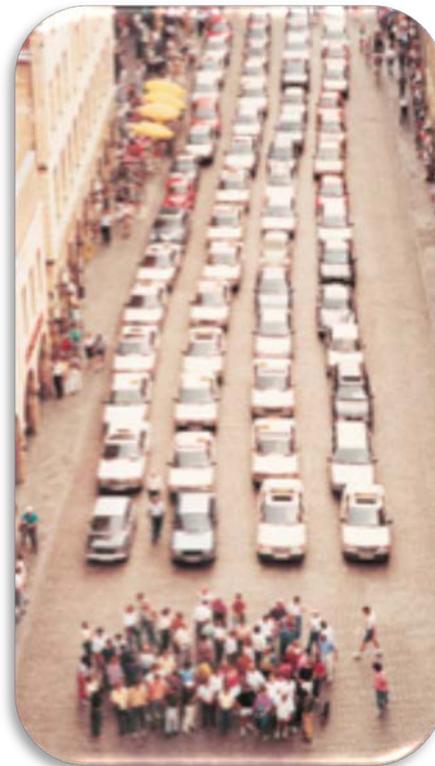
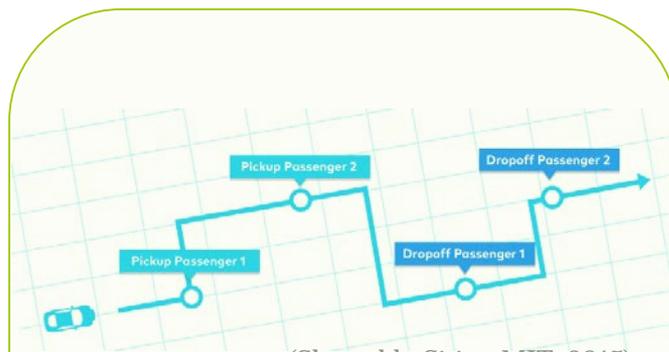
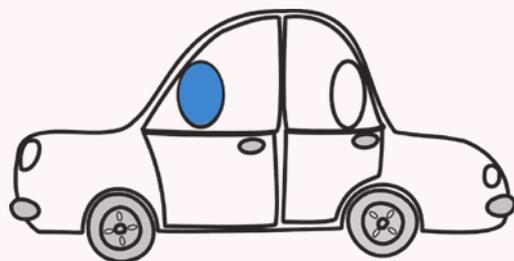


# Willingness to Share Rides in On-demand Services for Different Market Segments





(Shareable Cities, MIT, 2017)

There is a massive potential of sharing rides with little incurred delays, and this applies to very different urban settings – *Tachet et al, 2017*

# Why are there not more pooled rides?

**PROS**



**CONS**



**COST SAVINGS**



**ADDITIONAL TIME**



**SAFETY CONCERNS**

**LACK OF PRIVACY**

**REDUCED  
COMFORT**

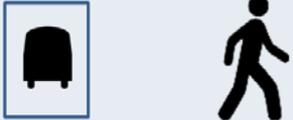
# What is the monetary disutility of sharing an on-demand ride?

COST SAVINGS

SAFETY CONCERNS  
LACK OF PRIVACY  
REDUCED  
COMFORT



### Individual ride

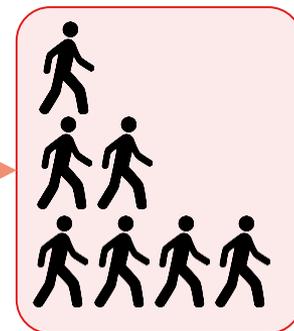


- Riding time: 12 min
- Price: 7,50 €

### Shared ride



- Riding time: 15 min
- Additional passengers: 2
- Price: 4,20 €





1006 valid respondents

308



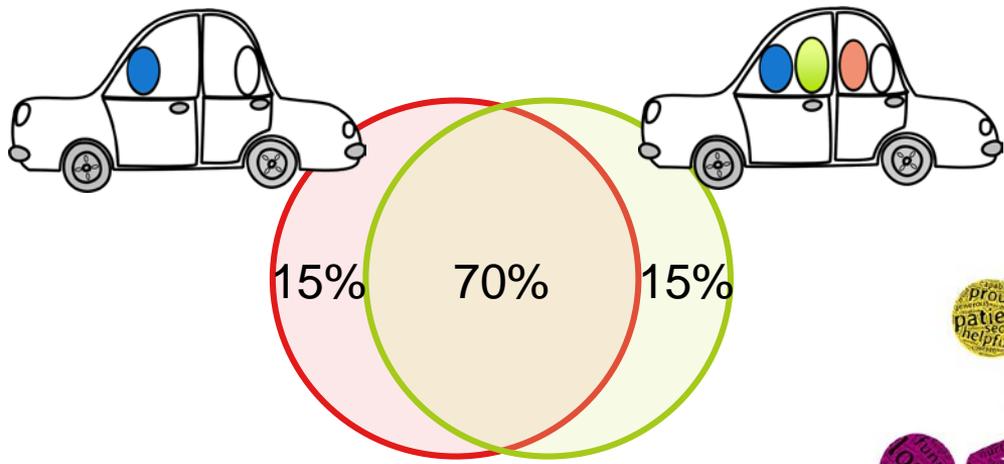
698



- Non-working individuals: 12.00 €/h
- Working individuals: 14.50 €/h

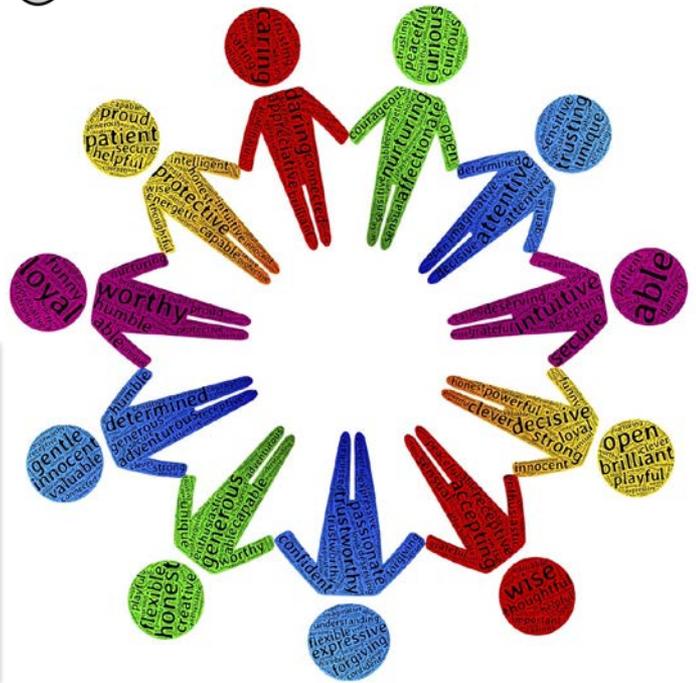


- 1 add. pax: 0.44 €/trip
- 2 add. pax: 0.44 €/trip
- 4 add. pax: 2.40 €/h

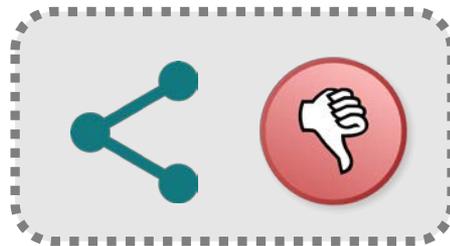
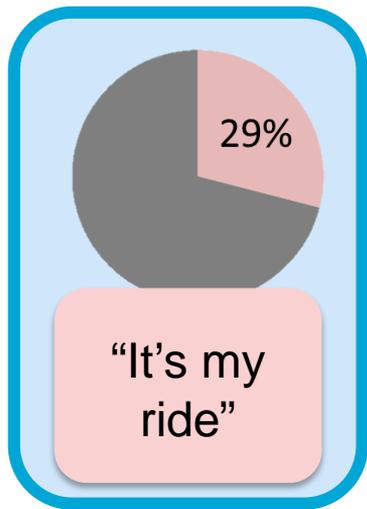


### DIFFERENCES IN ATTITUDES

- Privacy
- Cost
- Time

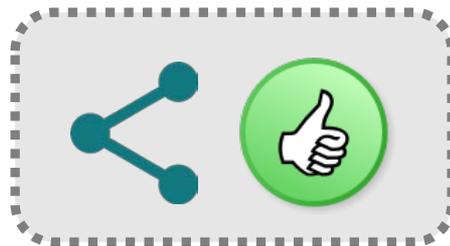
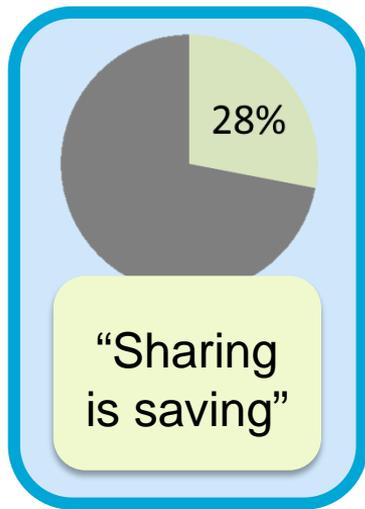




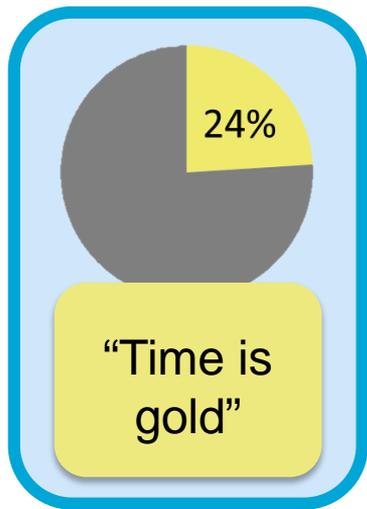


- Male
- Middle aged (35-64)
- High personal income

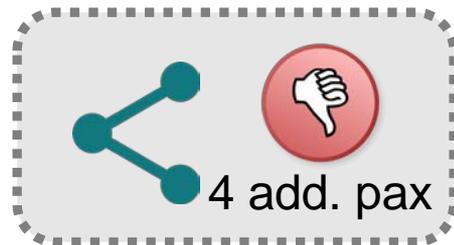
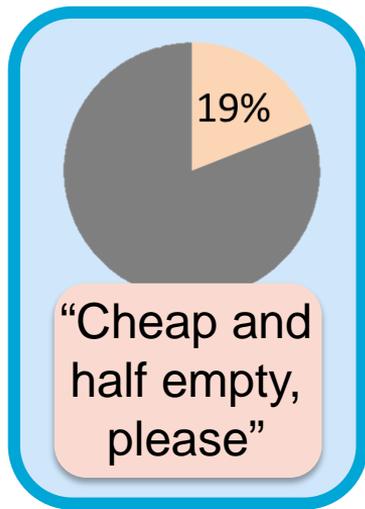




- Female
  - $\geq 65$  years old
  - Not working
- 



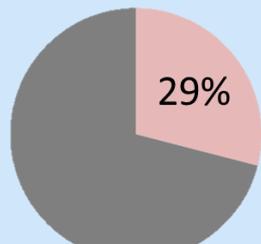
- Female
  - Young (18-34)
  - High educated
- 



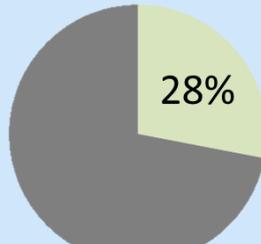
- Male
- Equally likely for all age groups
- Middle educated



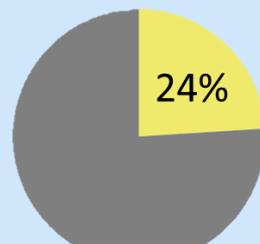
R  
E  
C  
A  
P



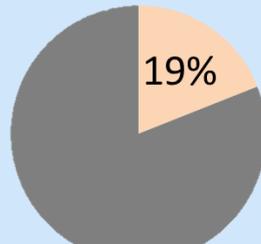
"It's my ride"



"Sharing is saving"



"Time is gold"

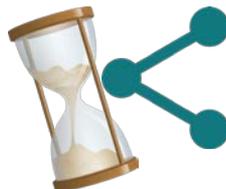


"Cheap and half empty, please"

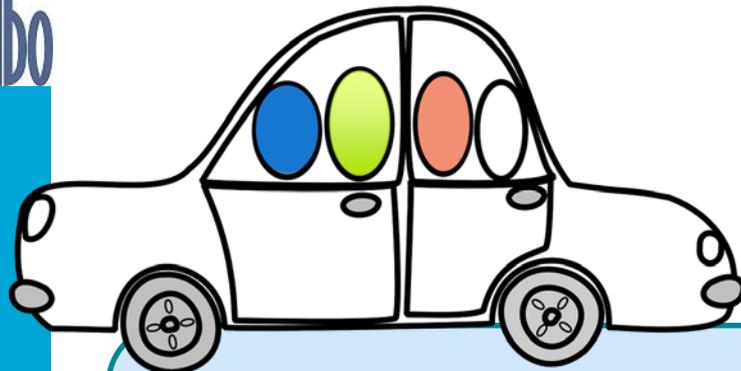


4 add. pax

Most important attribute



(4 add. pax) <sup>14</sup>



## *Potential of an increasing uptake of pooled rides*

- Cost-time trade-offs more important than pooling per-se
- The concrete number of fellow passengers plays a role
- Car-centred individuals less likely to share

### *Contact details:*

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<http://smartptlab.tudelft.nl/>



# Explanation of the pooled on-demand service



## Step 1: Book your ride with your smartphone or tablet

- When you need a ride, introduce your desired **start and end trip locations**.
- Your smartphone/tablet shows the possible availabilities.
- You confirm your trip.



## Step 2: Walk to the pick-up point

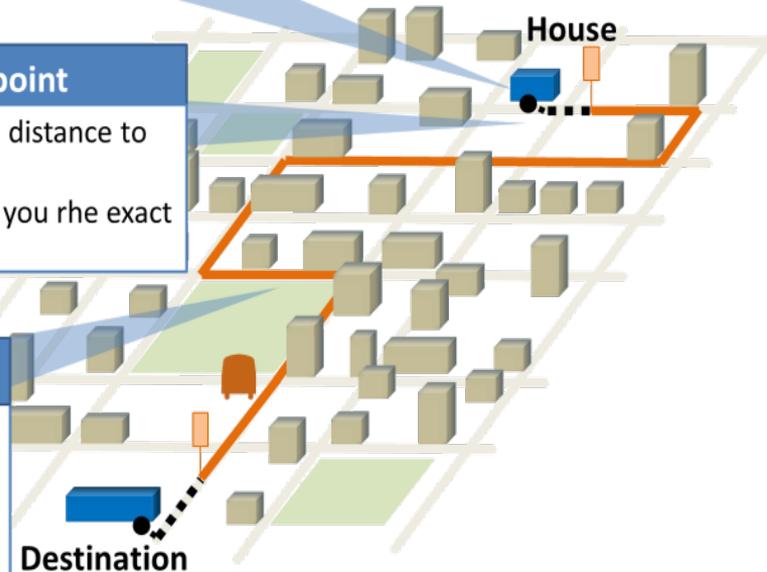
- Your current location is **1 minute walking** distance to the pick-up point.
- A map in your smartphone/tablet shows you the exact pick-up point.



## Step 3: The ride

- You travel together with up to 5 other people.
- You may need to make a **small detour** to pick-up or drop-off other passengers.

Destination



# Attribute levels

	Short version			Medium version		
	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3
Expected time (Individual ride) [min]	10	15	18	20	25	28
Extra expected time (Shared ride) [min]	3	6	9	4	7	12
Number of other additional passengers (Shared ride) [add. passenger]	1	2	4	1	2	4
Cost (Shared ride) [Euro]	2	4	6	3	5	7
Extra cost (Individual ride) [Euro]	0.5	2.2	3	0.6	2.2	3

# Sample description

Socio-economic variable	Category	Total sample (N=1006)	Dutch (very) high urbanised areas	Dutch 2018 shares
Gender	Male	48,2%	48.9%	49,6%
	Female	51,8%	51.1%	50,4%
Age	18* to 39	38,1%	38.1%	31,8%
	40 to 64	35,6%	42.0%	44,0%
	65 and above	26,3%	19.8%	24,2%
Education	Low	25,2%		31,5%
	Average	32,5%		37,8%
	High	42,0%		29,2%
	Unknown	0,2%		1,4%
Work status	Working	59,9%		50,9%
	No working	40,1%		49,1%
Household	1 person household	49,0%		38,2%
	> 1 person household	51,0%		61,8%
Urbanisation level	>2500 inhab./km <sup>2</sup>	46,9%	48,2%	23,3%
	1500-2500 inhab./km <sup>2</sup>	53,1%	51,8%	25,1%

\* 18 to 39 for the share sample, but 20 to 39 for the Dutch population 2018 values

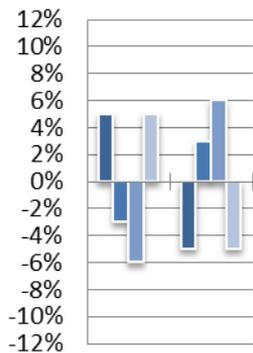
# Attitudinal indicators

Attitudinal statement (and source where applicable)	EFA loadings (pattern matrix)	Mean (sd) of total sample	Mean (sd) of "individual-only"/ "trading"/ "pooled-only" respondents	t-test signific. (2-tailed)
<b><i>Privacy attitude</i></b>				
It makes me uncomfortable to ride with strangers on public transport (modified from (Rubin, 2011))	0.622	2.31 (0.90)	2.67/2.26/2.13 (0.98/0.88/0.84)	** ( )
I think the public transport is not so clean or decent	0.571	3.06 (0.93)	3.31/3.06/2.86 (0.96/0.91/0.94)	** (+)
I like the privacy in the car or bike (modified from (Spears et al., 2013))	0.438	3.76 (0.87)	4.07/3.74/3.53 (0.79/0.85/0.97)	** (+)
People like me only use their own bike and/or car	0.407	3.08 (1.13)	3.41/3.03/3.01 (1.12/1.12/1.13)	** ( )
<b><i>Cost sensitivity and multimodal mind-set</i></b>				
I would use the car less if there would be a cheaper alternative	0.602	3.29 (1.05)	2.95/3.31/3.53 (1.06/1.03/1.00)	** (+)
I choose to travel with public transport or to share rides to reduce my trip costs	0.583	3.30 (0.98)	2.64/3.37/3.61 (1.03/0.91/0.93)	** (++)
I am willing to try new ways to travel	0.534	3.46 (0.83)	3.14/3.51/3.55 (0.99/0.79/0.83)	** ( )
I often compare different travel options and transport modes before choosing how to travel (modified from (Atasoy et al., 2010))	0.500	2.78 (1.04)	2.56/2.81/2.88 (1.12/1.03/0.99)	* ( )
I do not mind which transport mode I use, as long as it suits my trip needs	0.401	3.44 (1.01)	3.14/3.48/3.53 (1.15/0.98/0.94)	** ( )
<b><i>In-vehicle time flexibility attitude</i></b>				
I would not mind if other travellers get in or off the FLEXI vehicle during my ride (reversed) (modified from (Al-Ayyash et al., 2016))	0.674	2.50 (0.96)	3.13/2.43/2.23 (1.07/0.89/0.89)	** (+)
I would find it annoying that FLEXI does not drive the fastest route (e.g., FLEXI's route is 18 minutes instead of 15 minutes) (modified from (Al-	0.578	2.91 (0.96)	3.27/2.88/2.66 (1.08/0.91/0.98)	** (++)

# VOT and WTS

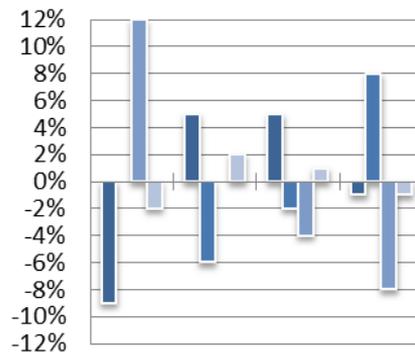
<i>VOT and WTS values</i>	ML model	1LC: “It’s my ride”	2LC: “Sharing is saving”	3LC: “Time is gold”	4LC: “Cheap and half empty, please”
VOT (Eur/h)	N/A	16.98	14.02	26.25	7.78
VOT (non-working individuals) (Eur/h)	12.00	N/A	N/A	N/A	N/A
VOT (working individuals) (Eur/h)	14.50	N/A	N/A	N/A	N/A
ASC_pooled_alternative/beta_cost	N/A	2.52	-1.88	-1.01	N/A
WTS 1 additional pax (Eur/trip)	0.44	N/A	N/A	N/A	0.08
WTS 2 additional pax (Eur/trip)	0.44	0.55	0.33	0.12	0.44
WTS 4 additional pax (Eur/trip)	N/A	N/A	0.59	0.66	6.47
WTS 4 additional pax (Eur/h)	2.40	4.87	N/A	N/A	N/A

# Class profiles - socioeconomics



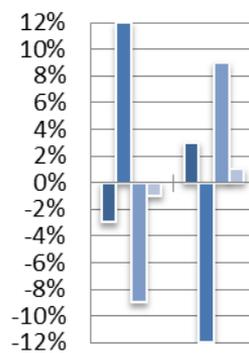
Male Female

**Gender**



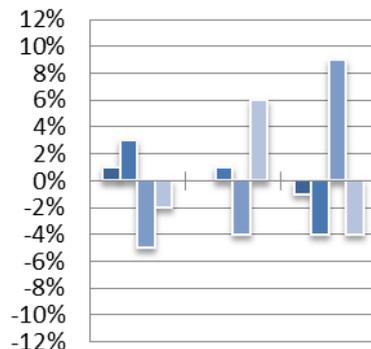
18-34 35-49 50-64 ≥65

**Age**



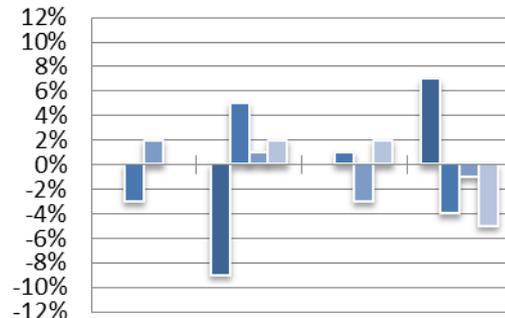
No Yes

**Working or not**



Low Medium High

**Education**



None < 2,000 2,000 to 3,000 > 3,000

**Monthly personal net income (Euros)**

# Class profiles – mode usage

