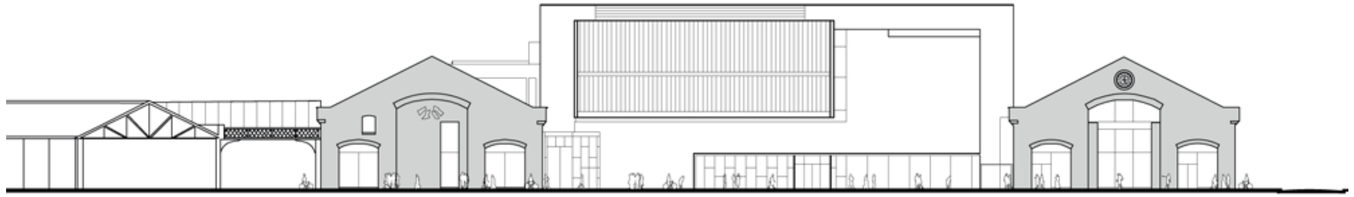

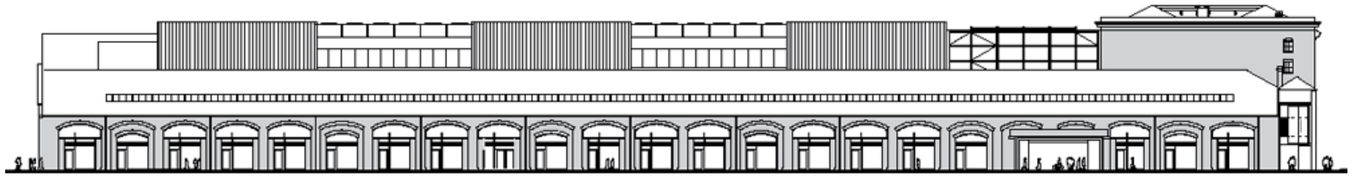

methods

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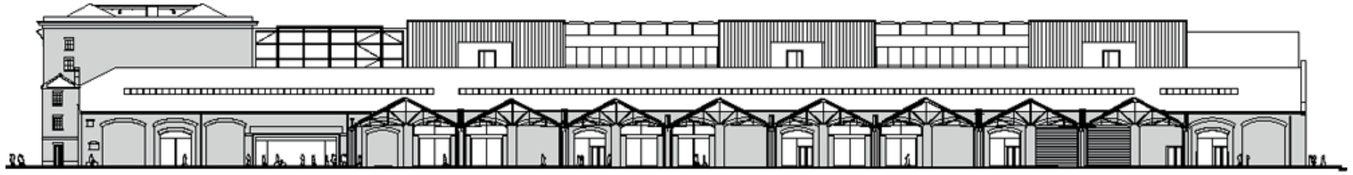
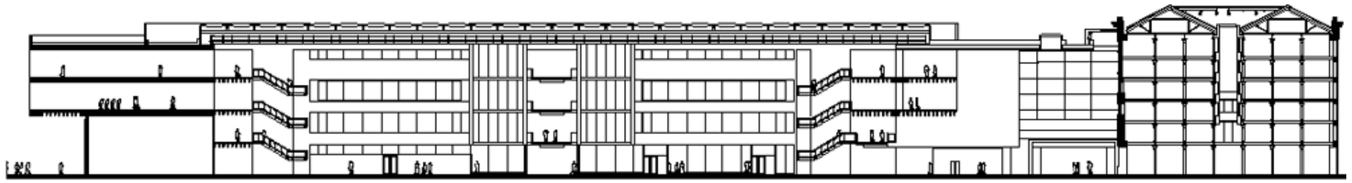
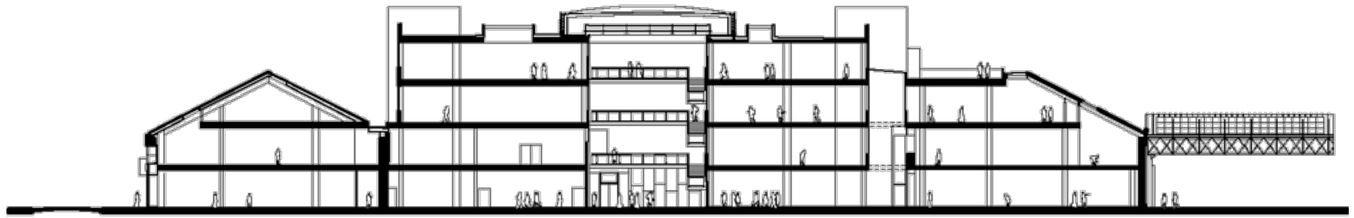
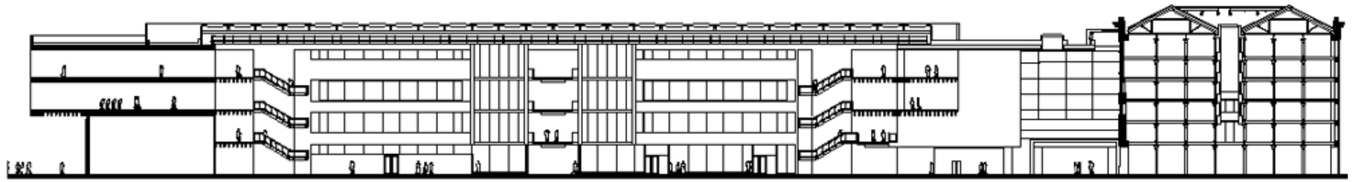




context-

ualising





networks + coordination

Our carbon emissions in 2023/24

Emissions in 2023/24 totalled **139,096 tCO_2e** (tonnes of carbon dioxide equivalent) across all 3 scopes. The below chart shows the emissions for each activity that we report on for each year since the 2018/19 baseline year.

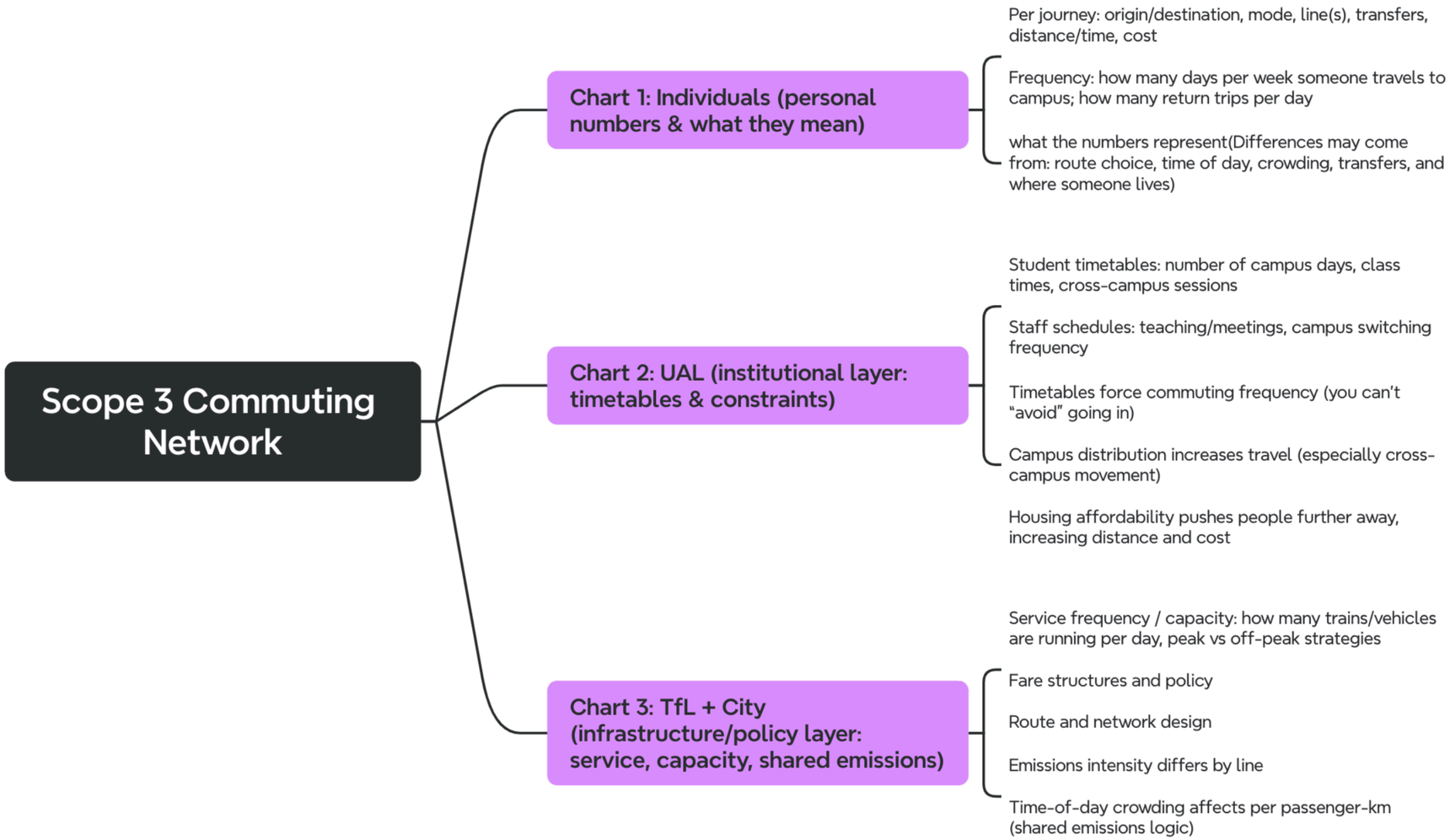
Scope	Data	2018/19 Emissions (tCO2e)	2019/20 Emissions (tCO2e)	2020/21 Emissions (tCO2e)	2021/22 Emissions (tCO2e)	2022/23 Emissions (tCO2e)	2023/24 Emissions (tCO2e)
1	Natural Gas	2,824	2,660	2,593	2,517	2,749	2,294
1	Fuel Oil	335	326	299	-	-	-
1	Gas Oil	-	-	-	300	263	205
2	Grid Electricity	4,211	3,086	2,804	2,590	2,877	3,422
2	Purchased heat	-	-	-	-	-	666
3	Supply Chain	58,388	50,162	58,341	43,344	64,223	58,033
3	Staff Commuting	436	302	195	687	747	918
3	Student Commuting	752	677	420	2,056	2,035	2,030
3	Business Travel	1,919	1,072	3	247	882	1,206
3	Travel to Campus	38,000	28,500	29,913	52,508	75,445	70,280
3	Water	45	35	11	15	20	17
3	Wastewater	93	71	20	27	23	21
3	Waste	28	16	14	19	23	7
1	**Scope 1**	**3,159**	**2,986**	**2,892**	**2,817**	**3,011**	**2,498**
2	**Scope 2**	**4,211**	**3,086**	**2,804**	**2,590**	**2,877**	**4,087**
3	**Scope 3**	**99,661**	**80,835**	**88,918**	**98,903**	**143,397**	**132,511**
1+2	**Scope 1 + 2**	**7,370**	**6,072**	**5,696**	**5,407**	**5,888**	**6,586**
1+2+3	**All scopes**	**107,031**	**86,907**	**94,614**	**104,310**	**149,286**	**139,096**

Emissions in 2023/24 by activity and scope (market-based reporting)

Scope 3 emissions *– Includes all the other emissions for which we are indirectly responsible, for example buying*

Scope	Data	2018/19 Emissions (tCO2e)	2019/20 Emissions (tCO2e)	2020/21 Emissions (tCO2e)	2021/22 Emissions (tCO2e)	2022/23 Emissions (tCO2e)	2023/24 Emissions (tCO2e)
3	Staff Commuting	436	302	195	687	747	918
3	Student Commuting	752	677	420	2,056	2,035	2,030

The data is collected through an annual survey reaching c.1000 students and c.800 staff members.


Scope 3 Commuting Network
Chart 1: Individuals (personal numbers & what they mean)
Per journey: origin/destination, mode, line(s), transfers, distance/time, cost
Frequency: how many days per week someone travels to campus; how many return trips per day
what the numbers represent(Differences may come from: route choice, time of day, crowding, transfers, and where someone lives)
Chart 2: UAL (institutional layer: timetables & constraints)
Student timetables: number of campus days, class times, cross-campus sessions
Staff schedules: teaching/meetings, campus switching frequency
Timetables force commuting frequency (you can't "avoid" going in)
Campus distribution increases travel (especially cross-campus movement)
Housing affordability pushes people further away, increasing distance and cost
Chart 3: TfL + City (infrastructure/policy layer: service, capacity, shared emissions)
Service frequency / capacity: how many trains/vehicles are running per day, peak vs off-peak strategies
Fare structures and policy
Route and network design
Emissions intensity differs by line
Time-of-day crowding affects per passenger-km (shared emissions logic)

our journeys

Average trips to and from Uni in a week: 4

Shiyi

Noor

Wannie

our journeys

Average trips to and from Uni in a week: 4

339gCO2e per journey

Shiyi

486gCO2e per journey

Noor

293gCO2e per journey

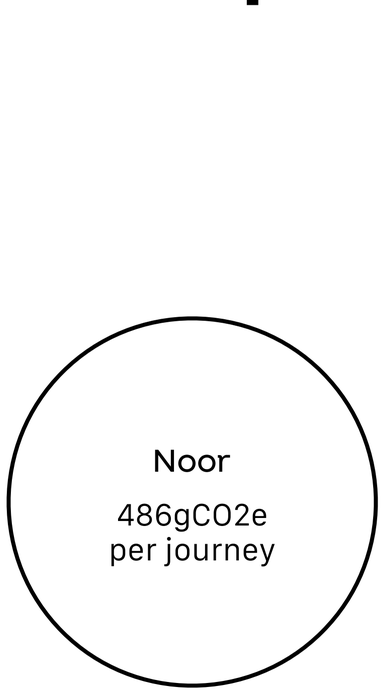
Wannie

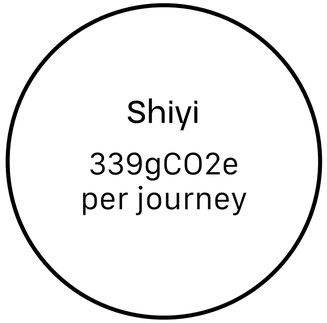
In a week we collectively produce an average of 4472gCO2e

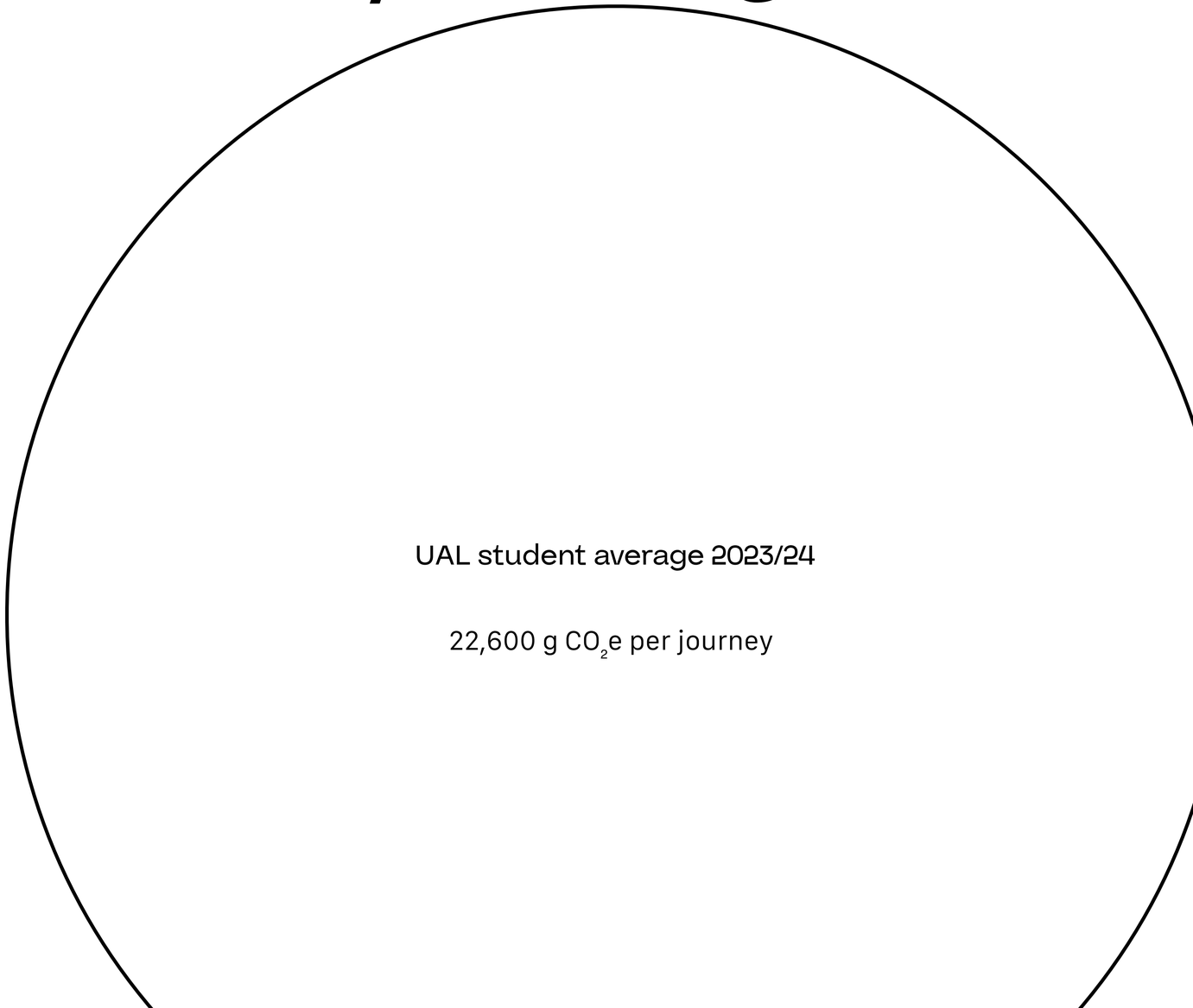
how we calculated this

Length of journey in km x 40.5 = Carbon emission per journey in gCO2e

compare to student body average







compare to student body average

Is this data accurate?

Noor

486gCO2e
per journey

Shiyi

339gCO2e
per journey

Wannie

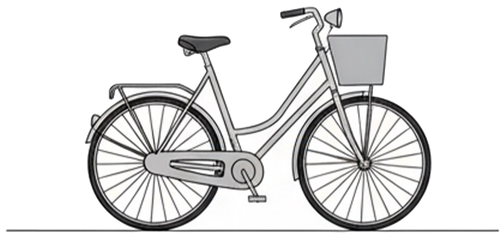
293gCO2e
per journey

UAL student average 2023/24

22,600 g CO_2e per journey

Carbon is Not a Calculation

CO_2 = Distance × Mode



CO_2 = Individual agency

×

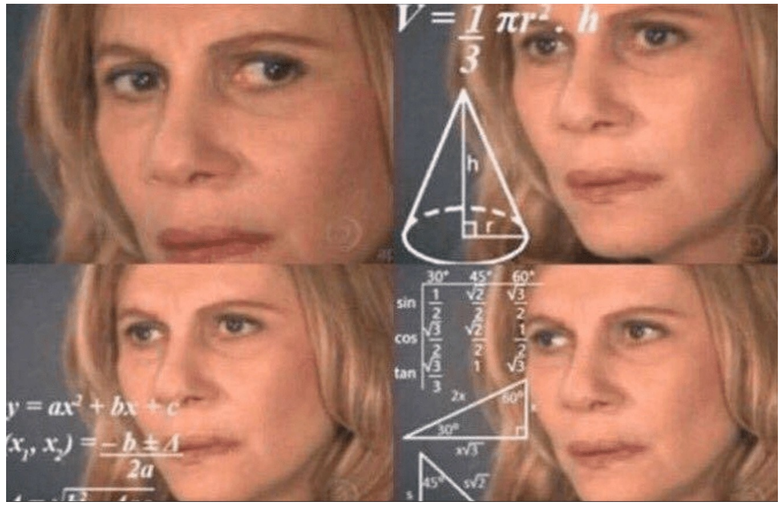
Institutional structure

×

Urban infrastructure

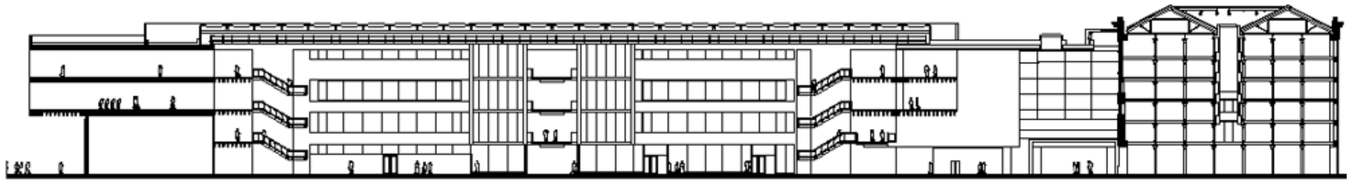
How UAL can
make a change?

How do we
show this data?



Where do the
responsibilities lie?

What does this
data mean?



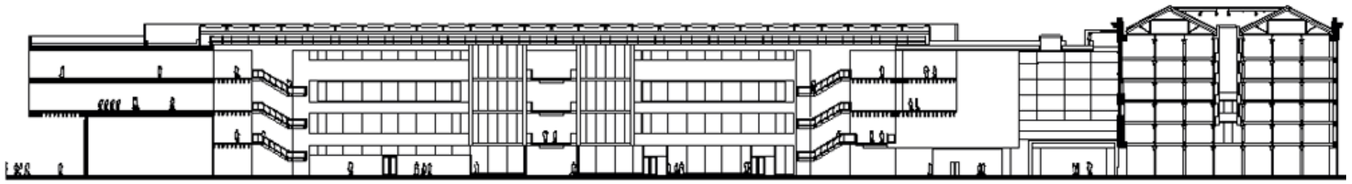
How can graphic communication design map complex networks of dependencies, responsibility, and agency?

ual ⟷ us

↕ ↕

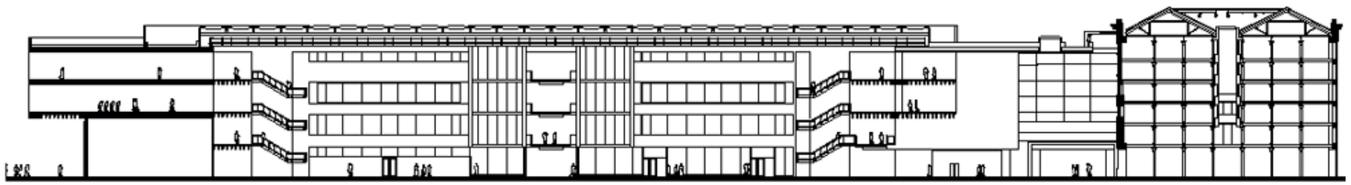
transport facilities (tfl, etc)

where can we make changes? where is infrastructure limiting us?



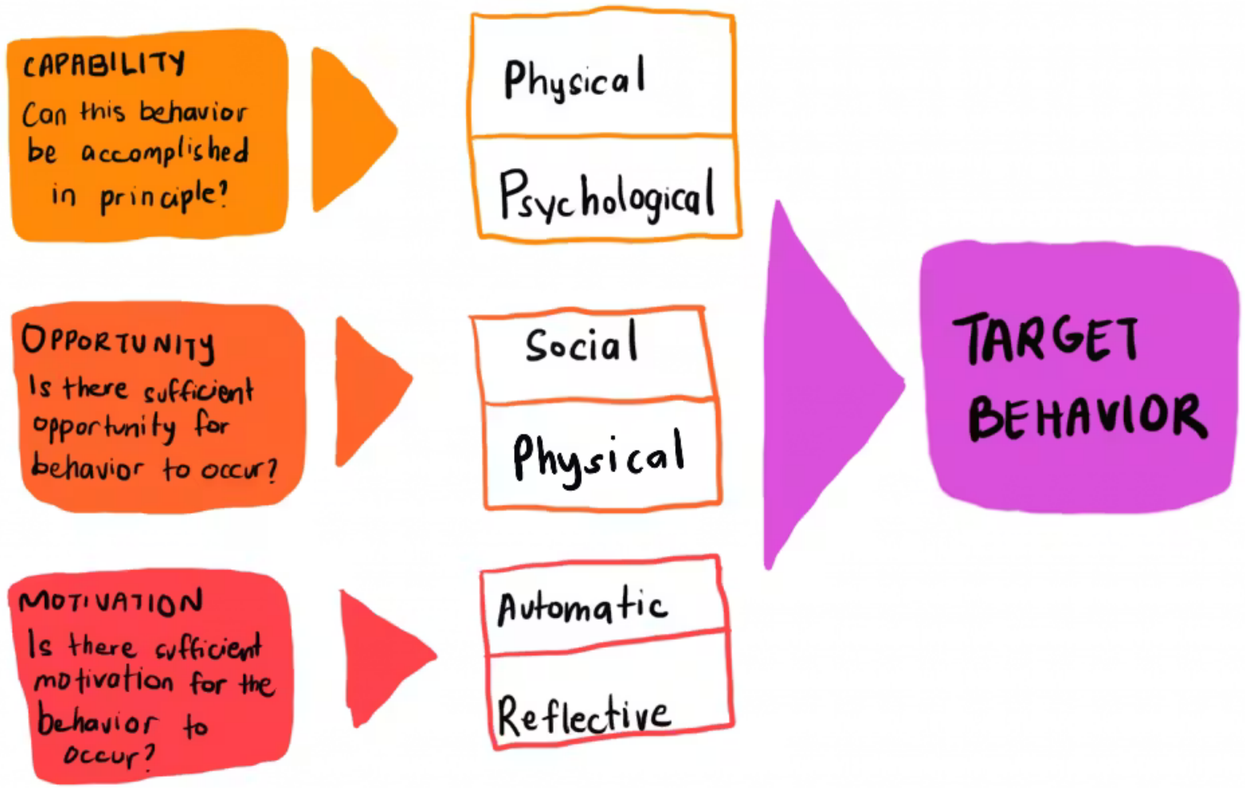
is responsibility being shifted around?

how do we help each other, and understand the nuances?



data grounded in lived experiences*

*autoethnography



The COM-B Model for Behaviour Change. The Decision Lab. Pilat D., & Sekoul K. (2021).

shiyi

wan

noor

North Acton

Oxford Circus

3 Round travel a week

716 gCO_2e / journey

Blackhorse Road

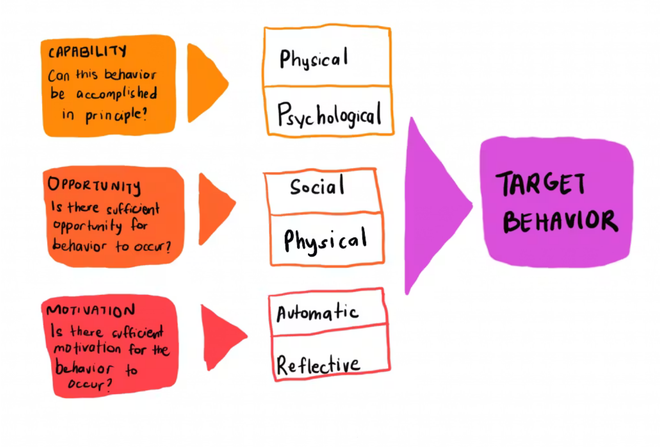
2 Round travel a week

540 gCO_2e / journey

Wood Lane

2 Round travel a week

473 gCO_2e / journey



COM-B Analysis

Capability

I’m physically capable, but scared to ride my bike along the canal

Opportunity

London has bike paths, and a lot of my friends cycle to work, and I have access to the bike shed

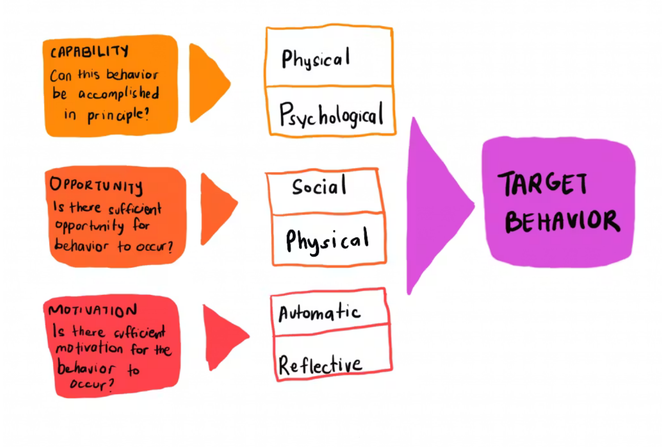
Motivation

Because of my fear of the canal and roads, riding on the opposite side of the road, the convenient location of the tube, and the fact that I’d need to cycle for over an hour to get to uni, I don’t have much motivation

I go to the uni around 2-3x a week on the tube

I take the central line from north acton to oxford circus, change to the victoria line and go to kings cross

noor



COM-B Analysis

Capability

Storing and retrieving bicycles during holidays is a hassle every year.

Opportunity

London has a great cycling community, and you can ride around to see the sights and relax after school.

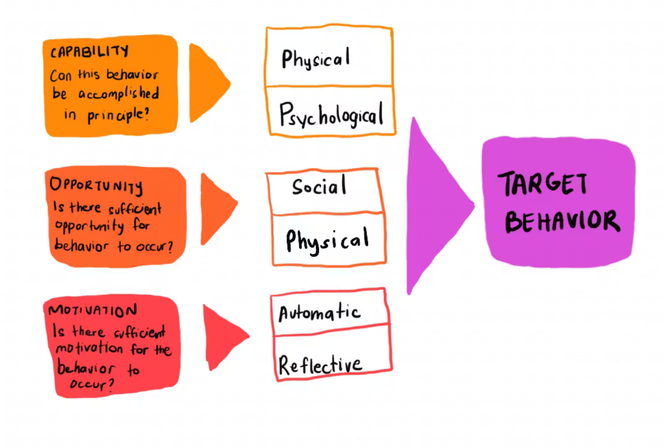
Motivation

I can't imagine what it would be like to cycle for almost an hour, then study, and then cycle for almost another hour to get home.

shiyi

I go to the uni around 2x a week on the tube

I take the victoria line from blackhorse lane and to kings cross



COM-B Analysis

Capability

I am physically capable of cycling, but the distance to campus is too far to make it realistic as a daily option.

Opportunity

There are limited alternative transport options near where I live.
There isn't another convenient bus route nearby, so the Tube is essentially the only reliable way for me to reach campus.

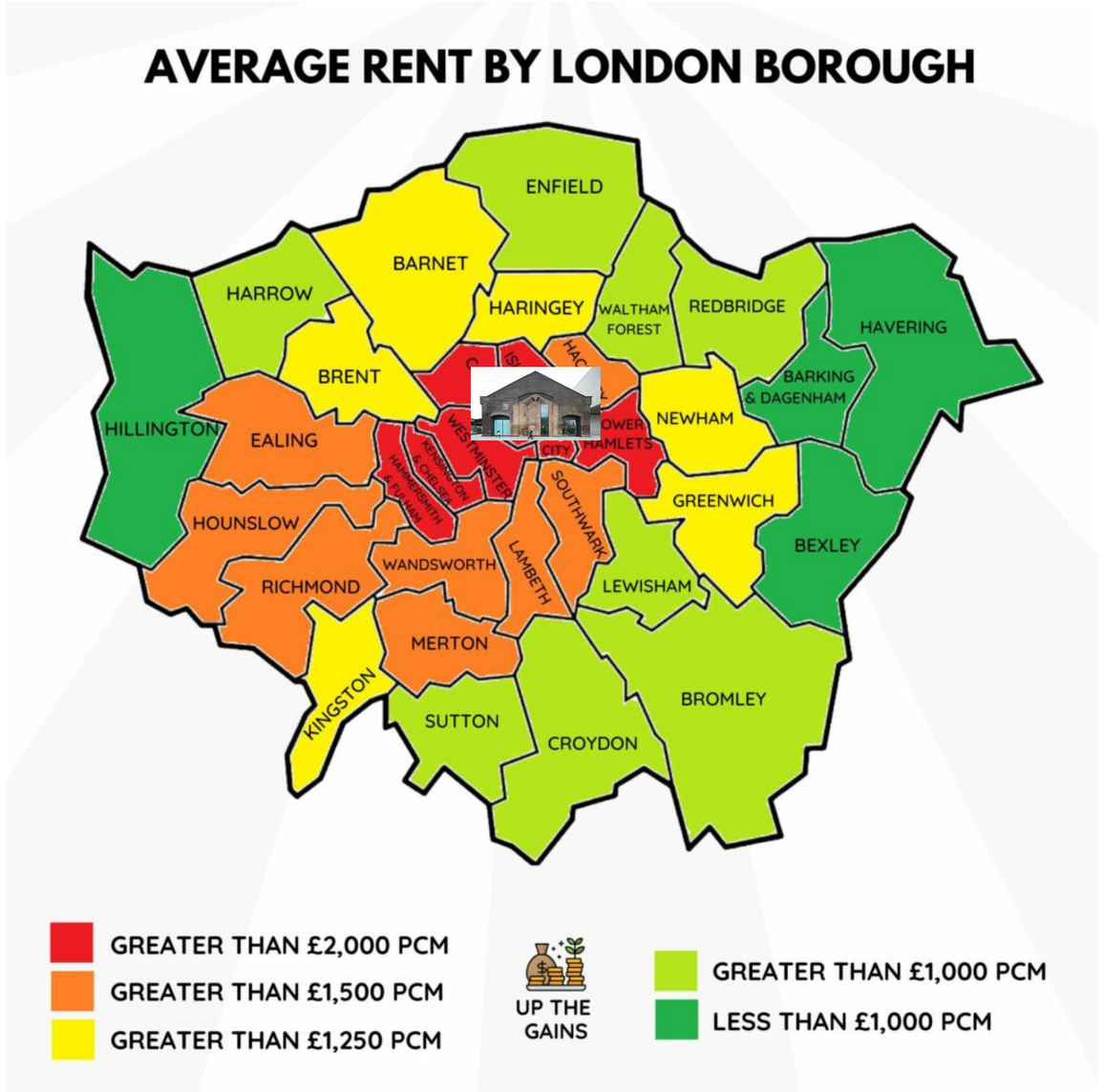
Motivation

Because the journey is long, cycling would take over an hour and require a lot of physical effort before class.
The convenience and predictability of the Tube, combined with the lack of other nearby transport options, means I don't feel motivated to cycle.

I go to the uni around 2x a week on the tube

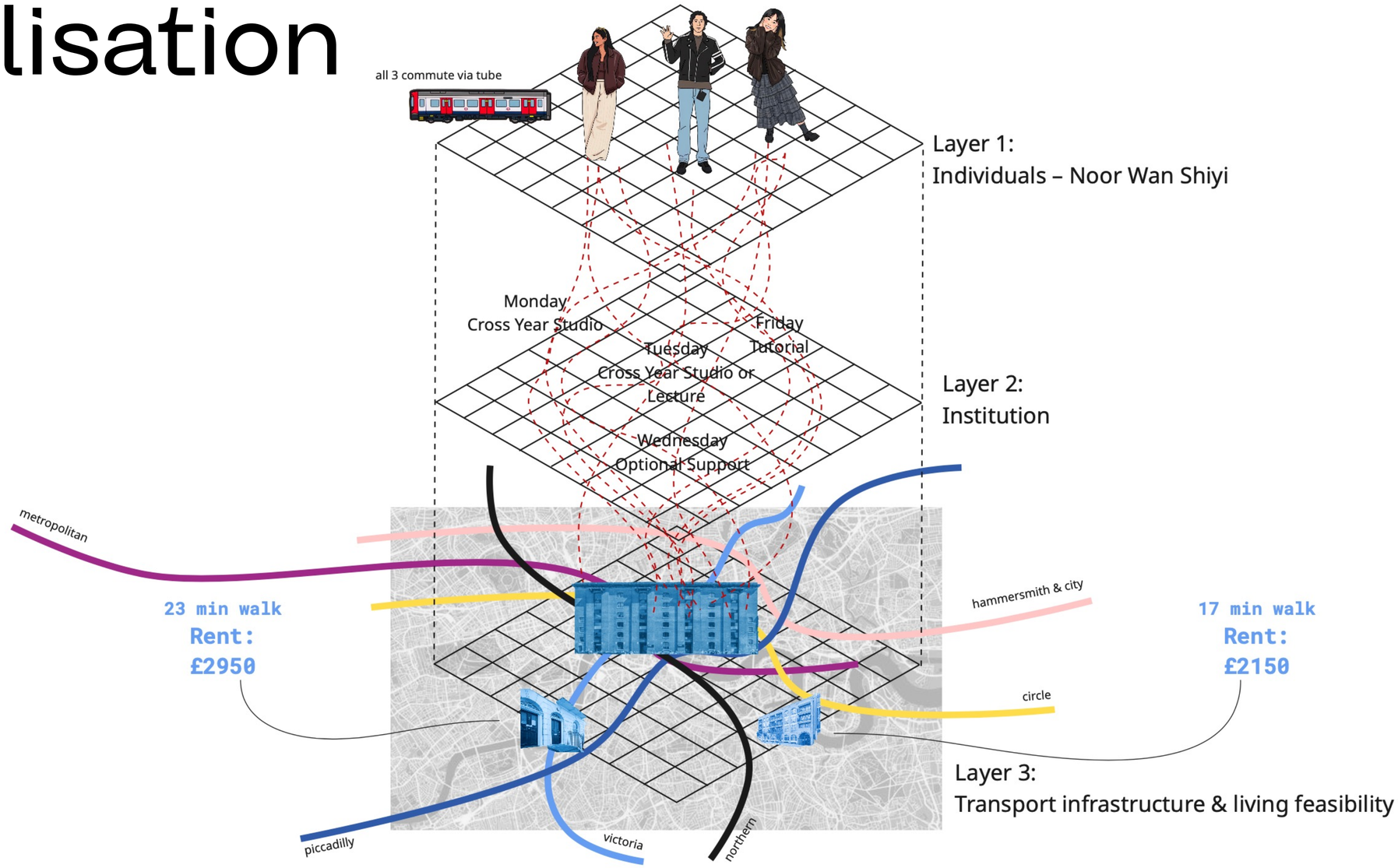
I take the Hammersmith line from wood lane and to kings cross

Wan

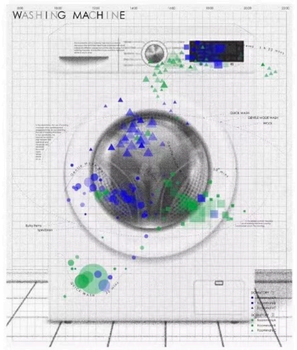


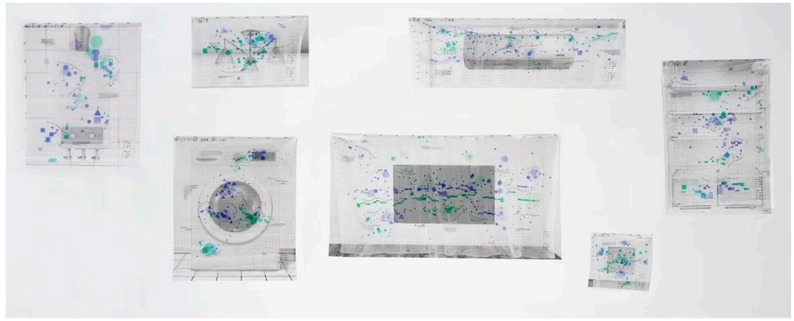
Average London Borough Rent Map. Up The Gains. (2026).

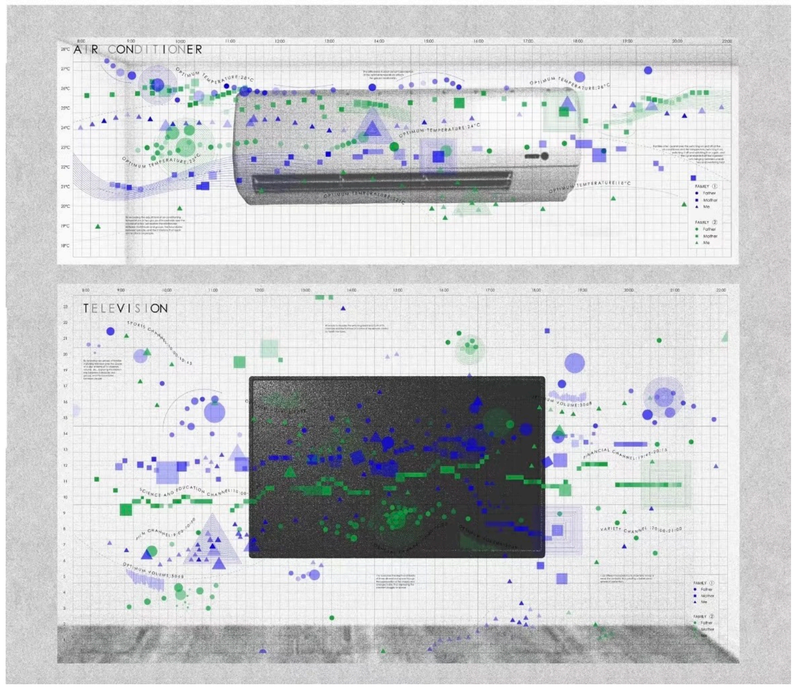
visualisation

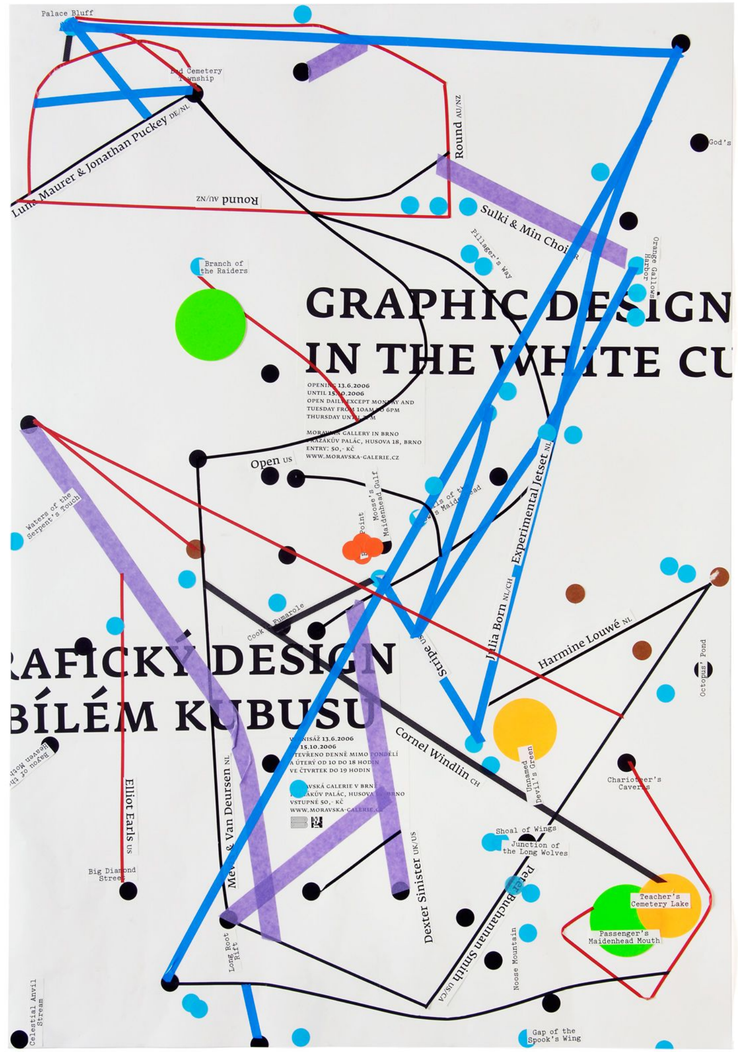



WASHING MACHINE


WASHING MACHINE




AIR CONDITIONER
TELEVISION


GRAPHIC DESIGN
IN THE WHITE CU
RAFICKÝ DESIGN
BÍLÉM KUBUSU
Palace Bluff
Round
Sulki & Min
Open
Julia Born
Experimental Jetset
Harmine Louwé
Cornel Windlin
Elliot Earls
Dexter Sinister
Shoal of Wings
Teacher's Cemetery Lake
Passenger's Maidenhead Mouth
Gap of the Spook's Wing


Too expensive to live near King's Cross
I have to come to uni 2-3 a week because of the schedule
Low motivation or feasibility for more green forms of transport
大倫敦;大伦敦
data © OpenStreetMap


Tuesday lectures
Too expensive to live near King's Cross
Wednesday optional support
I have to come to uni 2-3 a week because of the schedule
Friday Tutorials
Low motivation or feasibility for more green forms of transport
Cross Year Studio
大倫敦;大伦敦
data © OpenStreetMap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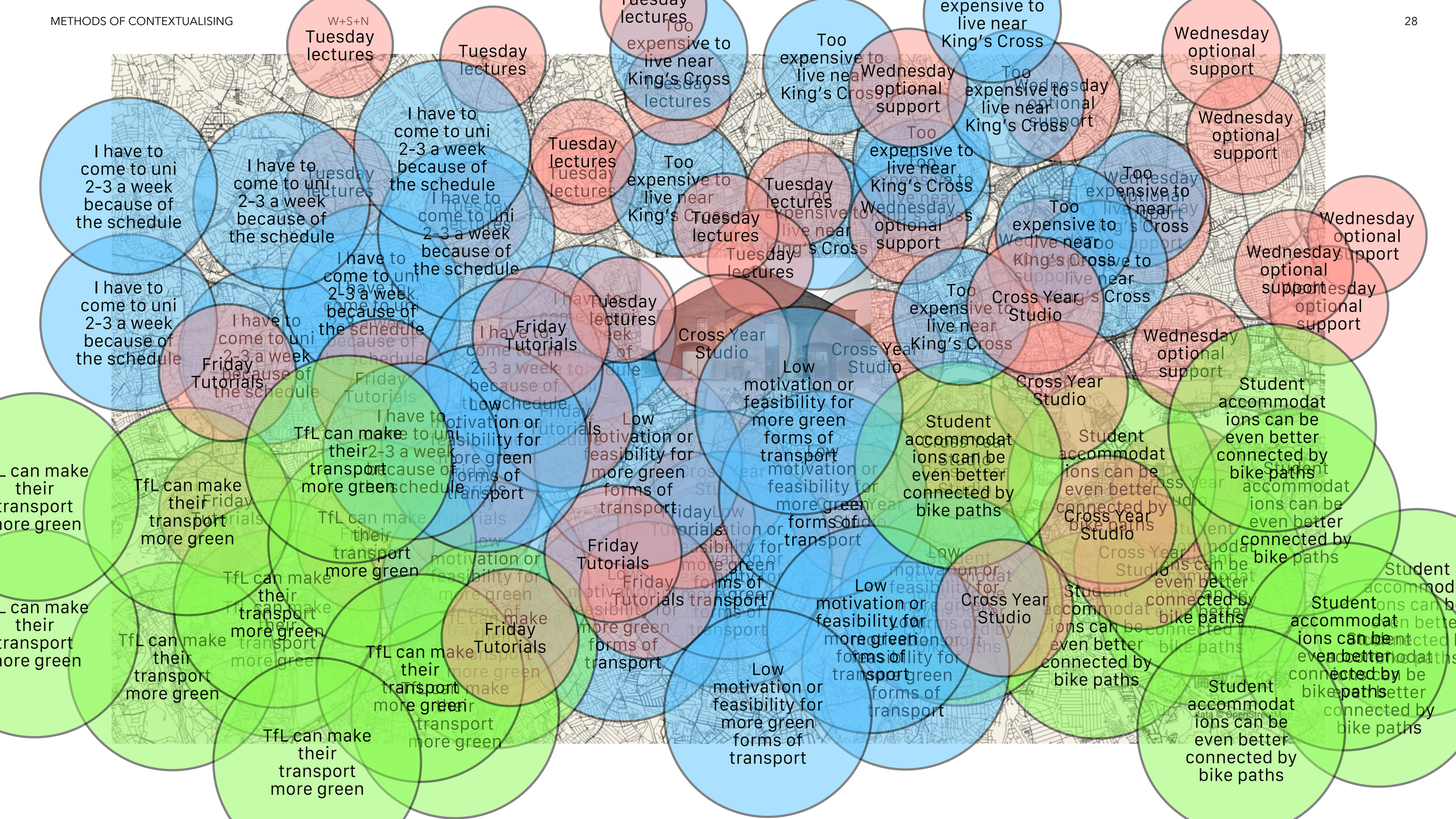
TfL can make their transport more green
Student accommodat ions can be even better connected by bike paths
太倫敦;大伦敦
data © OpenStreetMap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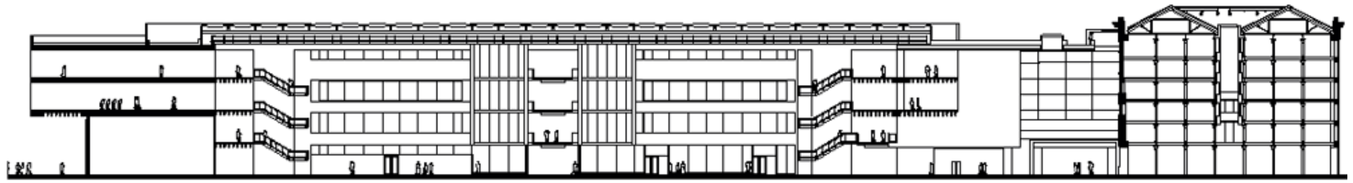
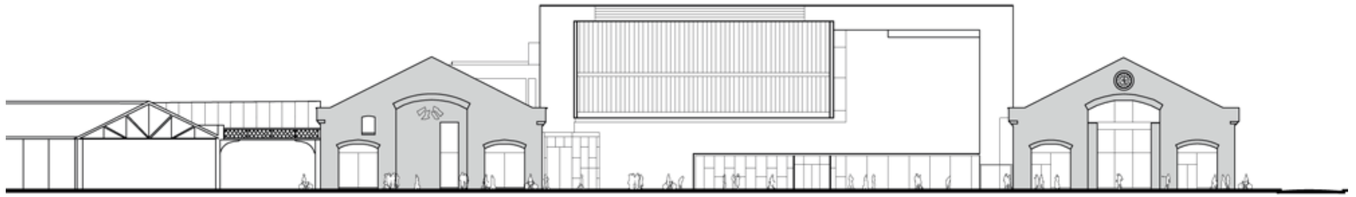


where do we go from here?



- Looking at layered network maps
- Making our data visualisation more clear
- Are we making this for students or staff, or others?