Humber Acute Services

Applying Geospatial Modelling to Paint the Picture for System Transformation

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The Humber Acute Services Programme aims to deliver new models of care and infrastructure investment across a challenged health and care system

- Delivery of Constitutional Standards
- Complex population health needs
- Unwarranted variation in pathways of care
- Tactical plans
- Ageing and failing infrastructure: buildings/digital
- Do not deliver College/National Guidance/standards
- Recruitment and retention issues

Programme 2: Core Service Change

- Urgent and Emergency Care
- Maternity/Paediatrics and Neonatal
- Planned Care

Programme 3: Strategic Capital

- SGH £350m
- HRI £250m
- DPoW £120m

£720m

- Improved access/outcomes and reduced waiting times
- Standardised service models
- Increased use of technology
- Increased collaboration – cross organisation/sector
- Build local skills and contribute to local economy
- Optimise training opportunities and new skills
- Fulfil our role as Anchor Organisations and in Levelling Up

SCW

We have followed a rigorous process to develop our potential future models of care

Clinical Design:
- 850 attendees at workshop programme (NHSE/I Facilitated)
- Out of hospital programme mapping
- ODN Reviews
- College engagement

Engagement:
- 5 major surveys – c 7,800 responses
- Focus groups – incl Local Councillors
- Citizens Panel
- Staff: Events/Surveys/Newsletters/Briefings
- Trades Unions
- Neighbouring health economies

Assurance:
- NHSE/I monthly reviews
- OSCs – Quarterly
- the Consultation Institute
- Regional UEC Network
- GiRFT: Planned Care

Collaboration:
- Committees in Common
- Strategic Capital Advisory Group
- Emerging Place Based Boards
- Collaboration of Acute Providers

Approach recognised as having many "exemplars" of best practice

OSCs have agreed "Engagement" approach to end of November 2021

Comprehensive understanding of "What matters" to individuals – has shaped approach to evaluation

Comprehensive pathways of care developed – with identification of benefits/resource requirements

Dynamic feedback process has enabled the team to adjust approach and refocus as appropriate

To deliver on our objective we need to ensure that we make optimal use of data and Geospatial analytics

Complex Geography: Deprivation/Coastal/Rural/Urban /Health Inequalities

Workforce: Travel times/Transport Options

Patient access: Emergency transport times

Patient access: Public transport

Travel and carbon

How did SCW Geospatial support HASR?

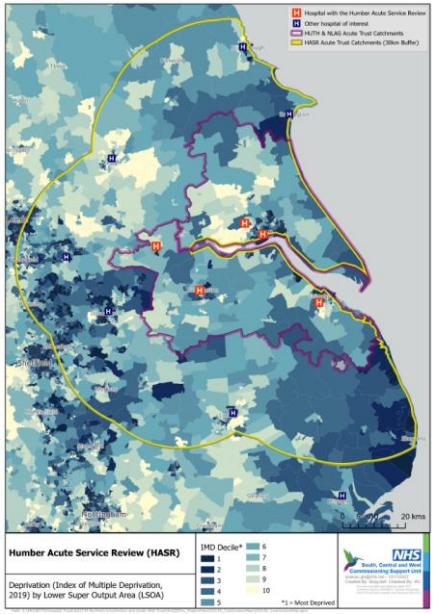
1. PCBC support.

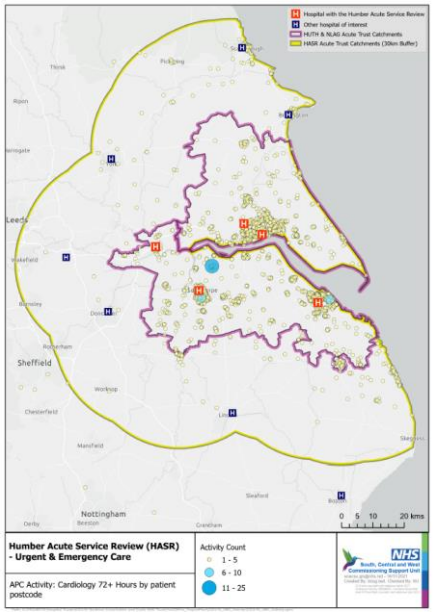
- Show context to the HASR programme
- Visual accessibity and equalities for patients / staff
- Visualise patient activity for the three workstreams:
  - UEC, Maternity, Planned Care
- Future state - Visualise the travel impact for future site combinations across the workstreams

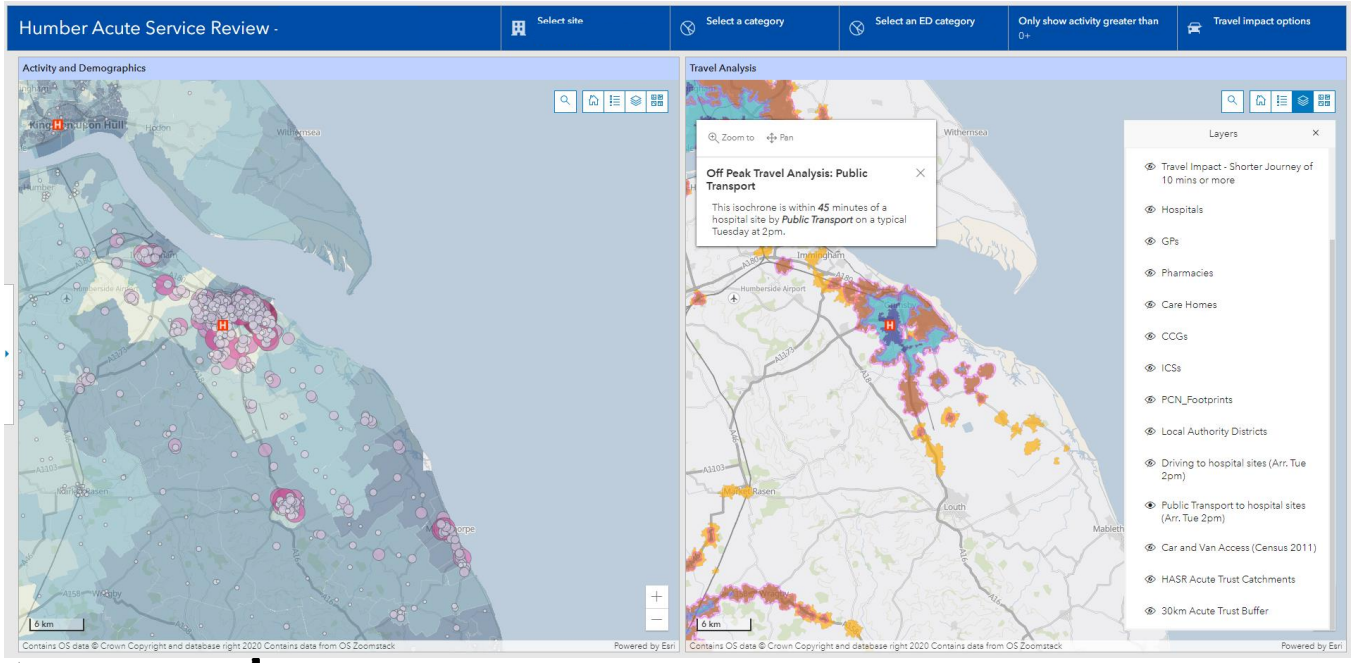
2. Build online solutions to be used by programme leads / senior staff to enable engagement and decision making.

What did we do?

- Context mapping
- Activity mapping
- Decision making tools



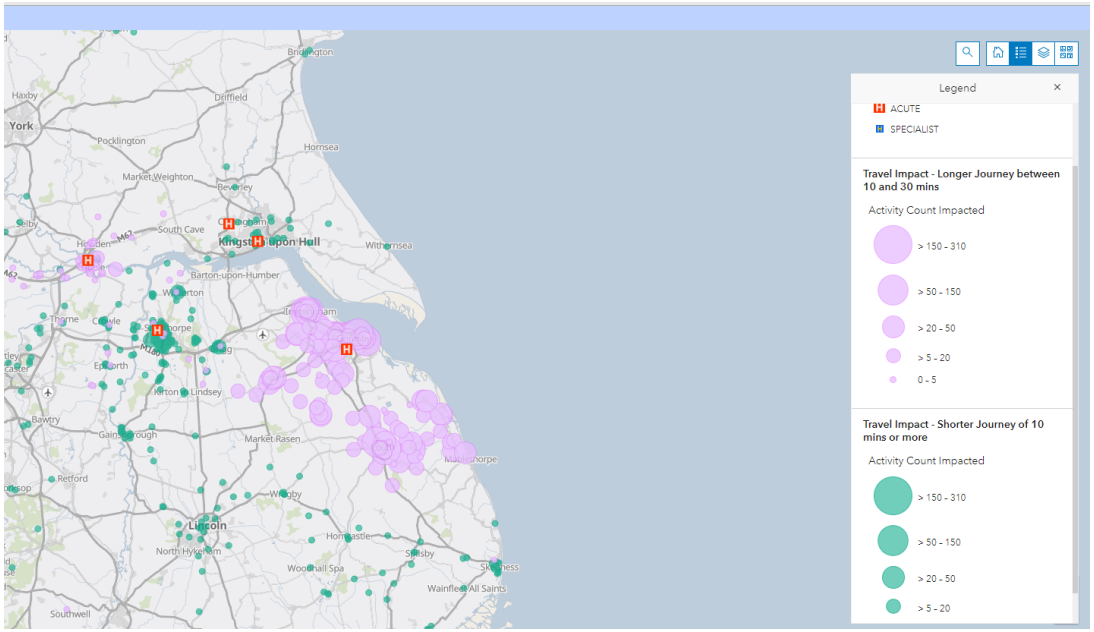


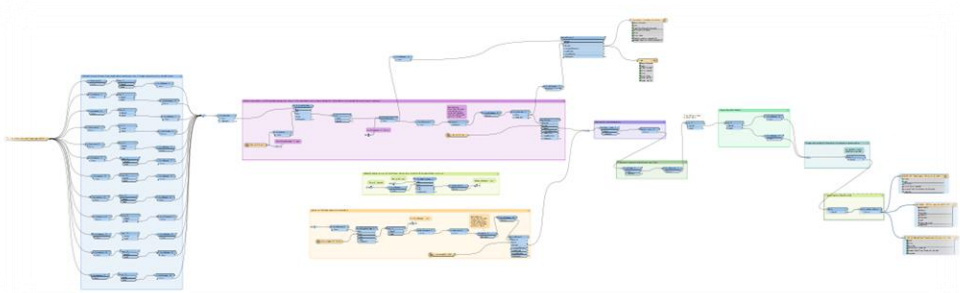


What did we do – Site options – Travel / Carbon miles

1. Site reconfigurations – patient travel impact

2. Carbon miles impact of the reconfiguration





Total Travel Time (mins)	1,933,099.3	2,069,087.9	2,094,431.7	2,171,520.0	2,199,166.7	2,366,189.4	2,367,438.1
Average Travel Time per Activity (mins)	22.6	24.2	24.5	25.4	25.7	27.6	27.6
Total Carbon Emission (kg of CO2)	269,510.8	299,138.8	314,294.6	322,344.7	343,989.5	329,665.6	385,707.5
Average Carbon Emission per Activity (kg of CO2)	3.1	3.5	3.7	3.8	4.0	3.8	4.5

	Activity	Model 1i	Model 1ii	Model 2i	Model 2ii	Model 3i	Model 3ii
Total Travel Time Change (mins)	-	135,967.5	161,570.4	238,395.7	266,407.2	433,044.3	435,197.1
Average Travel Time Change per Activity (mins)	-	1.6	1.9	2.8	3.1	5.1	5.1
Average Travel Time Change per Activity (mins) (excluding the activity which did not change)	-	1.7	2.0	3.2	3.5	6.6	6.5
Total Carbon Emission Change (kg of CO2)	-	29,628.2	44,783.9	52,834.2	74,479.1	60,149.5	116,196.7
Average Carbon Emission Change per Activity (kg of CO2)	-	0.3	0.5	0.6	0.9	0.7	1.4
Average Carbon Emission Change per Activity (kg of CO2) (excluding the activity which did not change)	-	0.4	0.6	0.7	1.0	0.9	1.7

Total Activity Impacted (excluding the activity which did not have a change / unrouteable)	-	79,630	79,100	75,398	75,294	65,887	66,517
Total Activity	85,628	85,628	85,628	85,628	85,628	85,628	85,628

Benefit to the Programme and where are we today?

Benefits:

- Brings data to life and gives context
- Gives clarity to complex data
- Provides evidence to support decisions
- Engages providers and administrators in deep dive discussions
- Helps formulate desired outcomes

Benefit to the Programme and where are we today?

Where are we today?

- PCBC …
- Next steps ……