PTV | GROUP
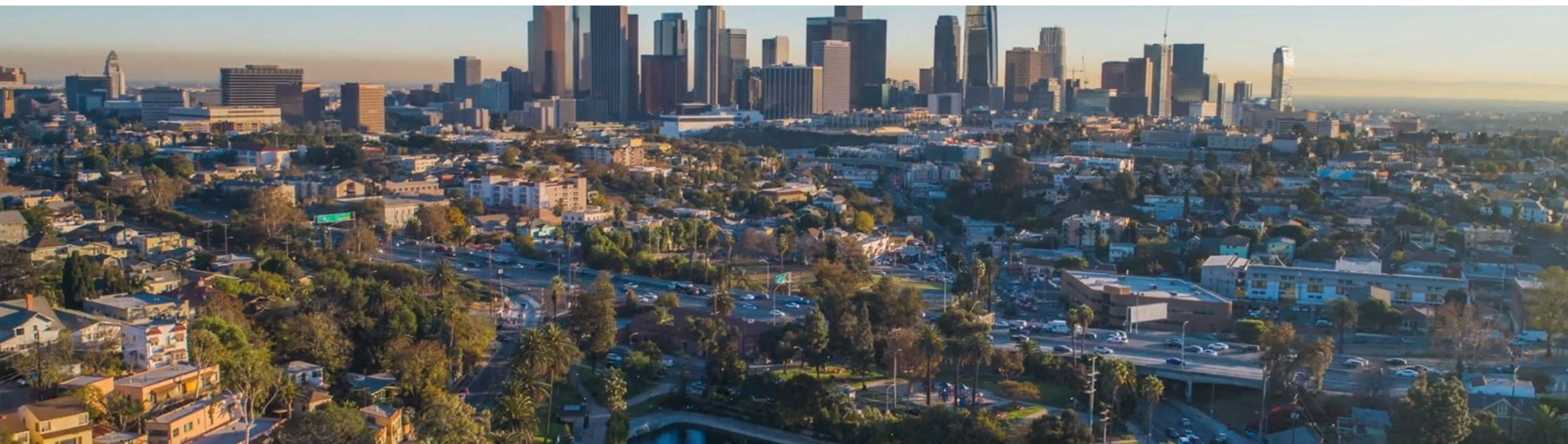
Micro-mobility in cities

Paris School of Economics

Christian U. Haas, October 17th, 2022

Active modes: Mobility and city planning shifts from a car-centric to a citizen-centric approach

- Trends driving the change
  - Sustainability and environmental footprint
  - Urbanization and fast-growing city centers
  - Rising number and types of mobility modes
  - Traffic congestion

- Cities are asked to rethink mobility

- Active modes and cycling play a key role in shaping the future of mobility in cities

Which transportation mode are you planning to use more frequently?

41 %

60 %

2019

2030
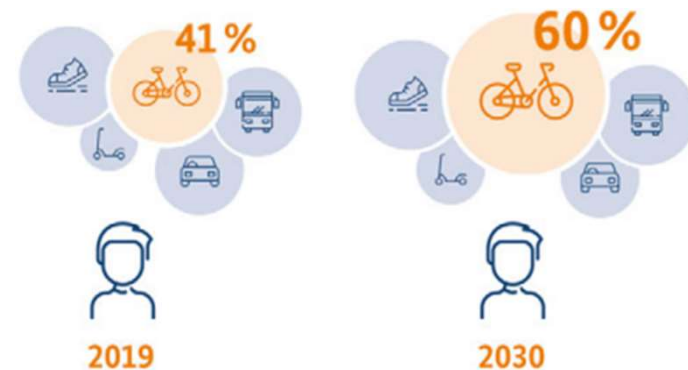
Source: PTV research study "Nationaler Radverkehrswegeplan 3.0", Fahrrad-Monitor 2019

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Conditions and requirements to increase bike usage
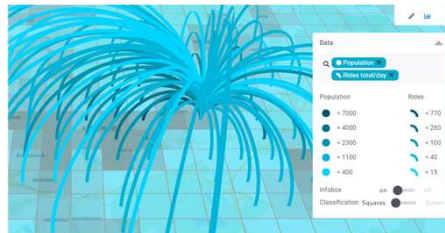
Pop-up lanes:

↗ **+ 48%** cycling

Parking lots:

Main criteria for taking the bike
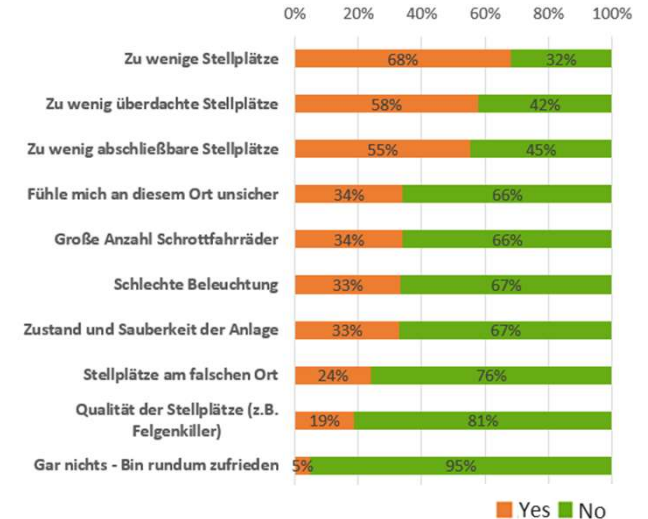

Express ways:

Long distance cycling

PTV Bicycle Highway Planner showing occupancy of existing and potential future bike lanes

*What bothers you most about bike + train?*

Quantity, accessibility and safety are key

	Yes	No
Zu wenige Stellplätze	68%	32%
Zu wenig überdachte Stellplätze	58%	42%
Zu wenig abschließbare Stellplätze	55%	45%
Fühle mich an diesem Ort unsicher	34%	66%
Große Anzahl Schrottfahrräder	34%	66%
Schlechte Beleuchtung	33%	67%
Zustand und Sauberkeit der Anlage	33%	67%
Stellplätze am falschen Ort	24%	76%
Qualität der Stellplätze (z.B. Felgenkiller)	19%	81%
Gar nichts - Bin rundum zufrieden	5%	95%

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PTV Visum supports in building a bike-friendly infrastructure

- Simulation software enables planning and modelling

- Cities are supported in optimization and expansion of their bicycle route network

- Realistic cycling modeling is an important lever for infrastructure planning

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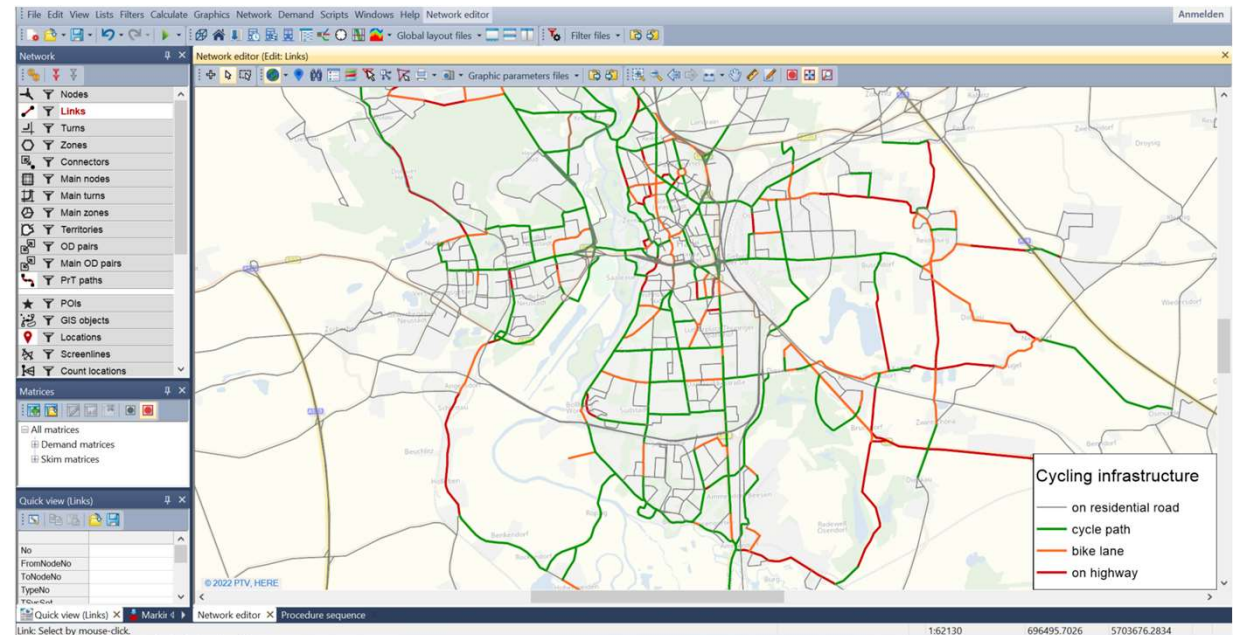
Paris changed its infrastructure to a more customer-centric approach

Paris, Place de la Bastille
Photo: free press

Paris, Place de la République
Photo: TVK-Myluckypixel

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PTV Vissim enables visualization and simulation of interactions between different transportation modes

- Simulation, analysis and evaluation of flows and interactions between different transportation modes

- Active modes like pedestrians and cyclists as well as public and private transport

- What-if scenarios to improve decision making

- Rethink road space allocation

Desired Speed Distributions / Data Points			
Count: 8	No	Name	LowerBound	UpperBound
	1	Cyclists, normal [KK_normal_cyklist]	14,00	35,00
	2	Cyclists, carrier [KK_Lad_cykel]	10,00	29,00
	3	Cyclists, electric [KK_el_cykel]	22,00	30,00
	4	Cyclists, normal, downhill [KK_nedad_bakke]	14,00	40,00
	5	5 km/h	4,00	6,00
	6	Cyclists, electric, downhill [KK_el_cykel_nedad_bakk...	27,00	29,00
	7	Cyclists in 90 deg turn [KK_reduced_speed_cykel]	5,00	17,00
	8	Cyclists, normal, uphill [KK_opad_bakke]	5,00	30,00

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A holistic and integrated view on the mobility ecosystem is essential

- High complexity of urban mobility system

- Digital twins help cities understand this complex system, make sound decisions and shape it holistically

- Modelling and simulation software to evaluate, different scenarios in a virtual environment

- Automation of building standardized transport models widens access for model-based research and decision-making
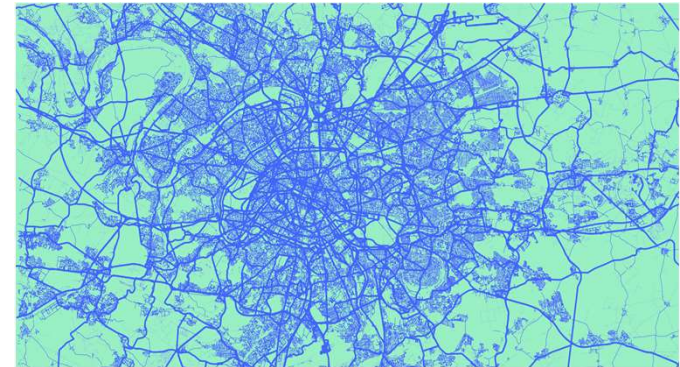
PTV Model2Go enables researchers and planners to have a holistic view on urban mobility
(Picture showing model of Paris build by Model2Go)

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Q & A