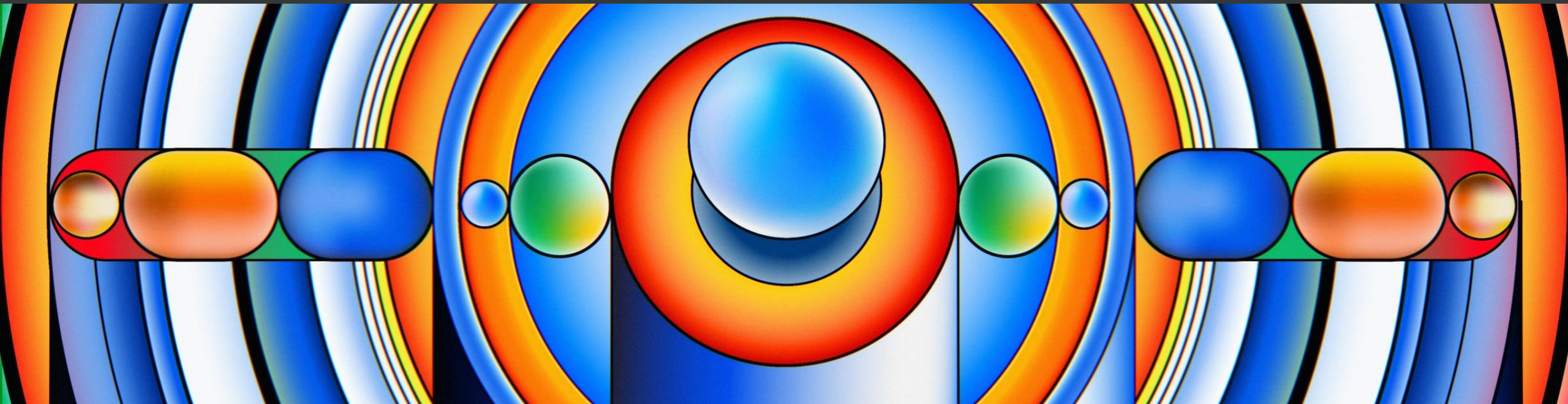# How AI Could Shape Our Built Environment For The Better - But Also For Worse

Karen Burns, Co-Founder and CEO, Fyma

Wednesday, 26 April 2023

A Word From Today's Chairman

Charlotte Dawber-Ashley

Manager, FS Club

Z/Yen Group

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- 11:00 – 11:05   Chairman's Introduction
- 11:05 – 11:25   Keynote Presentation – Karen Burns
- 11:25 – 11:45   Question & Answer

Today's Speaker

Karen Burns

Co-Founder and CEO

Fyma

**How AI Could Shape Our Built Environment
For The Better –
But Also For Worse**

Karen K Burns, CEO & Co-founder at Fyma

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Currently used in...

- Urban planning

- Real estate development and planning

- Construction

- Property management

- Demolition and recycling

... but still early days compared to other fields.

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What types of AI is utilised?

From machine learning to machine vision

- NLP or natural language processing

- Time-series prediction

- Computer vision and image recognition

- Predictive maintenance

- Smart buildings -> predictive analytics

McKinsey 21 predicts that AI offers a
40% automation potential in real
estate, which is in the
same region as that reported by
PwC22. This figure covers all grades.

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The real estate and construction value chain

Image from Minna Learn
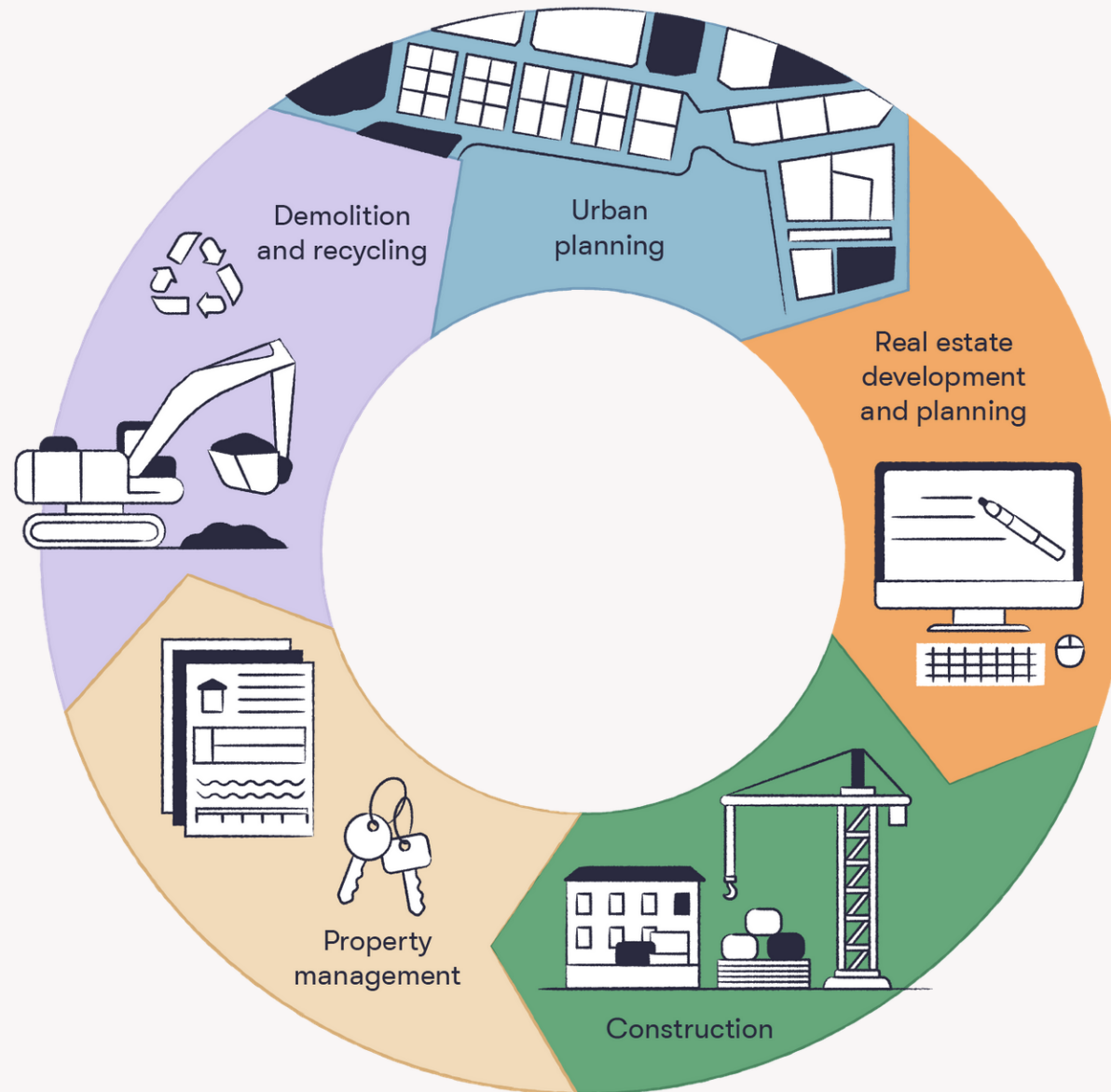
Real estate development & planning

- Simulating traffic models

- Uncertainty and expectation management

- Hand-in-hand with human judgment and expertise

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Construction

- Occupational safety

- Supporting project management on construction sites with data from sensors and cameras

- High level of variation between construction sites -> Variability in volume and quality of data

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Property management

- Smart buildings technology: energy, water, waste & optimisation of this

- Elevators

- Facilities management

- Asset data and working with the insights generated

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Demolition and recycling

- Construction and demolition generate 40–50% of the world's waste

- Computer vision

- Robotics

- Data utilisation in its infancy; regulatory frameworks needed (EU, when is waste a new material? What baseline? Etc)

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AI & BIG DATA

Using Open Source AI To Map Global Pollution Through Imagery

Kalev Leetaru Contributor ⓘ

I write about the broad intersection of data and society.

Follow

Jun 12, 2019, 09:35pm EDT

🕐 **This article is more than 3 years old.**

Urban planning

- Using the data still in its infancy

- Mostly used for better analytics, predictions, to support investment decision-making

- Heavily reliant on quality of data

- Current sources reliant on sensors, manual counting (!), mobile data tracking (WiFi and signal)

- Very EMOTIONAL: gut feeling vs data

- Zooming out: Gig economy, location-dependent jobs are in decline, driverless cars + shared transport and micromobility

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ChatGPT

☀️

Examples

"Explain quantum computing in simple terms" →

"Got any creative ideas for a 10 year old's birthday?" →

"How do I make an HTTP request in Javascript?" →

⚡

Capabilities

Remembers what user said earlier in the conversation

Allows user to provide follow-up corrections

Trained to decline inappropriate requests

⚠️

Limitations

May occasionally generate incorrect information

May occasionally produce harmful instructions or biased content

Limited knowledge of world and events after 2021

Send a message.

ChatGPT

☀ Examples

⚡ Capabilities

⚠ Limitations

| Examples	Capabilities	Limitations
"Explain quantum computing in simple terms" →	Remembers what user said earlier in the conversation	May occasionally generate incorrect information
"Got any creative ideas for a 10 year old's birthday?" →	Allows user to provide follow-up corrections	May occasionally produce harmful instructions or biased content
"How do I make an HTTP request in Javascript?" →	Trained to decline inappropriate requests	Limited knowledge of world and events after 2021

Send a message.

Edit the detailed description →| Surprise me Upload

floorplan for a shopping mall with 2 entrances, 2 elevators, 2 floors, 6 shops

Generate
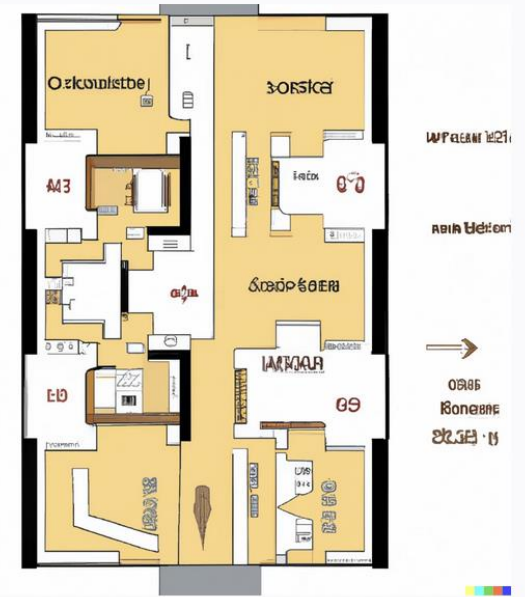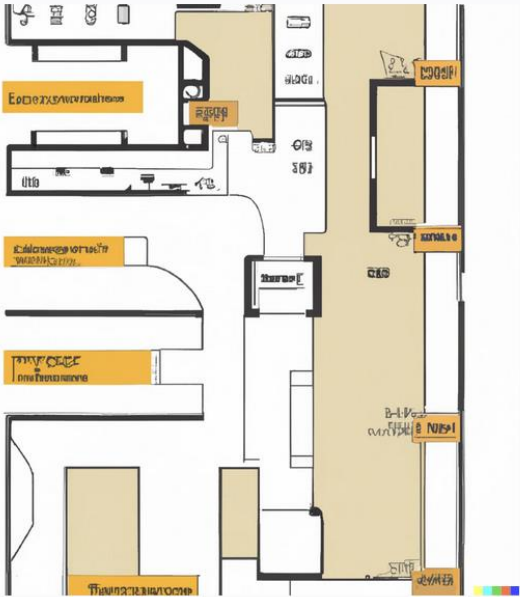
Edit the detailed description   →   Surprise me   Upload   →|
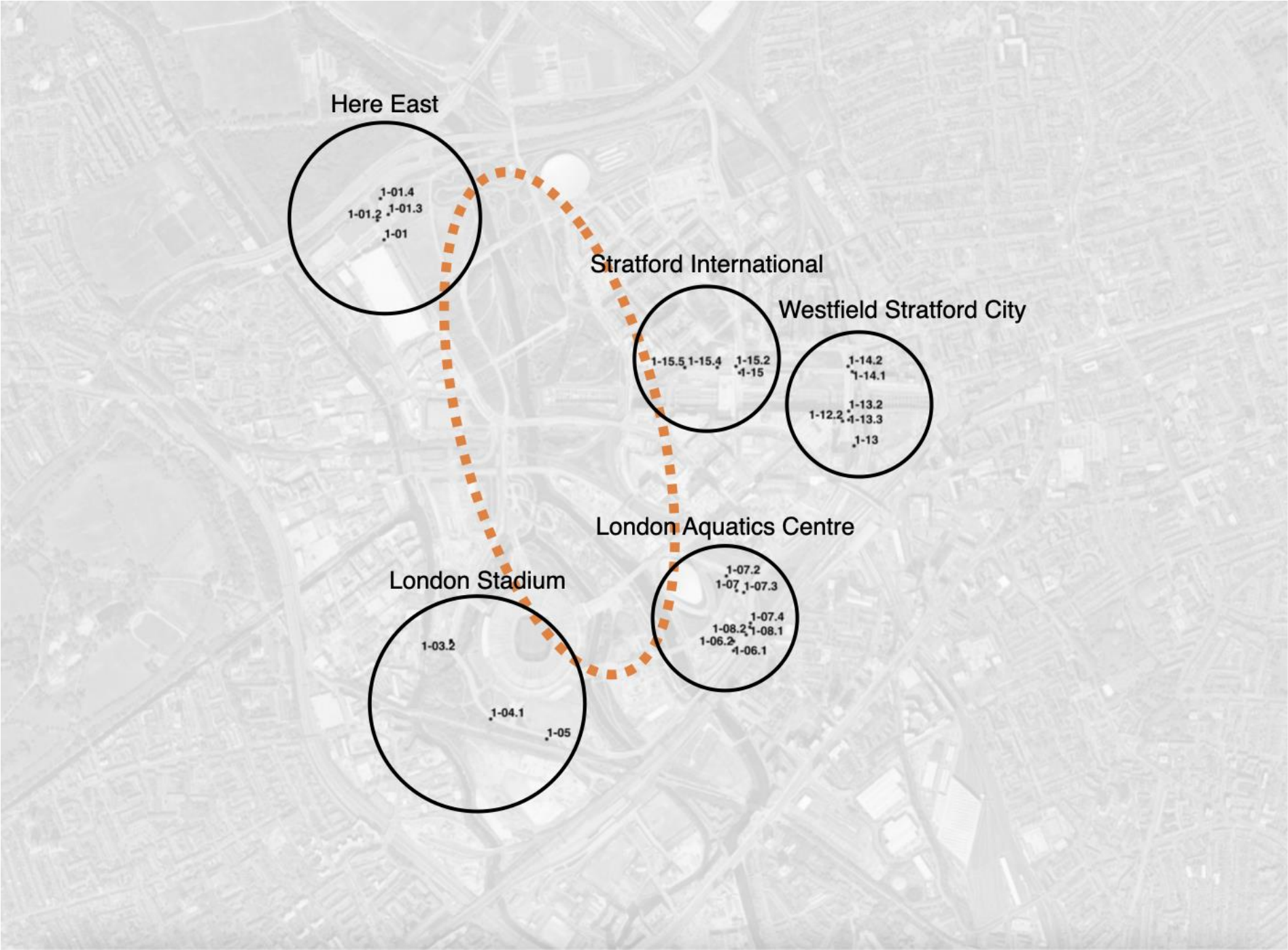
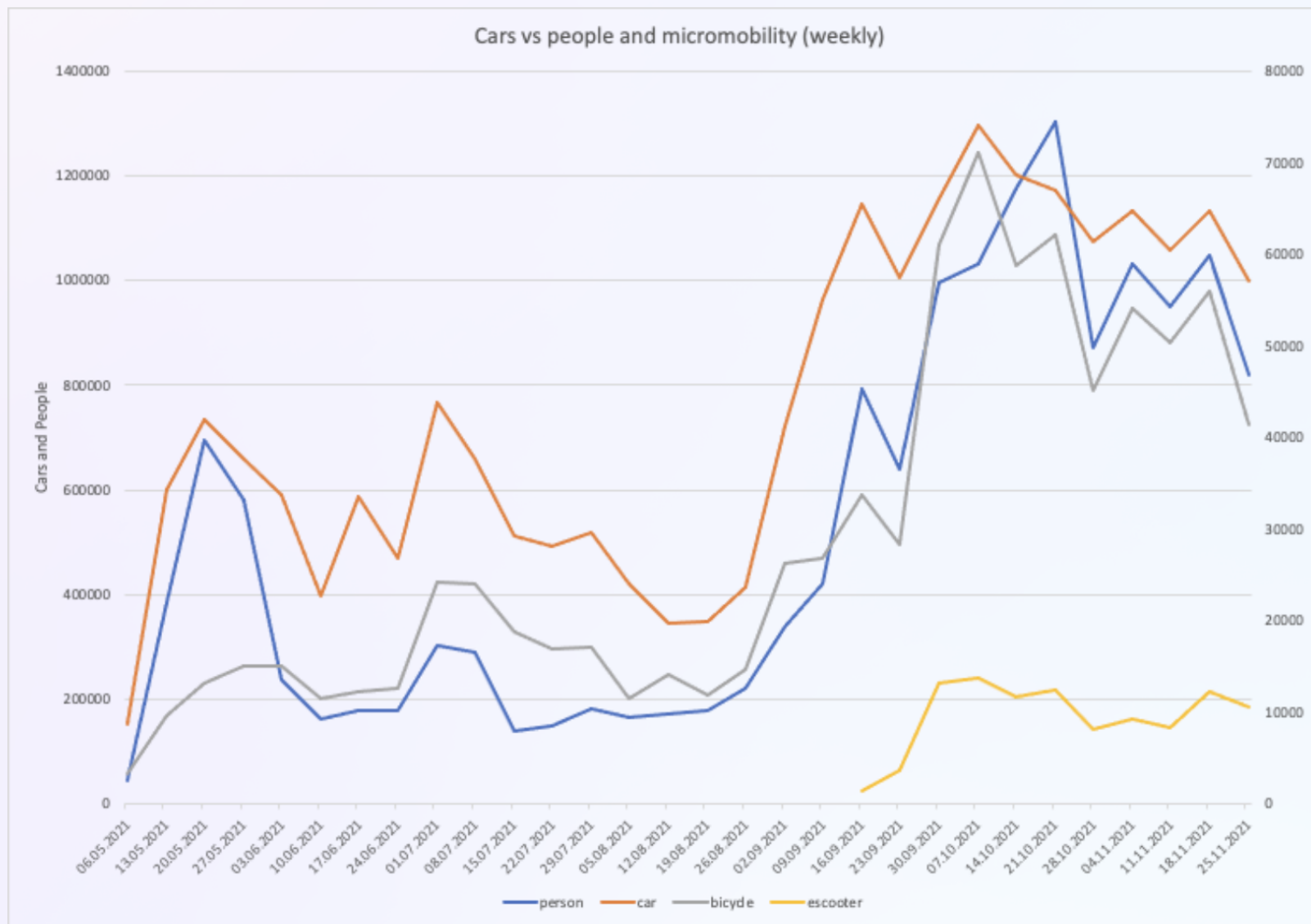beautiful single family home, new england style. 2 floors, white facade. 4 windows   **Generate**

MODAL SHARE

There has been a major increase
(around 50%) in all traffic modes after
the lockdown has ended. It can also be
seen that the amount of bicycles rise
after the amount of cars

Cars vs people and micromobility (weekly)

Thank you!

Q&A

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Forthcoming Events

- Thu, 27 Apr (08:00-09:30)   The Future Of Green Hydrogen - BizTech Huìhuà Chat

- Thu, 27 Apr (11:00-11:45)   Esop Sofa: Hot Topics In Employee Share Ownership – Newspad
  Review VI

- Tue, 2 May (10:00-10:45)   Harnessing Markets To Deliver Paris

- Thu, 04 May (14:00-14:45)   The Economic Consequences Of IT: The IT Revolution's Meager
  Benefits & Major Schisms

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