PUBLIC TRANSPORT AT THE CENTRE OF THE AUTONOMOUS VEHICLE REVOLUTION

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INTERNATIONAL ASSOCIATION OF PUBLIC TRANSPORT (UITP)

UITP : A DIVERSE GLOBAL MEMBERSHIP

1500 member companies

- Operators (all modes, incl. shared mobility)
- Authorities
- Policy decision-makers
- Research institutes
- The sustainable mobility supply and service industry
- Associations

18,000 contacts

96 countries

UITP unites the sustainable mobility community

OUR VISION

We are working to enhance quality of life and economic well-being by supporting and promoting sustainable transport in urban areas worldwide

WHAT FUTURE DO WE WANT?

Principles for a city :

accessible, safe, green, affordable,

equitable, inclusive mobility

WHAT FUTURE DO WE WANT?

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AV´S: CHALLENGES FOR CITIES

Increase of individual comfort

- Time saving
- Smart driving
- Personal preferences
- Liberty

« Natural » choice for the individual

AV´S: CHALLENGES FOR CITIES (II)

Consequences

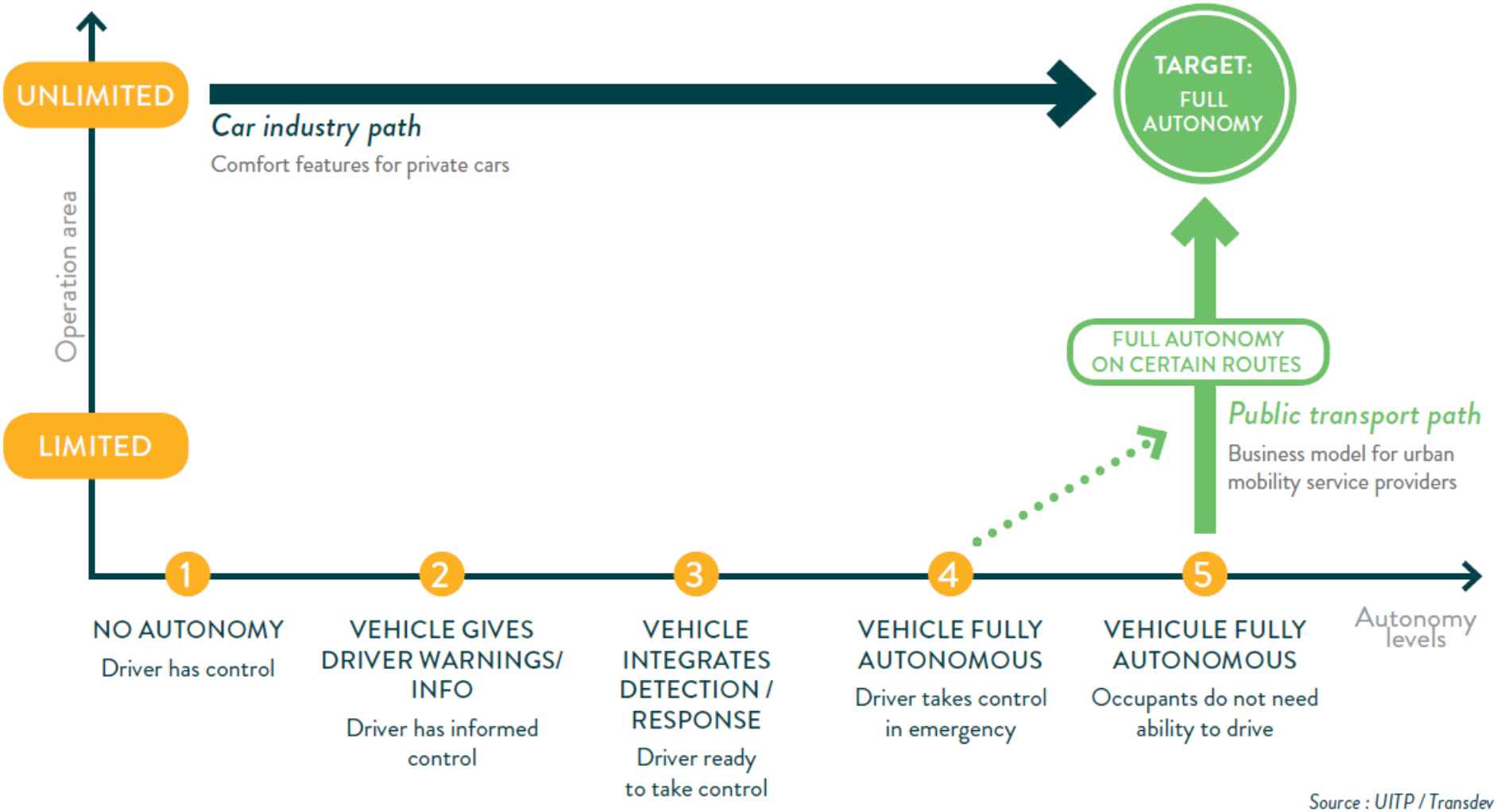
- More purchase of cars
- Average A.V. drives more
- Empty cars on the road
- Urban sprawl
- Loss of public space
- Decrease of use of PT, walking and cycling

Challenge:

Convince the <u>individual</u> to make a shift to shared AV's

AV´S: OPPORTUNITY FOR CITIES (I)

Public transport offers the quickest development path to full autonomy because it can start operating in a limited area



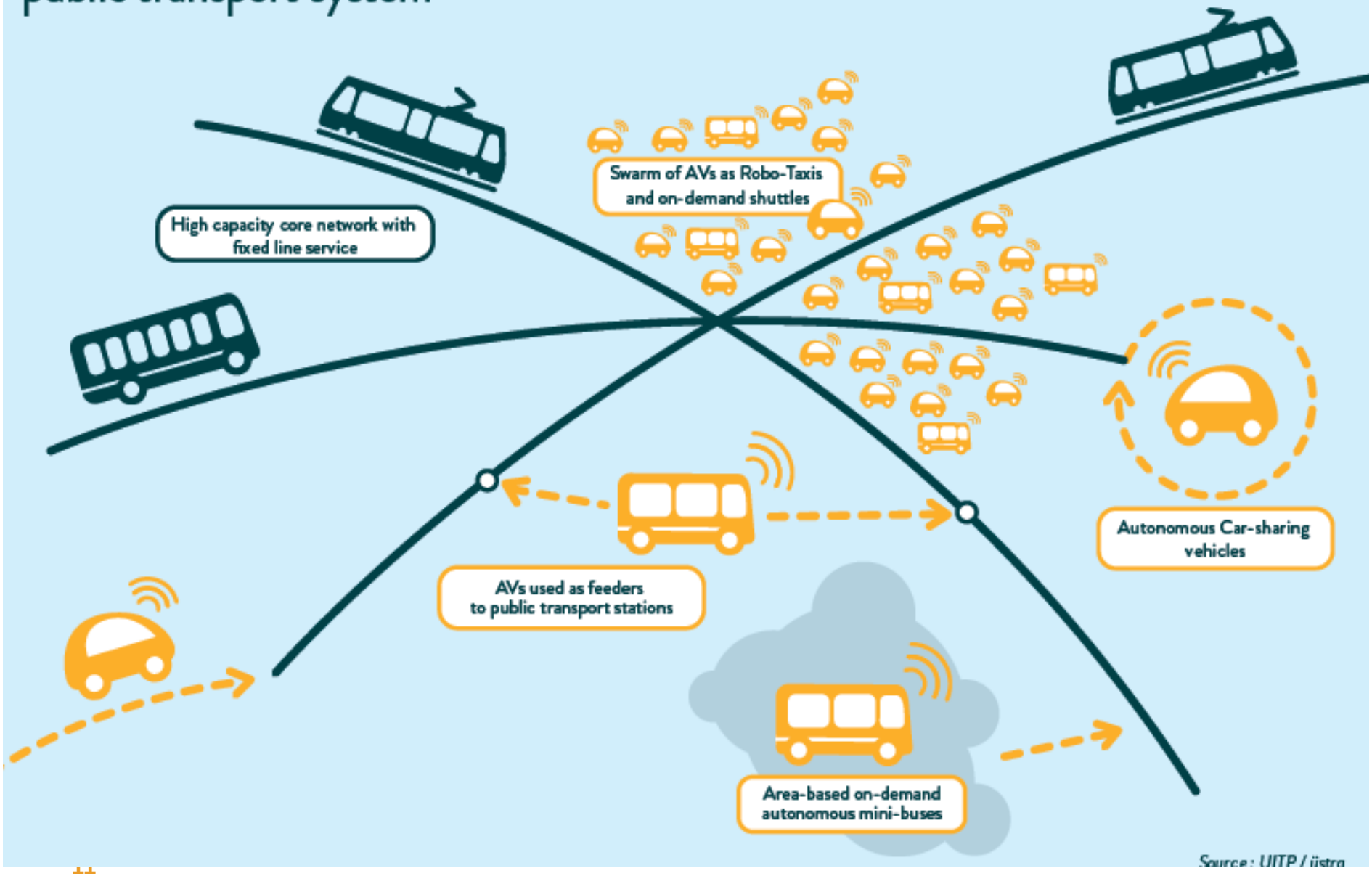
Source : UITP / Transdev

AV´S:OPPORTUNITY FOR CITIES (II)

Positive influences if initiated by Public Transport Authorities:

- More public space and liveable cities
- Less congestion (interconnectivity + road pricing)
- Less emissions
- Data ownership
- …

Possible applications of autonomous vehicles (AVs) as part of a diversified public transport system



Source : UITP / üstra

Autonomous vehicles will only help to meet public policy goals if they come as shared fleets integrated with public transport

Autonomous vehicles

Privately owned cars

- ⊖ No effect on car ownership
- ⊖ No effect on number of parked cars (cars unused most of the day)
- ⊖ No effects on costs /km
- ⊖ No effects on mobility for people that do not own a car
- ⊖ Even more car traffic (as it is even more comfortable and attractive to go by car)

> Unsustainable, even more car traffic

Shared fleet of vehicles

- ⊕ Strong reduction in number of cars (reduced car ownership, effective use of cars as they operate most time of the day)
- ⊕ Drastically improved mobility for people that do not own a car

Fleet cars COMPETING with traditional public transport services

- ⊕ Street reclaiming (less parked cars)
- ⊕ Improved access to public transport
- ⊕ Improved mobility for people that do not own a car
- ⊖ More traffic (strong increase in Vehicle Miles Traveled - VMT)
- ⊖ Inefficency (small vehicles replacing buses and trains)
- ⊖ Passenger loss for traditional public transport walking and cycling

> Better mobility, less efficency

Fleet cars INTEGRATED with traditional public transport services

- ⊕ Large scale street reclaiming
- ⊕ Highly improved access to public transport
- ⊕ Highly improved mobility for people that do not own a car
- ⊕ Strong decrease in VMT
- ⊕ High gain of efficency (large and small vehicles perfectly mixed)
- ⊕ Low costs/km

> Sustainable, better mobility and equity

Encouraging shared mobility now will pave the way for the shared use of shared AVs in the future!

NEXT STEPS

SPACE

SHARED • PERSONALIZED • AUTONOMOUS • CONNECTED • VEHICLES

- **Objective :** Building knowledge & sharing experience on how the Public Transport Sector can use AV technology to reach public policy goals

- **4 working groups:**
  - Connected and Automated Mobility Scenarios
  - Technical Reference Architecture
  - Observatory of shared AV experience
  - Estimated impact assessment, customer acceptance and stakeholders' engagement

More information: http://www.uitp.org/news/uitp-road-space

UITP ADVANCING PUBLIC TRANSPORT

POLICY BRIEF

AUTONOMOUS VEHICLES: A POTENTIAL GAME CHANGER FOR URBAN MOBILITY

INTRODUCTION

Imagine providing affordable, sustainable and convenient mobility options to all citizens including less mobile persons, the elderly, children and people living in suburban or rural areas. Autonomous vehicles (AVs) can help to build that future.

A NEW CHANCE FOR AN EVER-PRESENT PUBLIC TRANSPORT SYSTEM

Cities play a crucial role as engines of the economy, as places of connectivity, creativity and innovation. The arrival of driverless autonomous vehicles represents a unique opportunity for a fundamental change in urban mobility and could lead to healthier, more competitive and greener cities - but only if public authorities and public transport companies take an active role now and integrate AVs into an effective public transport network. If employed as shared 'robo-taxis' and mini-buses as well as used to reduce car ownership through more effective car-sharing schemes, driverless AVs could dramatically enhance public transport. This paper details the challenges ahead and outlines a way forward for the introduction of autonomous vehicles in our cities.

Indeed, a future with autonomous and connected vehicles can have various outcomes depending on how they are to be regulated and used. Will they lead to even more cars on the road, more urban sprawl and more congestion? Or will they contribute to shaping sustainable and liveable cities, the regaining of urban space, less vehicles on the road and a higher quality of life?

Imagine providing affordable, sustainable and convenient mobility options to all citizens including less mobile persons, the elderly, children and people living in suburban or rural areas. Imagine these mobility solutions opening the way for decarbonisation, to enable your city to regain valuable urban space to be reallocated to green zones, economic activities or affordable housing and to provide flexible, around the clock on-demand transport that is safe and cost-efficient. Autonomous vehicles can help to build that future.

Which future will you choose?

More information in the UITP Policy Brief on Autonomous Vehicles on www.uitp.org

ADVANCING PUBLIC TRANSPORT

THANK YOU!

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