



Mobility as a Service The end of car ownership?

Sampo Hietanen / CEO, Founder / MaaS Global Ltd
Twitter: @sampo_hietanen, @whimappFI / @maas_global

A close-up photograph of a person's hand holding a car key. The person is wearing a grey jacket over a grey t-shirt. The background is blurred, showing green foliage and a light-colored wall. The text "What would be better than owning a car?" is overlaid in white, bold, sans-serif font across the center of the image.

**What would be better
than owning a car?**

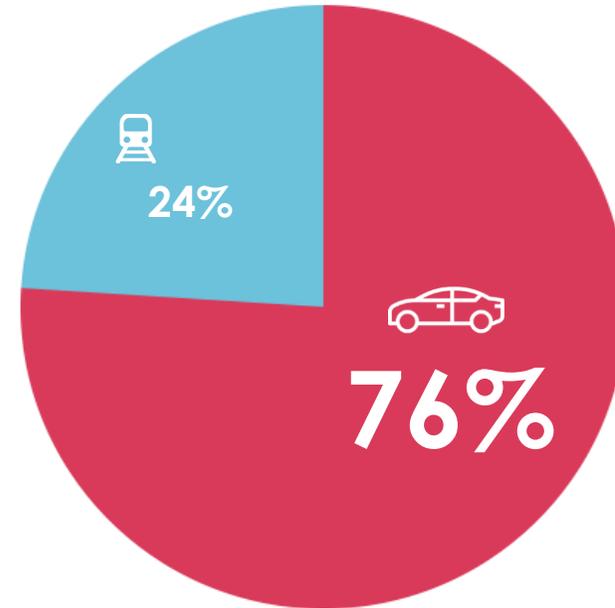
**Freedom of mobility:
*Anywhere, anytime
on a whim***



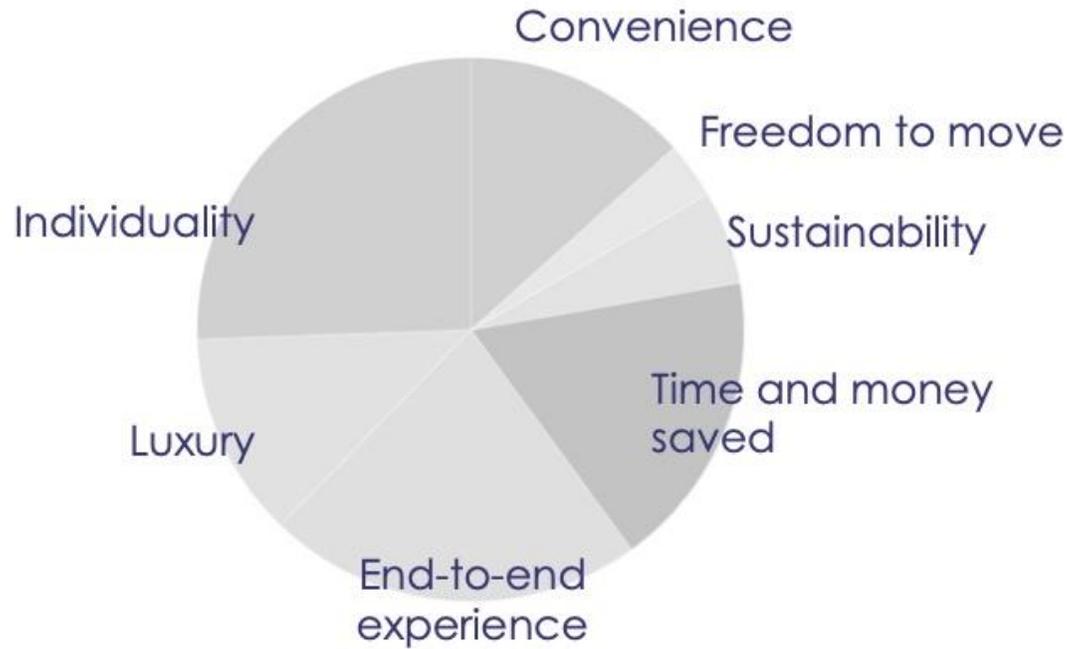
NOW

76% of mobility spend is on cars that are used 4% of the time.

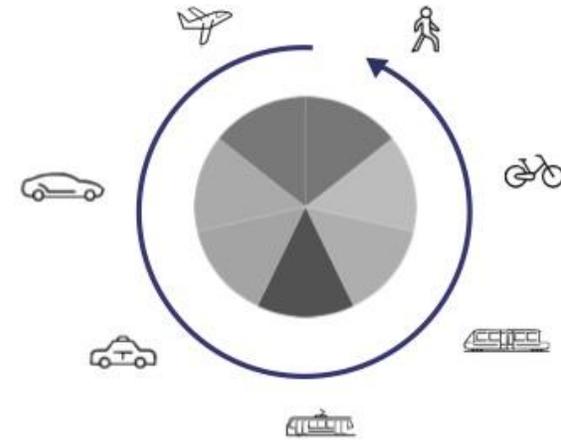
We need to hold that value.



HOW TO MAKE MONEY FROM MULTIMODAL



Perceived value of MaaS

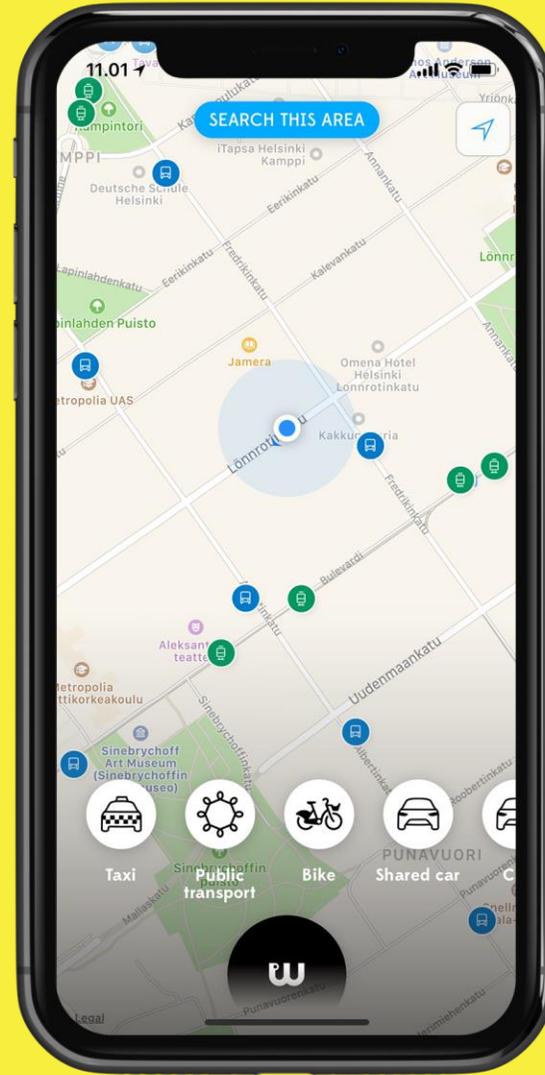


Cost of transportation

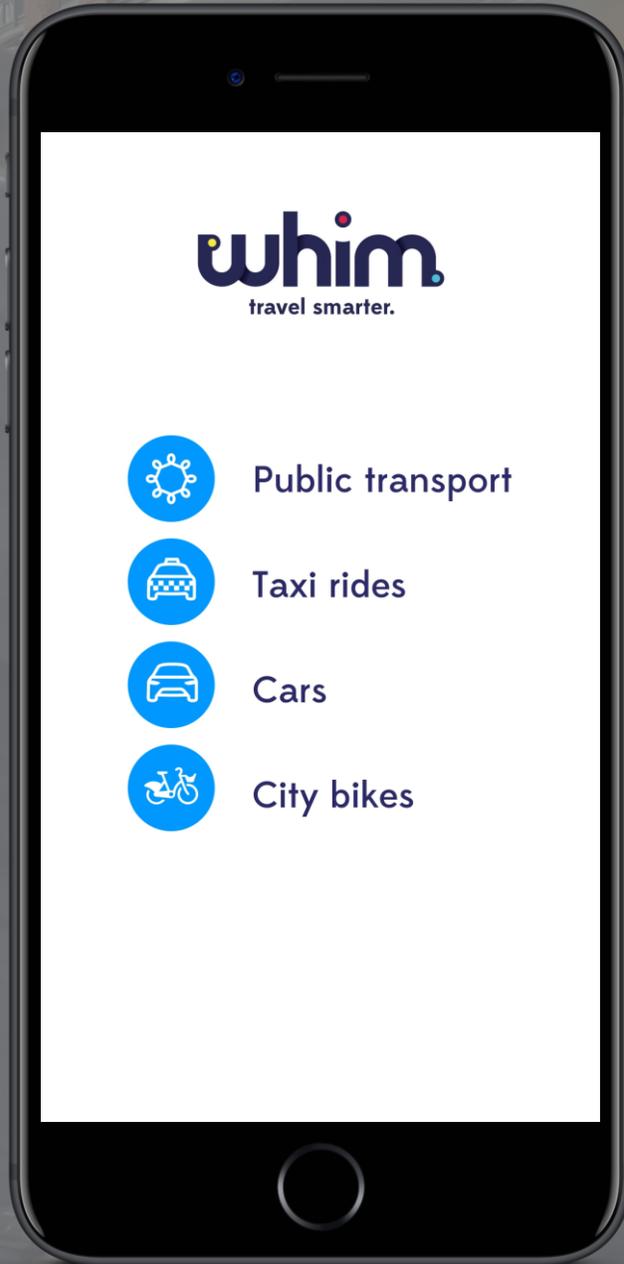
Nudging customers from most expensive modes to least.

whim.

“Your every move
on a whim.”



1 app



✓ Travel info

✓ Planning

✓ Tickets

✓ Payments

✓ Pay As You Go
Subscription

whim.

Whim plans in Finland



Whim Urban 30

€59,7

/30 days

30-days HSL ticket, city bike, and €10 taxis.



Whim Weekend

€249

/30 days

Weekend rental car, 30-day HSL ticket, city bike and discounted taxis.



Whim Unlimited

€499

/month

Unlimited access to car, taxi, public transport, and city bike.



Whim to Go

Pay as you go

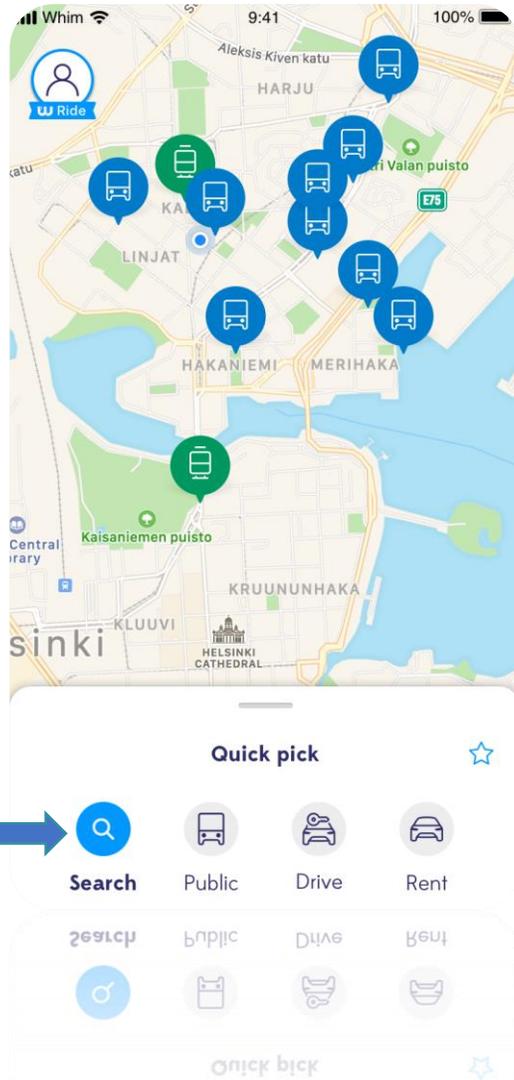
Each trip is paid separately with no subscription fee.

Whim Ride in a nutshell

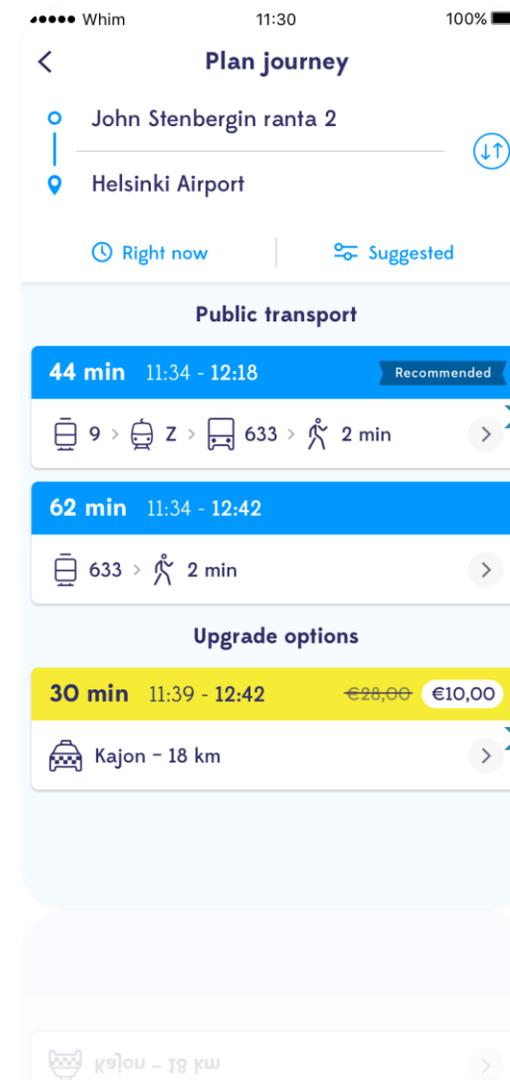
- Whim Ride takes you to your destination **via best route and right transport methods**
- **Weather and public transport traffic data** is taken into account in recommended routes
- Maas Global is piloting the service now in **greater Helsinki area**



How it works from users point of view



Search a route



Recommendation

Dynamic upgrade offer

Under the hood



Get routing options on public transfer



Verify against serviced area



Assess service level of best public option (walking, waiting, speed, transfers)



Check realtime weather forecast for searched area



Gather rolling spend of past 30 days



Calculate taxi upgrade price based on other options, weather, budget and spending



Check for walk and micromobility options in case of short distance



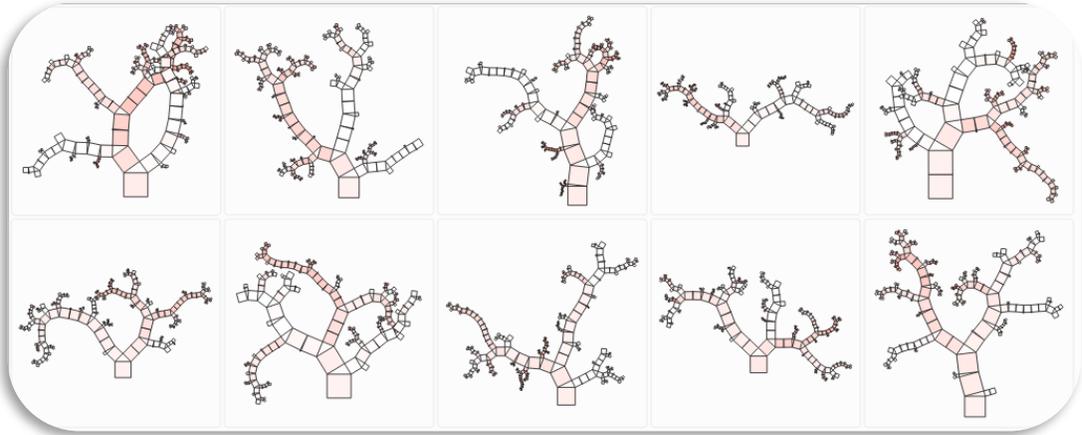
Apply User Preference Model to score options

User Preference Model

| id | asc tsplid | asc state | leg |
|--------------------------------------|--|-----------|--|
| 9c73c350-ebc0-11e7-b49e-a751e6daf796 | pGXG0ULeH8YUaHzPkomVOHes4ABD9m2rrqm | EXPIRED | {\"to\": {\"lat\": 60.164919, \"lon\": 24.934852}} |
| 75199190-ebd9-11e7-9748-63bf2558e337 | 9858184521 | REJECTED | {\"to\": {\"lat\": 60.1774, \"lon\": 24.951668, \"n |
| 872222b0-3294-11e8-98be-e3c4919f3cd2 | 89ce08d0-3294-11e8-b9b6-49ad1aab7efa | FINISHED | {\"to\": {\"lat\": 60.1661, \"lon\": 24.9271}, \"fro |
| 65fff130-3725-11e8-99d8-83804472bcb4 | maas960a4b70c7d2bcb83233374d64d5-152 | FINISHED | {\"to\": {\"lat\": 60.165696, \"lon\": 24.931432}} |
| 1f5635c0-3f2a-11e8-9235-51a6b9d0f5c1 | 220688b0-3f2a-11e8-898a-8b4ee184e28f | FINISHED | {\"to\": {\"lat\": 60.166, \"lon\": 24.9269}, \"from |
| 190ff8c0-e01d-11e7-8012-afb6d4f76fb | GZUT4cT8fQhNHxXBKwXF9knfZiZi0yfe6OcQ8 | EXPIRED | {\"to\": {\"lat\": 60.164911, \"lon\": 24.934804}} |
| aad107d0-e00a-11e7-b42f-bf31a197bbc5 | d88f6f1a3cdacb627622de0a44538ab735a2f9 | REJECTED | {\"to\": {\"lat\": 60.168303, \"lon\": 24.942192}, |
| bc4b0900-e002-11e7-a0d6-e5824da76426 | ahXMLBLyLkzHPIbRkyBTOVoHwdsfdd3EQ6VjgA | EXPIRED | {\"to\": {\"lat\": 60.16498, \"lon\": 24.934252}, |
| 693680f0-4132-11e8-9bdd-21a001fa6527 | [NULL] | REJECTED | {\"to\": {\"lat\": 60.1683, \"lon\": |
| d72b2860-e01e-11e7-aa7d-831c28af61be | d88f6f1a3cdacb627622de0a44538ab735a2f9 | CANCELLED | {\"to\": {\"lat\": 60.167149, \"lon |
| e70904b0-4c51-11e8-bf9e-33e18934768a | e9bd0120-4c51-11e8-9cf0-13b7e2fd2ac9 | FINISHED | {\"to\": {\"lat\": 60.1692, \"lon\": |
| 463c9990-c193-11e8-ba23-b77bac9201b9 | dtmtaxi-A22B6C1 | FINISHED | {\"to\": {\"lat\": 51.178617, \"lon |
| 98475550-373b-11e8-8069-ef3ae7b27827 | 1836660310COCUNT | CANCELLED | {\"to\": {\"lat\": 52.457973, \"lon |
| aa67e6f0-79f3-11e8-8968-07af65085809 | o1CqGwgCymQL3TYJ61f2ATvn4IGmmFwiNQwC | EXPIRED | {\"to\": {\"lat\": 60.164959, \"lon |
| bf688ca0-6f10-11e8-81ac-193544a8f006 | b5ad08317bf95b37c5b13a301e9a9974-1297 | EXPIRED | {\"to\": {\"lat\": 60.165007, \"lon\": 24.934974, |
| a1e58310-a6b3-11e8-8073-55ca101e6467 | 747734175 | EXPIRED | {\"to\": {\"lat\": 51.218472, \"lon\": 4.401645, \" |
| 80ef7120-51e0-11e8-baaf-1f14e22aa103 | 846b2a60-51e0-11e8-84a7-d76efde58194 | CANCELLED | {\"to\": {\"lat\": 60.1661, \"lon\": 24.9269}, \"fro |
| 81930dd0-79e5-11e8-88f8-d0bd470726e | wiener-linien_1014950 | EXPIRED | {\"to\": {\"lat\": 48.203031, \"lon\": 16.366524}} |
| 5d269060-51e1-11e8-baaf-1f14e22aa103 | 5f162b60-51e1-11e8-84a7-d76efde58194 | CANCELLED | {\"to\": {\"lat\": 60.1661, \"lon\": 24.9269}, \"fro |
| 2d380860-21e1-11e8-p99f-1119e5399103 | 21e359e0-21e1-11e8-84a7-d76efde58194 | CANCELLED | {\"to\": {\"lat\": 60.1661, \"lon\": 24.9269}, \"fro |
| 81d30990-21e2-11e8-8818-9d09941015e6 | 21e359e0-21e1-11e8-84a7-d76efde58194 | EXPIRED | {\"to\": {\"lat\": 60.1661, \"lon\": 24.9269}, \"fro |
| 80911150-21e0-11e8-p99f-1119e5399103 | 846b2a60-51e0-11e8-84a7-d76efde58194 | CANCELLED | {\"to\": {\"lat\": 60.1661, \"lon\": 24.9269}, \"fro |
| 81e29310-9e93-11e8-8013-2e0c101e64e1 | 343334112 | EXPIRED | {\"to\": {\"lat\": 51.218472, \"lon\": 4.401645, \" |
| 888890-8170-11e8-8185-18324498000 | 846b2a60-51e1-11e8-84a7-d76efde58194 | EXPIRED | {\"to\": {\"lat\": 60.1661, \"lon\": 24.9269}, \"fro |
| 881960-1017-11e8-8888-01980008800 | 846b2a60-51e1-11e8-84a7-d76efde58194 | EXPIRED | {\"to\": {\"lat\": 60.1661, \"lon\": 24.9269}, \"fro |

Training

Route options



Confidence scores

Real customer data is used to train 100 slightly different ML models. When they are given a set of routing options, each model predicts whether user would choose it: the sum of positive answers represent an aggregate route score.

What do the first test users say?!

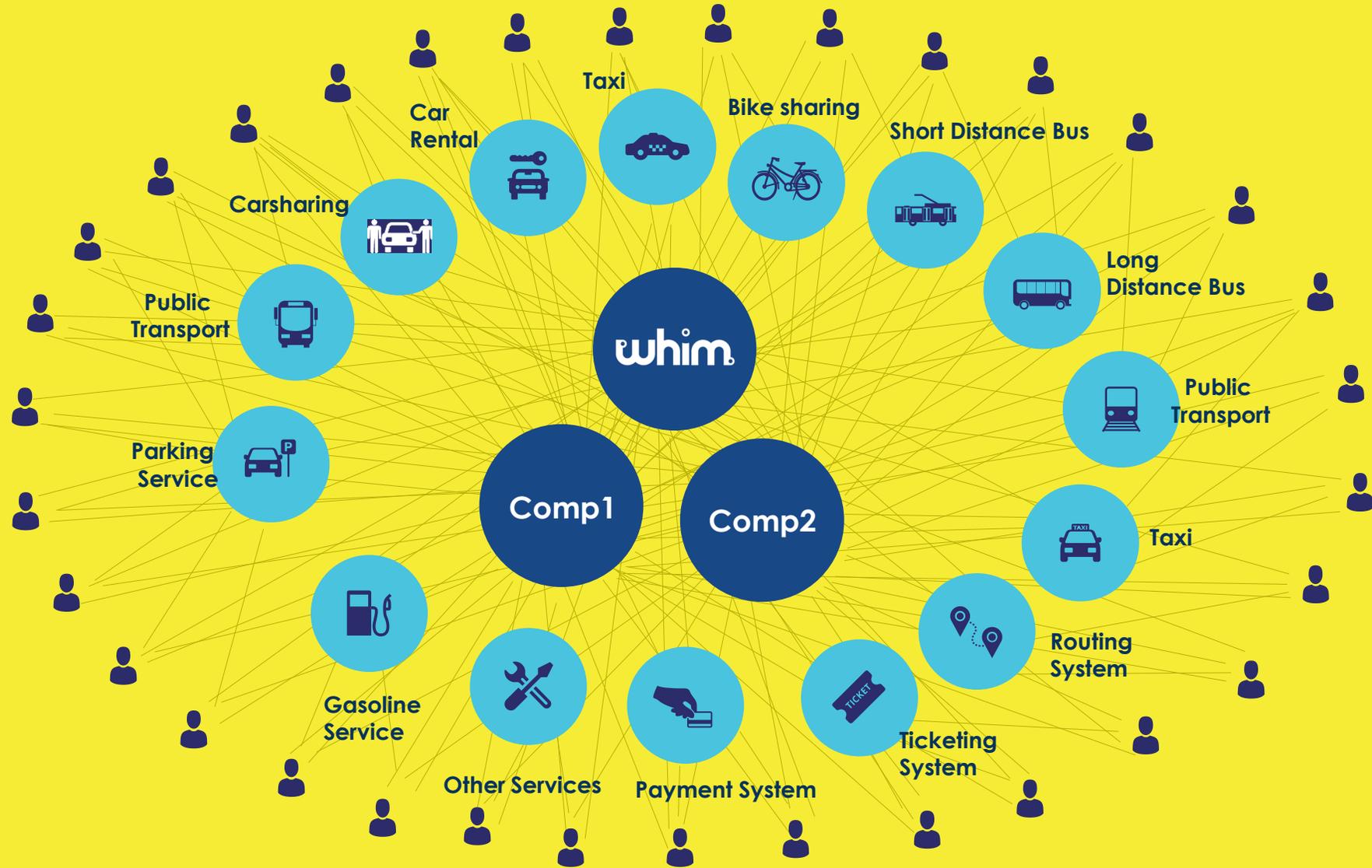
- “I don’t need an own car but occasionally I need a car or taxi in addition to PT, therefore Whim!”
- “Variety of traffic options and replaces need to own a car, I think 10 days in a month of rental car will suffice for me in future”
- “I need both taxi and rental car for longer trips in my work”
- “Cost efficient and flexible”





So Why Is it So Hard?

It's an ecosystem NOT an egosystem



It's the little things

- It's all about willingness.
- Tech is not just tech, remember the physical part.
- Service guarantees become an issue.
- Active measures from cities are crucial (it's also a mindset thing)
- Single tickets vs. subsidized vs. capped.
- Buffet has the best chance chance to spin the modal wheel
- Roaming has hidden value.
- Access to cars needs to be guaranteed.
- 5/6 is not enough to make a bundle
- **What is the value of a MaaS operator?**



Will there be anything for the society in
MaaS?

whim.

40%

of carbon emissions are from traffic by 2030

38%

would give up their car if they only could

70 000 000

cars off European roads

Sustainable freedom of mobility by MaaS Global to remove 1 million cars by 2030

Transforming mobility value chains through sustainable business

Changing the future

Transport emissions projected to count 40% of all emissions by 2030. Over 60% of this by passenger cars. Globally nearly 80 million passenger cars are sold annually. There are more households having two or more cars than no car. However, 37% of drivers are ready for an alternative.

Making the sustainable choice has to be competitive

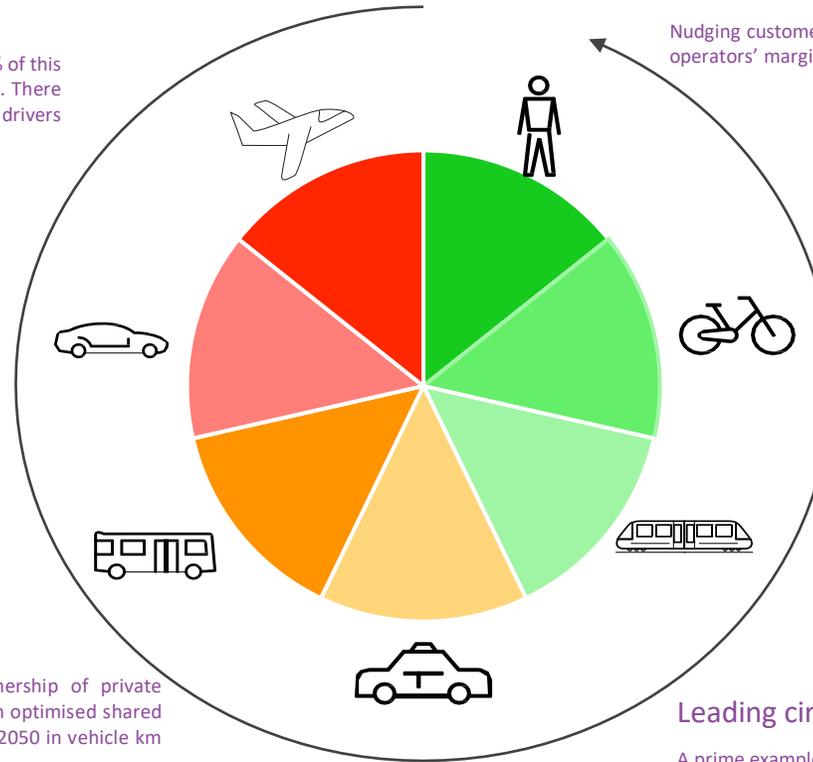
Whim not only offers freedom of mobility but is the most sustainable true alternative to car ownership. MaaS Global will become the first in the industry to quantify its carbon handprint* in 2020.

MaaS crucial for greening transport

MaaS holds particular potential for shifting two fundamentals; the ownership of private transport and "scheduling" of public transport. MaaS services integrated with optimised shared mobility and public transport, can result in -24% by 2030, and over -50% by 2050 in vehicle km travelled.

Profit-making and sustainability goals hand-in-hand

Nudging customers from expensive modes to more cost effective sustainable modes increases MaaS operators' margins



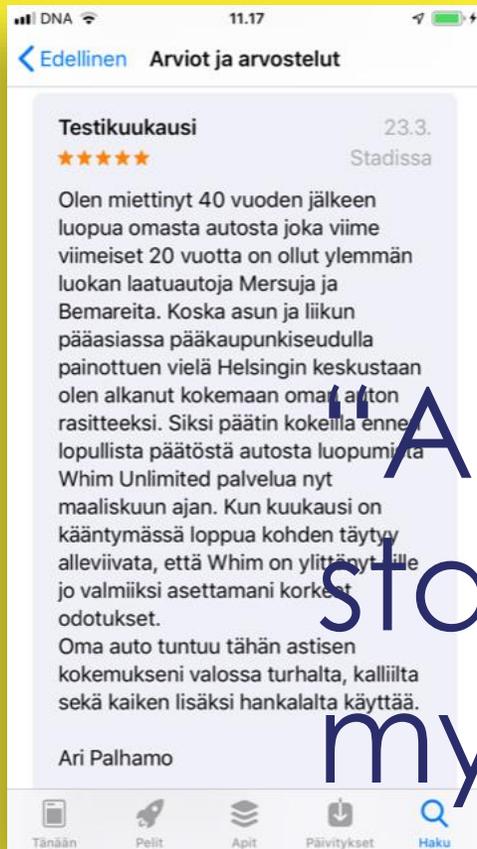
Eco, not ego trips

Can substantially increase the mechanisms how to do this whilst increasing customer satisfaction and retention by introducing innovative product features.

Leading circular economy

A prime example of circular economy, using existing infrastructure and services more efficiently, while strengthening the new mobility offering. Business model built on sustainable growth instead of being dependent on volatile manufacturing, or selling ever more resource-intensive products.

** An indicator of climate change mitigation potential. Describes the GHG emission reduction in a customer's activities that occurs when the customer replaces a baseline solution with a handprint solution.



“After 40 years of driving I have started to consider giving up my car that, for the last 20 years, has been an executive class automobile...”



Thank you!