

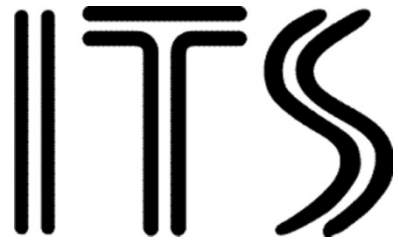


ALTERNATIVE NARRATIVES OF THE TRANSPORT SYSTEM

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(STEP CHANGE)

Making Mixed-Methods Work in Transport
Research

Workshop, 20th June 2013, Leeds



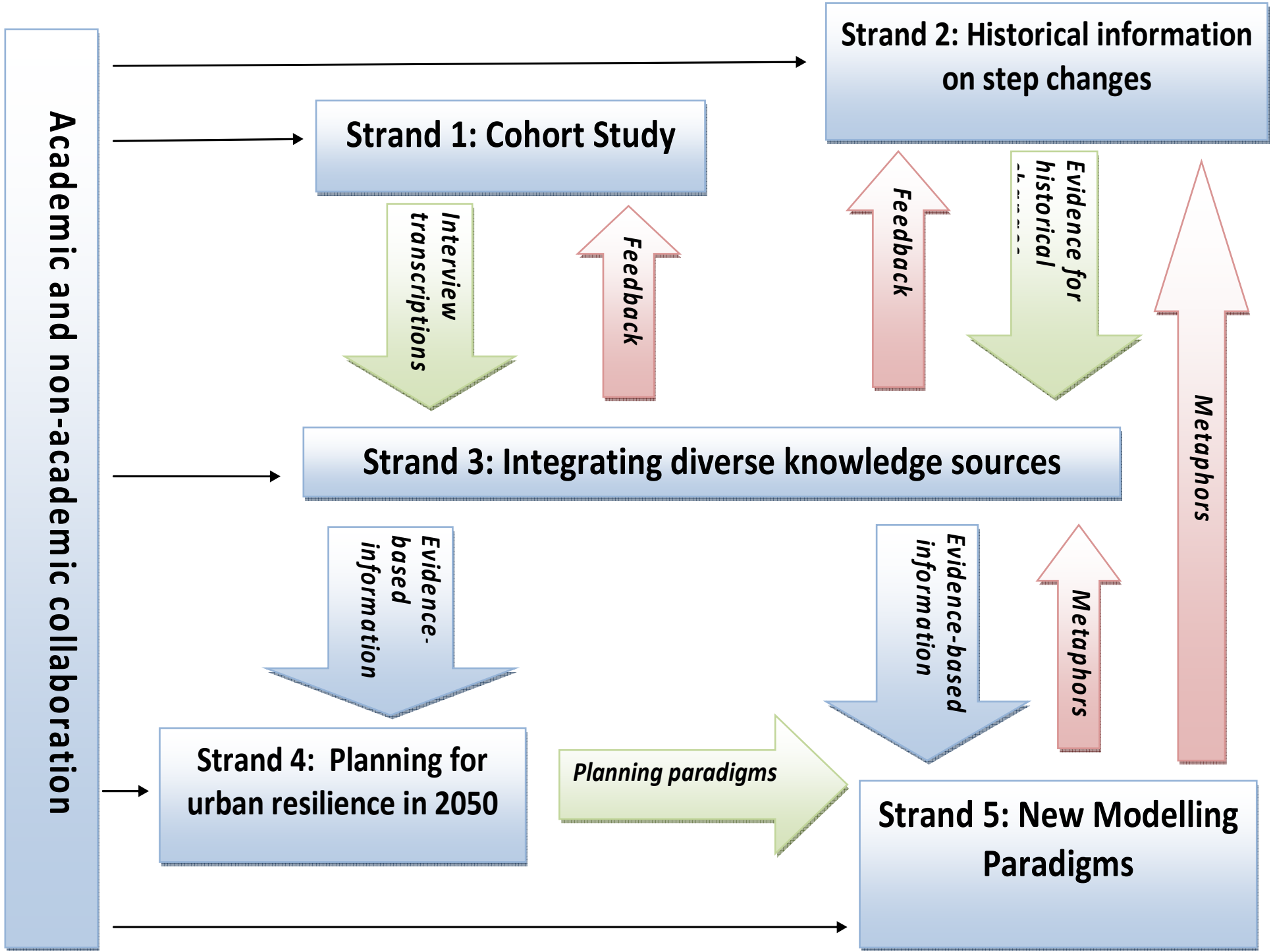
**Institute for
Transport Studies**



BACKGROUND: STEP-CHANGE PROJECT

“AIMS TO INFORM A 'STEP-CHANGE' IN ATTITUDES TO URBAN TRANSPORT BY REVOLUTIONISING THE PLANNING OF TOWNS AND CITIES.”

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ACCOUNTS OF THE TRANSPORT SYSTEM

- Empirical, practical and predictive activities in transport research generally make a variety of explicit and implicit assumptions about:
 - the mobility of people and goods
 - the means provided for such mobility and
 - how transport policy is made.
- These assumptions, when bundled together in a specific study, can be understood as forming an *account of the transport system*.



KEY INSIGHT

- A key insight of the presentation is that all such accounts are underpinned by *narratives* as to how the transport system *evolves*
- To understand the role of different research methods it is important to identify the different types of narrative highlighted by specific methods.
- Presentation focuses upon narratives of the future
 - However, general points also apply to narratives of the past

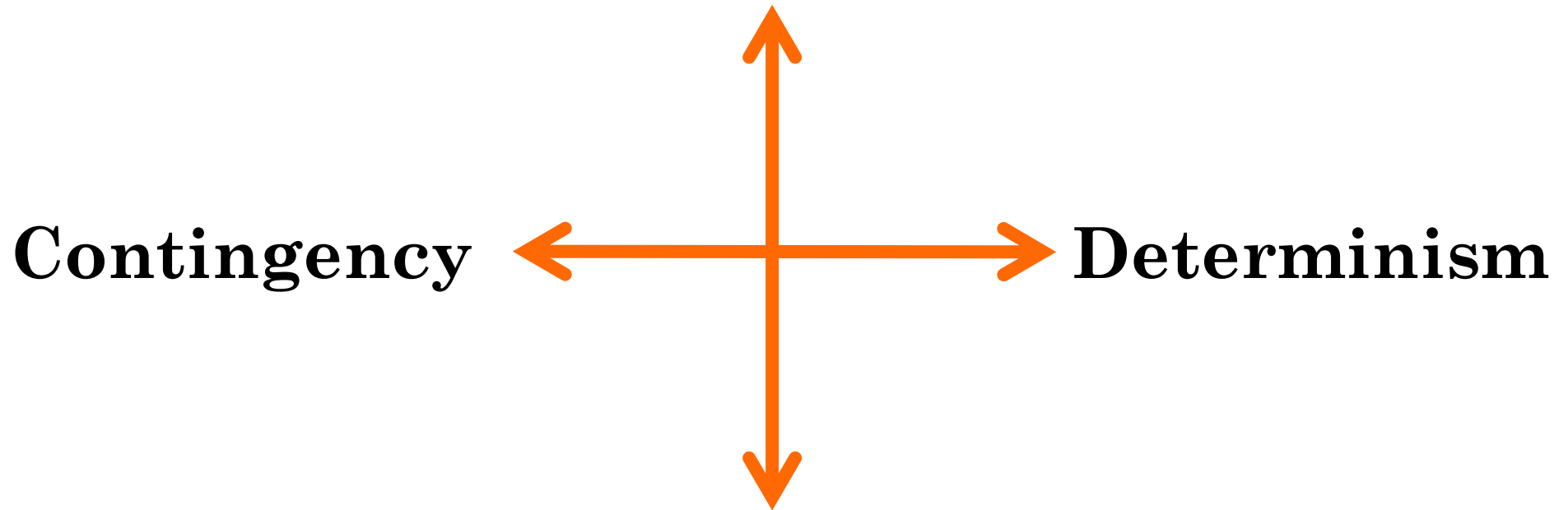


CLASSIFICATION OF NARRATIVE TYPES

- Four narrative types are identifiable in existing transport research based upon two sets of criteria:
 - (assumptions of) *contingency* versus *determinism*;
 - and *actor-based* versus (external) *scenario-based* narratives
- where an *actor* can be interpreted as any decision-making entity, such as individual trip-maker, individual policy-maker, local authority etc)



Actor focussed



Contingency

Determinism

**(External)
scenario
focussed**

CONTINGENCY

- Although some narratives can be *purely deterministic*, no (meaningful) narrative will be *purely contingent*
- Even if a narrative is classed as contingent, it must necessarily include deterministic elements



DETERMINIST ACTOR-BASED NARRATIVES

- Such narratives emphasise individual choices.
- However, they assume that, at an aggregate level, such choices are predictable
 - i.e. over the group of individuals being considered, the aggregate impact of individual choices is non-contingent
- Increasing usage in transport modelling since the 1970s
- Examples of models using such narratives are:
 - (short-term) discrete choice models
 - systems dynamics LUTI models
 - agent-based models



DETERMINIST SCENARIO-BASED NARRATIVES

- These narratives underpin most ‘traditional’ transport modeling.
- Arguably, the most traditional such model, with roots going back to the 19th Century, is the *gravity model* (which is based upon an analogy with the law of gravity in physics).



CONTINGENT SCENARIO-BASED NARRATIVES

- Such narratives typically exist within ‘scenario sets’ describing highly different alternative futures, in which the roles of actors (in creating these scenarios) are generally downplayed or ignored.
- An important use of such narratives is in Foresight planning.
 - Two example sets focusing upon transport are:
Megacities on the Move
<http://www.forumforthefuture.org/project/megacities-move/overview>



CONTINGENT ACTOR-BASED NARRATIVES

- Such narratives emphasise the key role of specific individuals and/or groups in changing the transport system
 - with the implication that, if these individuals/groups had not existed, change would not occur (or at least would follow a very different path).
- Various such narratives can be found in transport studies concerning the past (e.g. Khayesi, 2007) but very few concerning the future:
 - one exception being workshop-constructed visions, e.g. those developed as part of the VISIONS 2030 project.



STEP CHANGE

- If (ontologically) the future is seen as contingent, the use of determinist narratives has the effect of forcing a view of determinism upon our understanding of the world which is 'false'
- If the world is to be (step) changed through the agency of people/organizations/social-groups etc , such efforts will be
 - facilitated by narratives in which such actors are endowed with change-making powers and
 - undermined by narratives which ignore such powers.



RESEARCH METHODS

- Different research methods are consistent with constructing each type of narrative.
 - *qualitative* and *historical* approaches are more compatible with the ‘contingent element’ of contingent narratives, and
 - *quantitative* and *social physics* approaches are more compatible with determinist narratives
- However, given that contingent narratives must include deterministic elements, mixed methods are important when constructing such narratives



CONCLUSION

- Progress in formulating mixed methods approaches can be made by identifying the creative tensions between different narrative types
- and using such tensions dialectically to create more sophisticated narrative types, along with their associated research methods.

