



Outlook on Value of Travel Time: Futures Study and Related Hypotheses

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Horizon 2020

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About MoTiV

- **European-wide exploration of “Mobility and Time Value”** across transport modes, generations, genders and cultures
 - **30-month project:** November 2017 – April 2020
 - **Overall funding:** ~2M EUR
 - **Small consortium** (7 partners) including academic and business partners, as well as European-wide association
- **UNIZA Success Story:** currently, the only Research and Innovation action in Slovakia funded under Horizon 2020 managed by an academic institution
 - Project implemented within the **ERAdiate team** at the University Science Park



Changing Value of Travel Time: business impact



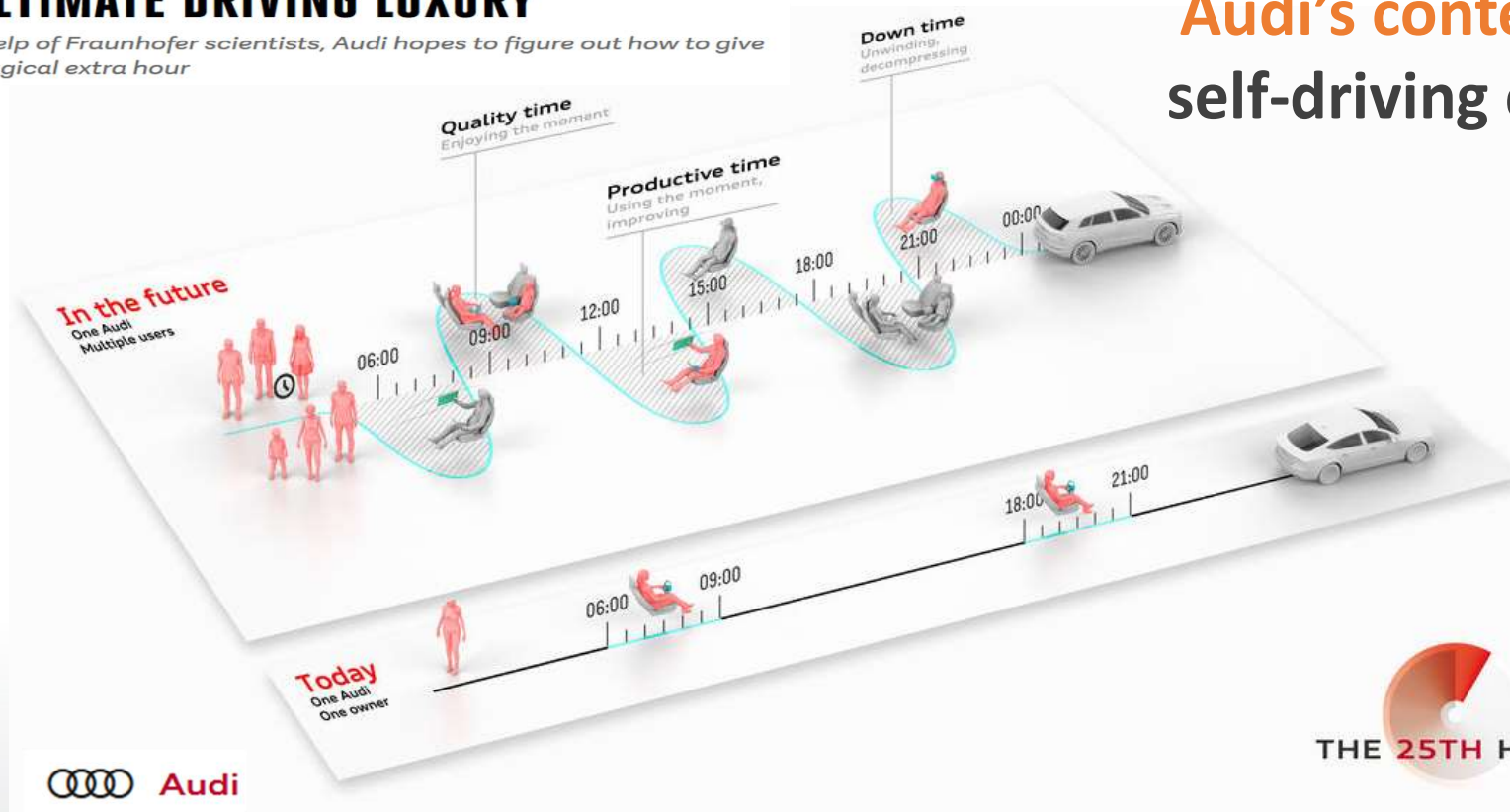
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AUDI'S 25TH HOUR PROJECT MAKES TIME THE ULTIMATE DRIVING LUXURY

With the help of Fraunhofer scientists, Audi hopes to figure out how to give us that magical extra hour

**Audi's context:
self-driving cars**



Changing Value of Travel Time: what does it mean in practice?

- **What makes your time valuable while on the move?**
 - Leisure activities (reading, sleeping, socializing)
 - Work-related activities
 - Travel time is not valuable. I want to get to destination as fast as possible, independently of the type of trip (short-/long-distance, working day/week-end) and situation
- **Focus on the individual Travel Experience**

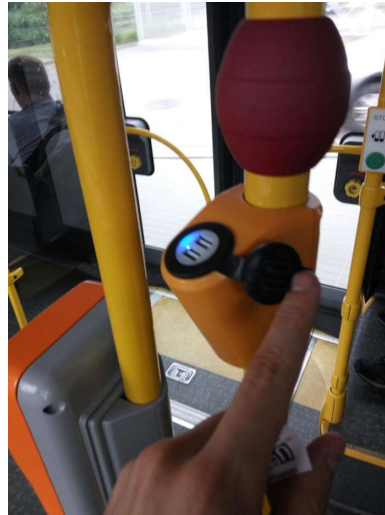


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Changing Value of Travel Time: implications for service design



- Public transport operators recognize that even short-distance travel time is not only about getting people rapidly and safely to destination
- Increasing amount of free-of-charge services enhancing travel experience
 - USB chargers
 - Wi-Fi onboard
 - Entertainment and information displays
 - Bike racks
 - ...

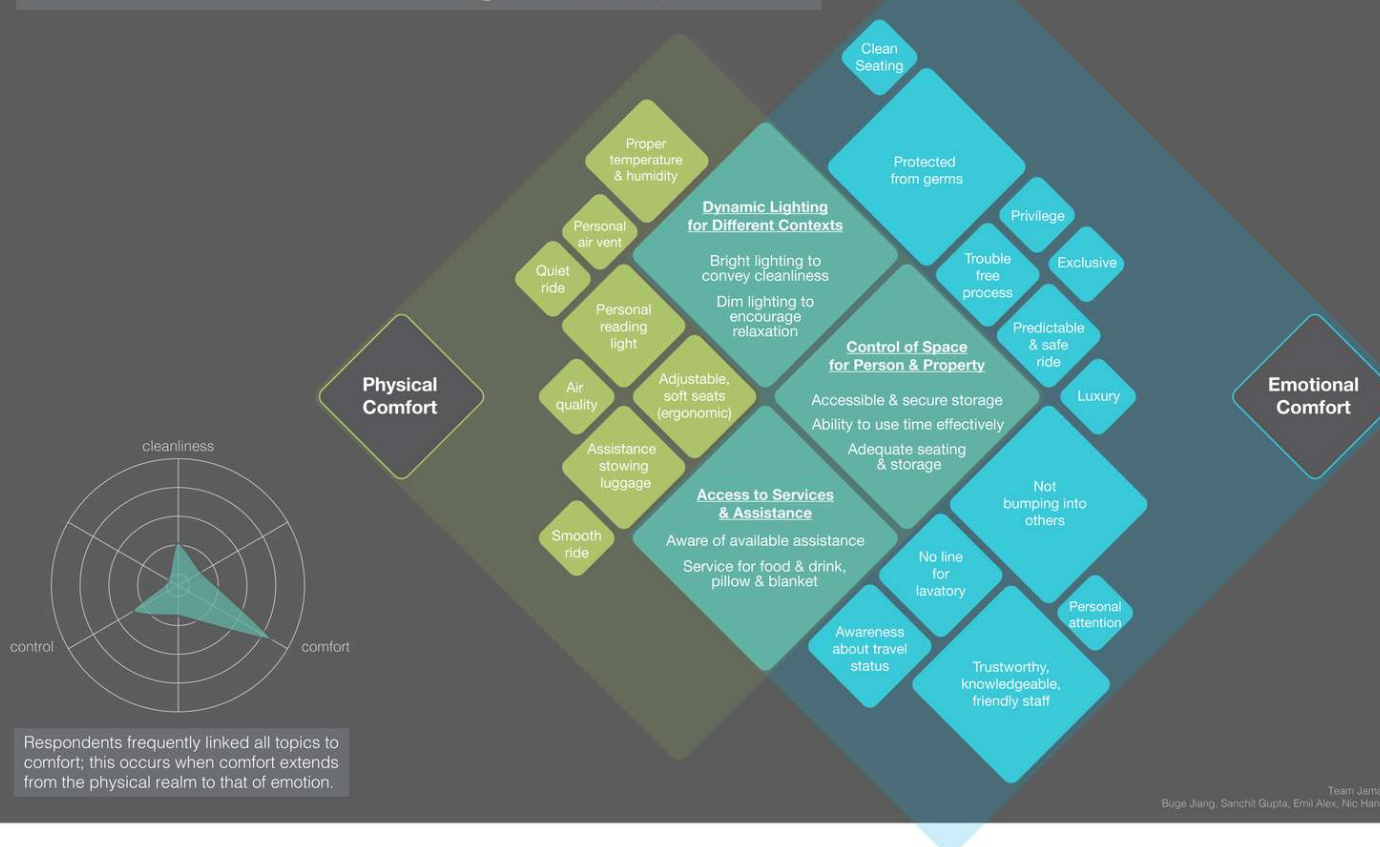
Conceptualising the Travel Experience



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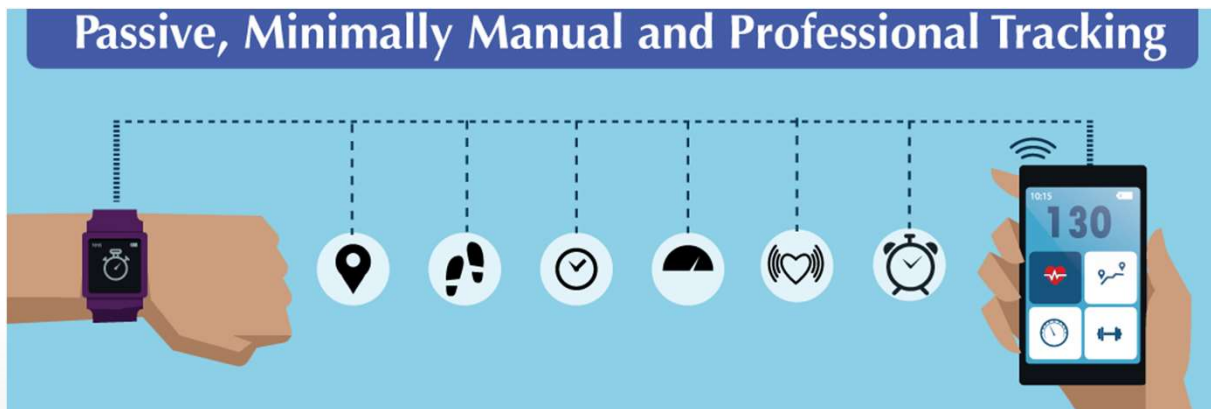
Comfort Factors Influencing Travel Experience



- “Comfort” dimension
- Two sub-dimensions:
 - Physical comfort
 - Emotional comfort
- Many aspects, with varying importance

Collecting Data on Travel Experiences

- Smartphone-based data collection via the **MoTiV app** (available as of November 2018)
- Collection of mobility/activity behaviours



Travel Experience Analysis



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[summary](#) [breakdowns](#) [timelines](#) [trips](#) [about](#) [log out](#)





tripography

Welcome Back,

Place your mouse over the dots to the right to see where you stack up against Typical Bay Area Travelers and the U.S. National Average.

Total Trips Logged	36
Total Miles Logged	259
Total Time Logged	572 minutes

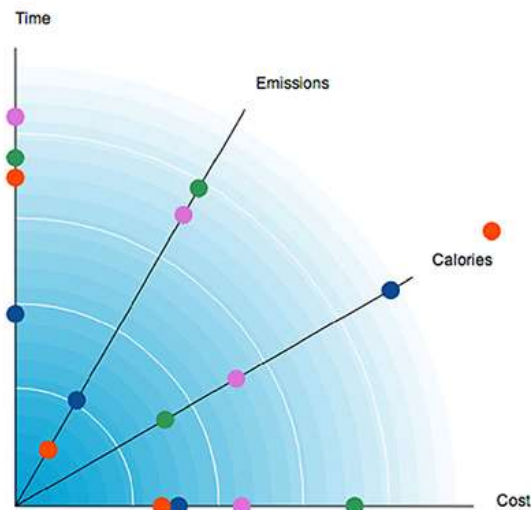
AVERAGE TRAVEL STATISTICS

	You
	SF Bay Area
	US Average
	Berkeley Students

More statistics (such as those for other cities and for the study group) will be added as the study progresses.

Your Tripography Analysis

You emitted 4.28 kg of CO₂/day in Carbon Emissions.



This graphic shows how you compare with others (across the US, people in your city, and others in the study group) in four categories: the amount of time you spend traveling/commuting, how much CO₂ you emit, the number of calories you burn while traveling/commuting, and the amount of money you spend on transportation. If you want to learn more about how these numbers are calculated, see the About page.

- **“Quantified Traveler”**
approach: personal (big) data analytics and insights
- **Activity/Mobility self-tracking** for enhancing self-awareness and decision-making

Visualising one's Travel Experience



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Johnny Appleseed

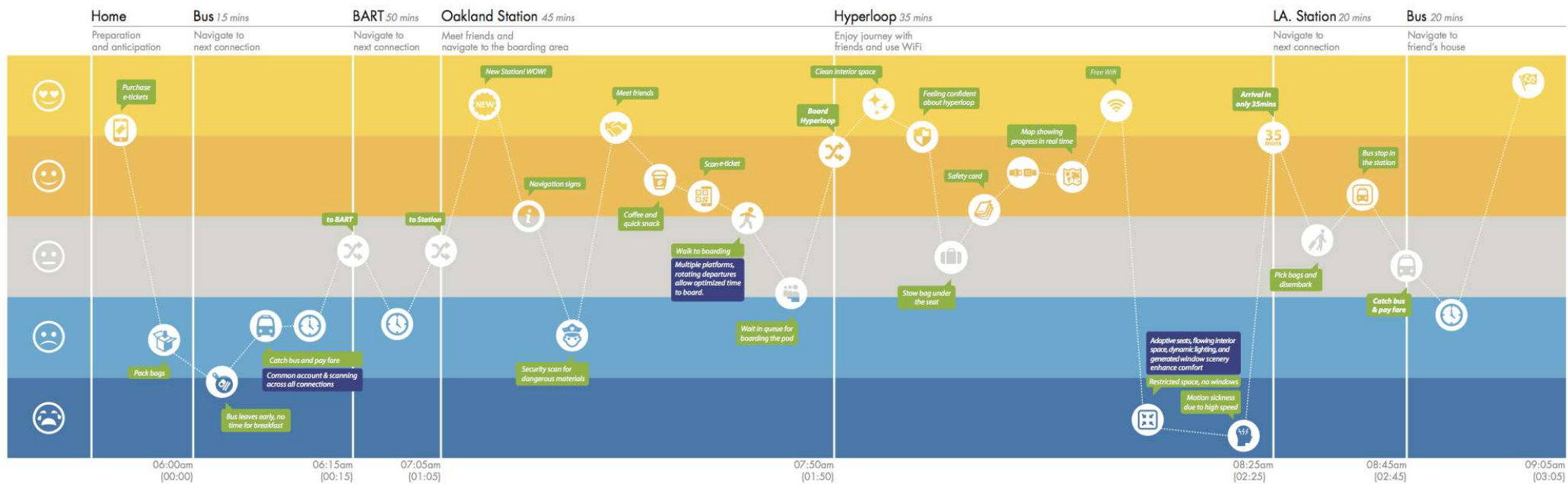
Male, 26 Years, Student at California College of Arts, San Francisco



Weekend Trip to Hollywood with friends
Experts with Travel and Technology
Staying with Friend — One Backpack Each
Depart Saturday Morning — Return Sunday Evening
3 hours and 5 minutes EachWay

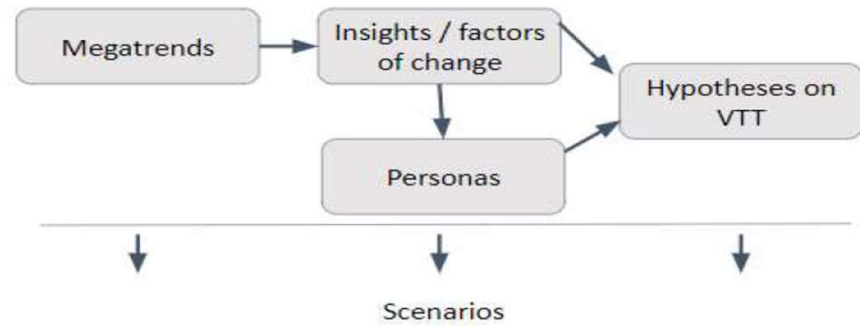
- Emotional status, activities, mobility, timeline, dependencies

*Travel Experience –
Hyperloop visual design
by Buge Jiang*



Exploring changing value of travel time: futures workshop

- Futures approach to better understand present trends and to formulate hypotheses on factors influencing changing value of travel time
- Experts from different backgrounds and views on travel time (academia, public/private organisations, NGOs...)



Scenario 2 – FFF (Fast, Furious & Facebook)

Like, share, tweet, comment. This are almost the first words learnt by kids, even before "mom" and "dad". Impatience is the new normal. If we need, we need it now. If we want something, we wanted it one hour ago. But we wanted it because we saw someone sharing it online, and it had one hundred thousand likes. We travelled because we thought we would like from our "nemesis" pictures.

Life is exhausting. We cannot lose the social media for one hour, or we will be liking old things. We have now 150 mails to read, because changes happen every minute. 151. Let's close our eyes while the Uber driver takes us to the destination. 152. The car stopped, 8 km of traffic jam to reach the city centre. Well, perfect time for switching off. "Warning! You have now 238 mails to read!"

Everywhere we go, there are no surprises about the traffic, the subway or the pricing schemas. Everything is standardized, one kilometre here costs as much as one kilometre in Kazakhstan.

So, let's have that amazing trip, because we didn't post something on Instagram for 12 hours. But alone.



Scenario snapshot

They want it now, I want it now.
Here, there, or somewhere.

Dominant megatrends

Here & Now
Constant Connectivity
Individualism & Horizontalism

Related personas

Monica
Dic

Mega-trends affecting changing Value of Travel Time



A total of 13 megatrends impacting business, society, culture and personal lives were selected



How do these megatrends affect your perception and experience of time while on the move?

Mega-trends affecting changing Value of Travel Time: some examples



“expectation of similar quality standards of travel everywhere”



“multi-tasking on the move with potential to both increase effectiveness/productivity and to distract/lose focus”



“expectation for a personalised travel experience”



“recognise and address needs to empower all types of travellers”



“active mobility and mental health to counter-balance e.g. obesity and stress”

Hypotheses on factors influencing individual travel time valuation



Decision Factor	Objective
Time	To be minimized to reach destination rapidly .
Cost	To be minimized (as personal expenditure) to reach destination at the lowest cost , or to be maximized in case personal mobility plans are compatible with possibility of earning by transporting people or goods .
Comfort	To be maximized in line with travel service expectations .
Safety	To be maximized to reach destination safely (e.g. avoiding cross-roads statistically more dangerous; avoiding areas/districts not perceived as safe).
Curiosity	To be maximized in line with travel experience expectations .
Prestige	To be maximized in line with social status aspirations .
Pro social	To be maximized to maintain and/or extend personal social relationships (e.g. including volunteering/charity activities).
Well-being	To be maximized in line with health and well-being aspirations and objectives. This includes also commitment to reduce environmental impact of transport (in terms of CO ₂ emissions).

- Which decision factors influence your travel choices?
- Additional relevant factors?
 - *Reliability*
 - *Information*
 - *Digital connectivity*
 - *Ability to work*

Hypotheses on factors influencing individual travel time valuation



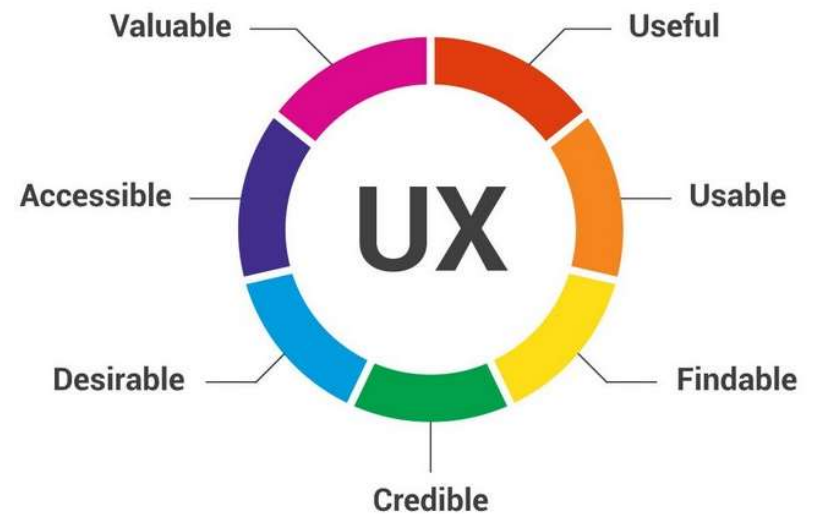
Megatrend (Insight)	Hypothesis	Impact on VTT	Dimensions of the Value Proposition of Mobility									
			Time	Cost	Comfort	Safety/secu	Curiosity	Prestige	Pro Social	Well-being	Reliability	Information
Here & Now	Lack of connectivity in small time chunks	↘			✓				✓	✓		
Here & Now	Shops or other entertainment at interchanges	↗					✓			✓		
Wellness & Health	Degree of physical activity of the mobility choice	↔			✓	✓	✓			✓		
Wellness & Health	Possibility to get (healthy) food during trip	↗			✓		✓			✓		
Wellness & Health	Personal "insecurity" felt inside AV	↘			✓	✓	✓			✓		
Wellness & Health	Need for "switching off" from life responsibilities	↗								✓		
Wellness & Health	Congestion (unreliability and discomfort)	↘	✓		✓					✓	✓	
Wellness & Health	Sweat in active mobility	↘			✓			✓		✓		
Wellness & Health	Showers at workplace or e-bikes	↗			✓			✓		✓		
Wellness & Health	Awareness of health impacts of active mobility	↗								✓		

- For each megatrend (e.g. Wellness & Health), a list of hypotheses was generated and mapped to the identified factors
- Possible (positive, negative, or neutral) impact on value of travel time identified

Concluding Remarks: from User Experience Design to Travel Experience Design



- Knowledge on changing value of travel time will allow us to **better understand the individual travel experience**
- Dimensions of User Experience (UX) expected to have an increasing importance for the **design of sustainable and smart mobility solutions.**
- Future transport planners/engineers will require interdisciplinary knowledge to act as **designers of travel experiences**



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Any Questions?



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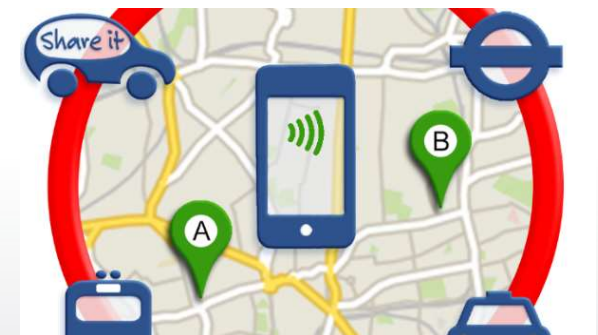
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MoTiV

About MoTiV: objectives



1. **Broaden the definition and assessment of VTT beyond the “time savings” consideration**, based on a multidimensional time “value proposition” for the user
2. **Gain an understanding of traveller’s reasons for his/her travel choices** in line with the perceived value proposition of mobility
3. **Assess to what extent ICT connectivity and transport services/infrastructure affect VTT** across leisure and work activities and within cultures and generations
4. **Elaborate specific actions and recommendations for mobility policy makers and solution developers** that shape the value propositions of travel time



About MoTiV: expected impact

1. Comprehensive overview about **preferences, behaviours and lifestyles that influence the travel option choice**, the time spent for travel preparation and travelling as well as the value proposition of the travel time.
2. **Identify influence factors for mode choice and travel time value perception** in the context of life style and personal values will be a basis for transport policies and strategies.
3. The project will generate **knowledge about the value of time in mobility contexts**, considering different geographical, cultural, economic and gender factors.

