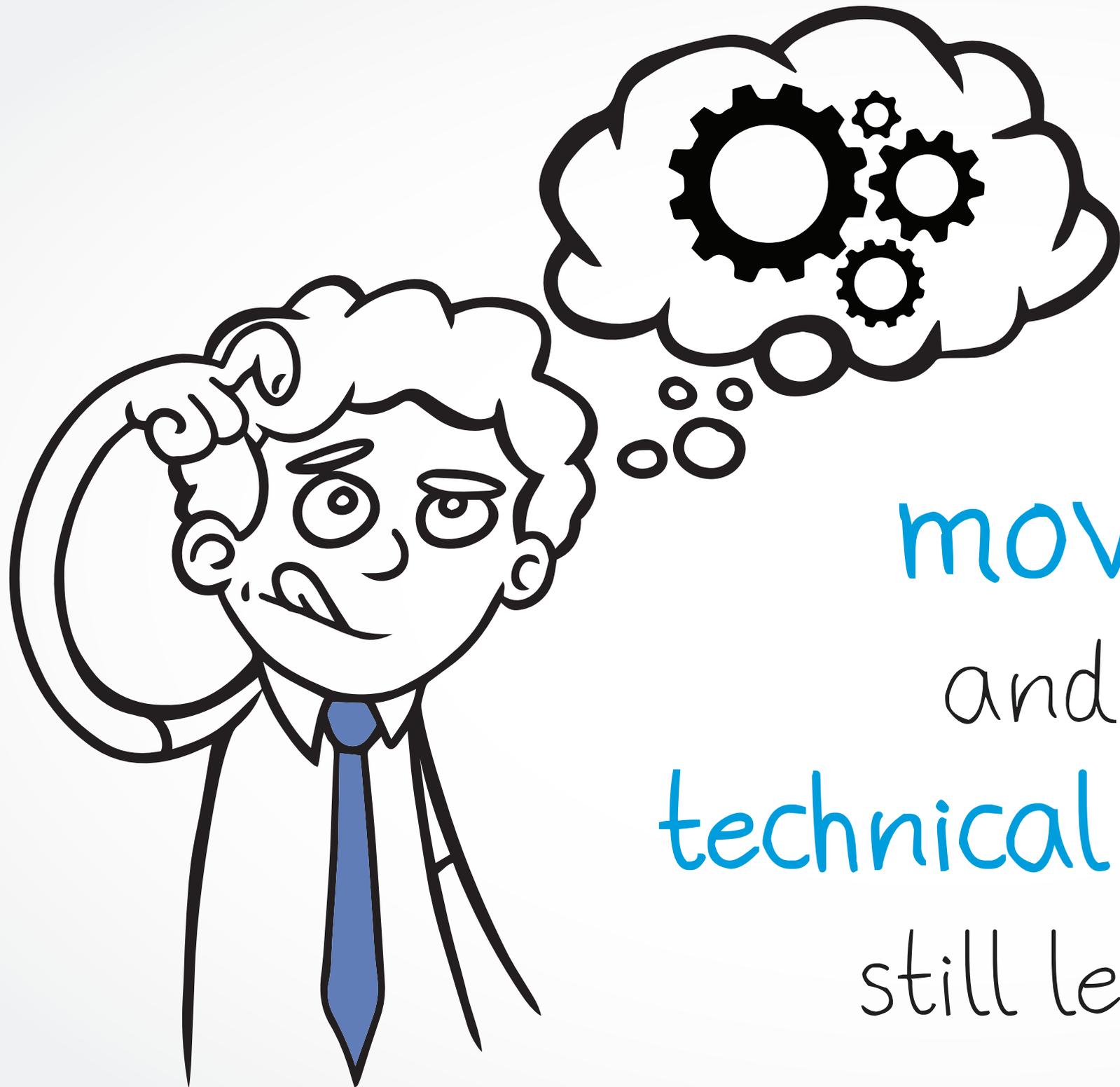
Some say  
**VMT** will go up...



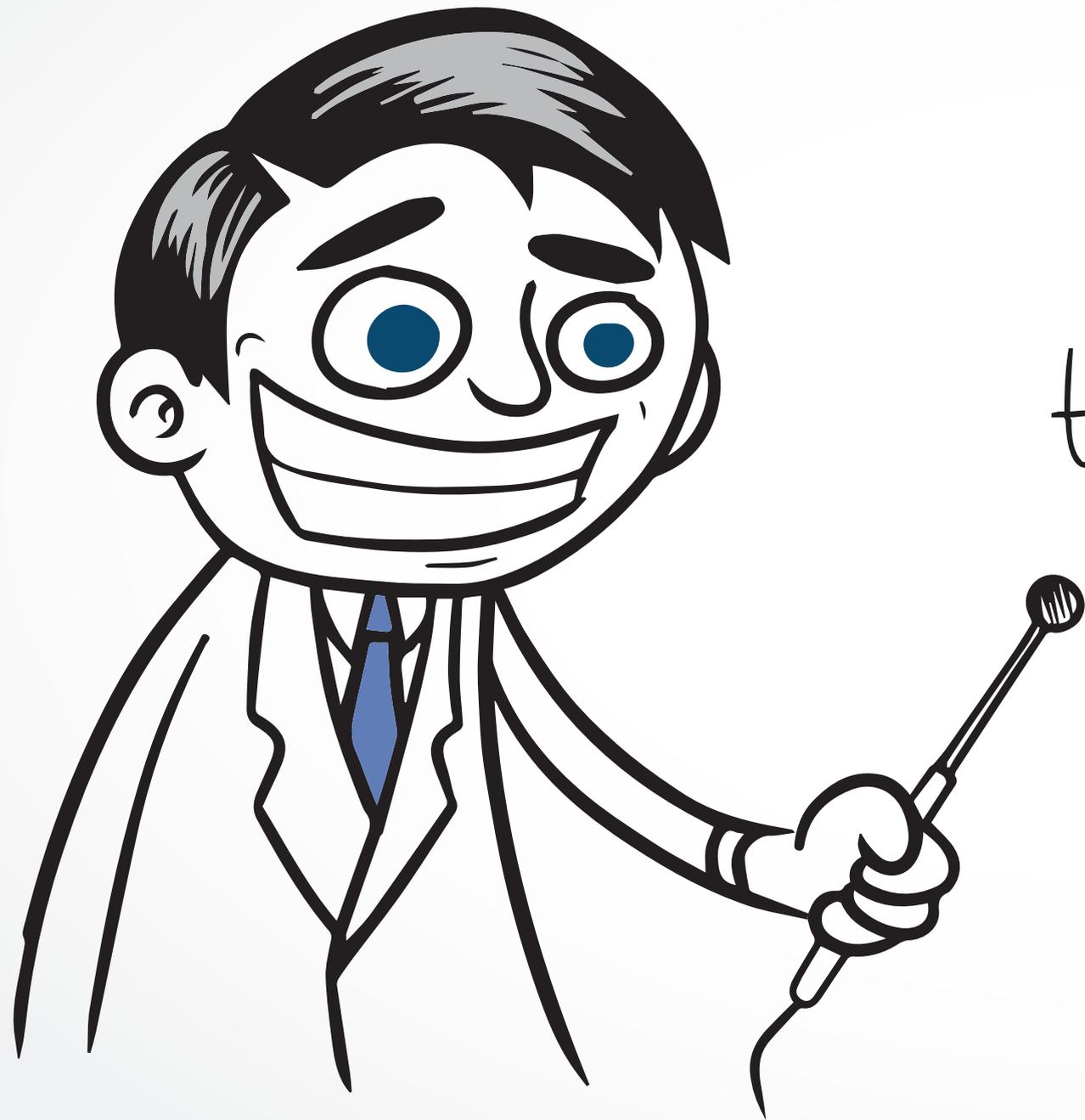
Some say  
**VMT** will go down...



And some folks are now  
talking about **VMD**...  
What the heck  
is that?



Lots of  
**moving parts**  
and lots of hard  
**technical problem-solving**  
still left to be done.



# TOP 5

things planners need  
to know about  
self-driving vehicles

1) Self-Driving Vehicles Will Happen

( 6 )

2) It's Connected AND Autonomous

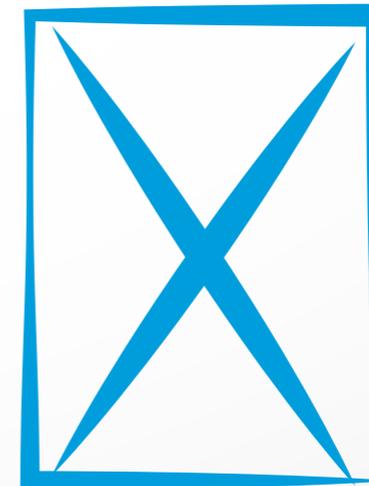
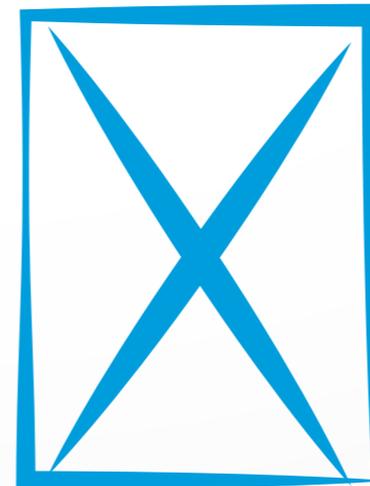
( 7 )

3) Commercial Vehicles Will Be First

( 8 )

4) Capacity Expansion May Be a Thing of the Past

5) The Shared Economy Will Play a Huge Part in the Mobility of the Future



1. Self-Driving Vehicles  
Will Happen

# 1. Self-Driving Vehicles Will Happen

It really is time to accept it....

it is no longer  
a matter of **if**,  
it is now a  
matter of **when**.

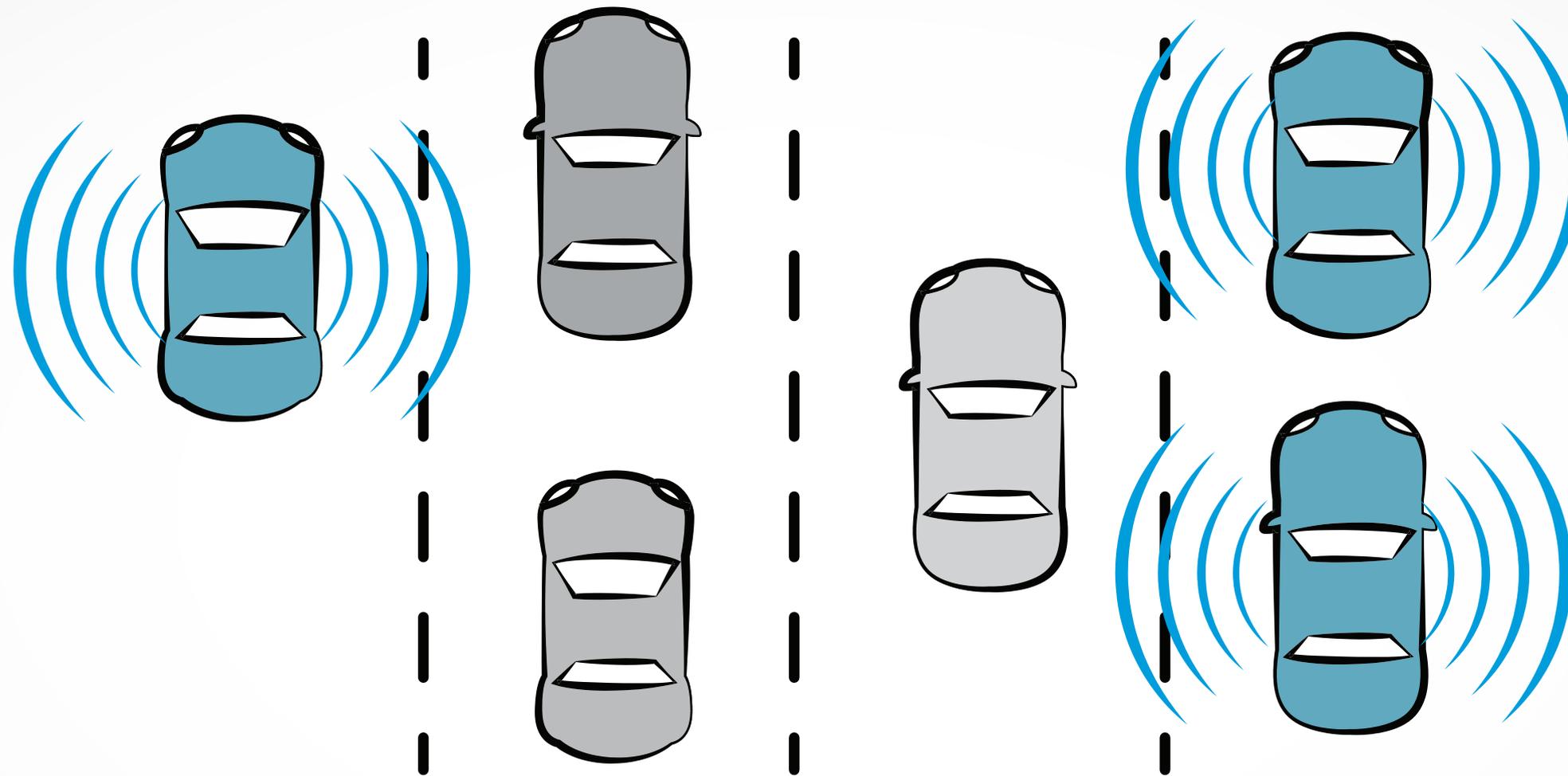


## 1. Self-Driving Vehicles Will Happen

The falling cost of sensors, radars, and other devices, coupled with dramatic increases in software capabilities, have provided the tipping in providing this functionality in a vehicle.



# 1. Self-Driving Vehicles Will Happen



**Now** is the time to start developing new forecasts based on these vehicles being in the fleet.

# 1. Self-Driving Vehicles Will Happen

And answering some of the larger questions:

Will this  
increase  
or decrease  
VMT?

What happens  
to Transit?

How will  
LAND USE  
change?

How do we need to  
UPDATE our modeling  
techniques  
to better capture the  
IMPACT of these VEHICLES?

2. It's Connected  
**AND**  
Autonomous

## 2. It's Connected AND Autonomous

Alone they both provide significant improvements toward mobility, but combined they allow these new vehicles to reach the full potential of their **transformative capabilities.**



## 2. It's Connected AND Autonomous



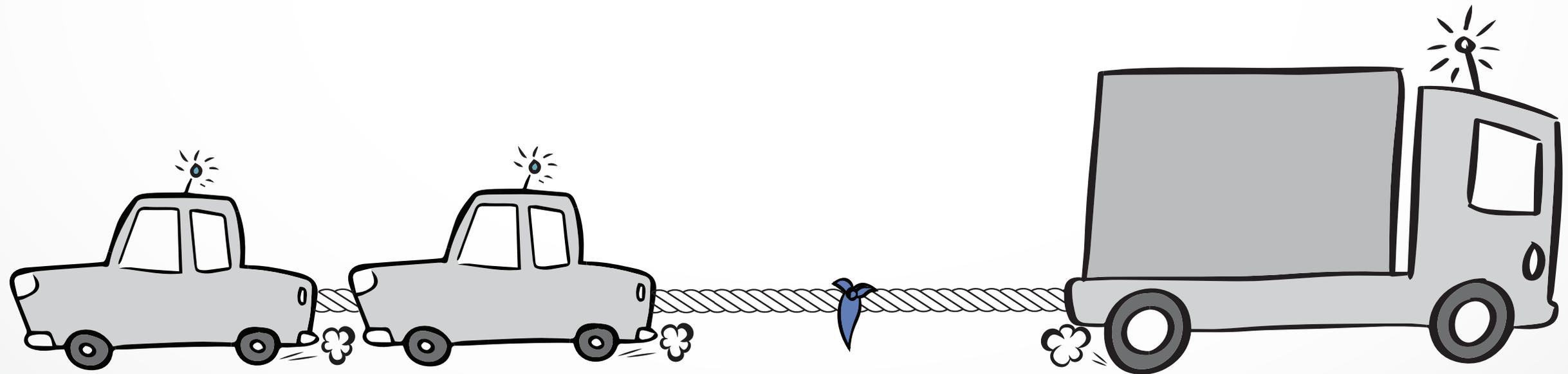
And don't forget to **start building relationships** with these new technology companies and traditional car makers, you will need them to more fully understand the impact of these vehicles.

3. Commercial Vehicles

Will Be First

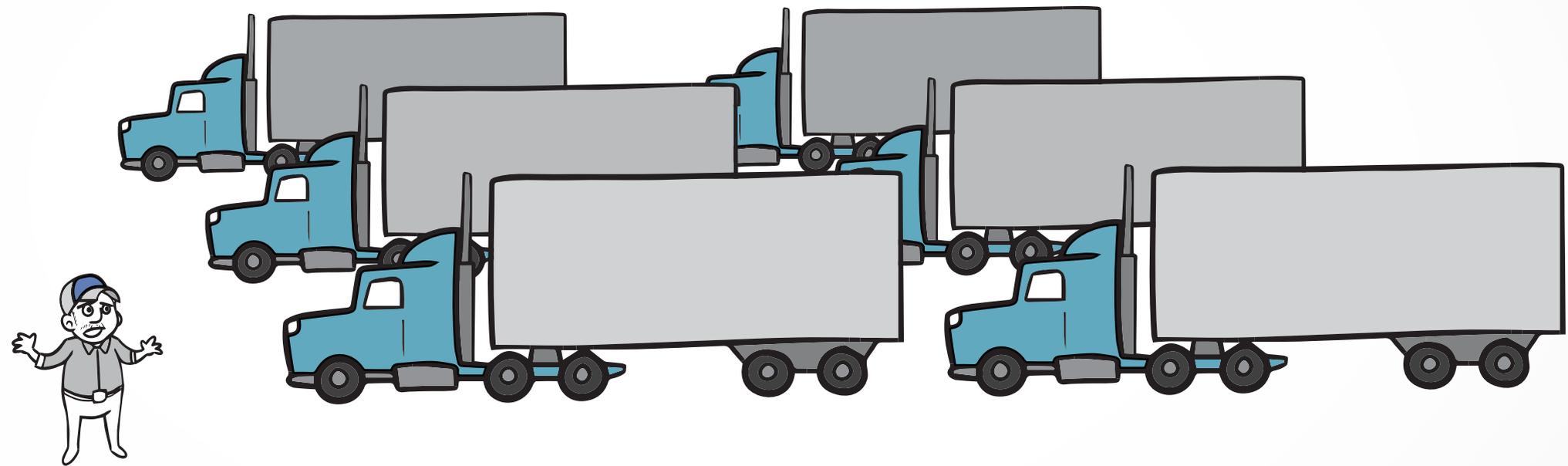
### 3. Commercial Vehicles Will Be First

Which type of vehicle (trucks or cars) comes to market first will depend a great deal on who has the **greatest demand** for such a machine.



### 3. Commercial Vehicles Will Be First

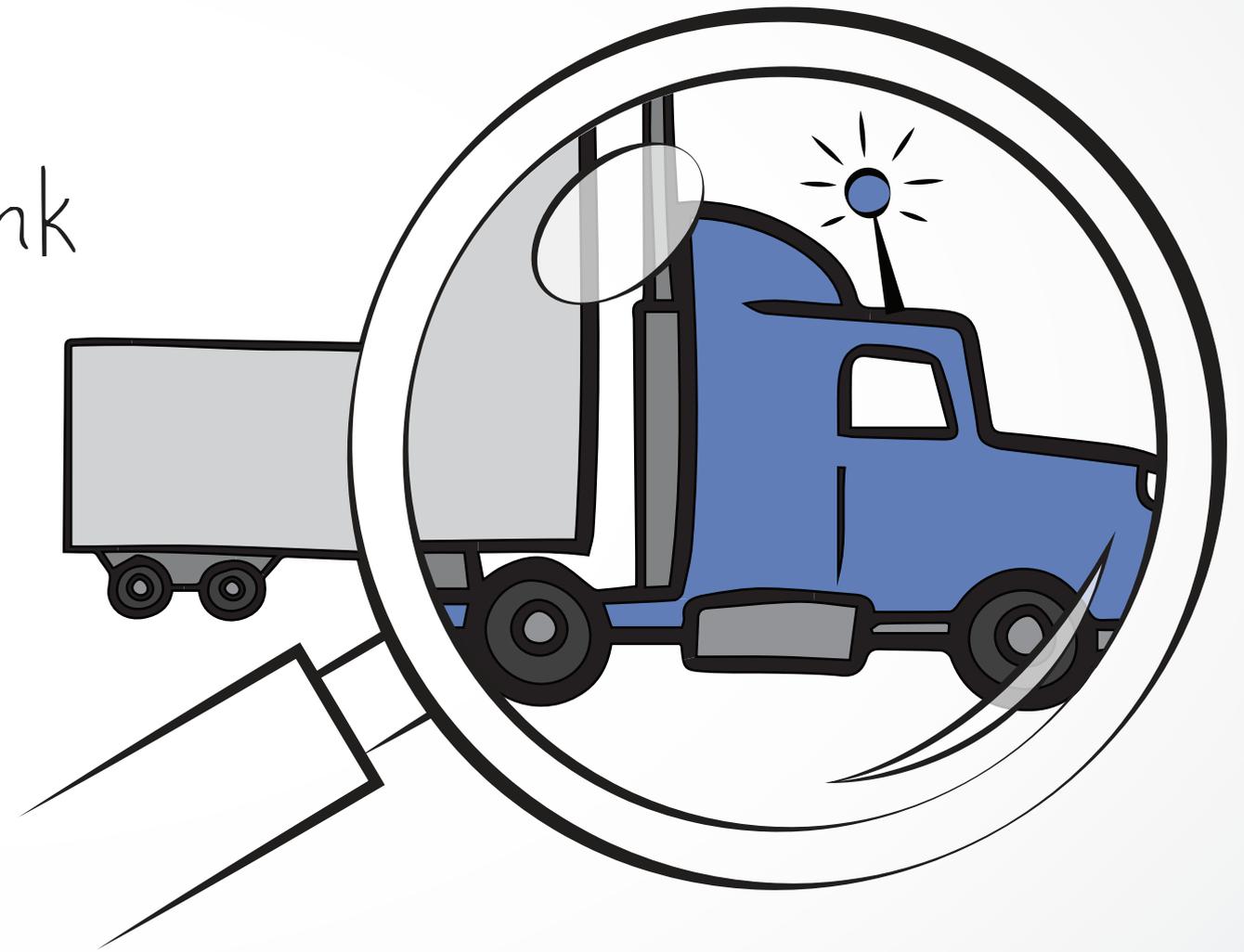
The driver shortage in the country is only going to get worse...



and shippers (the ultimate customer) are always looking for ways to **reduce costs** and **increase reliability/efficiency**.

### 3. Commercial Vehicles Will Be First

**Understanding** these types of vehicles first allows us as planners to **prioritize our efforts** and think about how elements of our transportation network and economy could change.



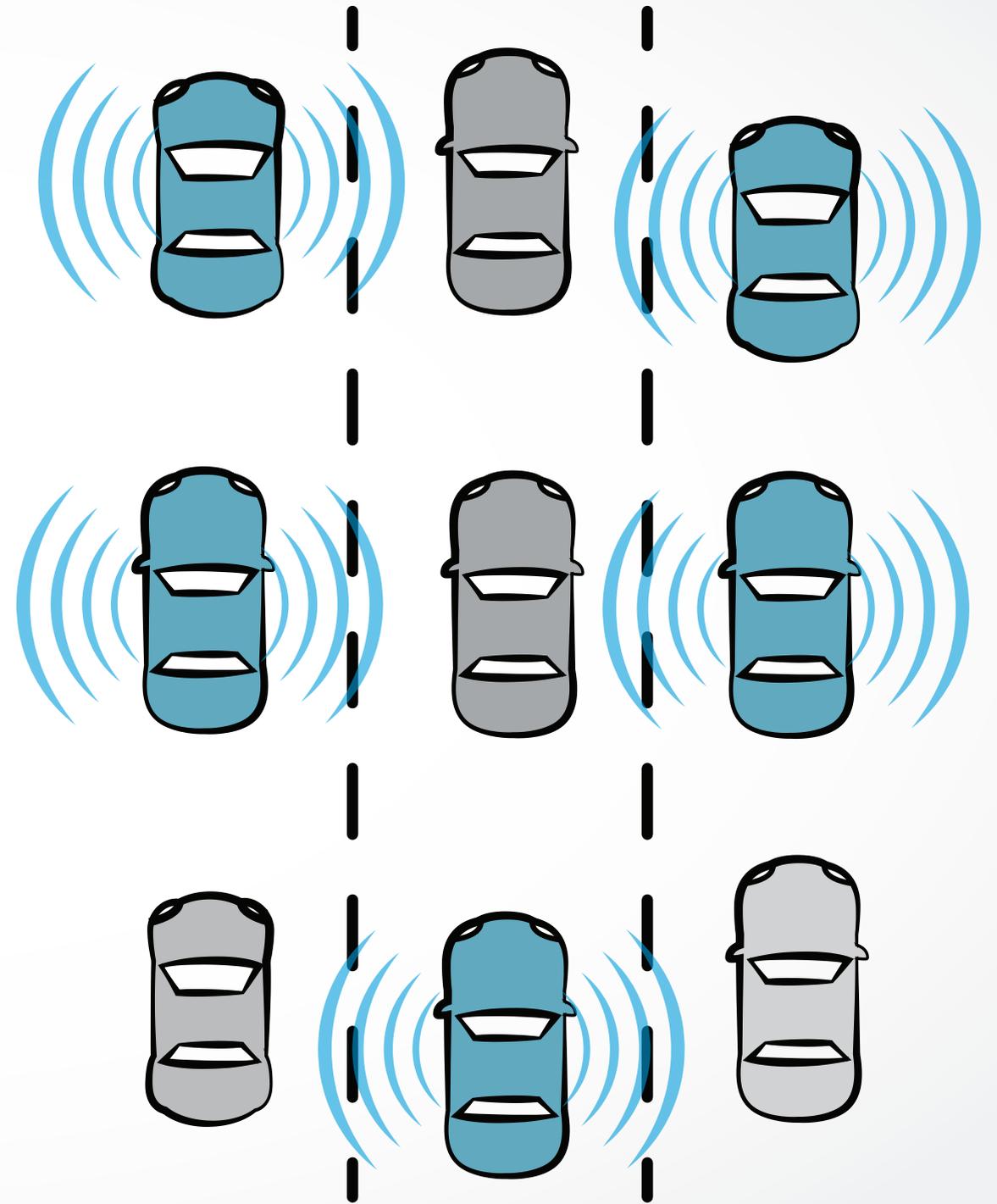
(i.e., will there be a need for so many roadside services built to support truck drivers?)

# 4. Capacity Expansion

May Be a Thing  
of the Past

#### 4. Capacity Expansion May Be a Thing of the Past

When the majority of the fleet is both **connected and automated**, there will be significant decreases in crashes, resulting in **significant increases in safety and reliability**.

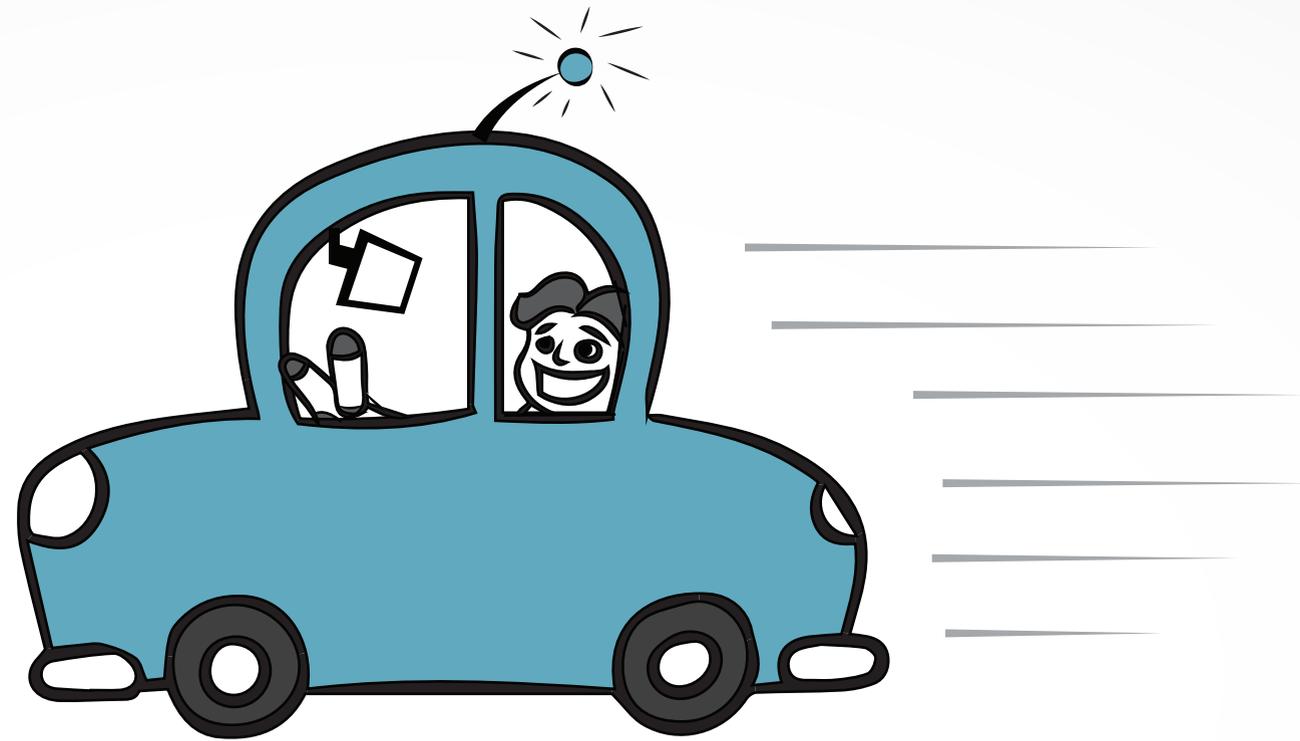


#### 4. Capacity Expansion May Be a Thing of the Past

It also will lead to **significant decreases** in non-recurring congestion, which as we know is over 50% of total congestion.



### 3. Capacity Expansion May Be a Thing of the Past



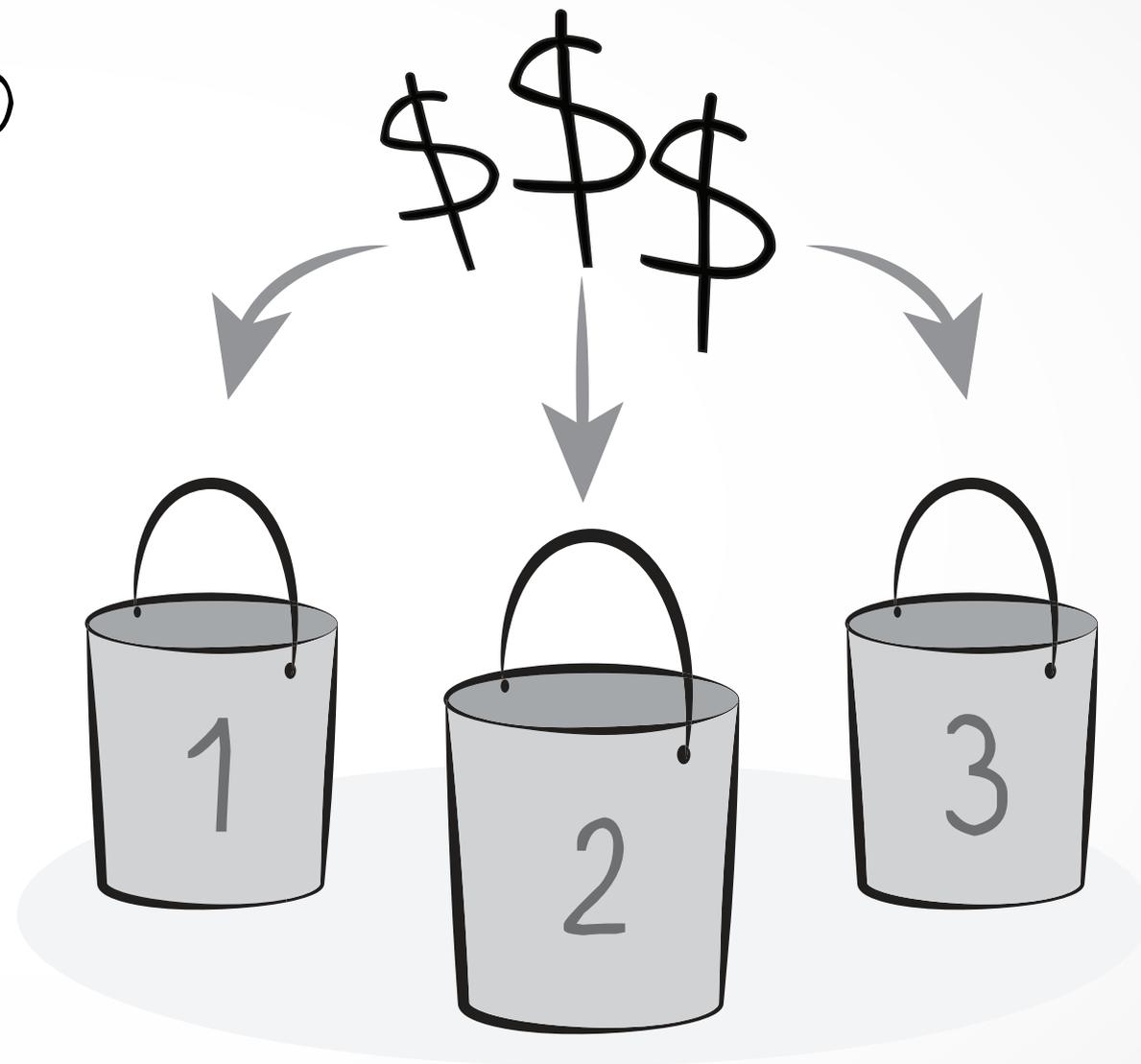
With these decreases in congestion we could get **more capacity** out of the existing system, lessening the need for expensive, time-consuming capacity expansion solutions.

### 3. Capacity Expansion May Be a Thing of the Past

Planners today need to start thinking about

where to  
**invest**

given these  
new developments.

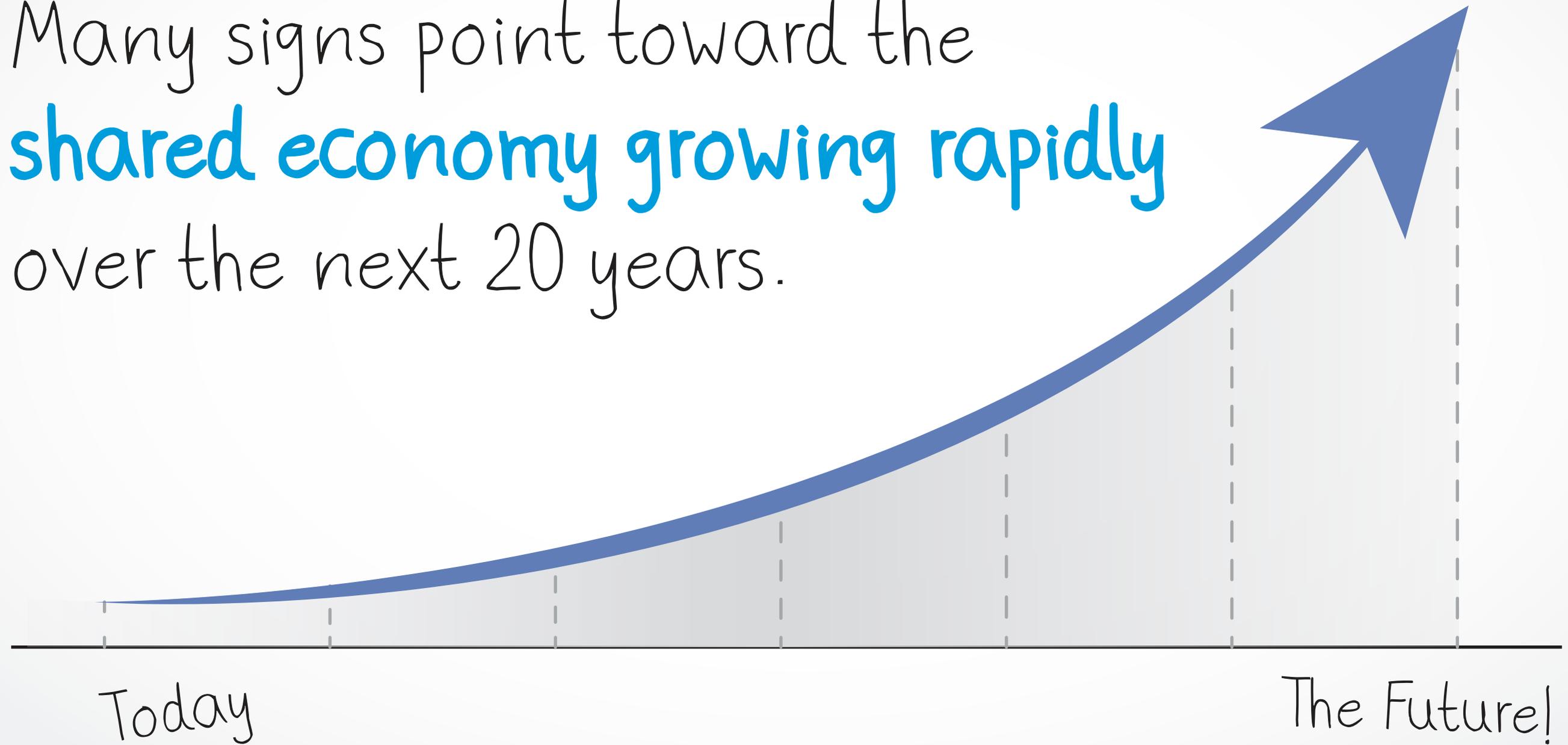


## 5. The Shared Economy

Will Play a Huge Part  
in the Mobility of the Future

## 5. The Shared Economy Will Play a Huge Part in the Mobility of the Future

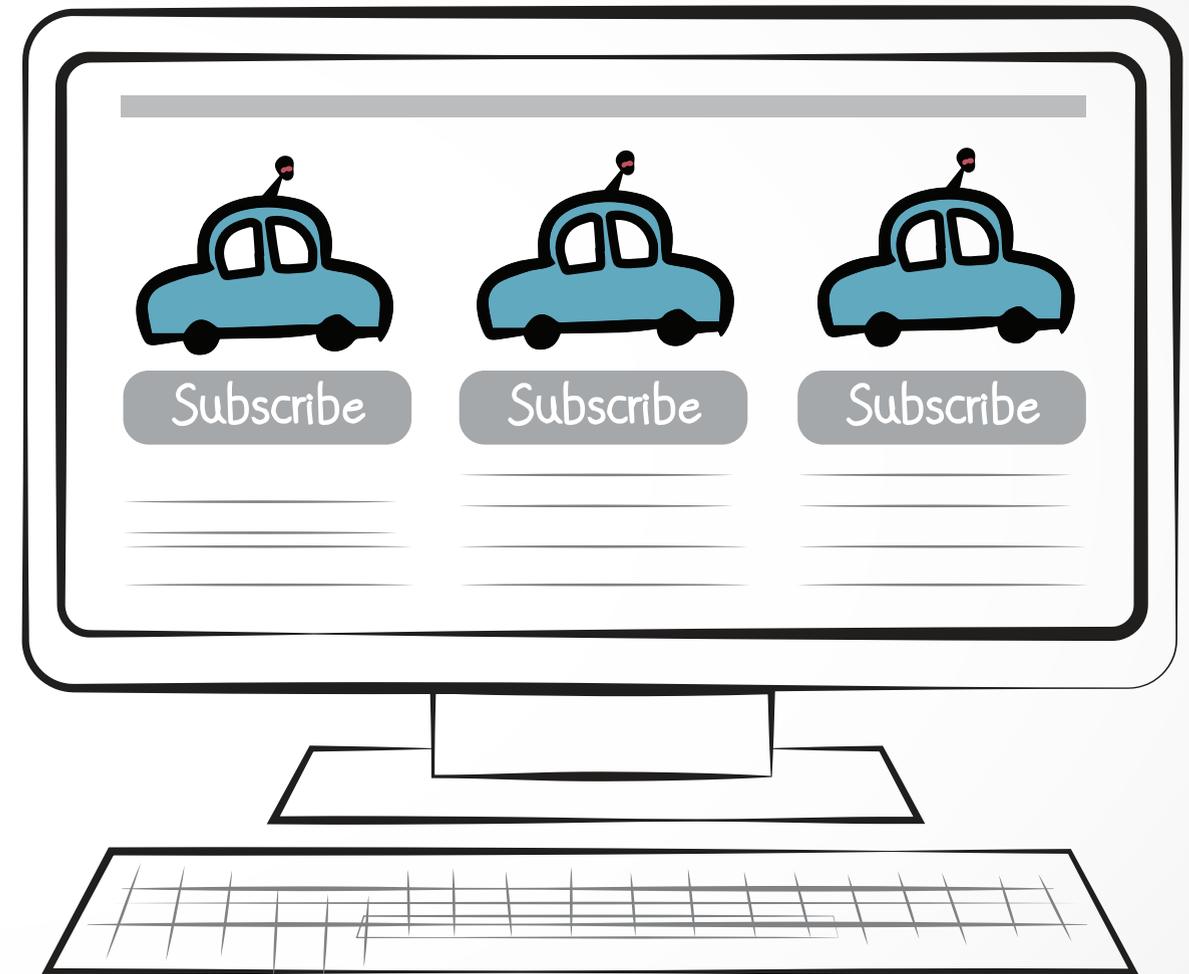
Many signs point toward the **shared economy growing rapidly** over the next 20 years.



## 5. The Shared Economy Will Play a Huge Part in the Mobility of the Future

Along with buying cars like they we do now, people would also have mobility through

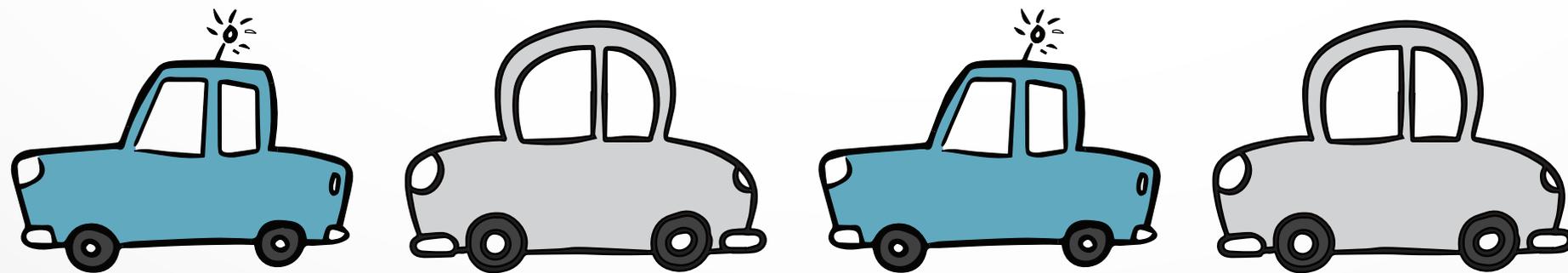
**subscription-based**  
shared vehicle fleets.



## 5. The Shared Economy Will Play a Huge Part in the Mobility of the Future

As planners we need to start now, trying to understand the **effects of this new mobility** as a service concept.

If there are less cars in the total fleet, but they are more highly utilized, what does that mean to congestion?



1) Self-Driving Vehicles Will Happen

( 6 )

2) It's Connected AND Autonomous

( 7 )

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