



Thanks very much for signing up for #HighwaysHack16.

This is the doc where we are recording the outputs from our open meeting.

We are starting with an open meeting to explore the questions that are most important to us all? who needs to be involved? what data is available now? and what data do we need to make open and available ? How do we need to collaborate?

Jonathon Ward wants to know why we are doing this?

HE:

Community & Citizens:

Businesses (Opportunities):

Travellers:

Partners?

Arup and Highways England, LCC, University

Not Here: Advocacy Groups (nope, a parish council in the lakes is represented),

Logistics, road user groups, Telco's.

[Masternaut](#) in Aberford maybe interested?

Organisations?

Highways England --

BAE -- applied intelligence

Nick -- North Yorks Council (A64 and some motorways)

Institute for Transport Studies

Clydesdale Bank (Senior Data Analyst)

Arup -- highways division but intelligent transport system

Urban Transport Group (PTEG) -- based in Leeds

RAC Foundation



Monolithic corporates who are collecting data related to our usage of road networks and other transport infrastructure (Uber? Google?)

Andy Bailey (evaluation and performance measurement).

Dan -- open data consultancy

Leeds City Council

Leeds University - Maths, Transport, LIDA (Robin Lovelace, Jonathan Ward)

WYCA - Metro

HE -

Microsoft - Marcus Robinson

AECOM

Lorna from IBM

(<http://www.appyparking.com/> are a direct product in the market with real-time data on parking availability crossing over multiple local authority data-sets - ...I've just been recommended the hack by someone but can't make it, sorry, saw this Doc and wanted to contribute - if you want to know more about Appy I'm friends with the CEO - joshua.artus@gmail.com...good luck!)

Datasets that people are using

Robin - Origin-destination (OD) data on travel patterns. Primary (open) source for this is 2011 Census: <http://wicid.ukdataservice.ac.uk/>

I used this as the basis of the Propensity to Cycle Tool (PCT) - the tool itself can be found here <http://pct.bike/> and a paper explaining how it works can be found here:

<http://arxiv.org/abs/1509.04425>

Challenges?

Lolu, Arup -- interested in real-time data to feed into models. Propensity to travel. **“When should I travel”** or **“Go go go”**.

Tom, Dan -- What are the flows by different modes of travel, how does that help us design or justify changes in cities?

Roadworks supply Data is less good than would be desired - there is a funnel of data where optional roadspace bookings are placed, that reduce down in time to the actual works on the



day. Advance data is difficult to get to a high level of quality as a result. Retrospective data is pretty good.

Autonomous road users - Investment models - density of roads - useage predictions-- where would we do best from investing in autonomous lorry travel?

Craig Morton - potential for a platooning tool which evaluates the form of the SRN (lane number, turn angle, on/off ramps, speed limit etc.) to evaluate where HGVs can operate in trains, where they cannot and where train length might need to be restricted. Could also be extended through real-time weather data and use levels to consider how this affects platooning.

Nighttime work as this is when we do our works.

“I’d be interested in data on specific routes” -- what exists? What could we add?

Leeds may have to introduce a Low Emission Zone which would have implications for logistics and freight operators in the city. It would be good to work with these operators to come up with any potential data based solutions to the challenge of restricting polluting vehicles (mainly HGVs and other diesel vehicles - but not cars)

Linkages to air quality

Questions?

Is this a regional thing? No this is a National project working with Highways England. We are already planning to extend what we do here to Birmingham, Bristol, and Exeter in Q1 2017.

Cameras, Cameras, Cameras.

Can we do consultation using data and can we use open techniques to capture it?

Do the cameras include number plate recognition?

Chris - we do have ANPR cameras on the network which are used for measuring journeys. These are anonymised and not currently available.



Data?

Highways England have some data on data.gov.uk -- 27 datasets --

<https://data.gov.uk/data/search?publisher=highways-england>

Average speed dataset. (Flow weighted vehicle feed, DfT) --

<https://www.gov.uk/government/statistical-data-sets/cgn02-flow-weighted-vehicle-speeds>

Measurement of traffic data is best on the PFI routes (because the payment is based on this measurement) -- there's a public database called TRADS but not clear how open that is. People are aware that it exists, from Arup.

"Some of our real time data gets pushed out into other places -- some of it already gets ported to Google" > **IS THERE AN API? IS THERE NOT AN API? WHAT IS THE API?** National Traffic Control Centre in Quinton takes care of this.

Live cameras are available.

Inventories (amount of steel used for example) exist but are not publicly available.

Post opening appraisals -- we come back to schemes we've delivered and see how well they works. Highways Agency not Highways England.

There's a registry of electric car charging points -- <http://www.national-charge-point-registry.uk/>

How about alternative fuel stations (e.g. gas) and their proximity to the highways network so that alternatively fuelled vehicles (particularly freight and logistics) can do journey planning efficiently?

RACF recently did this

(<http://www.racfoundation.org/media-centre/electric-charge-points-at-two-thirds-of-motorway-service-stations>)

"We don't own service stations or lorry parks" -- "Service stations must not be a destination" ← this is a planning rule.

Leeds CC publishes the traffic orders for Leeds. >

<http://leedsdatamill.org/dataset/leeds-traffic-orders>



Roads Accidents data (DfT publish this) (<https://data.gov.uk/dataset/road-accidents-safety-data> ?)

Leeds accident data > <http://leedsdatamill.org/dataset/road-traffic-accidents> LCC also has access to data from other local authorities in West Yorkshire.

Can HE encourage self management of the network, Journey management and analytics, - what data would drive this ? what data would we need. UCheck - Google Travel Matrix & Transport API,

Leeds Uni ITS have two great datasets on what type of vehicles are registered where and how are they used. *"Do highways england have any data that could add to this?"*

HE are about to deploy a nationwide network of Air Quality Sensors across the strategic road network.

HE do have road temperature sensor data: could be combined with weather station data to assist with extreme weather planning and monitoring climate change

Could HE share their KPI's and corporate objectives:

<https://www.gov.uk/government/publications/highways-england-delivery-plan-2015-2020>

Does HE have predictions and models of future traffic use that could be shared,

Robin - just found an FOI request led to the release of the SRN shapefile data:

https://www.whatdotheyknow.com/request/highways_england_road_network

Read into R with:

```
u =
```

```
"https://www.whatdotheyknow.com/request/286920/response/707141/attach/3/HAPMS%2020150914.zip"
```

```
download.file(u, destfile = "srn.zip")
```

```
unzip("srn.zip")
```

```
srn = read_shape("Network.shp")
```

You can also order an up to date shapefile of the SRN from

geographic_information@highwaysengland.co.uk



Pavement survey data.

What Other Data do we want?

Origin to destination data - HE buy Traffic Master data,

Robin wants Average speed data: New sources of OD data, e.g. derived from mobile telephone service providers or regional transport models would be really useful for updating this model and allow it to include other (or all) trip purposes.

Will there be someone from HE there to discuss Webtris (the new 15 minute data service)?

Road speeds and volume data would be really useful for prioritising investment in new infrastructure. Count data (from loops and cameras) across the parts of the SRN and feeder roads that can be cycled would be really useful.

Leeds traffic count data > <http://leedsdatamill.org/dataset/leeds-annual-traffic-growth>

Historic potholes data > <http://leedsdatamill.org/dataset/historic-potholes-data>

Traffic signals in Leeds > <http://leedsdatamill.org/dataset/traffic-signals-in-leeds>

Historic roadworks in Leeds > <http://leedsdatamill.org/dataset/historic-roadworks>

Primary gritting routes > <http://leedsdatamill.org/dataset/primary-gritting-routes>

Infrastructure Information & Data location and spend data relating to spend & cost.

Leeds ITS -- "I was trying to look at the effectiveness of road calming measures -- but there was no information on when speed limits changed or when they began".

There is a database of planned development near the motorway. There is a database of when every bit of surface went down ("which we can more or less figure out how much it would cost from").-- This includes widening etc...

"If someone asked me under the environmental regs for our new pollution monitoring stuff we'd have to give it to them". Highways England are going to roll out lots of new air quality sensors now.

Can we see the FOI requests that are made to HE.



Chris - Some of our responses can be viewed here:

https://www.whatdotheyknow.com/body/highways_england

Others available via our [gov.uk page](#) I have asked for quarterly summaries of all FOI requests received to be published on our gov.uk page. Lists for requests received January - June will be in place before our event in October.

We would like a common dataset of street works!! (Highways England would like this too)

What happens next?

Innovation challenge end of October 2016 @ODI Leeds, follow up in Q1 2017 at each of HE locations - Leeds, Birmingham, Guildford and Bristol.

Opportunities

<http://www.bbc.co.uk/news/business-37644577>

https://www.researchgate.net/publication/309121744_Is_Open_Transport_Data_driving_the_Economy_A_Comparative_Analysis_of_Mobile_Mobility_Applications_in_the_Transport_Sector

Cost Savings.