

re:PLACE - REgeneration: PLanning Active Centres

artificial intelligence analytics and forecasting system for urban regeneration, master planning and community planning engagement

Dr Nicolas Palominos

PhD in Advanced Spatial Analysis, UCL - 2021
MSc in City Design and Social Science, LSE - 2012
BA Architecture, PUC - 2004

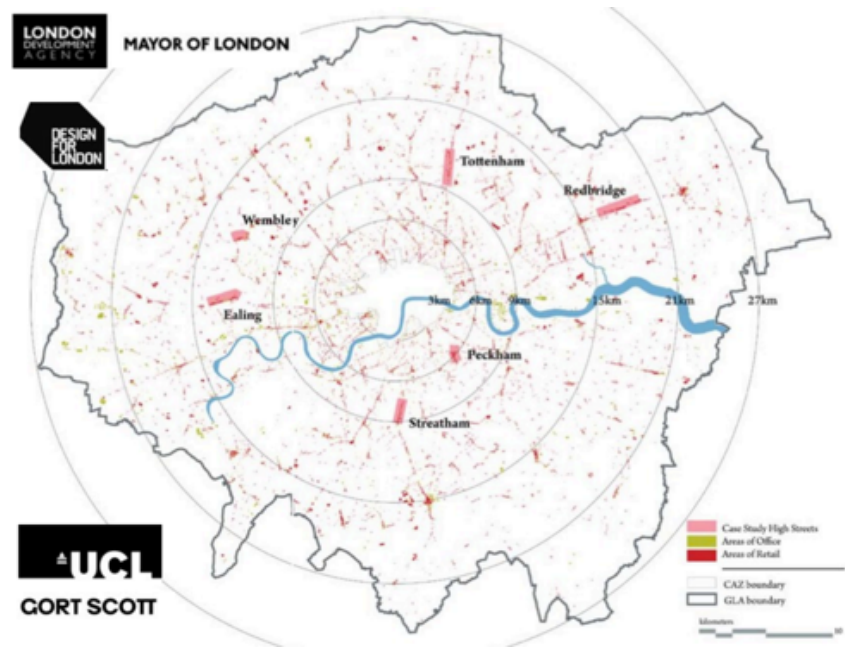
Researcher & Lecturer (UCL, LSE), 2012, 2016-2022
Designer & Analyst (The Comptroller General of Chile), 2009-2016
Project Manager & Designer (Ministry of Housing & Planning) 2006-2009



KNOWLEDGE & EXPERTISE

Ordinary Streets, LSE Cities, 2012

What makes a multicultural and diverse street vital and vibrant?



1/3 of trips to High St. are not for consumption

40% of Londoners live within a 5 min. walk of a High St. (3 mill.)

High Streets are mixed used urban corridors

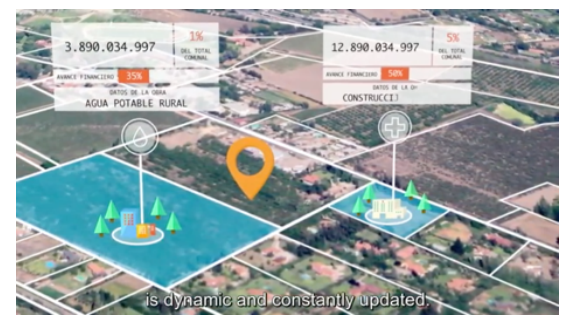
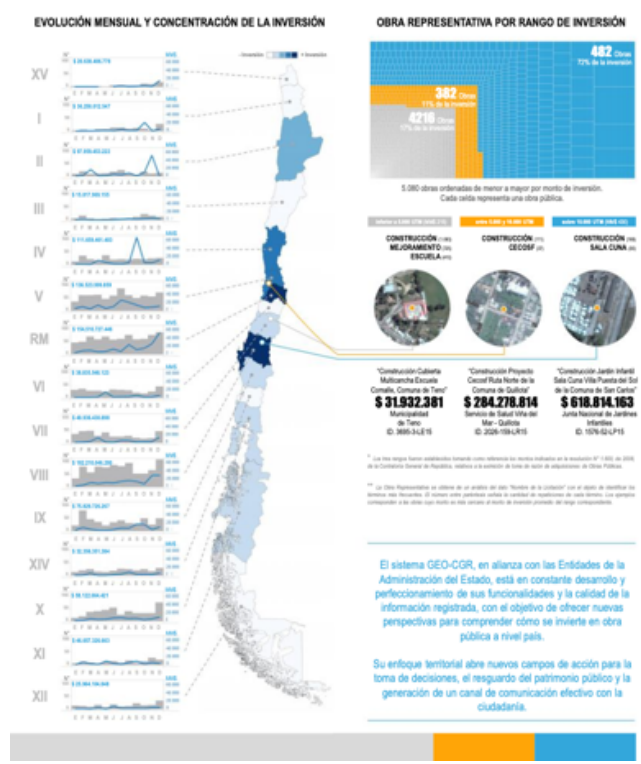
>50% of London's employees work within 200 m of a High St. (1.45 mill.)

3.6% of London's road network (500 km)

High Streets are connected, adaptable, mixed, social and intense

GEO-CGR, The Comptroller General of Chile, 2016

Country wide oversight of public works for civic engagement



Incluirá a ministerios de OO.PP., Vivienda y, a futuro, municipios: Contraloría estrenará "portal ciudadano" de fiscalización en infraestructura

Durante el segundo semestre de este año se lanzará la página web. Con esta iniciativa, el contralor Ramiro Mendoza aspira a que las personas se transformen en otro fiscalizador de las obras que afectan la calidad de vida de los usuarios.



Quiero Mi Barrio ('I Love My Neighbourhood')

Ministry of Housing and Planning, Chile, 2006

Regeneration program for marginalized neighbourhoods

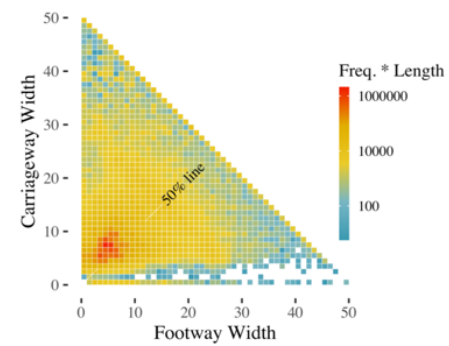


INICIATIVAS DE PROYECTOS	PRIORIDAD
SEDE SOCIAL	1
REPARACION DE LUMINARIAS	2
MEJORAMIENTO DE VEREDAS	3
SEÑALÉTICA PARA EL BARRIO	4
MULTICANCHA	5
MEJORAMIENTO PLAZA BAYITO	6
AREA VERDE BELEN	7
AREA VERDE EL PARQUE	8
AREA VERDE KIOSKO DON ARTURO	9
NUEVA PLAZA DEL MONOLITO	10
RECUPERACION SECTOR BAYITO	11
AREA VERDE FRENTE A COLEGIOS	12
RECUPERACION AREA CAFE	13
PASAJES SECTOR NORTE	14
PASAJES SECTOR SUR	15
RECARPETEO PASAJE ANDES	16
PASAJES SECTOR PONIENTE	17
PASAJES SECTOR ORIENTE	18
REPARACION DE ESCALERAS	
TELECENRO	
PLAZA FRENTE AL ALMACEN DE DON JUAN	
PLAZA ENTORNO A TELECENTRO	



Rethinking Streets, Centre for Advanced Spatial Analysis, 2021

A study of streetspace allocation and street networks in London



The Healthy Streets Index gauges how streets impact our health and wellbeing, by combining measures such as air and noise pollution, street design, traffic, walkability, and trees.

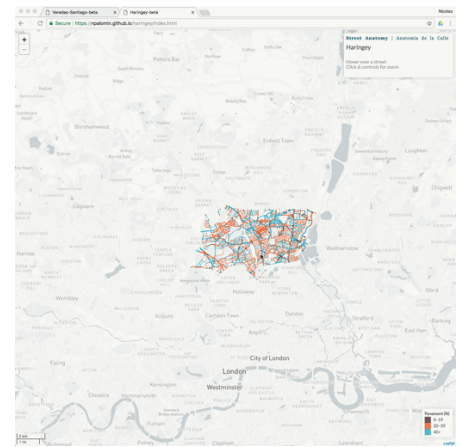
@BartlettUCL

@uclnews

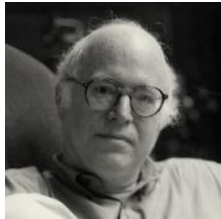


Healthy Streets Index
The index rates all the streets in London based on the factors known to have the biggest impact on health, including air and noise pollution, street design, traffic dominance, walkability, accessibility and trees.

STREETS
underscoresstreets.com
A collaboration between:
Healthy Transport | Street City | UCL



APPROACH, METHODS & TOOLS



... today's planner has an arsenal of technological tools ...
we have more resources to use than in the past, but resources we don't use very creatively.
The Open City, 2006



... you plan for the things you have information about ...
The living room of a city (interview), 2015



Cities happen to be problems in organized complexity, like the life sciences. They present “situations in which a half-dozen or even several dozen quantities are all varying simultaneously and in subtly interconnected ways.” ... The variables are many, but they are not helter-skelter; they are “interrelated into an organic whole.”
The Kind of Problem a City is, 1963



We cannot predict future cities, but we can invent them... Cities are largely unpredictable because they are complex systems that are more like organisms than machines.
Inventing Future Cities, 2018



... the design of cities emerges from the complex interaction of socio-economic with spatio-technical processes and practice
Cities by Design, 2014

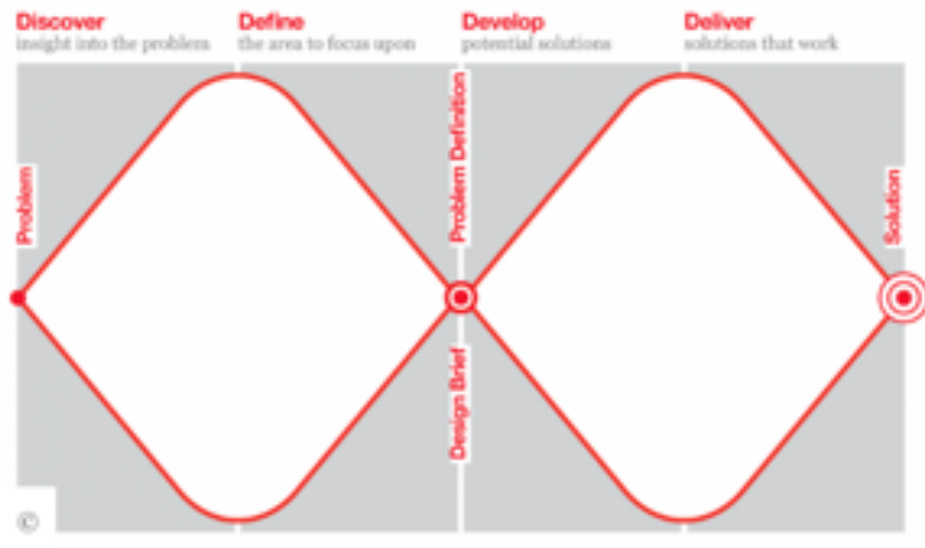
Data Science Deconstructed



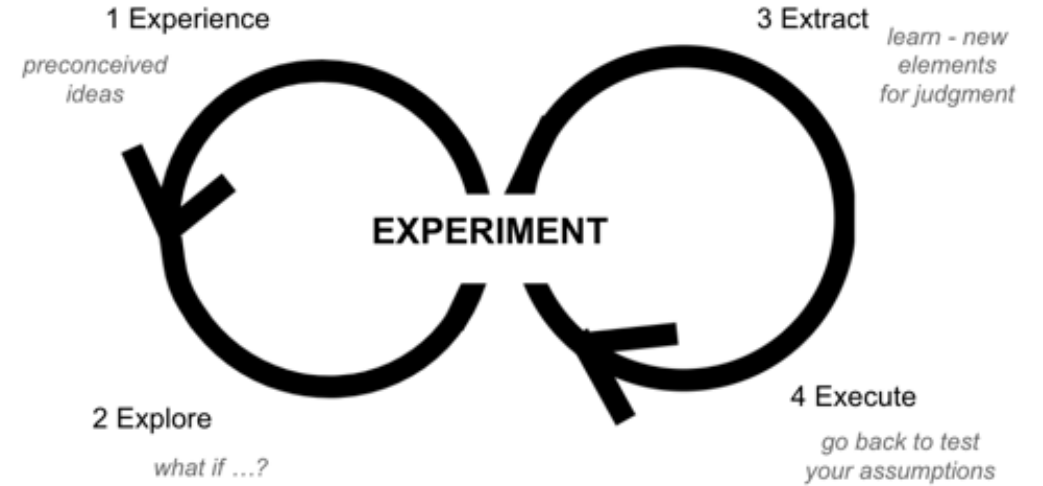
iterative process

01 Frame the Problem, 04 Explore the Data, 06 Communicate Results

Design Process



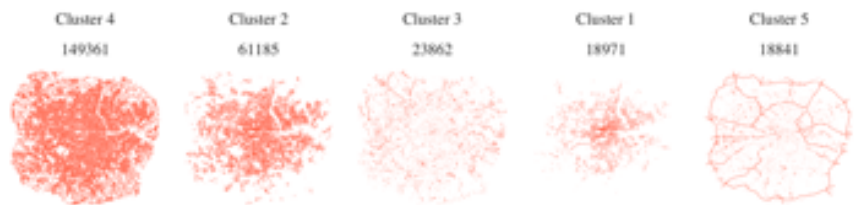
Experimentation Loop



04 Explore the Data, 05 Perform In-Depth analysis, 06 Communicate Results

A typology of town centres

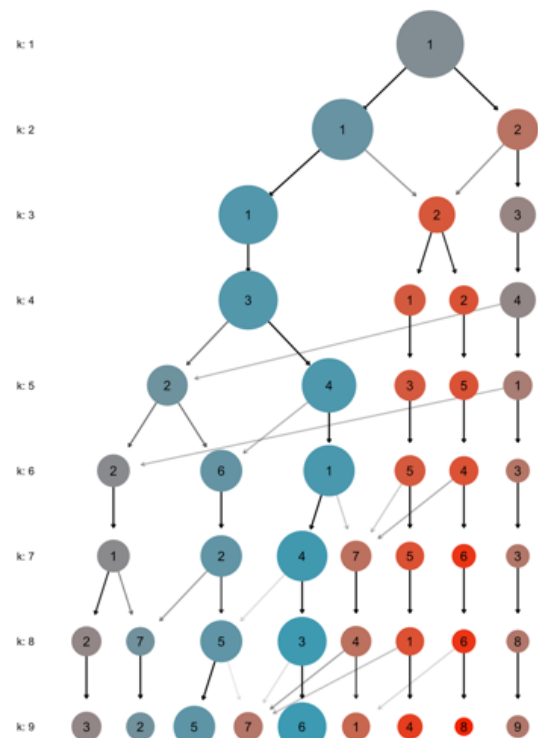
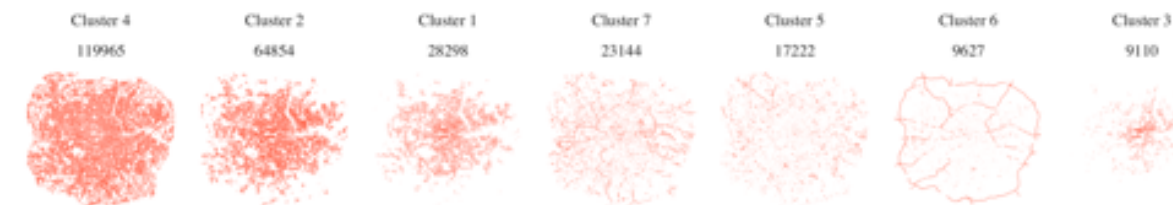
k = 5



k = 6

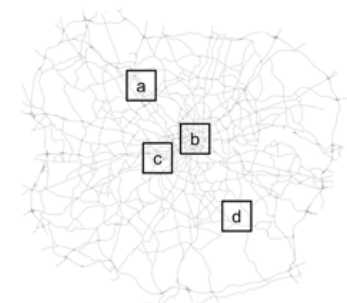
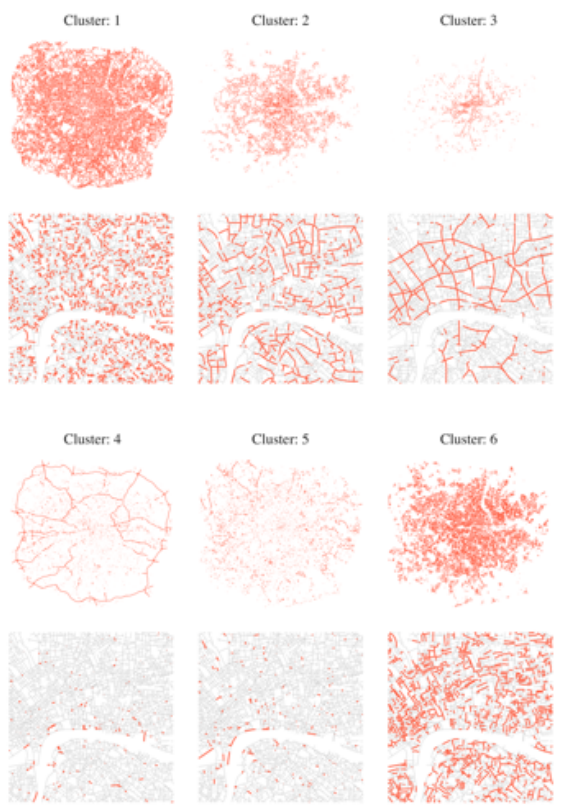


k = 7

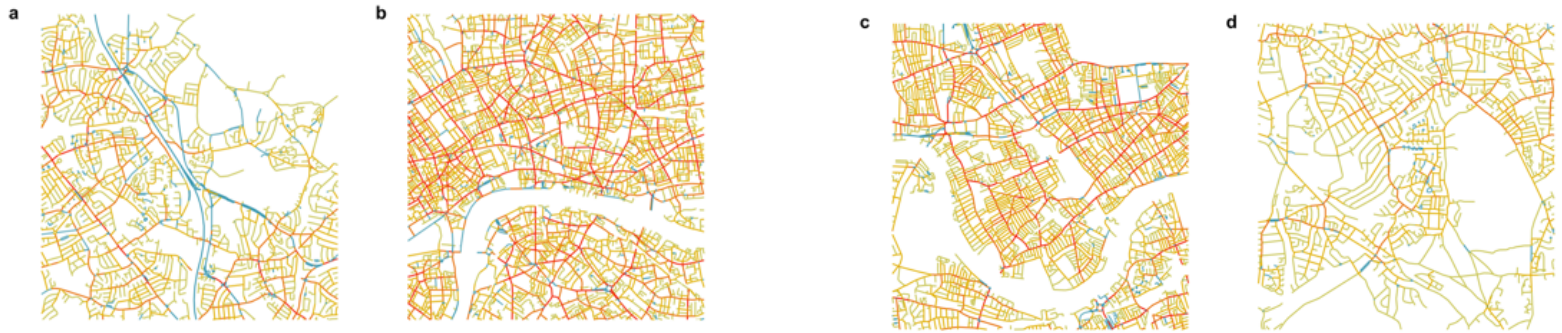


in_prop
 — 0.25
 — 0.50
 — 0.75
 — 1.00

t.w_mean
 40
 30
 20



Cluster id
 ● 1
 ● 2
 ● 3
 ● 4
 ● 5
 ● 6



03 Process the Data, 04 Explore the Data, 06 Communicate Results

Interactive Notebooks, Web Apps, Data Visualizations

1 Learning outcomes

- 2 Introduction
- 3 Getting started
- 4 Service area analysis
- 5 Final comments
- 6 Feedback

CASA 0005 GIS and Science Seminar 1

Presenter: Nicolas Palominos
Duration: 60 minutes
Repository: https://github.com/cgpaalominos/CASA_seminar_2020
URL: https://palominos.github.io/CASA_seminar_2020/casa0005_seminar1.html

This seminar was presented on November 21, 2020 for the CASA GIS and Science Module at University College London. The topic presented was "Exploring the concept of 15-minute cities using service area analysis around train stations in London"

1 Learning outcomes

1. Understand and apply basic service area analysis in R
2. Conduct point-in-polygon queries
3. Use of the mapbox package
4. Understand basic concepts of accessibility analysis and diversity
5. Knowledge of the Points of Interest data set from Ordnance Survey

2 Introduction

The concept of 15-minute cities has gained traction as a sustainable city planning strategy to create mixed-used and compact self-sufficient neighbourhoods. More recently, with the several urban mobility restrictions and lifestyle transformations originated from Covid-19, it has emerged as an urban planning framework for pandemic response and recovery.

The main idea behind the concept is that work, study, leisure, shopping and other basic human activities are available within a 15-minute trip mainly using active travel modes (walking and cycling).

This way long commutes are avoided originating important benefits to urban quality of life by both re-organising the use of dwellers' time and reducing the externalities of urban transport among others.

Because of the predominant high dependency of private car transportation it is probable that many urban areas will not have the characteristics of good quality local environments across different urban domains (commercial and service activities, housing, public services, transport infrastructure, open and public spaces, employment).


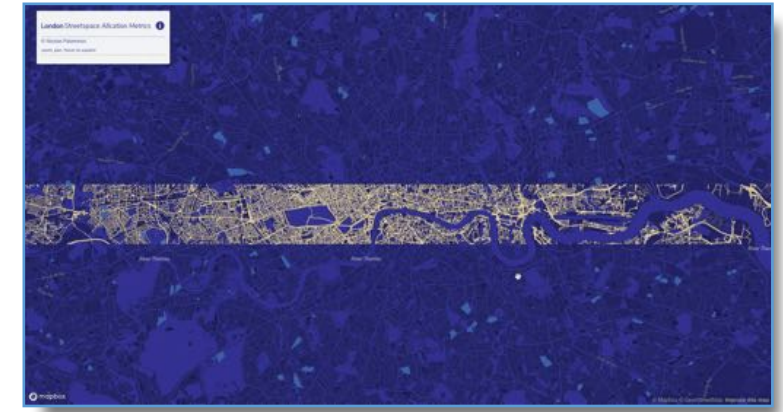


Fig. Diagrammatic representation of a 15-minute city from IT.com



size & form

Comparing Urban Places

To compare the size and form of two places, upload the .shp file and coordinates for each place box and set the zoom level.

For example to these with zoom of 17

Place 1:


Place 2:

The zoom level ranges from 2 to 18. Use to zoom in.

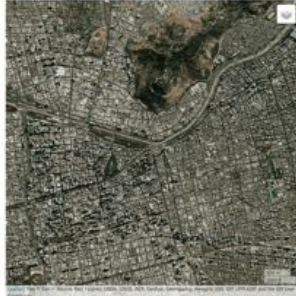
Navigation

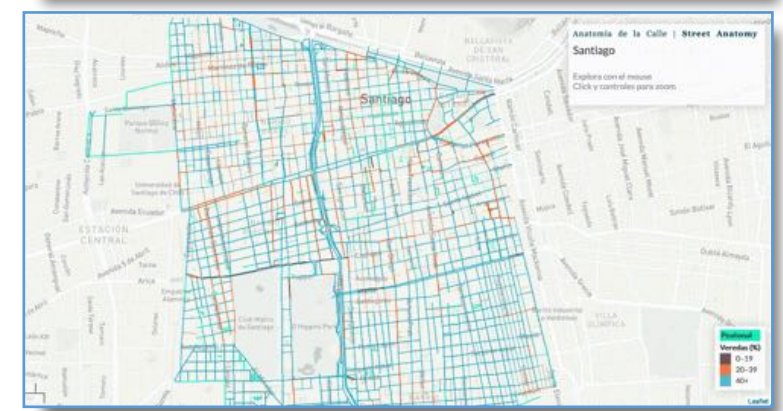
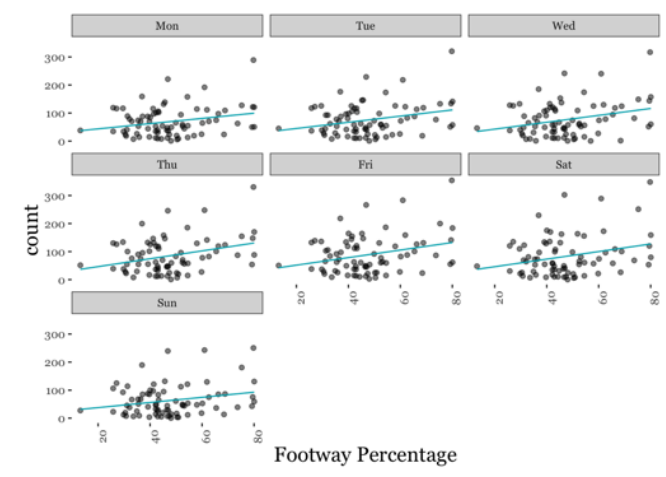
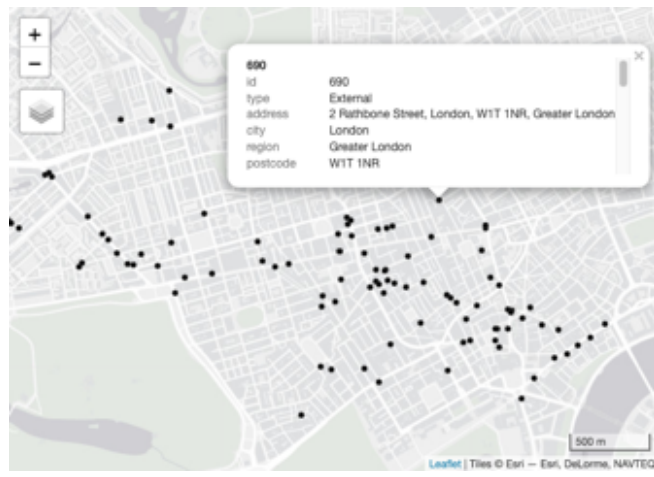
The Place 1 point controls the view and automatically for both places using the mouse wheel. Both places have pan (approximately click and drag). A range of map features can be selected from the layers control below.

Place 1
51.5127, -0.0881



Place 2
34.43762, -76.48333

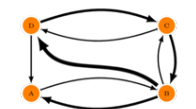
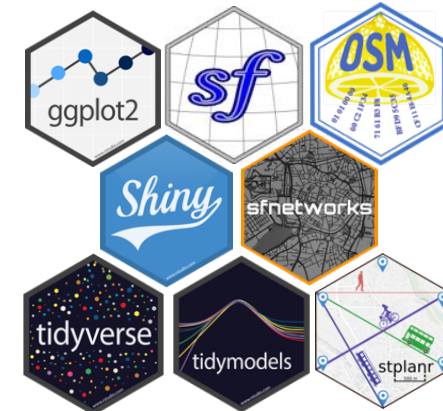
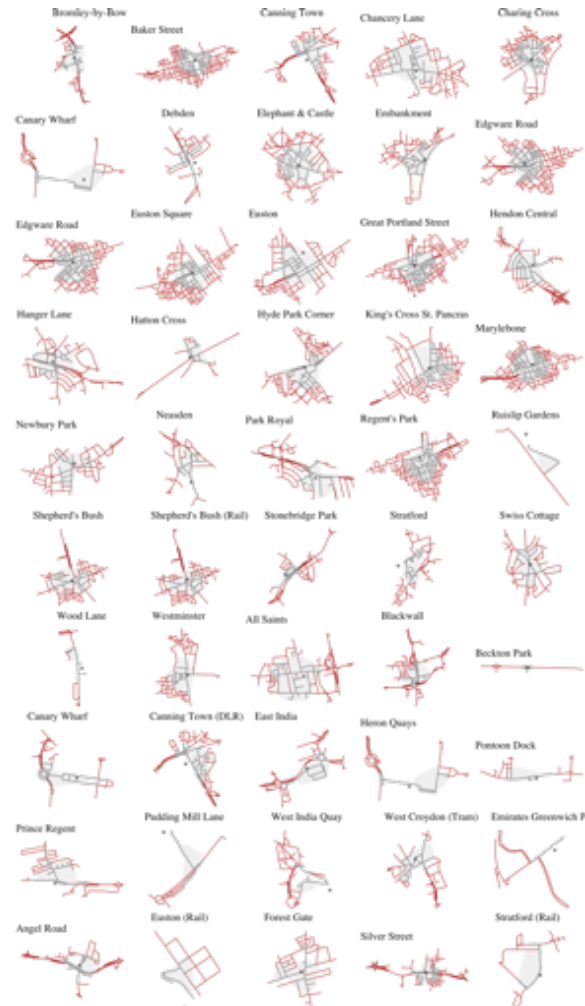
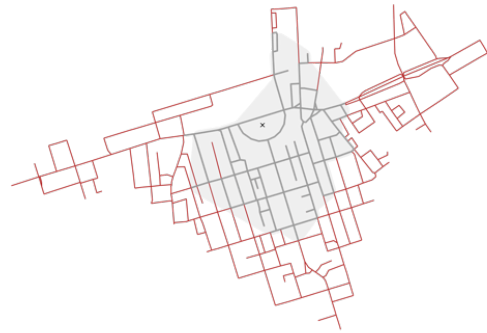




02 Collect Raw Data, 03 Process the Data, 04 Explore Data, 05 Perform In-Depth analysis , 06 Communicate Results

Secondary data
 Geocomputation – Replicable & Scalable
 Urban Analytics – Quantitative, Computational, Visual and Design methods

Regent's Park



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**Thank you
for your attention**

