



PHOEBE

Sam Chapman, FLOOW



This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101076963

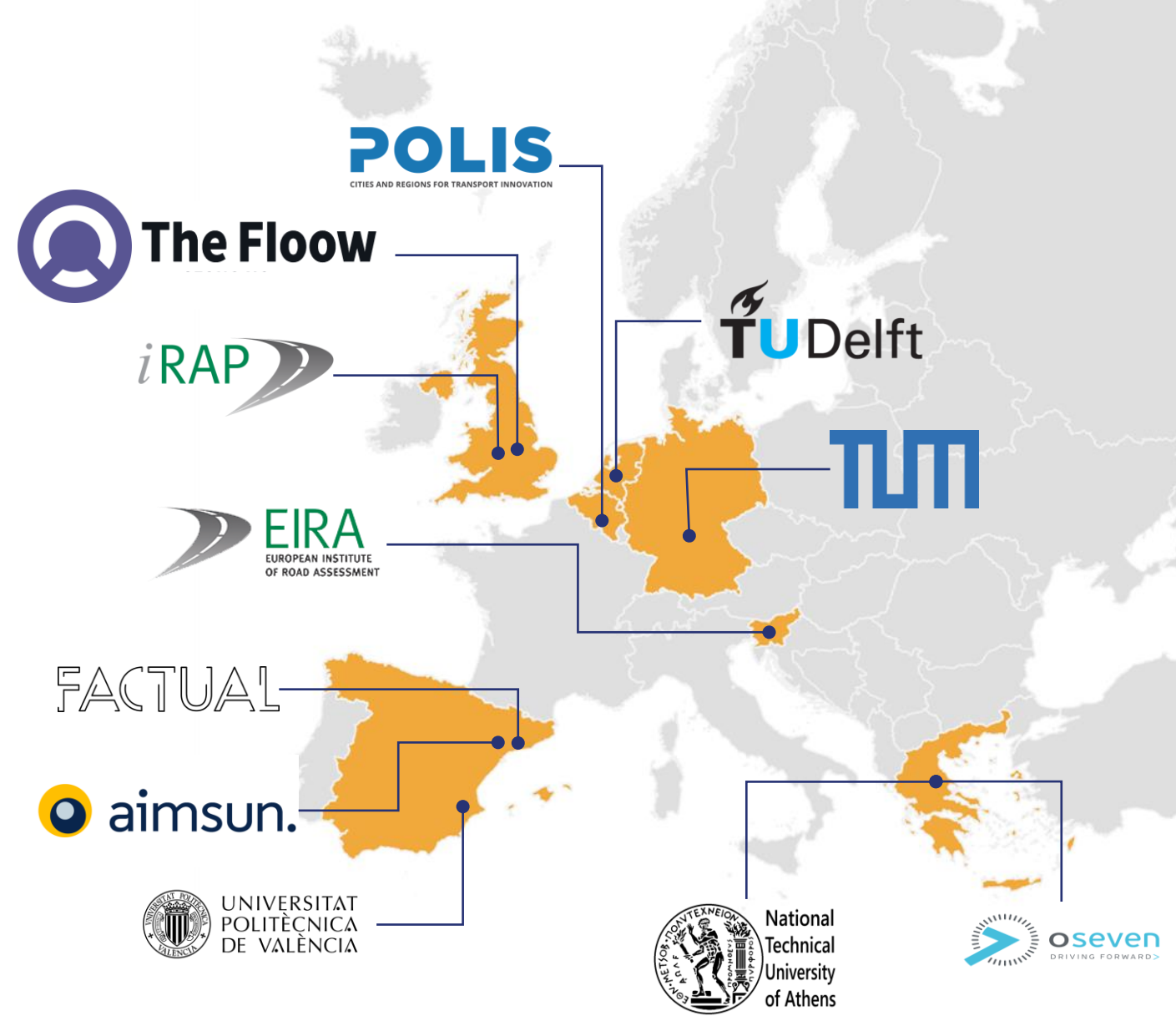
UK participants in Horizon Europe Project PHOEBE are supported by UKRI grant numbers 10038897 (The International Road Assessment Programme – iRAP) and 10056912 (The Floow)



The team

seven
COUNTRIES

eleven
PARTNERS



€3.3M funded horizon Europe project



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The need

Urban population growth - UK 6.2% growth over the last decade



Mobility patterns (and risk) are changing (COVID19, active travel, mode changes, etc)



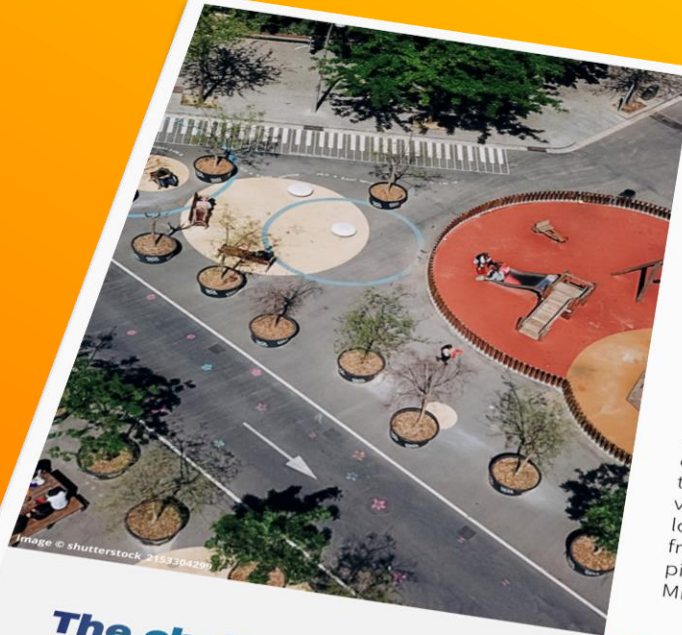
New technologies and urban designs change risk (ADAS, e-bikes, micromobility, new road design patterns, etc)



The EU is targeting a **50% reduction** in serious injuries and fatalities from road incidents by **2030**

PHOEBE

PHOEBE



PHOEBE PREDICTIVE APPROACHES FOR SAFER URBAN ENVIRONMENTS

The EU-funded *Predictive Approaches for Safer Urban Environment consortium* (known as PHOEBE) brings together the inter-disciplinary power of traffic simulation, road safety assessment, human behaviour, mode shift and induced demand modelling and mobility data into a harmonised, prospective assessment framework for road safety.

The PHOEBE framework combines research, data and innovative tools and models to simulate and forecast the safety impact of disruptive changes, transitions or scenarios across urban transport networks, with a particular focus on vulnerable road users' safety. The 3.5-year PHOEBE project will apply and refine the framework in real-world scenarios across three pilot cities, Athens (GR), Valencia (ES) and West Midlands (UK).

The challenge







Urban traffic systems are increasingly dynamic. They are regularly 'disrupted' by new means of transport, new infrastructure, new technologies, and regulatory and behavioural changes. This presents challenges for transport managers in planning for these changes, as well as in achieving the ambitious EU-target of zero road deaths and serious injuries by 2050.



How PHOEBE solves these challenges?

PHOEBE will create solutions that can predict and visualise various traffic scenarios to support urban stakeholders, helping mobility planners, designers and managers understand the impacts of changes from the individual level up to the network-wide level. The PHOEBE framework will be available to other European cities, which can use as a blueprint to understand and evaluate the long-term safety, mode choice and socio-economic impacts of changes before they are made.



	 ATH	 VLC	 WM
Type of intervention	Enhanced VRUs space Optimised parking arrangements Speed management	Micromobility facilities update Speed management Increase in e-scooter usage	Changes to speed limits Active travel and micro-mobility Bus services Autonomous vehicles
Scope of analysis	Area	Corridors	Intersections + corridor
Validation	Before and after analysis	Control sites	Forecast
Model availability	Ready to use	Need development in the micro level	Ready to use
Simulated scenarios			



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The PHOEBE project

Aim: **predict risk** informing road interventions



Road Assessment Programs

- Better meeting the needs of urban environments
- Supporting behavioural and technology changes



Transport models

- Allowing risk across the network to be predicted during planning
- Allowing 'what if' planning with risk predictions

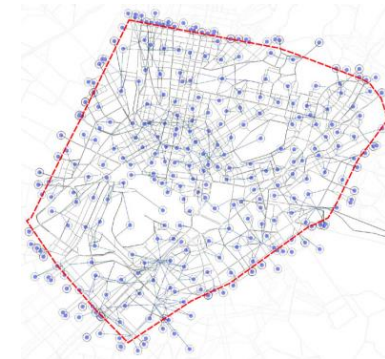
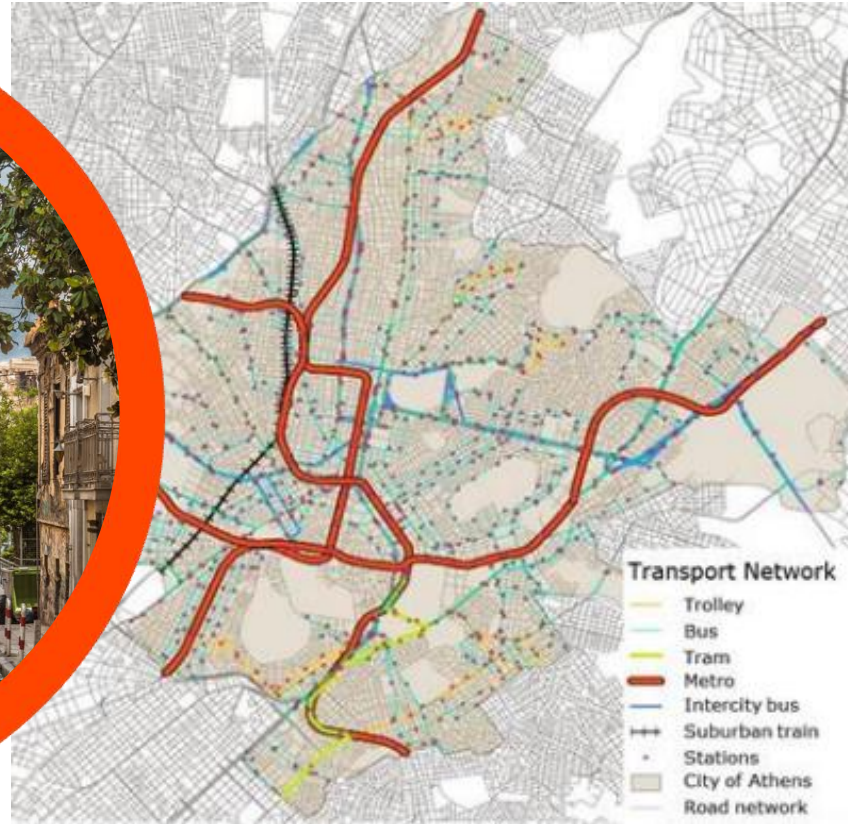


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Athens



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Valencia



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West Midlands



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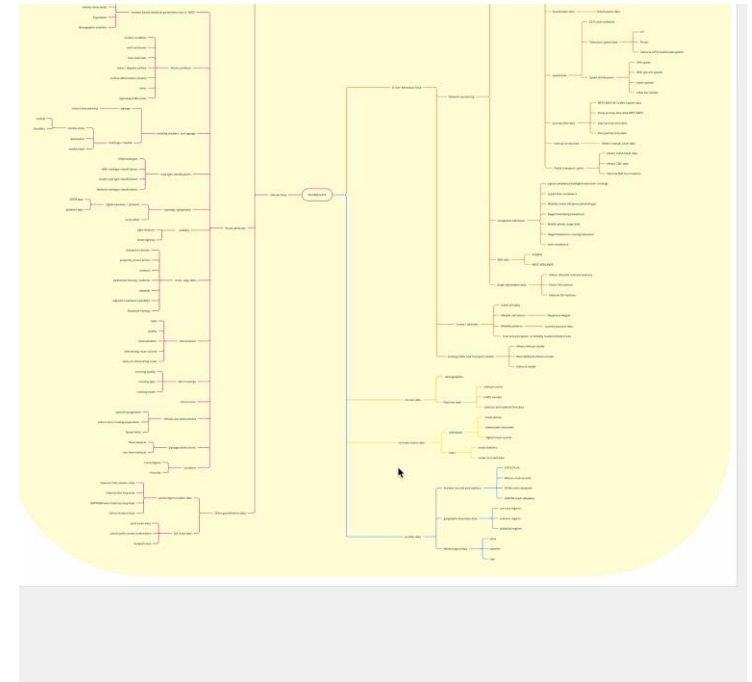
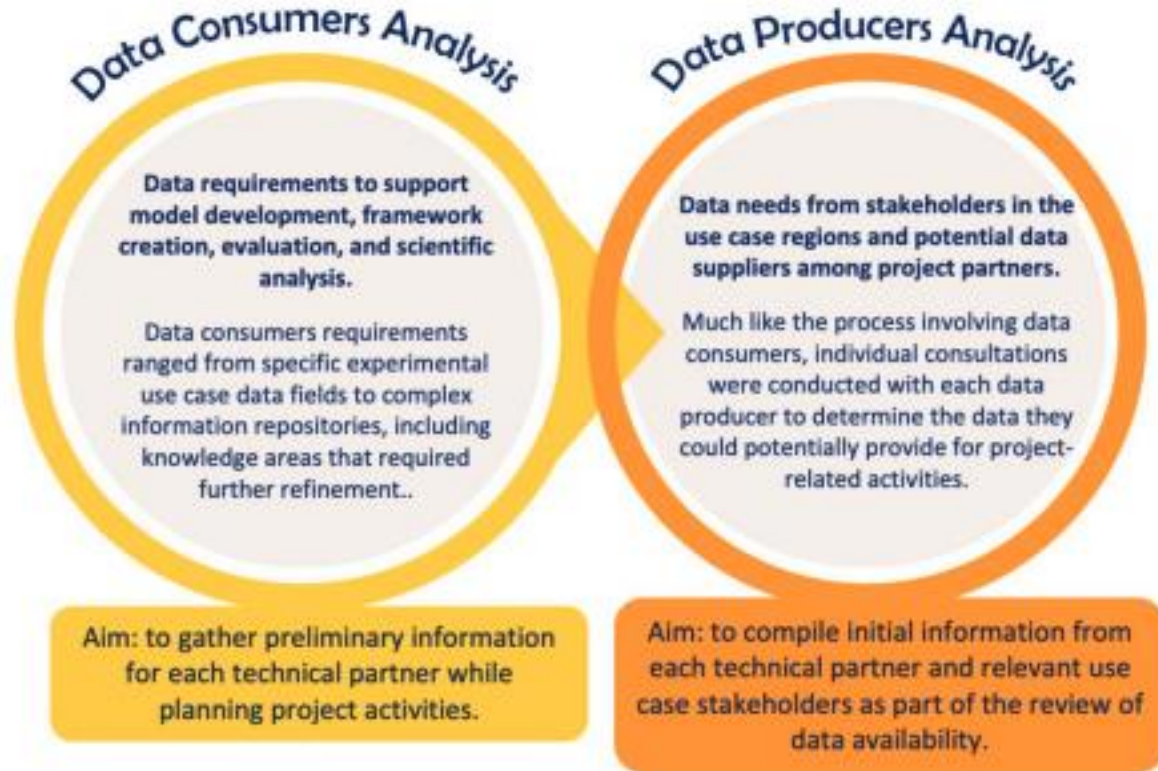
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Data analysis processes

and existing

Exploring new [^] data to predict safety



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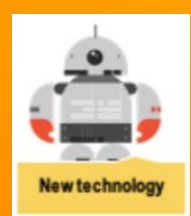
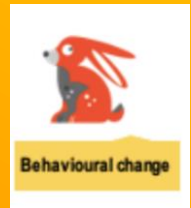
and existing

Exploring new ^ data to predict safety

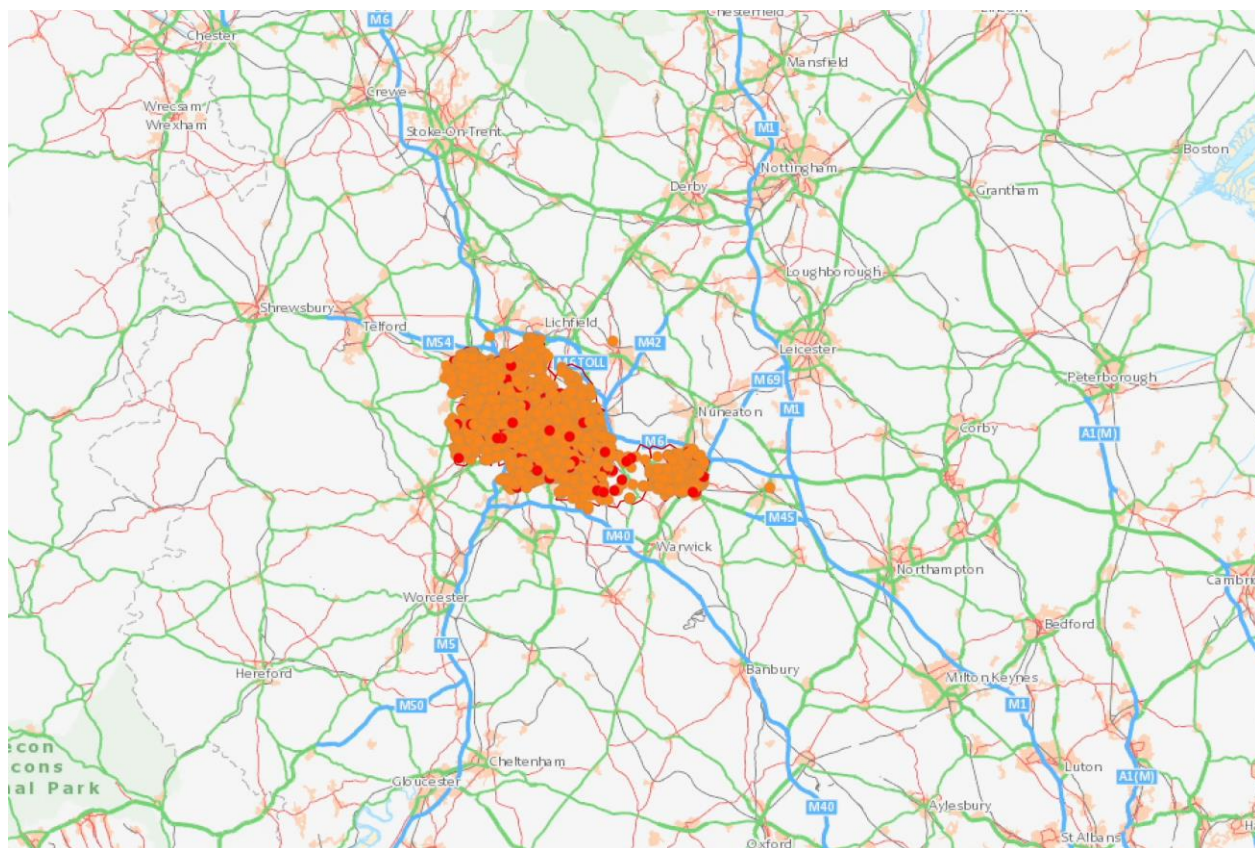
- Generating 175+ data types and many sources for these to inform risk in urban environments
- Supporting the use cases and aims of the project but with ability to apply to wider geographies

fx 50th speeds motor traffic

Producers	Case Study Areas	Coverage	Status	Link	Access
O7	Athens	Whole	Accessible		In project
Universidad Politécnica de Valencia	Valencia	Partial	Potential		Use-Case Leader
The Floop	Valencia	Whole	Accessible	Link	In project
TRWM	West Midlands	Whole	Accessible	Link	Use-Case Leader
O7	West Midlands	Partial	Accessible		In project
Universidad Politécnica de Valencia	Athens	Whole	Accessible		Use-Case Leader
The Floop	Valencia	Partial	Potential	Link	In project
TRWM	Valencia	Whole	Accessible	Link	Use-Case Leader
OASA	West Midlands	Partial	Accessible		Open
City Council of Valencia	West Midlands	Whole	Available	Link	Open
OpenStreetMap Foundation	Athens	Whole	Available	Link	Open
City Council of Valencia	Valencia	Whole	Available	Link	Open
City Council of Valencia	Valencia	Whole	Available	Link	Use-Case Leader
Universidad Politécnica de Valencia	All	Whole	Available		Open Government UK
UK Govt. DfT	Valencia	Whole	Potential	Link	Use-Case Leader
National Technical University of Athens	Valencia	Partial	Available		In project
The Floop	Valencia	Whole	Potential	Link	Use-Case Leader
National Technical University of Athens	Valencia	Partial	Accessible		Use-Case Leader
	West Midlands	Whole	Potential		
	Athens	Whole	Potential		
	West Midlands	Partial	Potential		



New data to understand risk



Regulatory change



Behavioural change



VRU safety



New technology



New form of transport

- Measuring risk around interventions
- Behaviour change
- Speed compliance
- Mobile phone usage
- Vulnerable road users
- Autonomous & new technologies



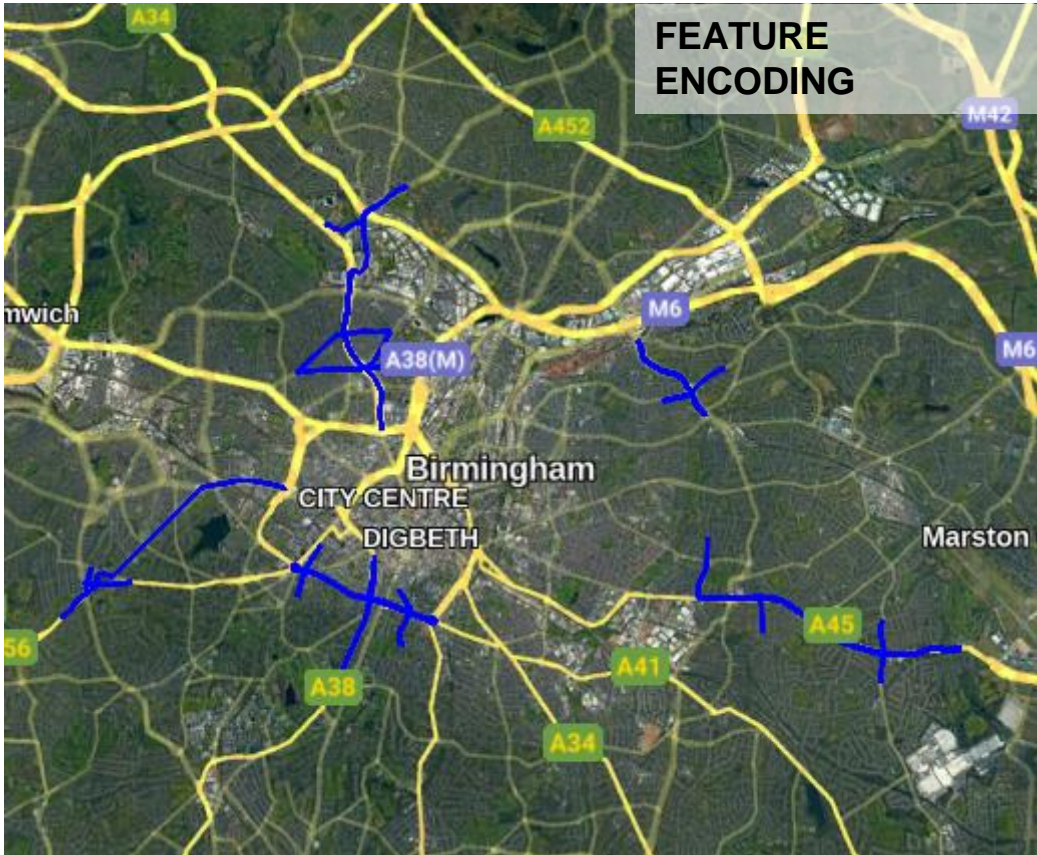
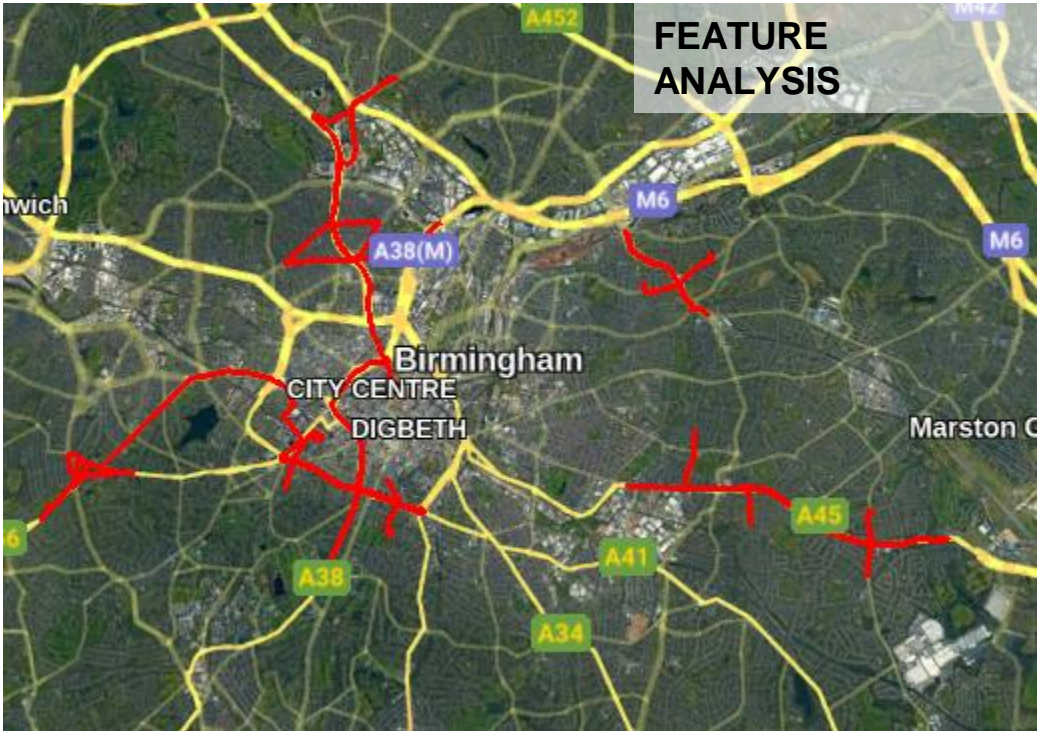
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West Midlands



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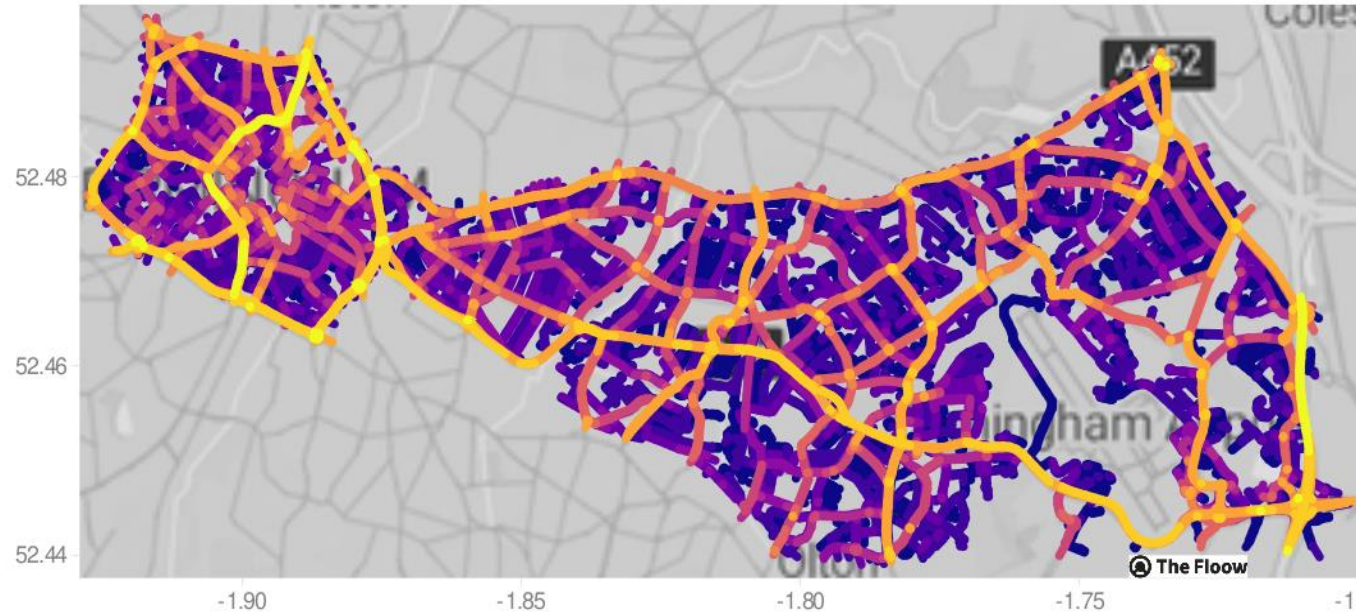
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New traffic data

Region: aimsun1

Jan 2022 to Dec 2022



Region: aimsun2

Jan 2022 to Dec 2022



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Work is ongoing for the first risk models and evaluations due APR24

Work continues into 2025

Helping to set new methodologies and providing insight across urban centres



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THANK YOU!

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