Transferring Lessons Learnt: Identifying Typologies

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BENEFIT
Business Models for Enhancing Funding
& Enabling Financing for Infrastructure in Transport

What

The situation

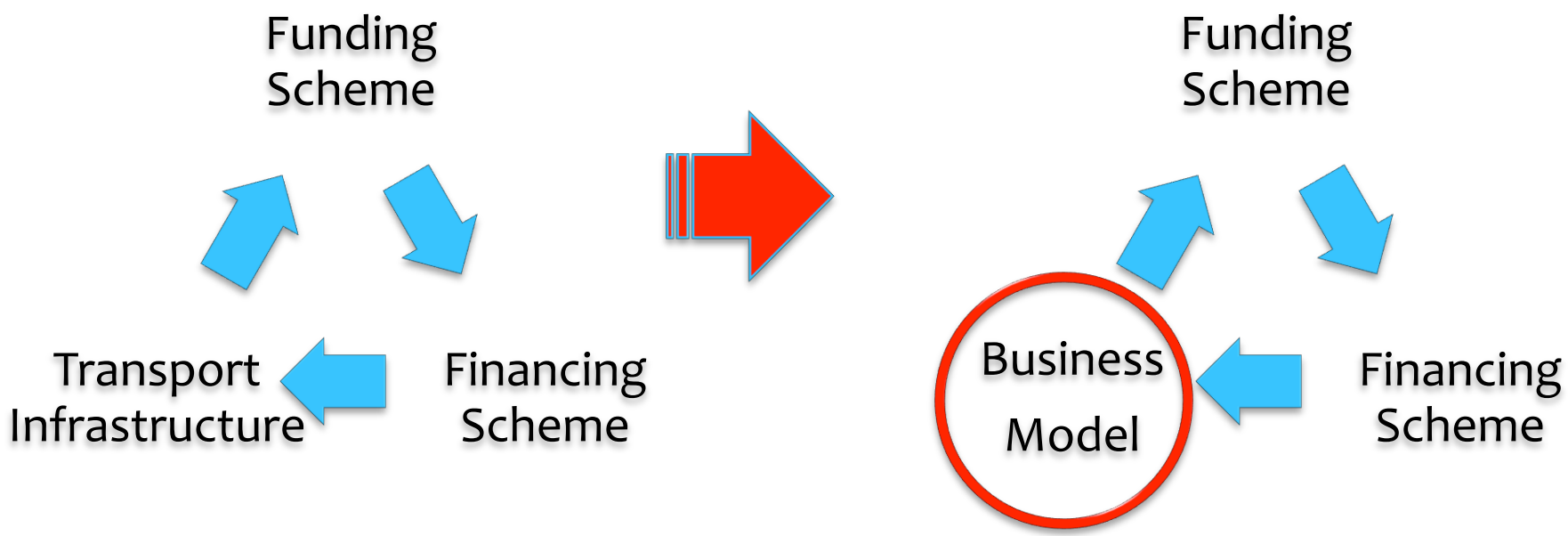
* Case research:

  the most common research tool applied

The issues

* Context related
* Limited ability to transfer lessons learnt
* The issue of defining “success”

Which-way


Funding Scheme
Financing Scheme
Transport Infrastructure
Funding Scheme
Business Model
Financing Scheme

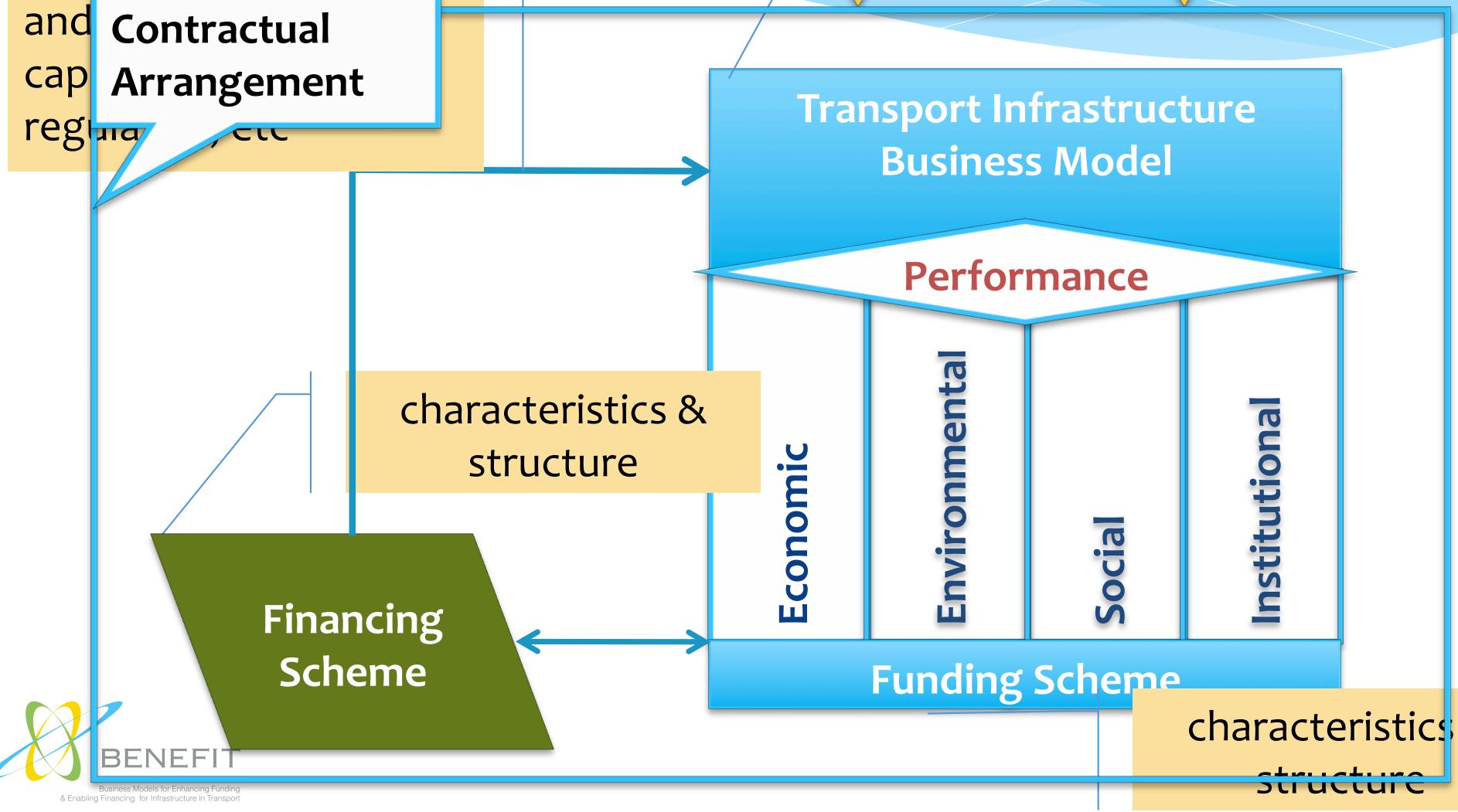
BENEFIT Concept

societal; economic-

Implementation Context

Transport Mode Context

Governance, Procurement, Contractual Arrangement



With-what

Potential Dimensions

Business Model	Implementation Context	Transport Mode Context	Funding Scheme	Financing Scheme	Governance
Robustness of revenue stream	Societal	Exclusivity	Allocation of revenue risk	Financial rating	
Stakeholder stance	Macro-economic	Operational			
Robustness of feasibility study	Policy	Functional			
	Legal				

Today's Objective

Typologies

Implementation Context (IC)

Dimensions	Proxies & Indicators used	Synthesis
Macro-economic	Real GDP per capita % change is used for this dimension (RGDPC- EUROSTAT) RGDPC ∈ [-1, 1] D_{RGDPC} = 0 RGDPC ∈ (1, 2] D_{RGDPC} = 1 RGDPC ∈ (2, 3] D_{RGDPC} = 2 RGDPC > 3% D_{RGDPC} = 3 Respective negative values are set for negative values of RGDPC	IC= [2*D_{RGDPC} + PPP-GSI]/3
Supporting Institution	PPP-Government Support Index (PPP-GSI) Verhoest *et al* (2015)	
Policy Support		
Legal & regulatory		

Typologies

Transport Mode Context (TMC)

Dimensions	Proxies & Indicators used	Synthesis
Level of Exclusivity	D_{EX}=1, 2 or 3 Depending on Low, Medium or High level of exclusivity Comment: Exclusivity may also be contractually imposed.	TMC= [D_{EX}+D_{OI}+ 2*D_F]/4
Level of Operational Integration	D_{OI}=1, 2 or 3 Depending on Low, Medium or High level of operational integration with a positive effect on the project. Comment: Integration creates greater competition than D_{OI}=1.	
Functionality	Transport infrastructure within the network may function as a link (D_F=1) or a node (D_F=2). In some cases, the infrastructure may have a dual functionality (D_F=1.5).	

Typologies

Business Model (BM)

Dimensions	Proxies & Indicators used	Synthesis
Robustness of revenue stream	D_{RS}=1, 2 or 3 Depending on Low, Medium or High robustness of revenue stream. Comment: This dimension also considered additional (non transport related) revenues.	BM= $[D_{RS}+D_{SS}+D_{RF}]/3$ Comment: In the present analysis information for D_{RF} was not available in all cases. Hence, in the present analysis BM= $[2*D_{RS}+D_{SS}]/3$ was applied.
Stakeholder stance	D_{SS}=1, 2 or 3 Depending on Low, Medium or High stakeholder support. Comment: if negative D_{SS}=1.	
Robustness of feasibility	D_{RF}=1, 2 or 3 Depending on Low, Medium or High level of accuracy.	

Typologies

Funding Scheme (FuS)

Dimensions	Proxies & Indicators used
Revenue Risk Allocation	Dimension D_{DRA} = 1, 2, or 3 Depending on the risk allocated to the private party, shared or allocated to the public party. The assessment is based on the remuneration model.

Dimensions	Proxies & Indicators used
Rating	Dimension D_R = 1, 2, or 3 The value D_R=3 is assigned when the financing scheme has multiple guarantees and a small number of funders are involved.

Today's Objective

Like What

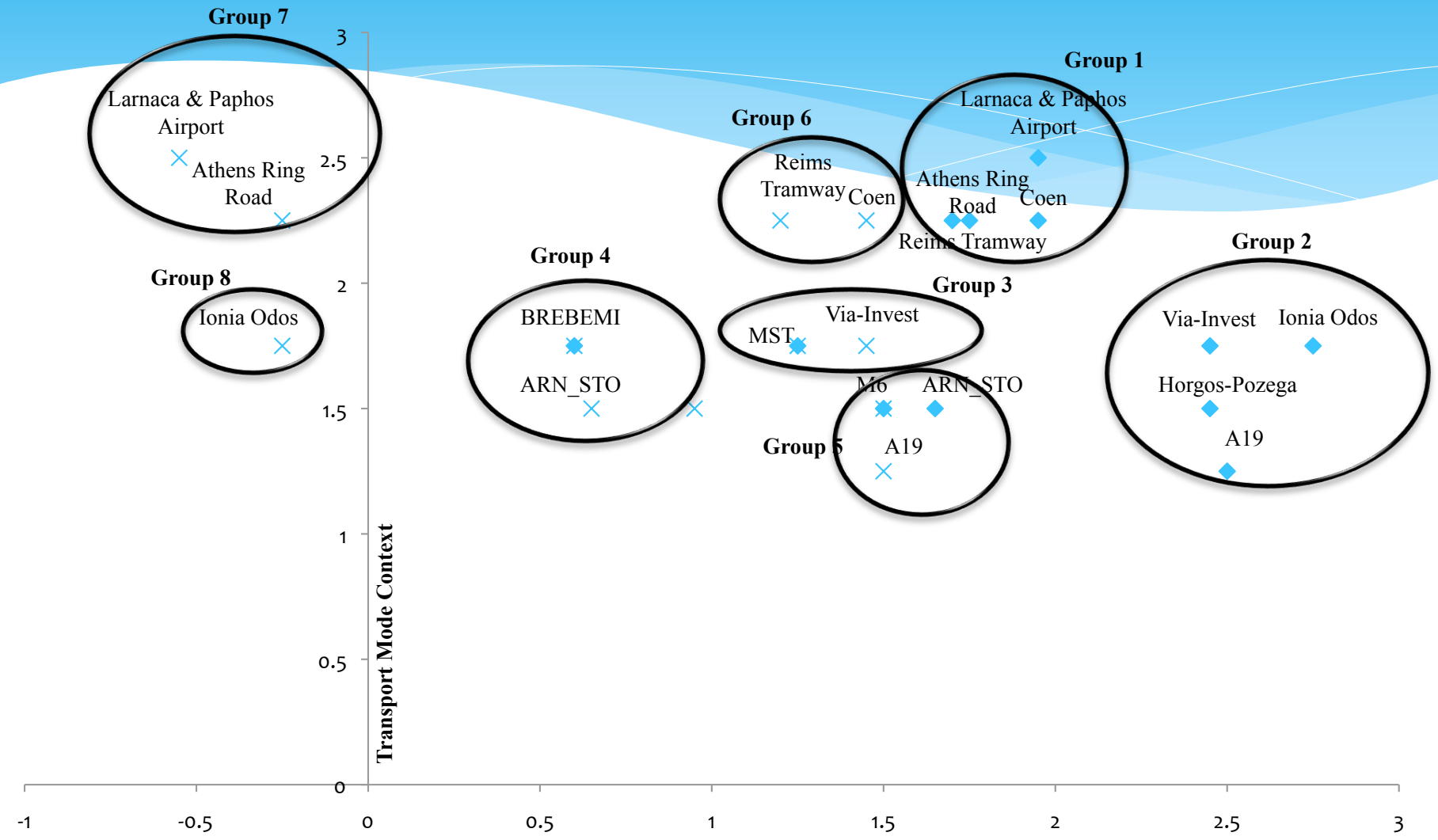
Cases

#	Case	Mode	Year Awarded	Country
1	Via-Invest	Road	2007	BE
2	Larnaca & Paphos Airport	Airport	2005	CY
3	Reims Tramway	Tram	2006	FR
4	Athens Ring Road	Road	1996	GR
5	Ionia Odos	Road	2006	GR
6	BREBEMI	Road	2013	IT
7	Coen Tunnel	Tunnel	2008	NL
8	Metro Sul do Tejo	Metro	2002	PO
9	Horgos-Pozega	Road	2007	RS
10	ARN-STO	Rail	1994	SE
11	A19	Road	1996	UK
12	M6	Road	1992	UK

Country	BE	CY	FR	GR	GR	IT	NL	PT	RS	SE	UK	UK
Project Title	Via-Invest	Lamaca & Paphos Airport	Reims Tramway	Athens Ring Road	Ionia Odos	BREBEMI Motorway	Coen Tunnel	Metro Sul do Tejo	Horgos-Pozega Motorway	ARN-STO Airlink	A19 Motorway	M6 Toll Motorway
Year of Award	2007	2005	2006	1996	2006	2013	2008	2002	2007	1994	1996	1992
D_{RGDPC} (year of award)	2.1	2.4	1.8	1.6	5.2	-2.1	1.4	0	5.7	3.3	3.2	1
D_{RGDPC} (2013)	-0.3	-5.8	-0.3	-3*	-3*	-2.1	-1.1	-0.5	-1*	0.8	1.1	1.1
D_{SI}	2.8	1.8	3.1	2.3	2.3	2.3	3.3	2.8	2	1.2	3.6	3.6
D_{PS}	3	1.7	1.3	2.3	2.3	2	3.7	2	1.3	1	3.7	3.7
D_{LRC}	2.8	2.3	2.8	2.8	2.8	2.3	1.8	2.8	2.5	1.8	1.8	1.8
PPP-GSI	2.9	1.9	2.4	2.5	2.5	2.2	2.9	2.5	1.9	1.3	3	3
IC (year of award)	**2.45**	**1.95**	**1.7**	**1.75**	**2.75**	**0.6**	**1.95**	**1.25**	**2.45**	**1.65**	**2.5**	**1.5**
IC (2013)	**1.45**	**-0.55**	**1.2**	**-0.25**	**-0.25**	**0.6**	**1.45**	**1.25**	**0.95**	**0.65**	**1.5**	**1.5**
D_{EX}	2	3	3	3	2	2	3	2	2	2	1	1
D_{OI}	3	3	3	3	3	3	3	3	2	2	2	3
D_F	1	2	1.5	1.5	1	1	1.5	1	1	1	1	1
TMC	**1.75**	**2.5**	**2.25**	**2.25**	**1.75**	**1.75**	**2.25**	**1.75**	**1.5**	**1.5**	**1.25**	**1.5**
D_{RS}	1	2.5	2	2	1	1.5	2	2	1	2	2	2
D_{SS}	2	3	3	3	2	2	3	2	1	3	2	1
BM	**1.3**	**2.7**	**2.3**	**2.3**	**1.3**	**1.7**	**2.3**	**2**	**1**	**2.3**	**2**	**1.7**
FuS (D_{DRA})	**3**	**1**	**2**	**1**	**1**	**2**	**3**	**3**	**1.5**	**2**	**3**	**1.5**
FiS (D_R)	**3**	**2**	**2.5**	**2**	**2**	**2**	**3**	**2**	**1.5**	**3**	**3**	**3**

*Based on 2014 Eurostat values.

Mapping



◆ At Award

X 2013

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Discussion

* Conceptual
  * Dimensions/ Indicators / Synthesis: Arbitrary
* No two cases alike
* Non – importance of an overall assessment

However:

* Importance of the business model
* Diversification through the funding scheme.
* Ability (and interest) of mapping cases over time.

Conclusions

* Transferability
* Selecting or adjusting “indicators” to achieve anticipated outcomes
* Assessment of innovative financing schemes

Thank you!

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Scope of Case Studies

* *Exploration*
* *Theory building*
* *Theory Testing*
* *Theory Extension/ refinement*

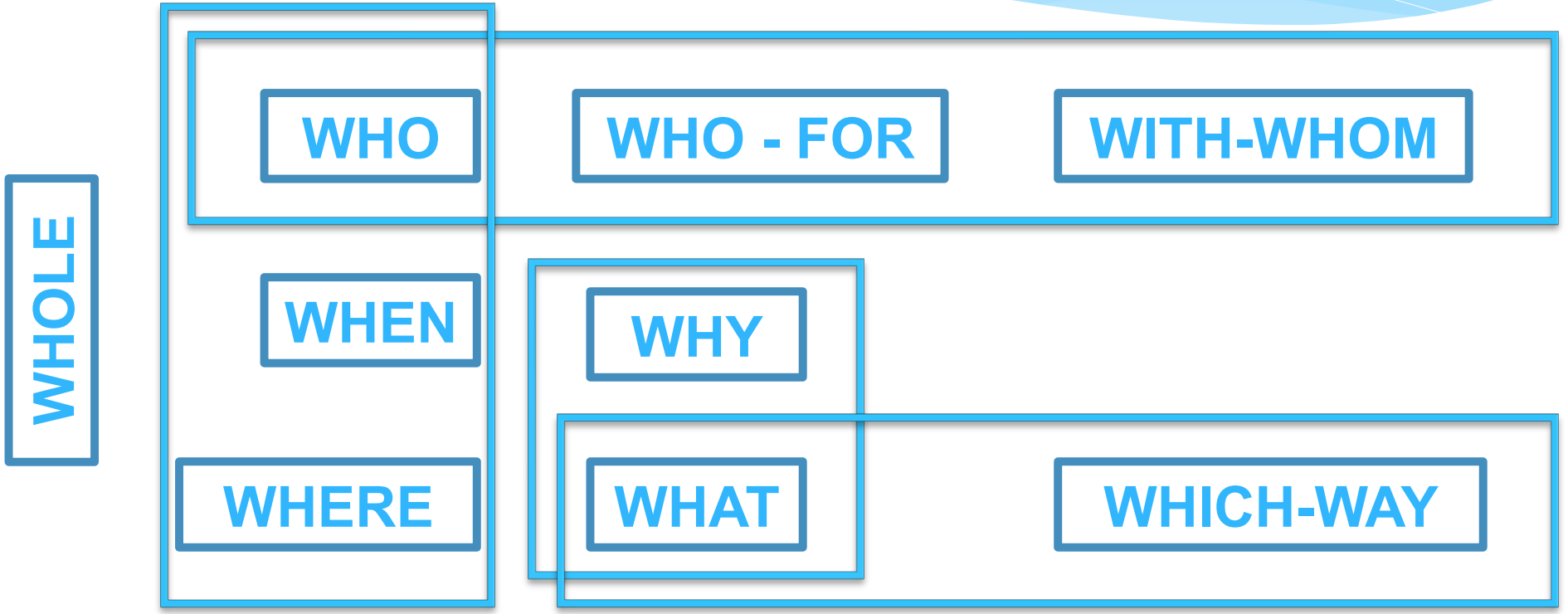
(Voss et al, 2002)

* *Transferability*

Methodology

* Leans on Fuzzy Logic
* Proposes “Granules” and “Attributes”
* Stems from a Ws Framework proposed to described the potential of knowledge transfer from road to port PPPs (Roumboutsos, 2010)

Granules



Granules

* Story Telling
* Story Testing
* Rationality of setting
* Time – line
* General info

Attributes

* Describe the granules in transport terms trying to reflect the service and NOT the mode
* Introducing scales for comparisons
* Allowing to address the granules in a standard approach
* BUT the granule narrative remains to tell the story

What

Granule: What – The project						
Node – Link	Within a Node	Pure Node	Like a Node	Like a link	Pure Link	Within a Link
Level of exclusivity	Competitive environment	Not exclusive	Quite not exclusive	Somewhat exclusive	Rather Exclusive	Exclusive
Level of integration	No integration	Physical Integration	Operational Integration	Information Integration	Authority/ Regulatory Integration	Other
Level of bundling (horizontal)				Description coded in the process		
Level of bundling (vertical)				Description coded in the process		

"What" describes the transport project.