TRUUD
Tackling Root Causes Upstream of
Unhealthy Urban Development

UK Prevention Research Partnership

UKPRP
Prevention Research Partnership

Critical research management for complex problems

Lessons learned in establishing a major research programme aimed at addressing unhealthy urban development

Crowdhelix
COLLABORATION INTELLIGENCE

Crowdhelix Research and Technology Organisations & Corporate Members' Event
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Contents

1. **Overview of project & funders**

2. **Foundational understandings** (& implications for research management)

3. **Critical reflections** (example case study management challenges for projects like this)

Projects 'like this'?

- ❑ Large number of researchers / stakeholders
- ❑ Mission-oriented (socio-economic impact)
- ❑ Inter/trans-disciplinary
- ❑ Co-produced/emergent

About

TRUUD + UKPRP

UK Prevention Research Partnership

is a £50 million multi-funder initiative that supports novel research into the primary prevention of non-communicable diseases to improve population health and reduce health inequalities.
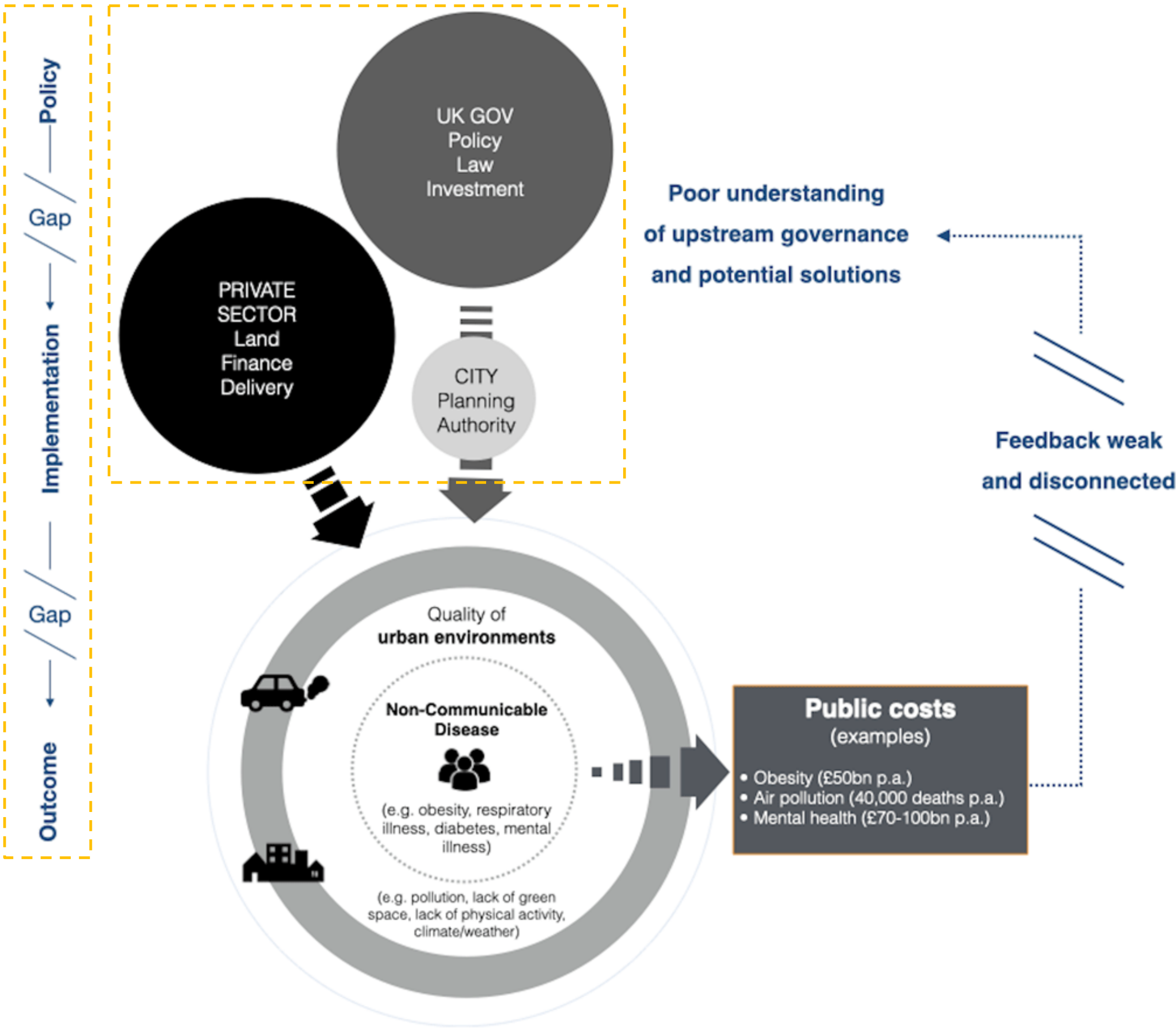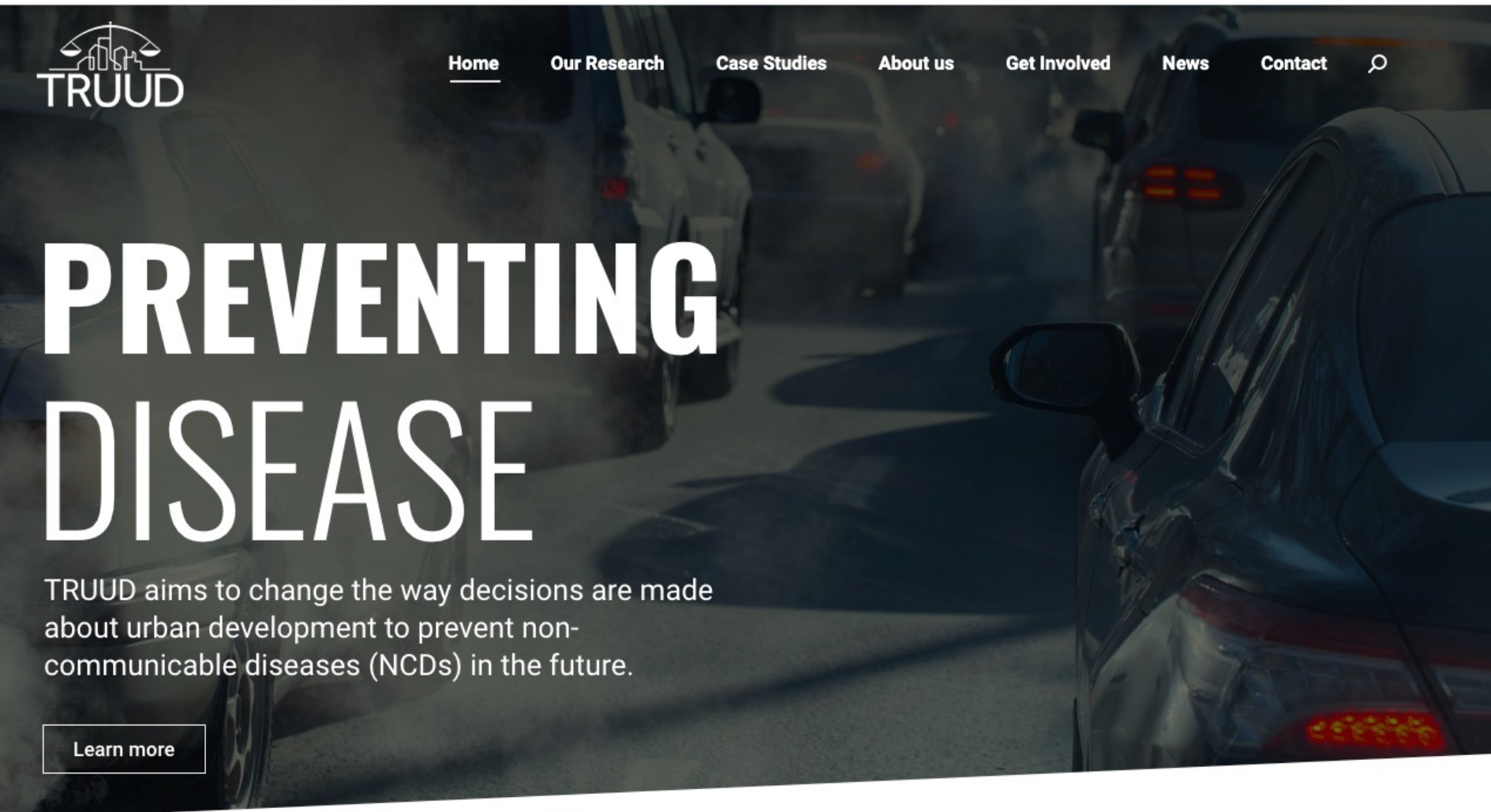
CALL CRITERIA

- "*New approaches* to population health research" (going *beyond 'traditional'*)
- *Whole* systems
- *Interdisciplinary*
- Multiple '*upstream*' actions

- *Co-creation* with *end users*
- '*Knowledge brokers*' key
- Solutions/societal impact (changes in *policy and practice*)

TRUUD 'grand mission':
To enable a paradigm shift in how health is valued and integrated at root-cause decision-making points in the urban planning and development sectors
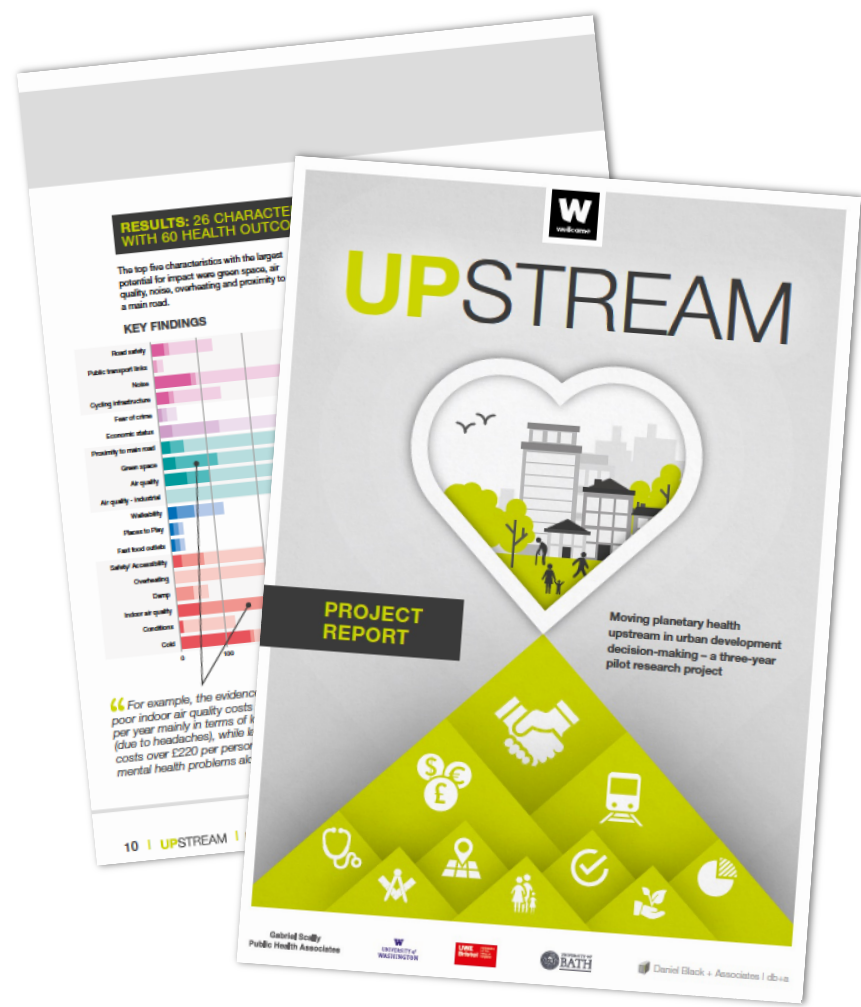**Mechanism (how):**
By developing and testing a multi-action intervention in two main sub-sectors: transport and property

PREVENTING DISEASE

TRUUD aims to change the way decisions are made about urban development to prevent non-communicable diseases (NCDs) in the future.

Learn more

Home   Our Research   Case Studies   About us   Get Involved   News   Contact

Credit: Steve Melia

UK GOV
Policy
Law
Investment

PRIVATE SECTOR
Land
Finance
Delivery

CITY
Planning
Authority

Policy
Gap
Implementation
Gap
Outcome

Poor understanding of upstream governance and potential solutions

Feedback weak and disconnected

Quality of **urban environments**

Non-Communicable Disease

(e.g. obesity, respiratory illness, diabetes, mental illness)

(e.g. pollution, lack of green space, lack of physical activity, climate/weather)

Public costs
(examples)

• Obesity (£50bn p.a.)
• Air pollution (40,000 deaths p.a.)
• Mental health (£70-100bn p.a.)

University of BRISTOL

UNIVERSITY OF BATH

UWE Bristol   University of the West of England

MANCHESTER 1824   The University of Manchester

University of Reading

UNIVERSITY of STIRLING

www.truud.ac.uk

Black D et al (2022) **Study Protocol | Tackling Root Causes Upstream of Unhealthy Urban Development (TRUUD): Protocol of a five-year prevention research consortium.** Wellcome Open Access. https://wellcomeopenresearch.org/articles/6-30

BRISTOL CITY COUNCIL

GMCA   GREATER MANCHESTER COMBINED AUTHORITY

Engaging policy-makers & practitioners

Policy-makers & practitioners

Current advisors, stakeholders – recruitment ongoing…

TRUUD

Julia Goldsworthy (Chair)
Director of Strategy
West Midlands Combined Authority
Read more ▸

Stephen Aldridge
Director for Analysis & Data
Ministry of Housing Development & Local Government
Read more ▸

Dan Bristow
Director of Policy & Practice
Wales Centre for Public Policy
Read more ▸

Nancy Edwards
Professor Emeritus
School of Nursing
University of Ottawa
Read more ▸

Nicola Kane
Head of Strategic Planning, Insight and Innovation
Transport for Greater Manchester
Read more ▸

Halima Khan
Executive Director
Communities & Skills
Mayor of London/London Assembly
Read more ▸

Richard Meier
Co-Founder & CEO
Stories
Read more ▸

Victoria Ofovbe
Public Contributor
Read more ▸

Sunand Prasad
Principal
Penoyre & Prasad Architects
Read more ▸

Mark Sandford
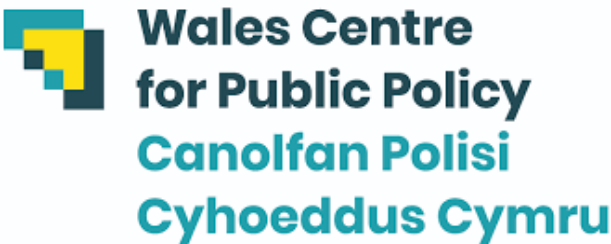Senior Research Analyst
House of Commons
Read more ▸

Abigail Stratford
Head of Regeneration
Bristol City Council
Read more ▸

Richard Upton
Chief Development Officer
U+I
Read more ▸

LOCAL GOVERMENT

BRISTOL CITY COUNCIL

Transport for Greater Manchester

GMCA GREATER MANCHESTER COMBINED AUTHORITY

NATIONAL GOVERMENT

Department for Levelling Up, Housing & Communities

HOUSE OF COMMONS LIBRARY

Office for Health Improvement & Disparities

DEVOLVED / REGIONAL GOVERMENT

Wales Centre for Public Policy
Canolfan Polisi Cyhoeddus Cymru

West Midlands Combined Authority

ACADEMIC

uOttawa

INDUSTRY MEMBERSHIP / THIRD SECTOR

ULI Urban Land Institute

UK GBC

RTPI Royal Town Planning Institute

tcpa

INDUSTRY
(developers, architect)

stories_

u+i

Penoyre & Prasad

Community engagement

UPSTREAM

https://urban-health-upstream.info/

TRUUD
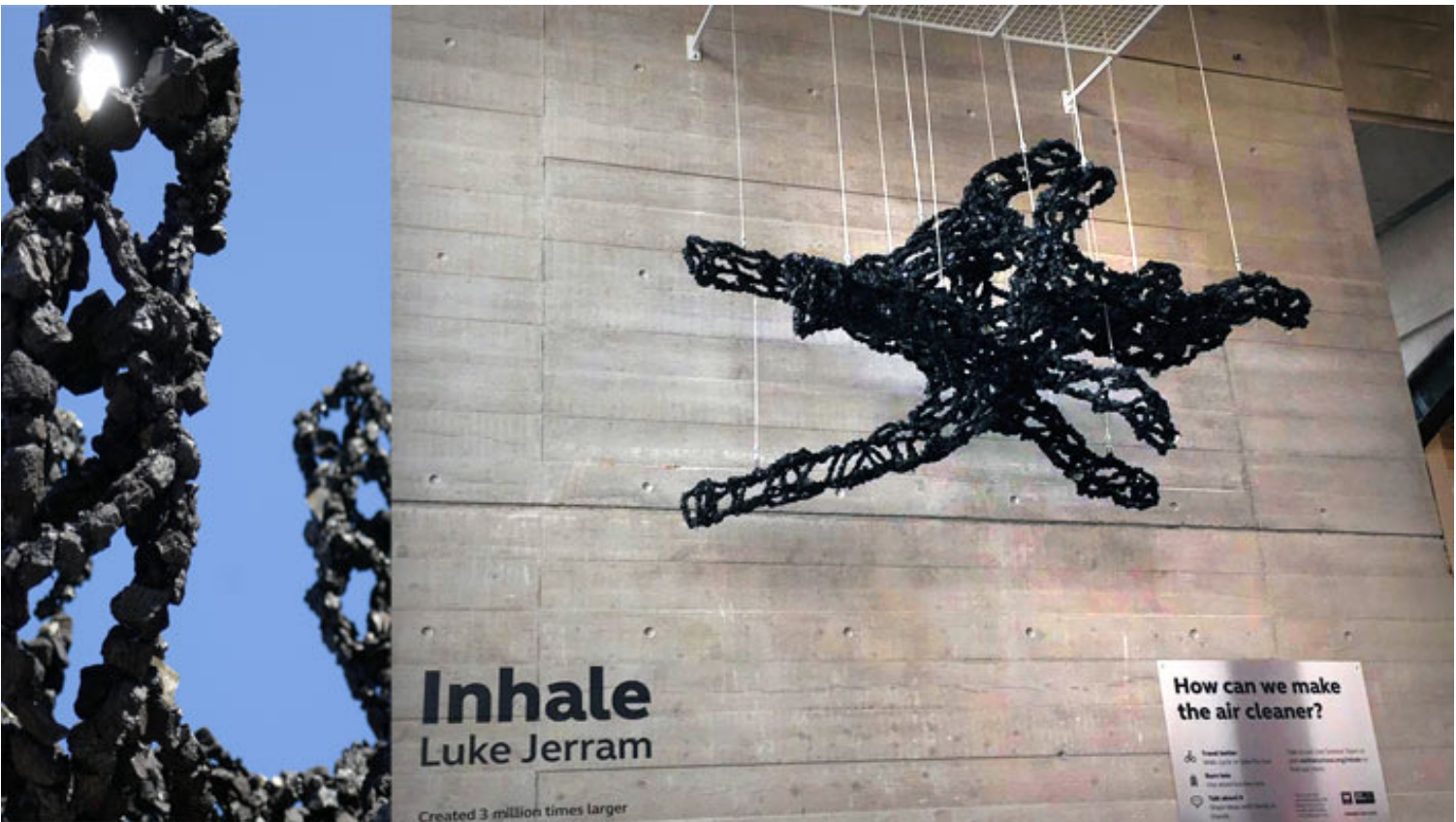
Aim: to 'transcend' existing consultation practice in urban development
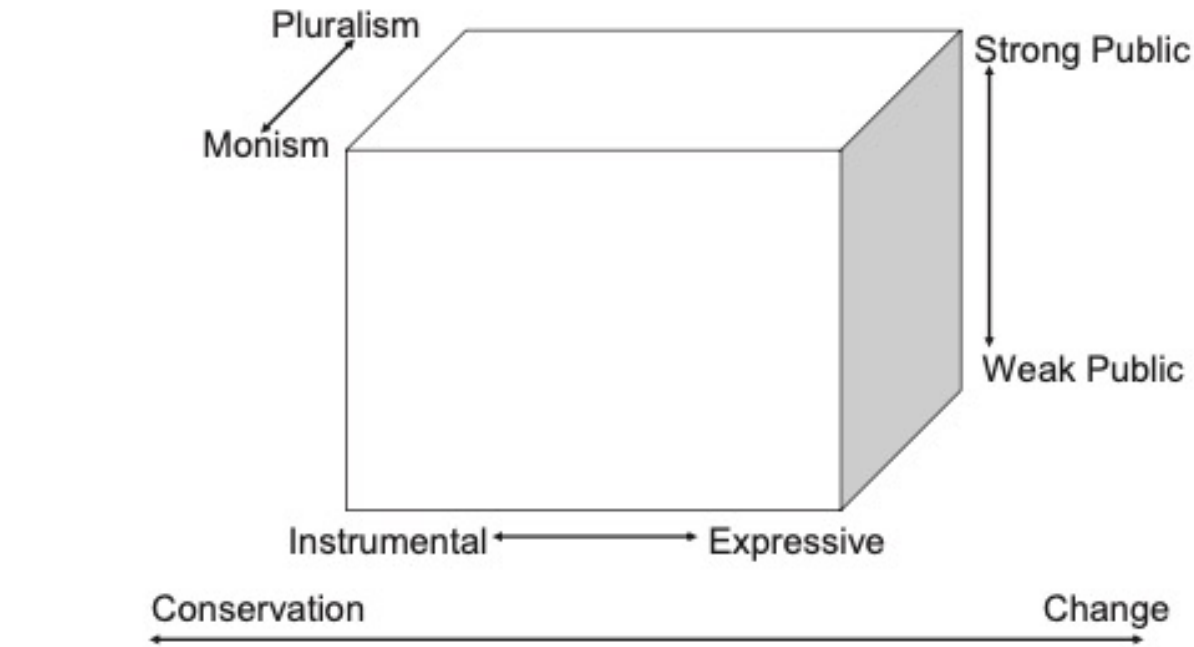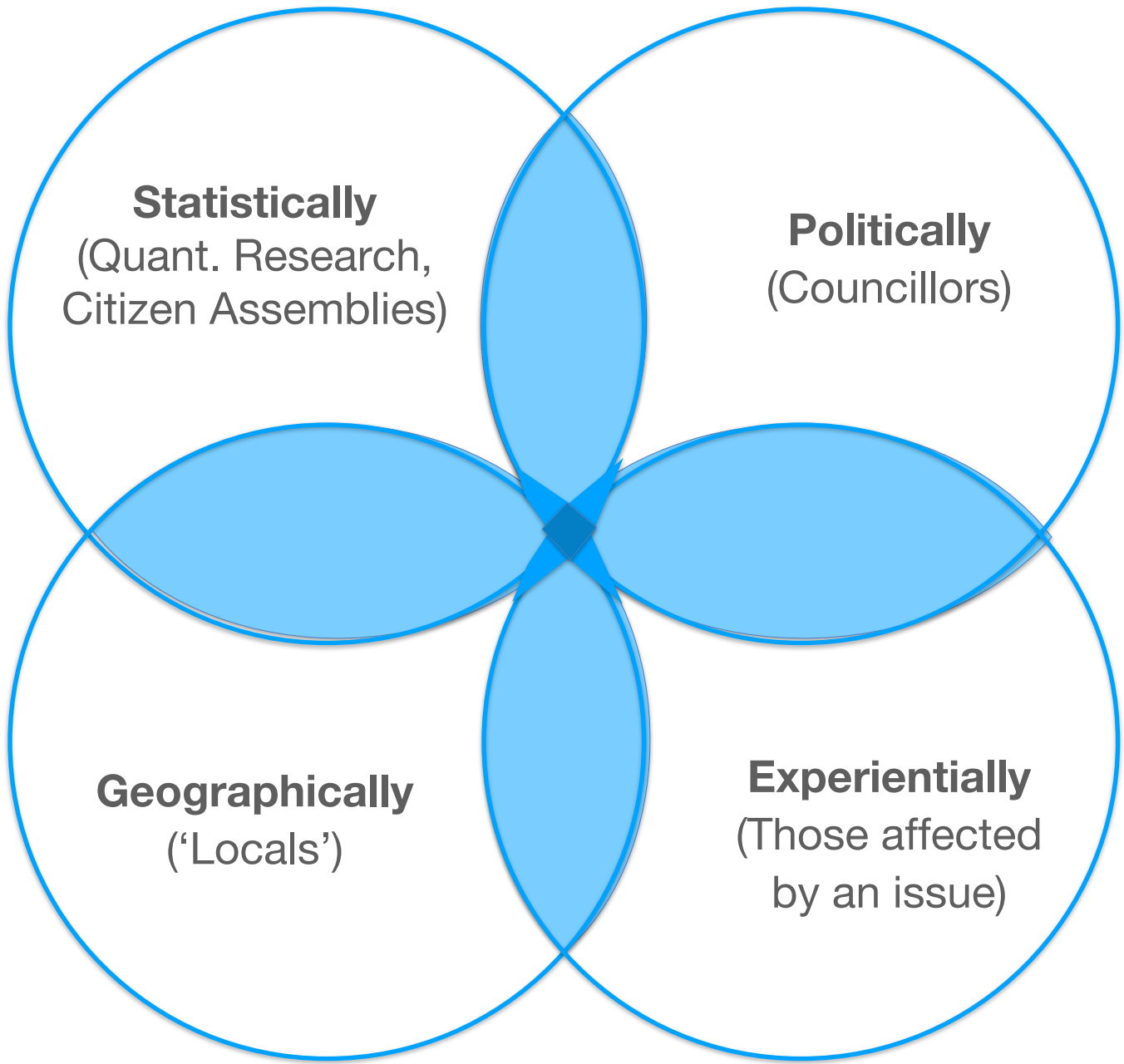
Initial community representatives leading to…..

L [Live Well : Make Art]

KNOWLE WEST MEDIA CENTRE

Public Advisory Group (x6)

Inhale
Luke Jerram
Created 3 million times larger

How can we make
the air cleaner?

Statistically
(Quant. Research,
Citizen Assemblies)

Politically
(Councillors)

Geographically
('Locals')

Experientially
(Those affected
by an issue)

Pluralism

Monism

Strong Public

Weak Public

Instrumental ← → Expressive

Conservation   Change

Figure 1. A four dimensional view of knowledge spaces

Gibson A, Britten N, Lynch, J (2012) *Theoretical directions for an emancipatory concept of patient and public involvement.* Health. Sage.

Methods

Interviews
- 30 pilot interviews
- 127 interviews
- Purposive, snow-ball sampling (Phase 1)
- Large-group TD design and analysis

Workshops (x4 in Phase 1)
- Participatory mapping
- Causal loop diagrams

Economic valuation (environmental, health)
- Systematic reviews (urban-health evidence)
- Agent-based modelling
- GIS/Quality Outcomes Framework
- Database/tool development
- Testing and refining on case study projects

Intervention identification
- MRC Complex Intervention Framework
- Bespoke TRUUD Template
- Iterative, participatory selection

Phase II
- Emergent (participatory co-design)

Identified problem areas

National Govt: e.g.
Lack of: integration (health compartmentalised), comparable evidence, funding/long-term thinking/investment

Local Govt: e.g.
Resource, agency, lack of evidence

Private sector: e.g.
Dominant property delivery models, investment risk appetite, lack of incentives, short-termism

Third: e.g.
Land control/value, 'hope value', tax arrangements

Law: e.g.
Power asymmetry, resultant risk aversion, siloed legislation, systemic inertia

50 Areas of potential intervention identified

8 INTERVENTION AREAS TAKEN FORWARD

1. Corporate decision-making
2. Real estate investment
3. National government policy
4. Design coding
5. City-region transport KPIs
6. Large-scale property – spatial plans
7. Law (legal capacity – local govt)
8. Public engagement (digital tools)

Foundational understandings

(Implications for research management)

"despite its promise and many excellent individual examples, **most interdisciplinary research remains at the academic margins,** largely because understanding about such investigations is fragmented"
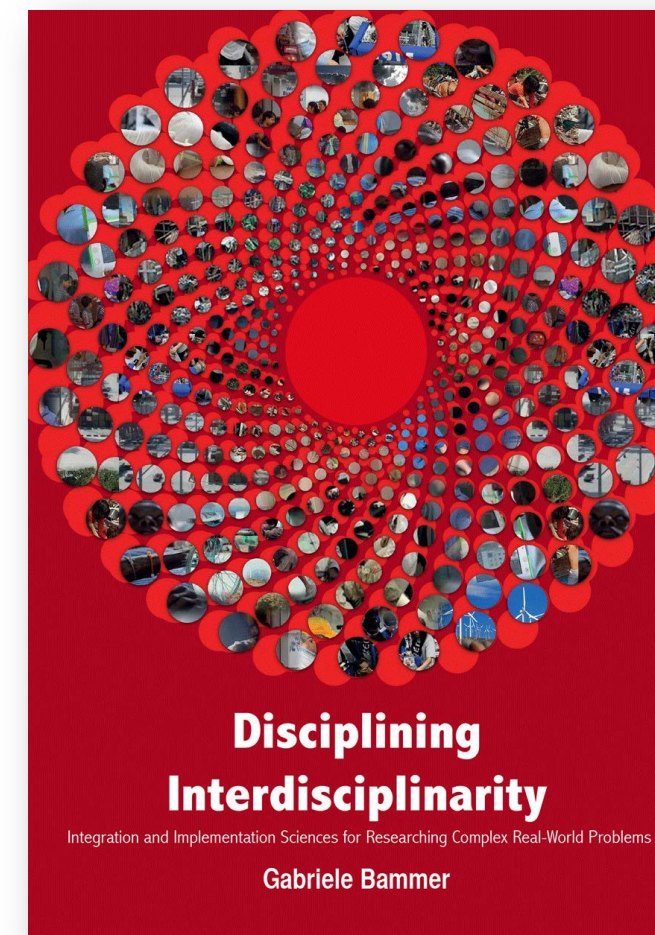
(Bammer G, 2013)

"so far there is only limited understanding of the enabling conditions, challenges, lessons, and tools for inter-disciplinary research…

…increasing our understanding of how to effectively design and deliver interdisciplinary research is crucial…"

(Brown R, 2019)

"not constrained by an unduly limited set of perspectives and approaches (and which should include) methods and perspectives where experience is still quite limited"
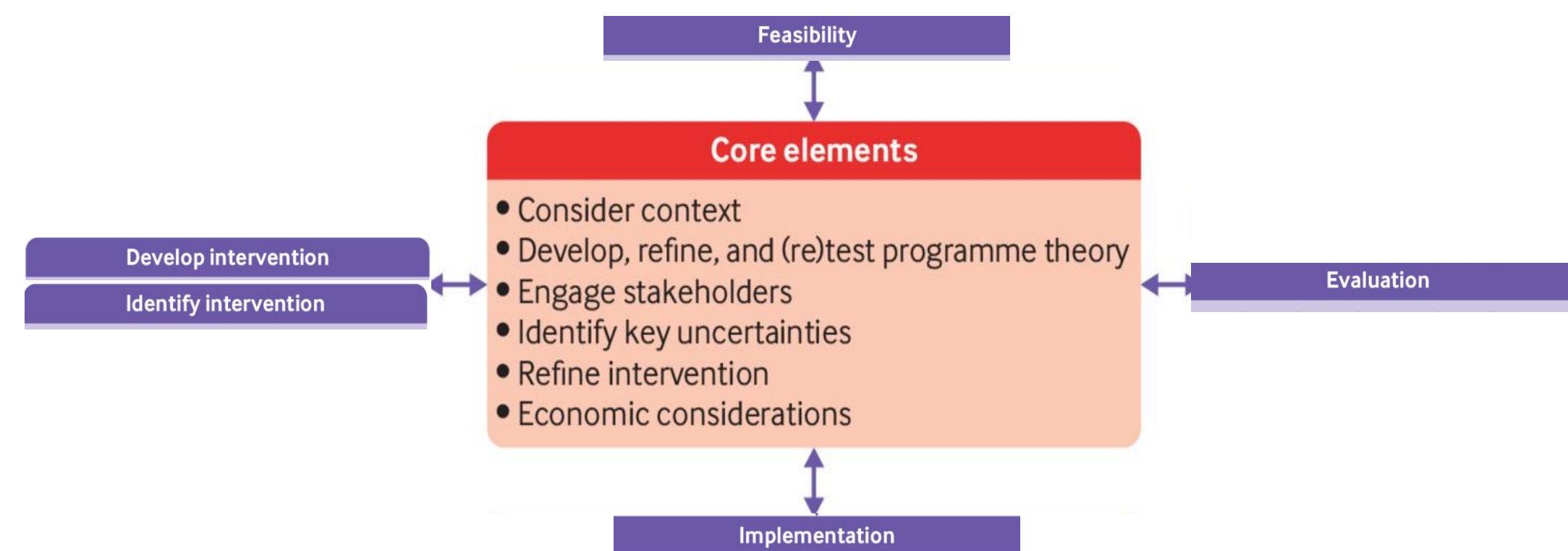
(Skivington et al, 2022)

Bammer G (2013) **Disciplining Interdisciplinarity: Integration and Implementation Sciences for Researching Complex Real-World Problems.** *ANU Press.*

Brown et al (2019) **Interdisciplinary Research and Impact.** *Wiley.* Global Challenges.

Black et al (2019) **Moving Health Upstream in Urban Development: Reflections on the Operationalization of a Transdisciplinary Case Study**. *Wiley.* Global Challenges.

Skivington et al (2021) **A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance**. Research Methods and Reporting. *BMJ.*

	Developmental	Conceptual	Implementation	Translational
Primary goal	Establish a shared understanding of the scientific or societal problem space of interest—including what concepts fall inside and outside its boundaries—and mission of the group	Develop novel research questions or hypotheses, a conceptual framework, and a research design that integrate and extend approaches from multiple disciplines and fields	Launch, conduct, and refine the planned TD research	Apply research findings to advance progress toward developing innovative solutions to real-world problems, as appropriate to the level of science at which the research is conducted
Team type(s)	• Network	• Emerging team	• Real team	• Adapted team
	• Working group	• Evolving team		• New team
	• Advisory group			
	• Emerging team			
Key team processes	• Generate a shared mission and goals	• Create a shared mental model	• Develop compositional, taskwork, and teamwork transactive memory	• Adapt the team, as needed, to address translational opportunities
	• Develop critical awareness	• Generate shared language	• Conflict management	• Generate shared goals for the translational endeavor
	• Externalize group cognition	• Develop compilational transactive memory	• Team learning	• Develop shared understandings of how these goals will be pursued
	• Develop a group environment of psychological safety	• Develop a team TD ethic		

Management/admin support needed:

- Governance expertise
- Management expertise
- Communications
- Graphic design / data visualisation

And all need time (i.e. funding)

Examples

Critical reflections

Research operationalisation

based on

foundational understandings

FOUNDATIONAL UNDERSTANDINGS

1. Systems, Unknowns, and Imperfection
2. ID/TD Understandings
3. Context and Stakeholder Knowledge
4. Identifying and responding to values
5. Societal Impact

OPERATIONAL UNDERSTANDINGS

1. Project Understandings and Direction
2. Team Cohesion
3. Communications
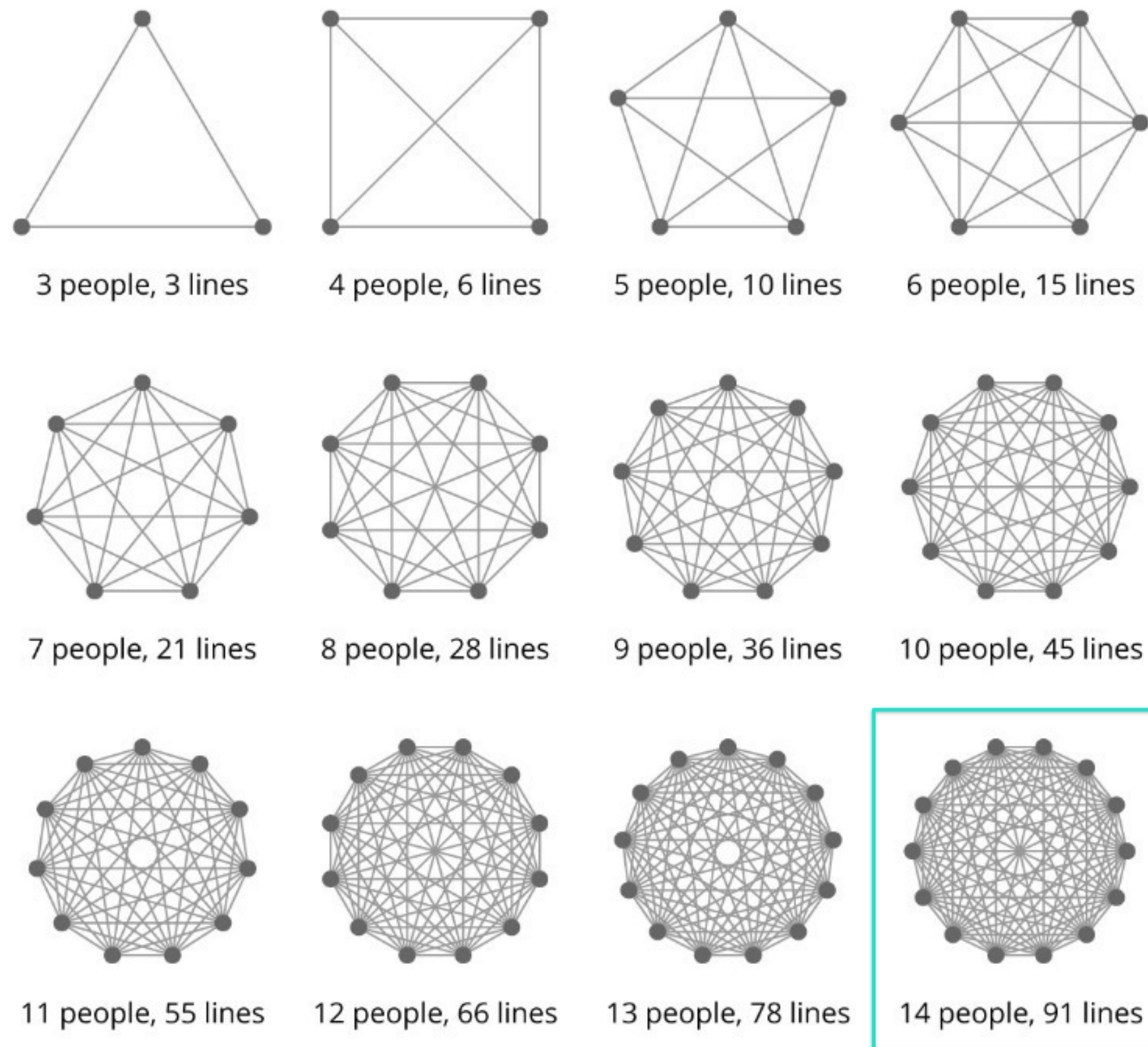4. Decision-making
5. Methods Development

"Psychological safety"

E.g. Taylor J, Collins D and Ashford M (2022) **Psychological Safety in High-Performance Sport: Contextually Applicable?** Front. Sports Act. Living 4:823488. doi: 10.3389/fspor.2022.823488

Black D, Bates G, Ayres S, Bondy K, Callway R, Carhart N, Coggon J, Gibson A, Hunt A (2022) **Operationalising a large research programme tackling complex urban and planetary health problems: a case study approach to critical reflection.** Sustainability. [Under Review]

Example output: Different researchers and disciplines work in different ways
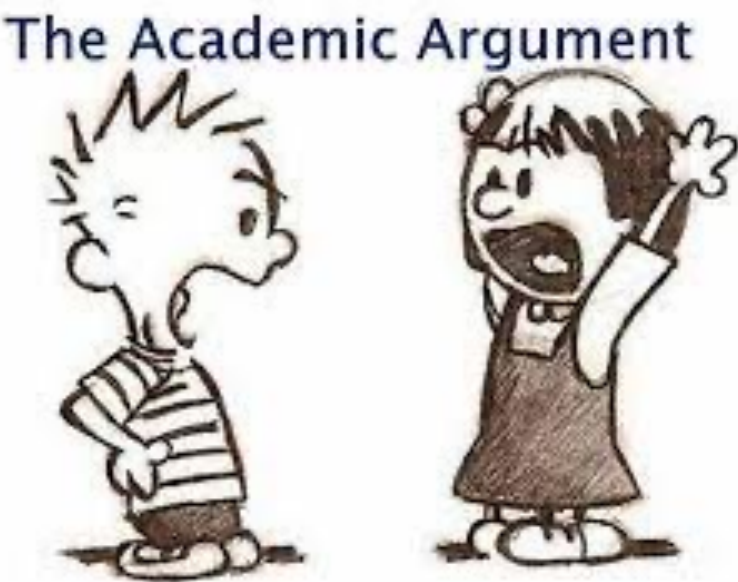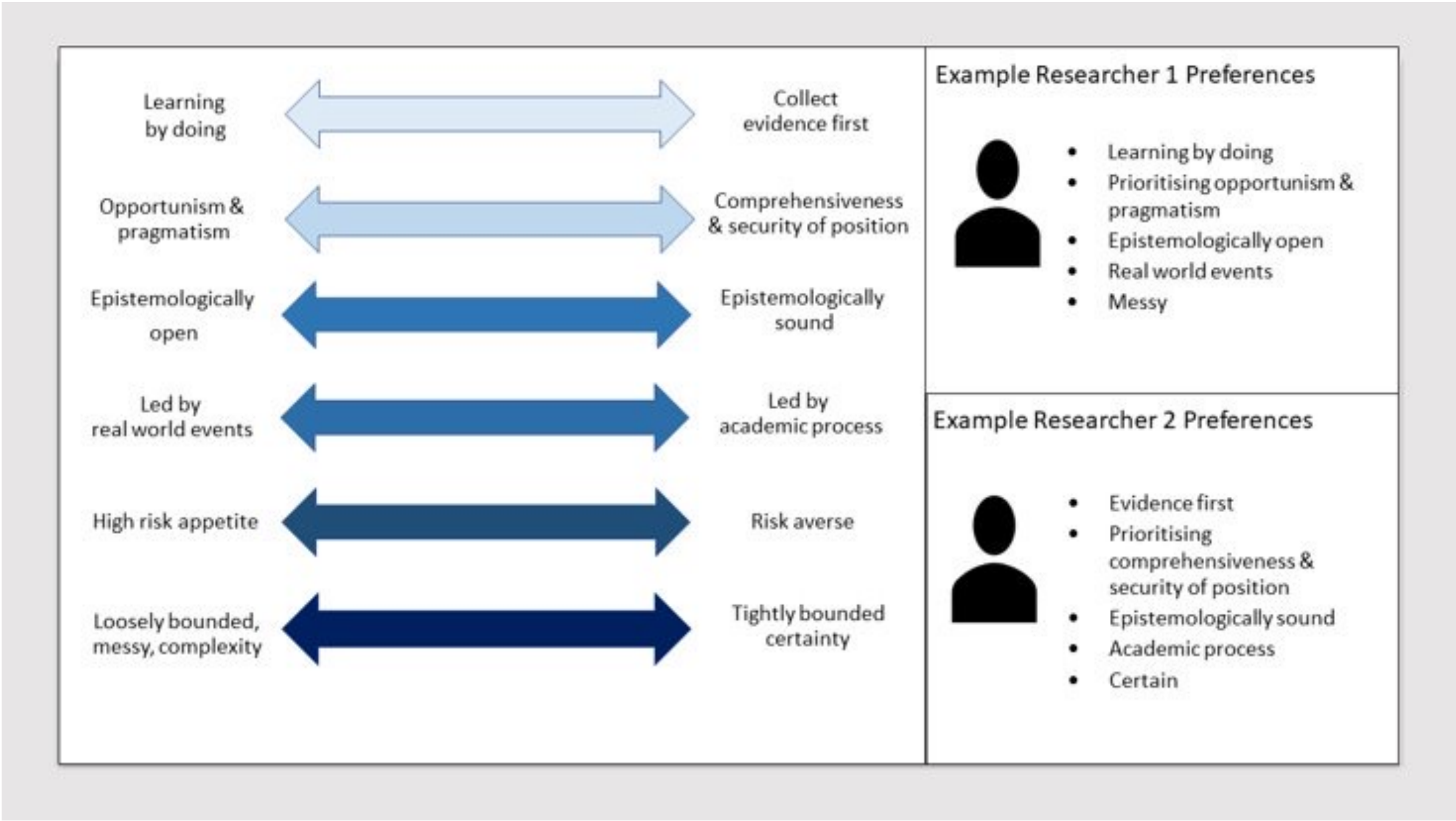
"Psychological safety"

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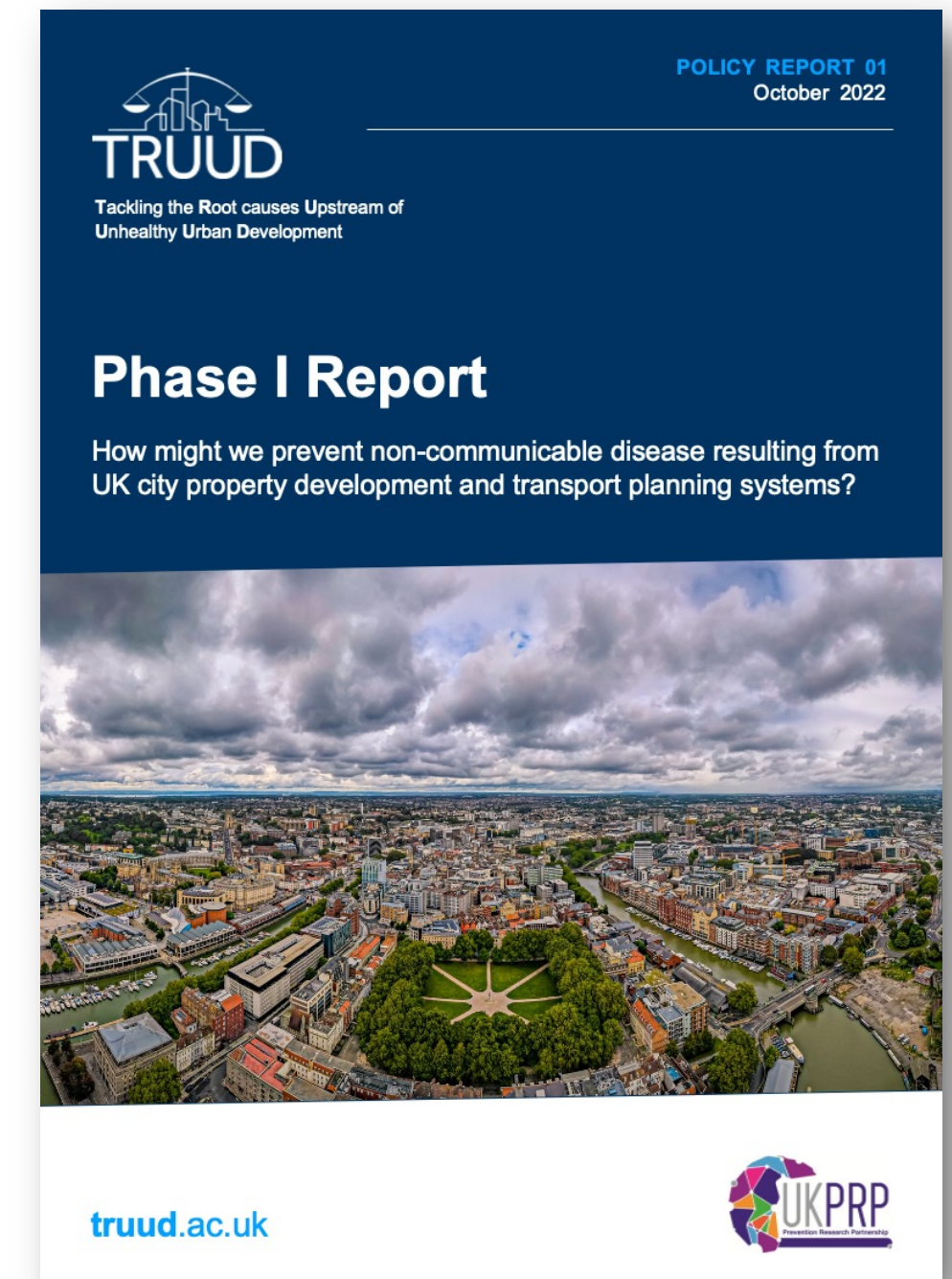
INSciTS | Building the knowledge base for effective team science
International Network for the Science of Team Science

TRUUD

3 people, 3 lines 4 people, 6 lines 5 people, 10 lines 6 people, 15 lines

7 people, 21 lines 8 people, 28 lines 9 people, 36 lines 10 people, 45 lines

11 people, 55 lines 12 people, 66 lines 13 people, 78 lines 14 people, 91 lines
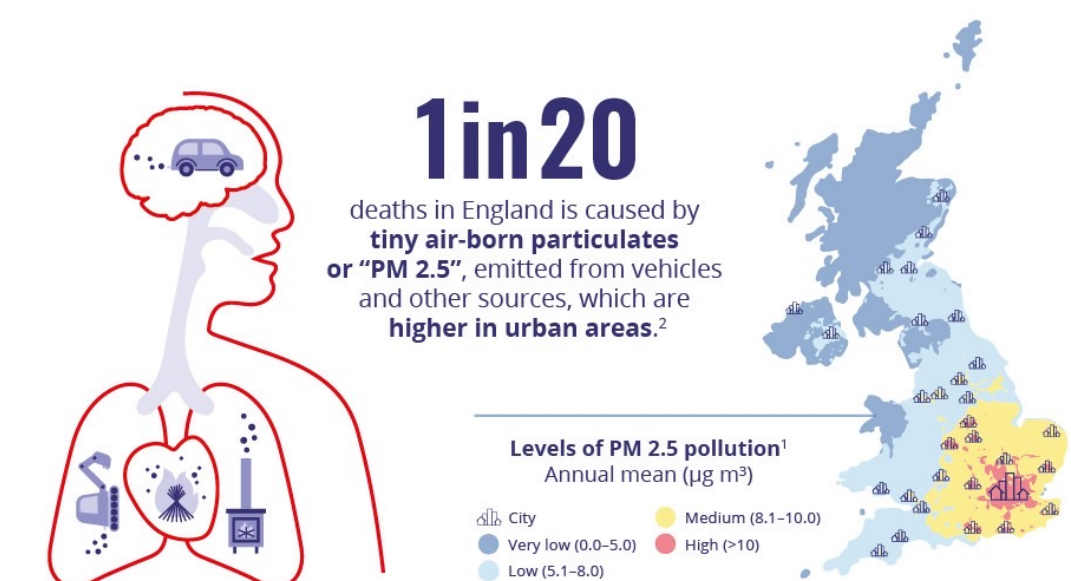
Complexity & Communications

- **Many moving parts** that need to be well connected/integrated

- **Requires relatively more time/resource** both from comms team and researchers

- **Differences of opinion on resource needs**

- **Wider 'infrastructure' very limited -** standard university capacities available (e.g. Policy Bristol, media/training opps), but not substantial

POLICY REPORT 01
October 2022

TRUUD
Tackling the Root causes Upstream of Unhealthy Urban Development

Phase I Report

How might we prevent non-communicable disease resulting from UK city property development and transport planning systems?

truud.ac.uk   UKPRP

Air pollution is **more intense in urban areas** exacerbating respiratory, cardiac and other diseases.[1]

1 in 20
deaths in England is caused by **tiny air-born particulates or "PM 2.5"**, emitted from vehicles and other sources, which are **higher in urban areas**.[2]

Levels of PM 2.5 pollution[1]
Annual mean (µg m³)

City   Medium (8.1–10.0)
Very low (0.0–5.0)   High (>10)
Low (5.1–8.0)

[1] Centre for Cities (2020) Holding our breath — How poor air quality blights cities | Centre for Cities
[2] Environment Agency (2021) State of the environment: health, people and the environment - GOV.UK (www.gov.uk)

First bit easy…?

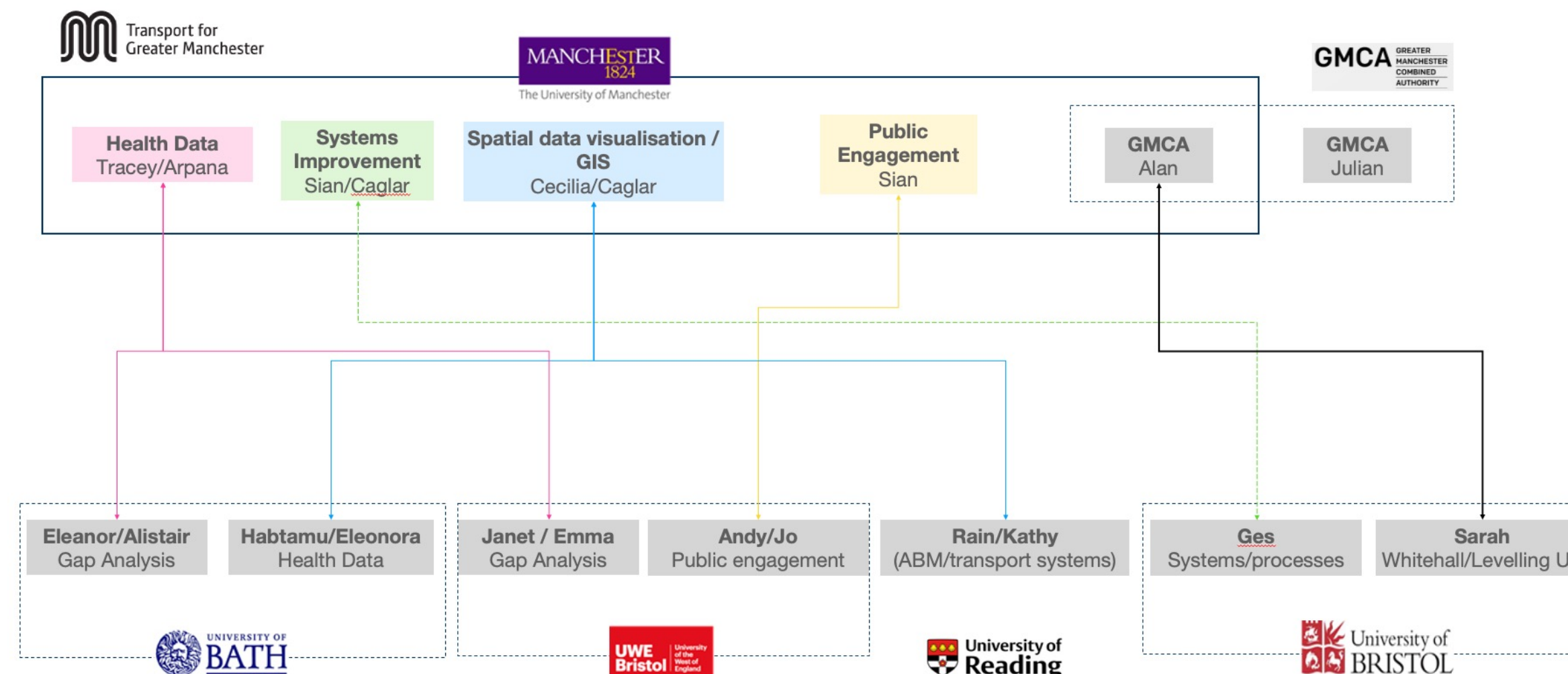| Group description	Disciplines (newly combined)
• 40-odd researchers • 5 HE institutions • Multiple cost centres • 2 city / city regions • National / Westminster • 100s of stakeholders • £10m research funding	• Public health • Urban planning • Policy studies • Management • Real estate investment • Law • Environmental economics • Health economics • Systems engineering • Psychology • Public engagement • …

Emergent design
(and management) –
via co-production

Phase I
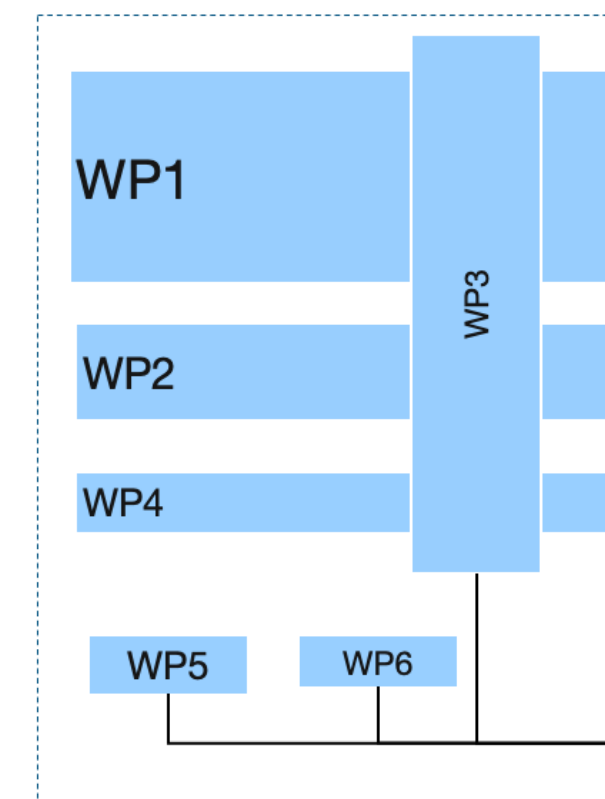
Re-structuring for Phase II
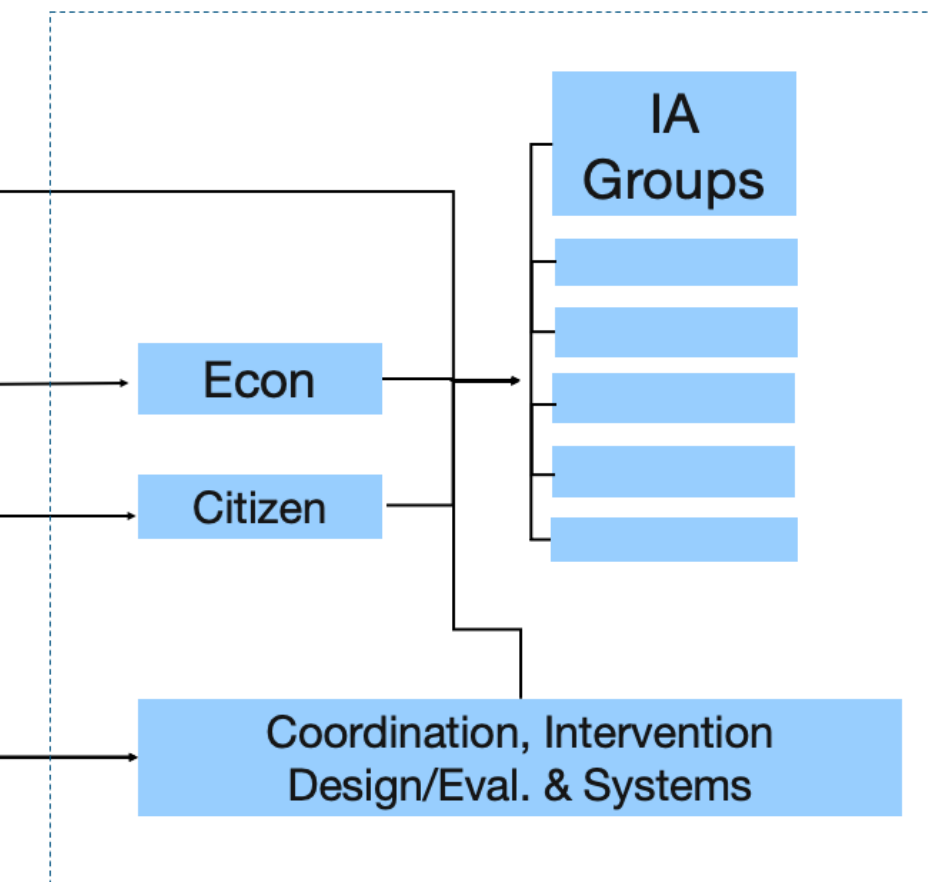
Example integration –
Greater Manchester:
**Time-consuming,
complex management
(e.g. expectations)**

X **10+**

(and all highly integrated)

Straight sprint

vs

Open team play

Waterfall vs. Agile

Requirements

Design

Implementation

Verification

Maintenance

Agile

Testing

Deploy

Feedback

Desing

Planning

Analyzing
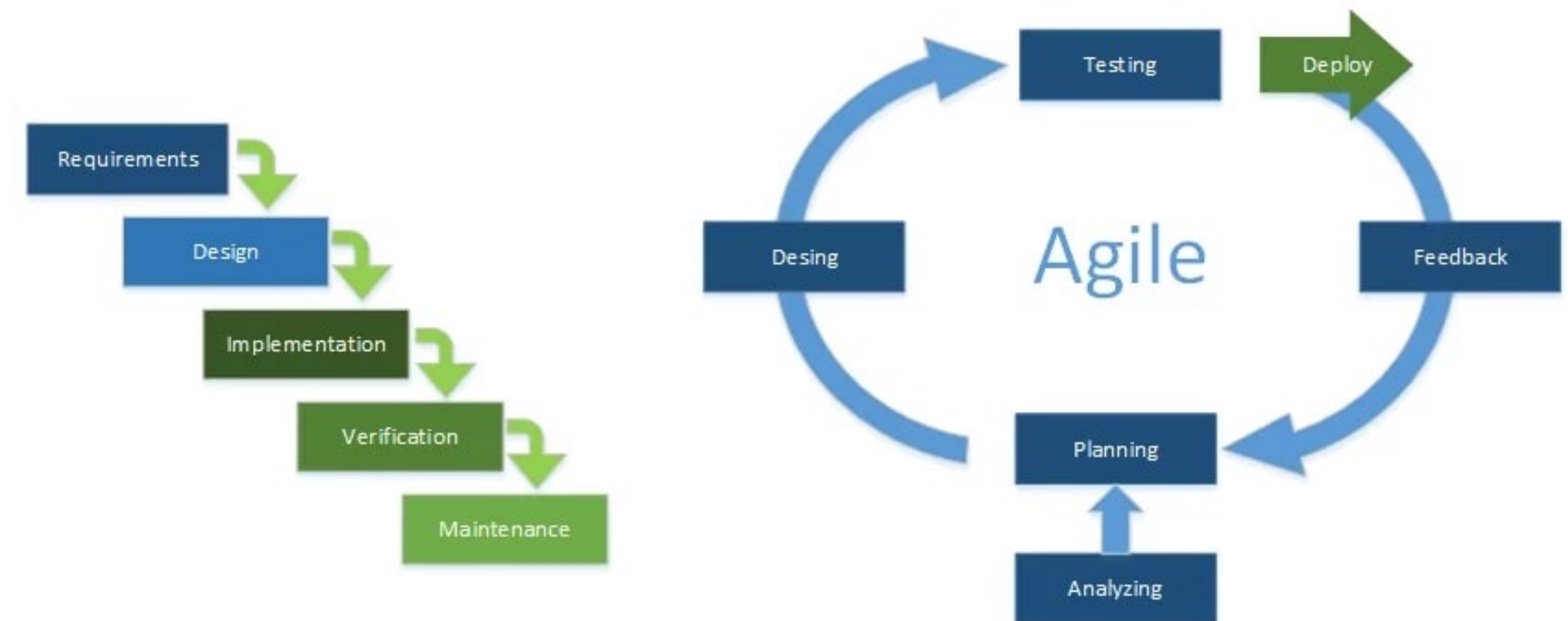
1. Have you heard of others facing similar challenges?

2. What resource constraints are you aware of?

3. Making the case for additional resource not easy - due to lack of academic 'outputs' (papers) – how might it be possible?

4. Other?

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Acknowledgements