Urban Data Challenge Definition Card

What is the challenge in a nutshell?

Collect data on road condition and Maintain. Predict maintenance.

Why is it important?

- huge cost to local authority (high asset)
- quality of journey
- vehicular damage

Why has it not been solved yet?

- lack of response to monitor all roads
- cost of monitors
- lack technology

What specific impact(s) could it have if solved?

- economic
- catching the issues before problem gets too severe + cost

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Urban Data Challenge Definition Card

What is the challenge in a nutshell?

Please express as verb / object / context – e.g. reduce / energy consumption / at home.

Connected individuals for improved real-time transport information.

Why is it important?

Please quantify/substantiate why the challenge is worth solving.

- Real-time data for "whole" journey

Why has it not been solved yet?

Please explain what makes this challenge difficult to solve.

- "New" technology can be heavily converge
- Increased public demand/expectation

What specific impact(s) could it have if solved?

Please quantify the potential business benefits and/or positive impacts for urban areas.

- Home to school buses (where are they)
- Include highly information (mix & forecast)
- Wider communication e.g. road signs
+ qualities

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[Signature]
Urban Data Challenge Definition Card

What is the challenge in a nutshell?

*Please express as verb / object / context – e.g. reduce / energy consumption / at home.*

Improve Urban investment decision making

Why is it important?

*Please quantify/substantiate why the challenge is worth solving.*

Improving city growth & quality of life. Investment gains & things

Why has it not been solved yet?

*Please explain what makes this challenge difficult to solve.*

Bad models and not data driven

What specific impact(s) could it have if solved?

*Please quantify the potential business benefits and/or positive impacts for urban areas.*

Find infrastructure & other investments through future growth & city value

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Urban Data Challenge Definition Card

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Better aggregation of real heat-loss data for dwellings and ground-truthing with other datasets.

Why is it important?

Please quantify/substantiate why the challenge is worth solving.

Energy suppliers have to spend a certain amount of money on ensuring energy efficiency of buildings.

Government needs to gather evidence to inform policy-making.

Carbon is not a useful metric as it is hard to measure and we're moving towards a zero-carbon society (hard to measure).

Why has it not been solved yet?

Please explain what makes this challenge difficult to solve.

Problem is very fragmented. The technology was previously not appreciated/known about and has now matured. Business case has become viable with social motivation and scalability of satellites.

What specific impact(s) could it have if solved?

Please quantify the potential business benefits and/or positive impacts for urban areas.

- More efficient housing stock. Less fuel poverty due to better application of insulation technology and improved regulation policy.
- New metric for regulation & energy use. "Real-time" analysis of best insulation trials/quality of work.
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Please express as verb / object / context - e.g. reduce / energy consumption / at home.

INEFFICIENT TRANSPORT OPERATIONS

Why is it important?

Please quantify/substantiate why the challenge is worth solving.

To reduce fuel, exhaust gases & no of vehicles needed

Why has it not been solved yet?

Please explain what makes this challenge difficult to solve.

Mkt Companies approached, stated they were looking at it!! Why not done!!

What specific impact(s) could it have if solved?

Please quantify the potential business benefits and/or positive impacts for urban areas.

Reduce congestion, more accurate passenger information, reduced vehicle use.

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Reduce congestion, more accurate passenger information, reduced vehicle use.

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What is the challenge in a nutshell?

Please express as verb / object / context – e.g. reduce / energy consumption / at home.

reduce traffic congestion in urban env.
in all cond. , inc. cycle usage
improve safety for URU's.

Why is it important?

Please quantify/substantiate why the challenge is worth solving.

reduce pollution
quality of life
reduce cost of business (£)

Why has it not been solved yet?

Please explain what makes this challenge difficult to solve.

unknown how to fuse the different
macro datasets with micro datasets
not enough micro / RT data collected

What specific impact(s) could it have if solved?

Please quantify the potential business benefits and/or positive impacts for urban areas.

people could be free to choose how / when or not to travel

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What is the challenge in a nutshell?

Please express as verb / object / context – e.g. reduce / energy consumption / at home.

Congestion – air pollution, loss of productivity, citizen inconvenience, safety

Why is it important?

Please quantify/substantiate why the challenge is worth solving.

Quality of life, environmental impact, cost to local economy, health

Why has it not been solved yet?

Please explain what makes this challenge difficult to solve.

Difficult to articulate full cost to any party. Nobody wants to pay

What specific impact(s) could it have if solved?

Please quantify the potential business benefits and/or positive impacts for urban areas.

Social and economic benefits, health benefits, obvious environmental benefits

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What is the challenge in a nutshell?

*Please express as verb/object/context – e.g. reduce/energy consumption/at home.*

The penalty for bad environment needs to have the powers to sort

Why is it important?

*Please quantify/substantiate why the challenge is worth solving.*

Congestion & bad air quality reduce quality of life

Why has it not been solved yet?

*Please explain what makes this challenge difficult to solve.*

Not joined up between env. quality & changes to motorist behaviour

What specific impact(s) could it have if solved?

*Please quantify the potential business benefits and/or positive impacts for urban areas.*

Reduced congestion; reduced health impacts.
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Why is it important?

Please quantify/substantiate why the challenge is worth solving.

Why has it not been solved yet?

Please explain what makes this challenge difficult to solve.

What specific impact(s) could it have if solved?

Please quantify the potential business benefit and/or positive impacts for urban areas.

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Urban Data Challenge Definition Card

What is the challenge in a nutshell?

Please express as verb / object / context – e.g. reduce / energy consumption / at home.

- Change in energy supply (decentralisation & micro grids), change in use & patterns.
- Impact of electric vehicles in cities & planning for them.

Why is it important?

Please quantify/substantiate why the challenge is worth solving.

- Prevent black outs & security of supply.
- Make sure environmentally friendly transport works.
- Currently difficult to predict impact of EVs.

Why has it not been solved yet?

Please explain what makes this challenge difficult to solve.

- Problem that now needs planning for EVs.
- Changing urban centralisation difficult to predict & plan for.
- Too many choices & not had the data yet.

What specific impact(s) could it have if solved?

Please quantify the potential business benefits and/or positive impacts for urban areas.

- Sustainable transport - AQ.
- Keep cities moving & cars charged.
- Resilience - more choices &

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What is the challenge in a nutshell?

- Electric Cars problem
  - Understanding + dealing with spikes to the grid
  - Storage + load problems
  - Generating on one place use in other

Why is it important?

- Preventing blackouts
  - Can sharing?
- Security of supply
- Big data / modelling to understand and mitigate

Why has it not been solved yet?

- We need to electric car ready
- Storage of electricity

What specific impact(s) could it have if solved?

- Can sharing
- Security + Resilience

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Urban Data Challenge Definition Card

What is the challenge in a nutshell?

Please express as verb / object / context - e.g. reduce / energy consumption / at home.
- Decentralisation of energy generation in UK
  - Includes distribution
  - Includes microgeneration

Why is it important?

Please quantify/substantiate why the challenge is worth solving.
- Resilience + contingency
- Meet Gov emission targets

Why has it not been solved yet?

Please explain what makes this challenge difficult to solve.
- Relies on weather and human behaviour
- We need to be electric car ready
- We can't yet store efficiently

What specific impact(s) could it have if solved?

Please quantify the potential business benefits and/or positive impacts for urban areas.
- Energy on demand when it's needed
- Lower emissions
- Natural grid
- Decentralisation
- Sharing the data with all the people in the system
- Big data challenge as the load mgt.
- Each home is a node in the system

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Why is it important?

Please quantify to substantiate why the challenge is worth solving.

Why has it not been solved yet?

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What specific impact(s) could it have if solved?

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