

Railway Stations' Area Development and Regional Cohesion

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Curriculum 2017 - 2020
Crossing Borders - Activating Spaces



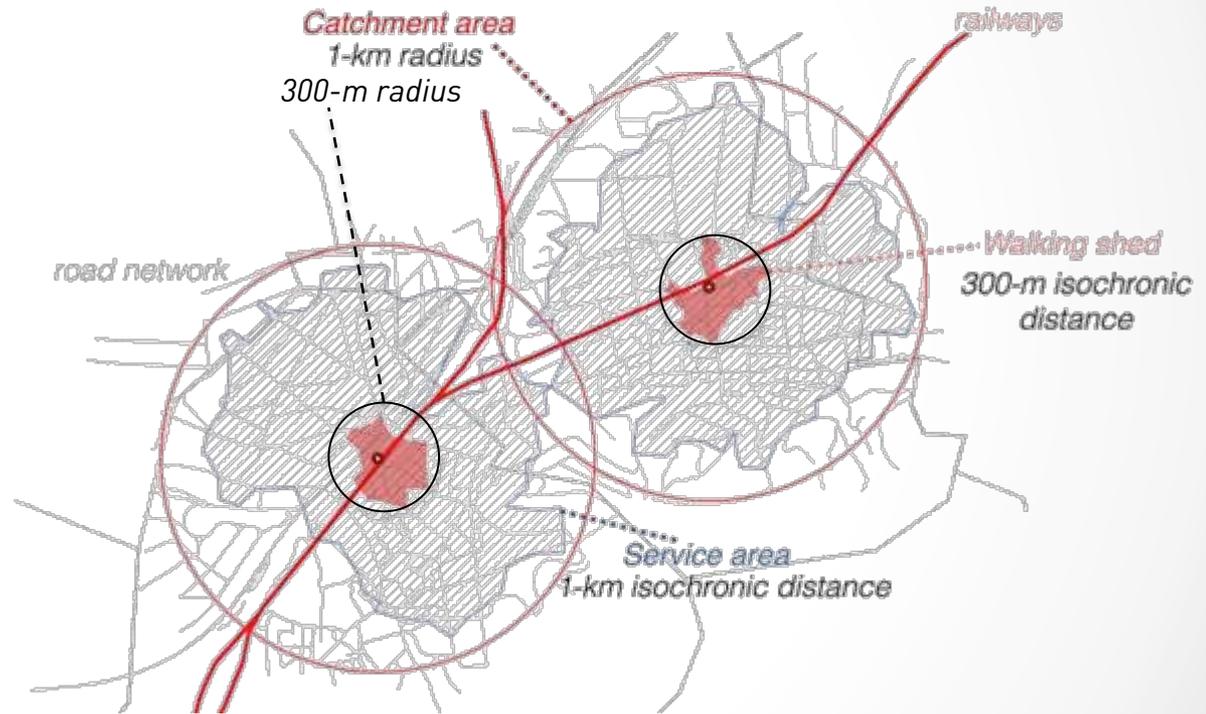
Case Study Analyses on the Railway Stations and the Settlement Development

- Functionality of the railway stations highly depend on the mobility and/or commercial services that it offers as well as the role it plays in the surrounding built-environment.
- On this basis, we applied two different approaches towards the integrated railway and settlement development:
 - 1. *Land use analysis***
 - 2. *Land reserve analysis***

Definitions of the Terminology

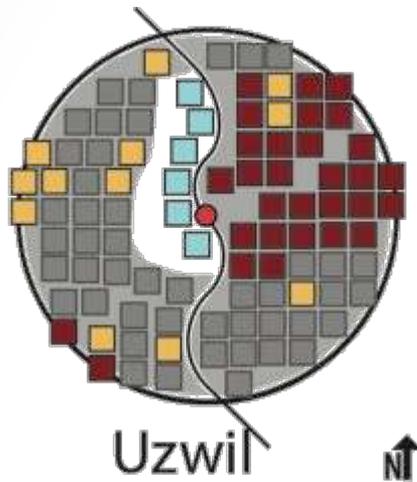
Corridor case studies are defined based on:

- Functionality (as the main link of a functional region)
 - Connecting two main railway nodes
- **Catchment area:**
A radius of 300-m or 1-km buffer to the railway station
 - **Service area:**
1-km street network to the railway station
 - **Walking shed:**
300-m street network to the railway station (5-10 minutes accessibility for taking the train)



Source: Soltaniehha, M. 2019

Current Trends (1): Land Use Analysis

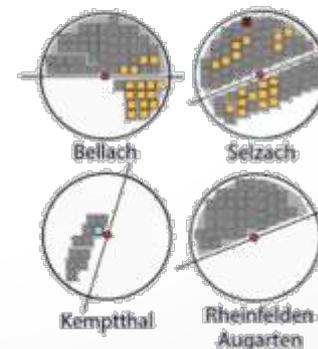
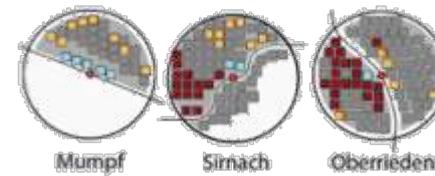
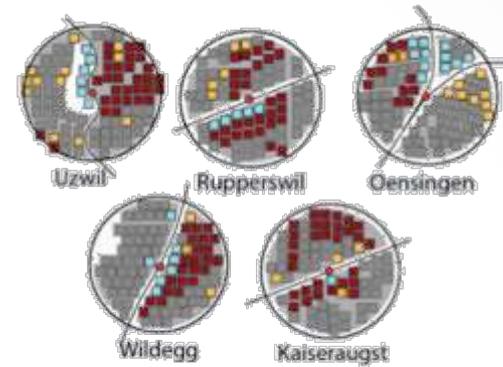


Legend

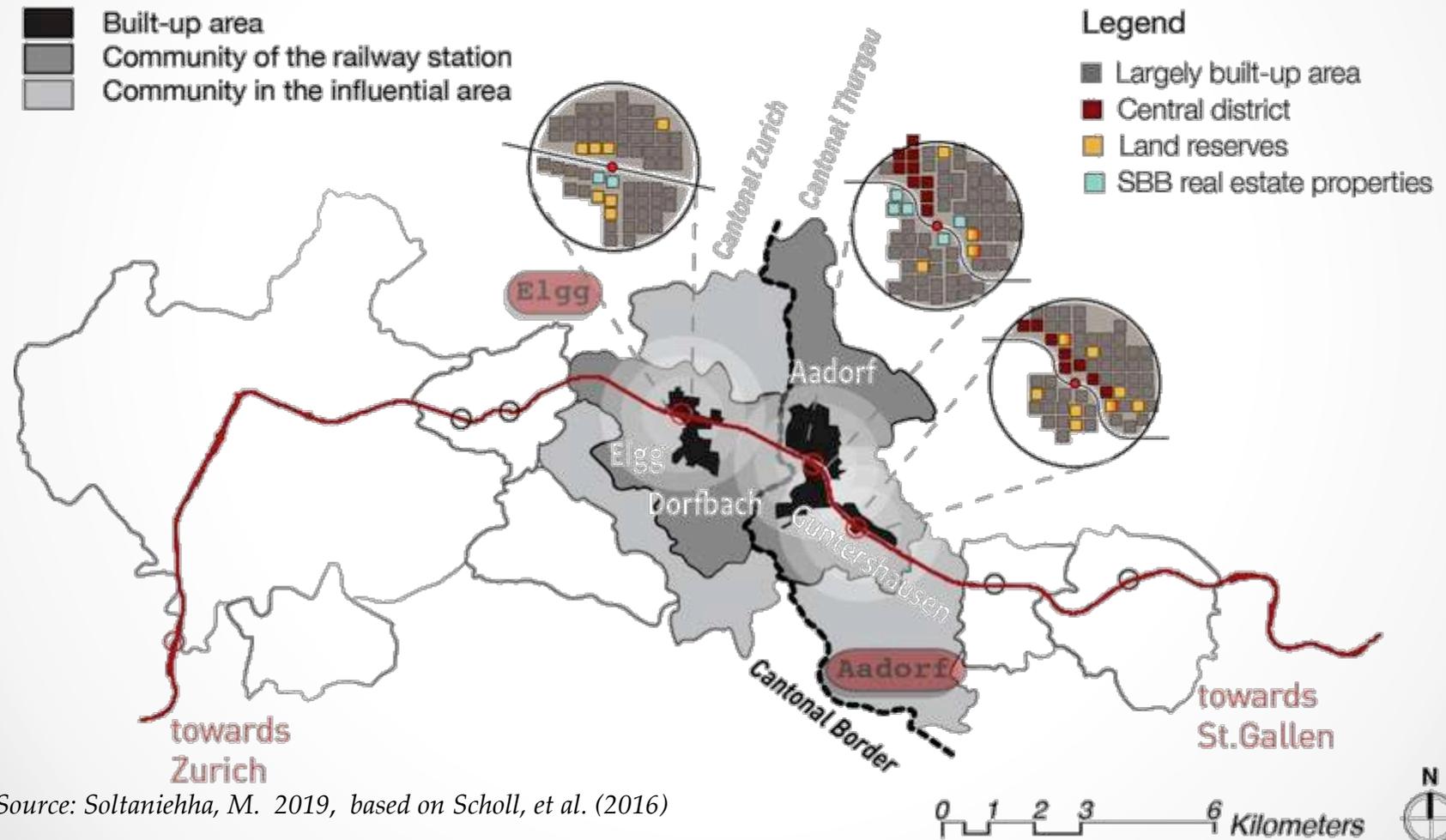
- Built area
- Central district
- Land reserves
- SBB real estate properties

300m-radius district of the railway station

Source: Soltaniehha, M. 2019,
based on Scholl, et al. (2016)



Catchment Areas as the new Town Centres *supporting trans-boundary cooperation*



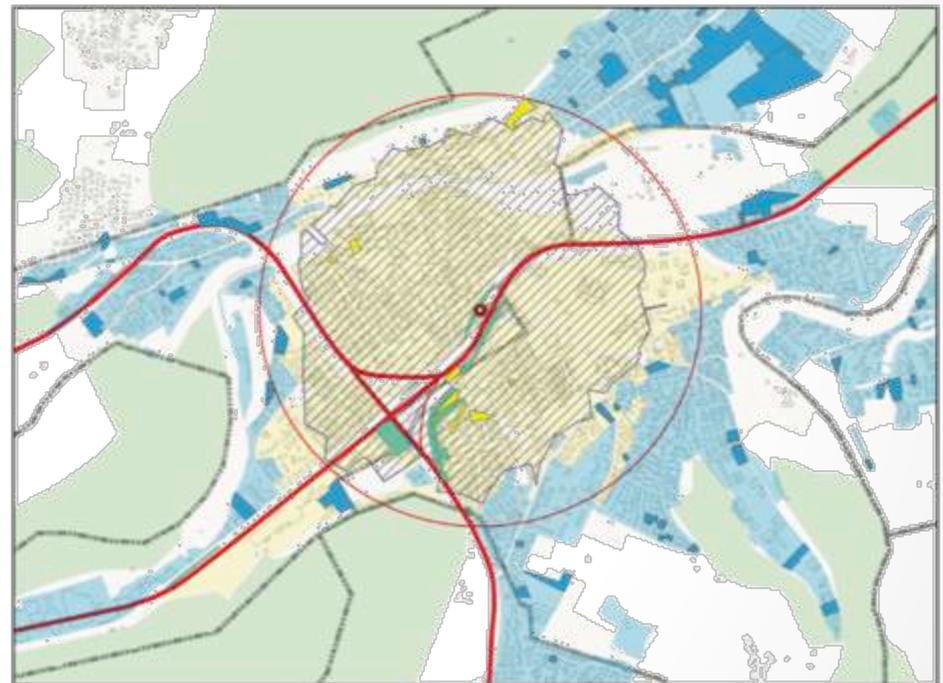
Source: Soltaniehha, M. 2019, based on Scholl, et al. (2016)

Current Trends (2): Land Reserve Analysis *towards a regional balance*

LEGEND

In housing and mixed zones:

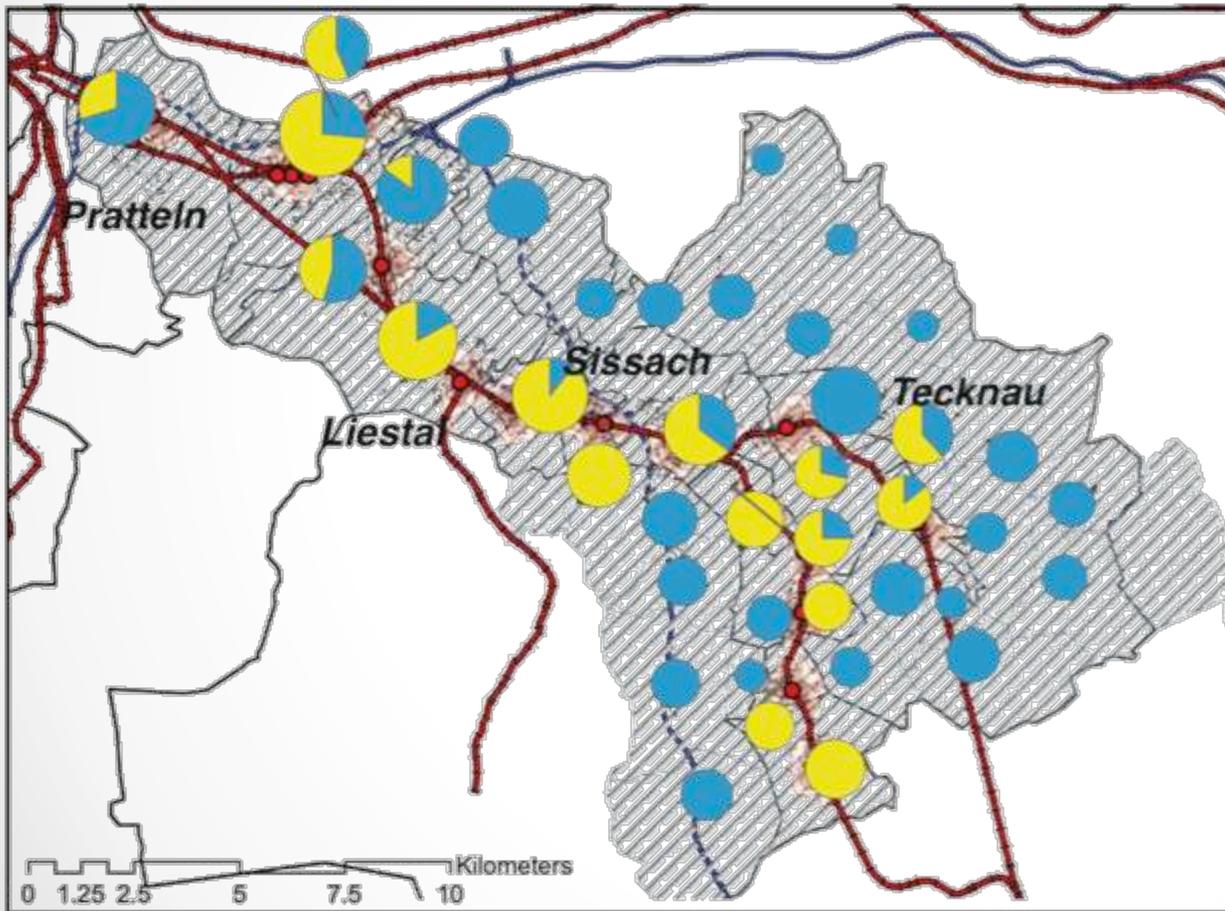
-  Land reserves outside of SA*
-  Land reserves within SA*
-  Floor area potential outside of SA*
-  Floor area potential within SA*
-  Railway station
-  Land parcels owned by SBB Real Estate
-  1-km buffer
-  1-km walking distance (Service Area)
-  Railroad - secondary lines
-  Railroad - main lines



Source: Soltaniehha, M. 2019

Example of Corridor Analysis for Land Reserves

Distribution of land reserves in Corridor Liestal and Ergolzthal, Canton Basel Land

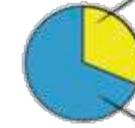


LEGEND

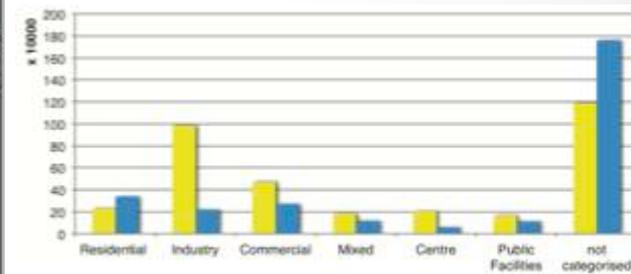
— Railroad

— Highway

Land reserves within the 1-km service area of the railway station



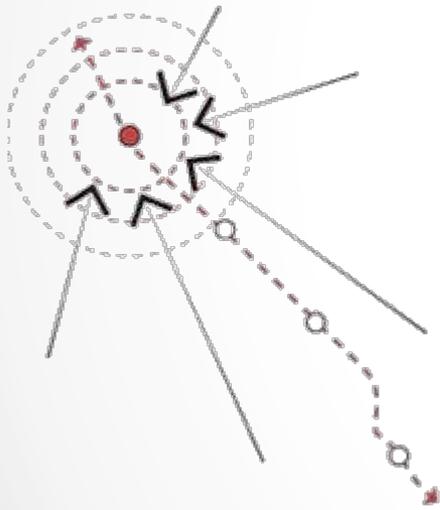
Land reserves within the 1-km service area of the railway station



Source: Soltaniehha, M. 2019; data: RAUM⁺, Basel Landschaft, 2019

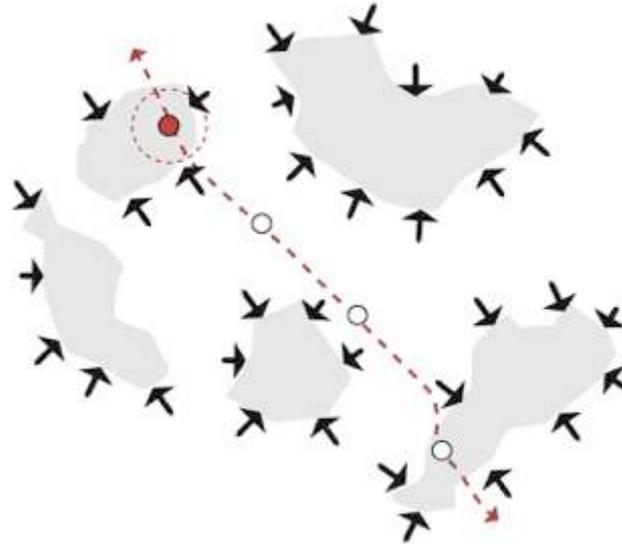
Three Generic Strategies for Integrated Spatial and Railway Development

(1) Concentration only on the main hubs



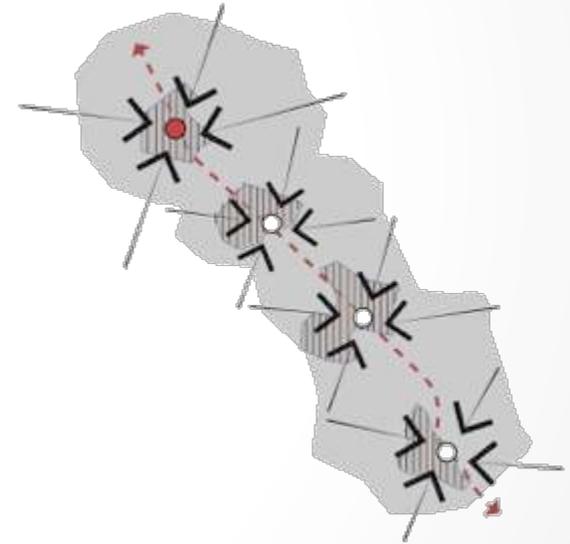
Underused infrastructure and low-impact

(2) General principles not tailored based on the situation



Externalities led from sprawl: need for infrastructure expansion

(3) Targeted densification according to the existing and future infrastructure

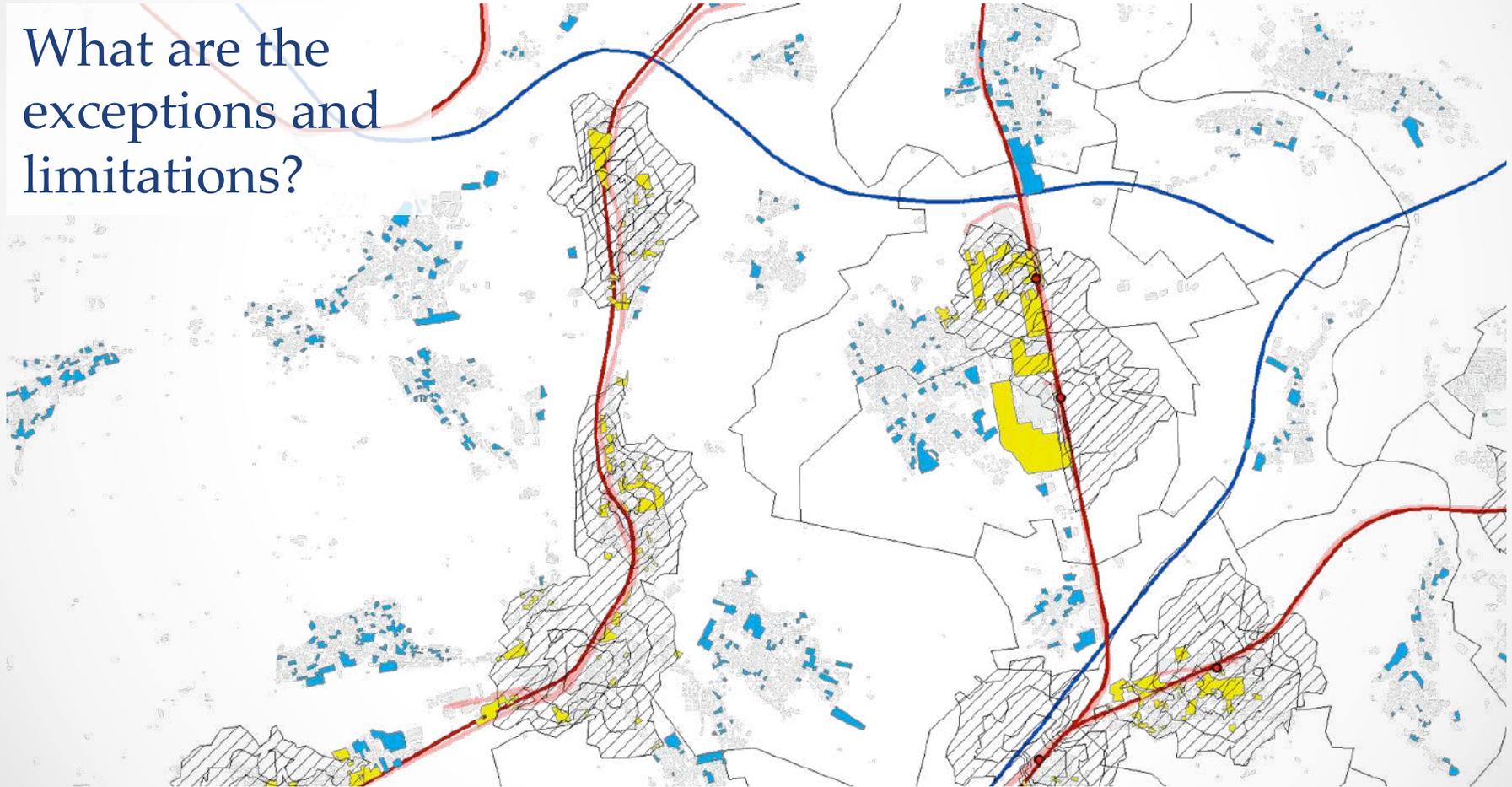


Compact settlements for reserves for structural and infrastructural expansion

Source: Soltaniehha, M. 2019

The Principal Strategy of 'Inward Development before Outward Development'

What are the exceptions and limitations?

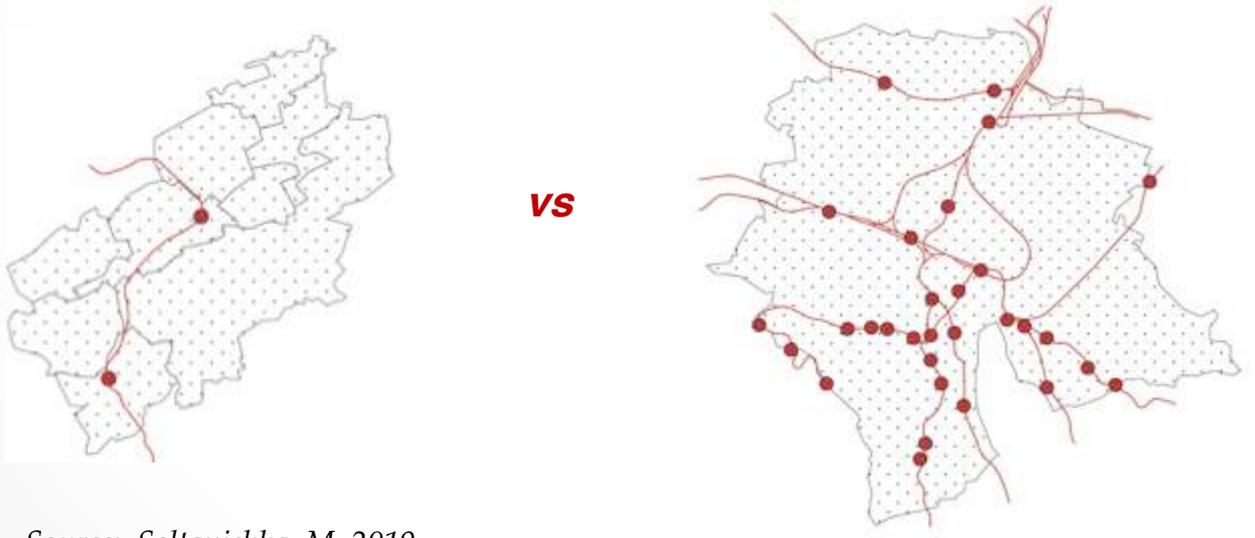


Source: Soltaniehha, M. 2019; data: Canton Aargau, Office for Spatial Planning, 2015

Could One Plan Fit All?

Limitations of the Master-Plans

- Different stakeholders, different plans?
- Supporting railway stations?
- Railway station as potential for trans-boundary cooperation?
- Further factors: topography? Shrinking population? Aging population? Dormitory towns?



Source: Soltaniehha, M. 2019

Planning as a Process

PARADIGM SHIFT

Normative Planning based on Local Authorities

Federal Constitution, RPG, RPV
National Sectoral Plans
Cantonal Directive Plans
Communal Land Use Plans

Source: ARE, 2017; translated by the author



Cooperative Planning in Functional Regions

Spatial Concept Switzerland
Agglomeration Programs
Model project (Modellvorhaben)
Metropolitan conferences

Old Paradigm

- Sector vision of city
- Expansionary strategies
- Zoning plans
- Segregations
- Infrastructure as undesirable places

Source: Scholl, B. 2018

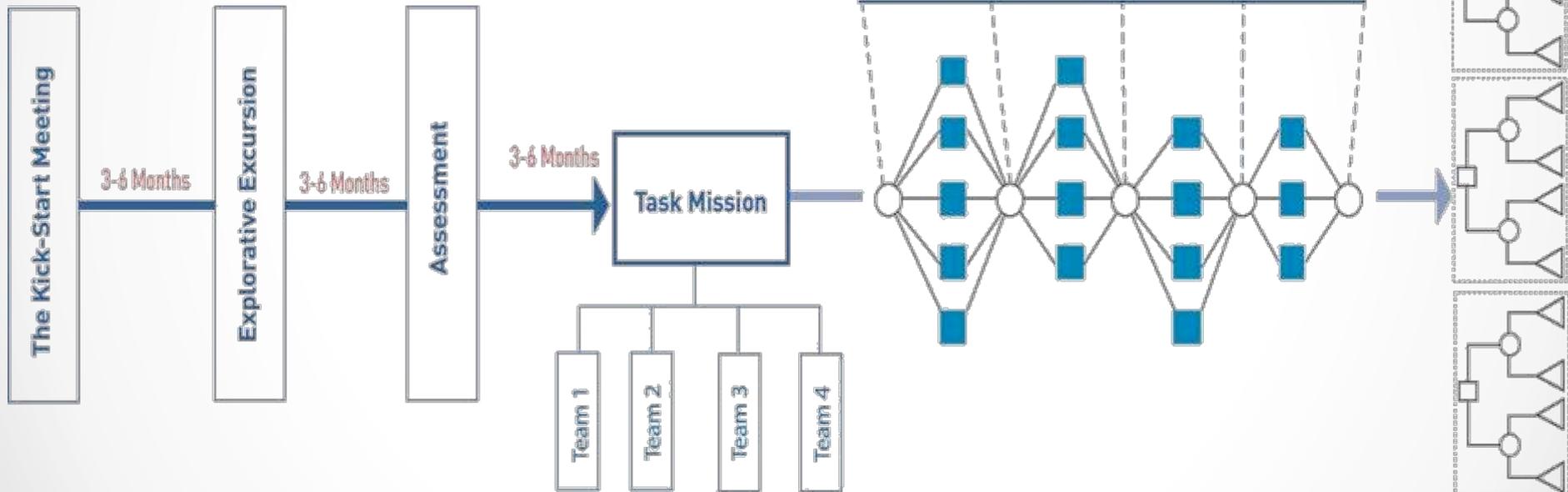
New Paradigm

- Integrated vision of city
- Re-duce, Re-use, Re-cycle
- Mixed-use development
- Porosity
- Infrastructure acquiring new appeal

Informal Planning as a Supplementary Tool

CORRIDOR CONFERENCE
as an ad-hoc organisation
Can be initiated by:

TEST PLANNING

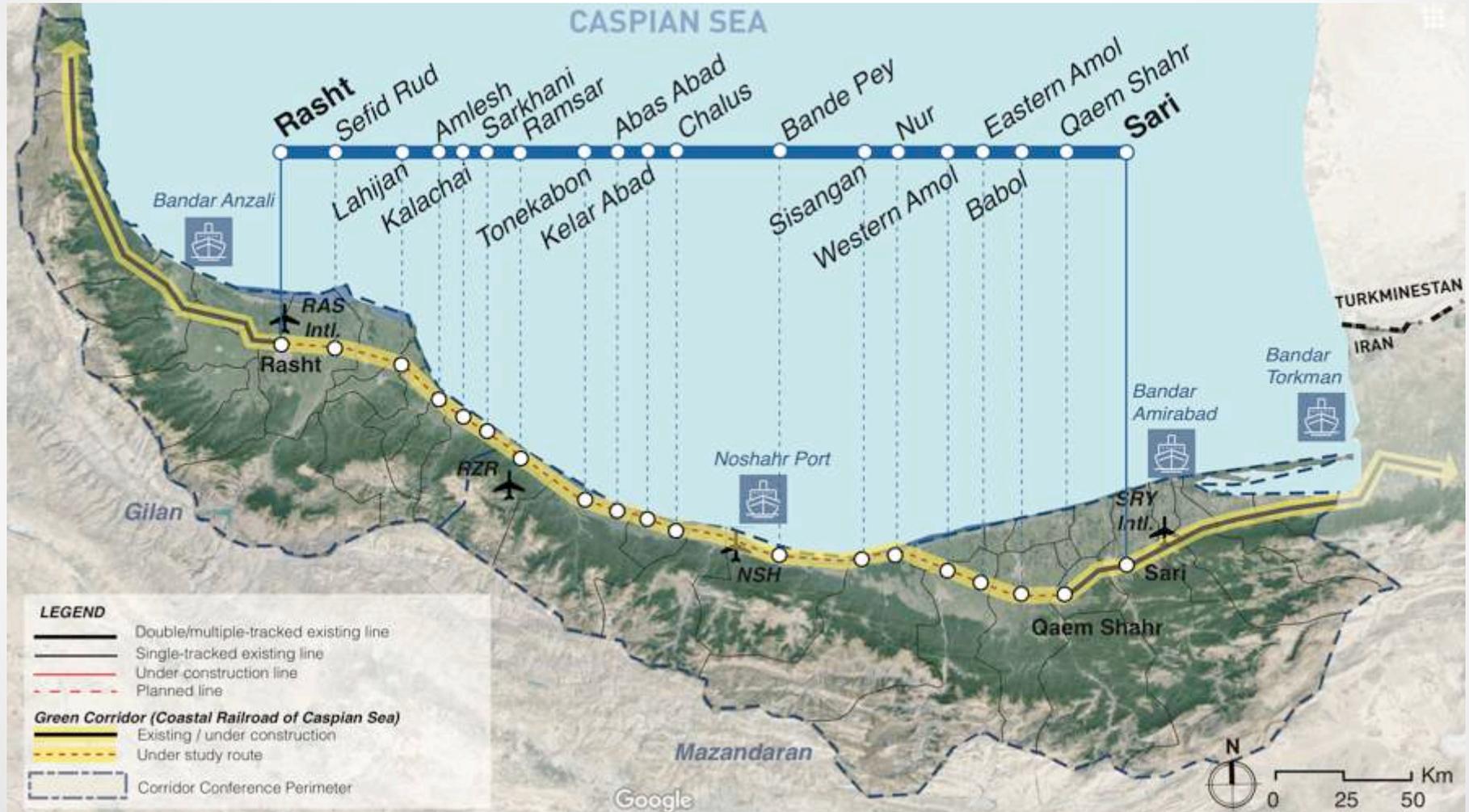


*by the steering committee
of corridor consilium

Source: Soltaniehha, M. 2019; based on Scholl, B. 1995; Tosoni, I. 2013; Grams, A. 2015

Relevance to the Iranian Case Studies?

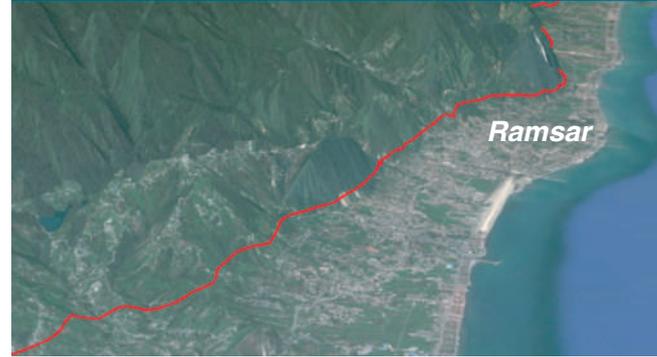
A Proposed Scenario for the 'Green Corridor' by RAI



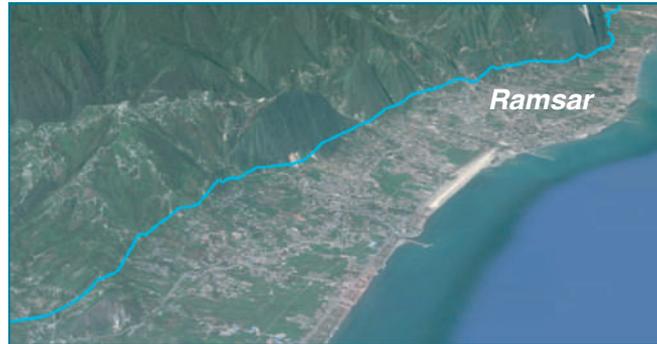
Source: Soltaniehha, M. 2019

Complex scenarios at 'Green Corridor' how could informal planning be helpful?

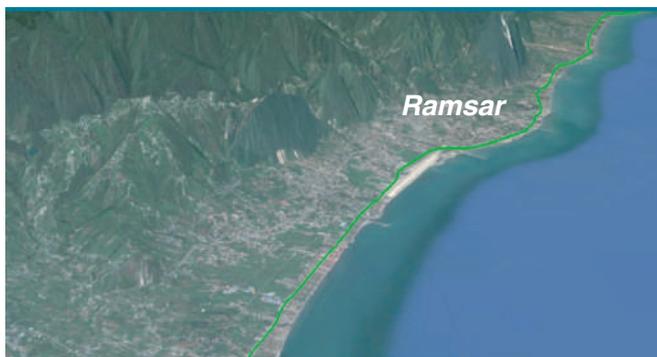
Option I



Option II



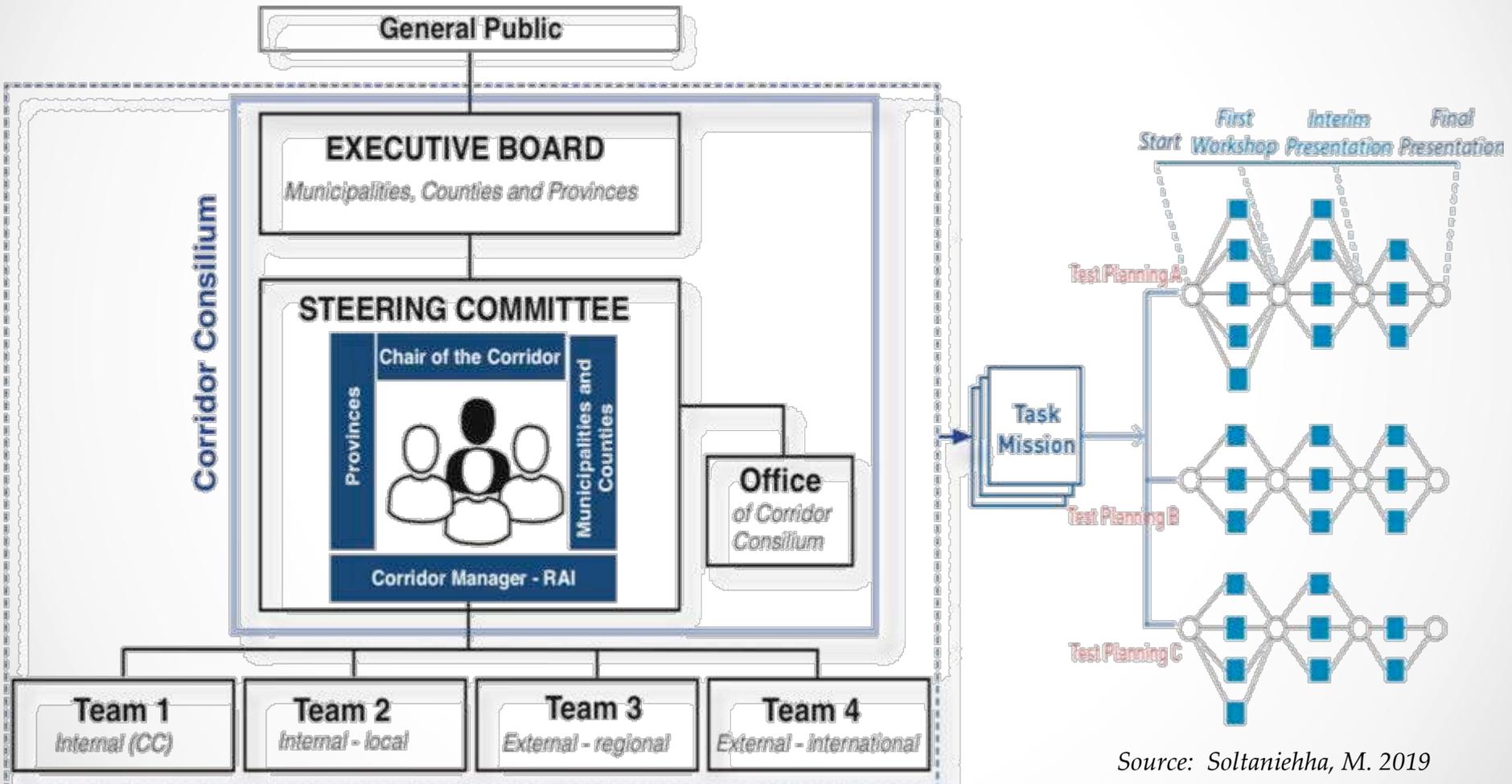
Option III



Source: RAI (Iranian Railways, 2018)

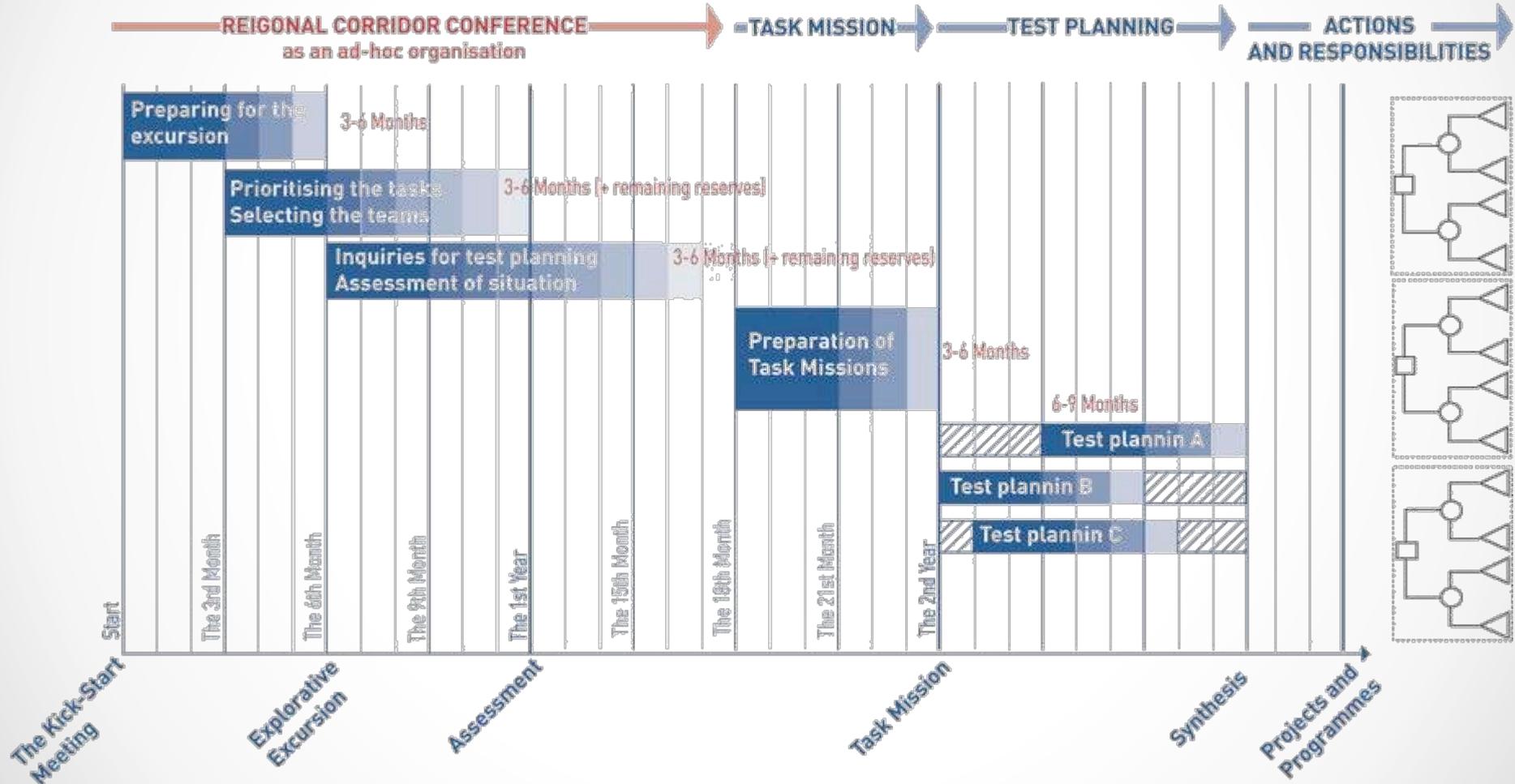
● Dr. Mahdokht Soltaniehha

Proposed Planning Process for the Green Corridor



Source: Soltaniehha, M. 2019

Recommended procedure for a Corridor Consilium in the Caspian Sea region



Source: Soltaniehha, M. 2019

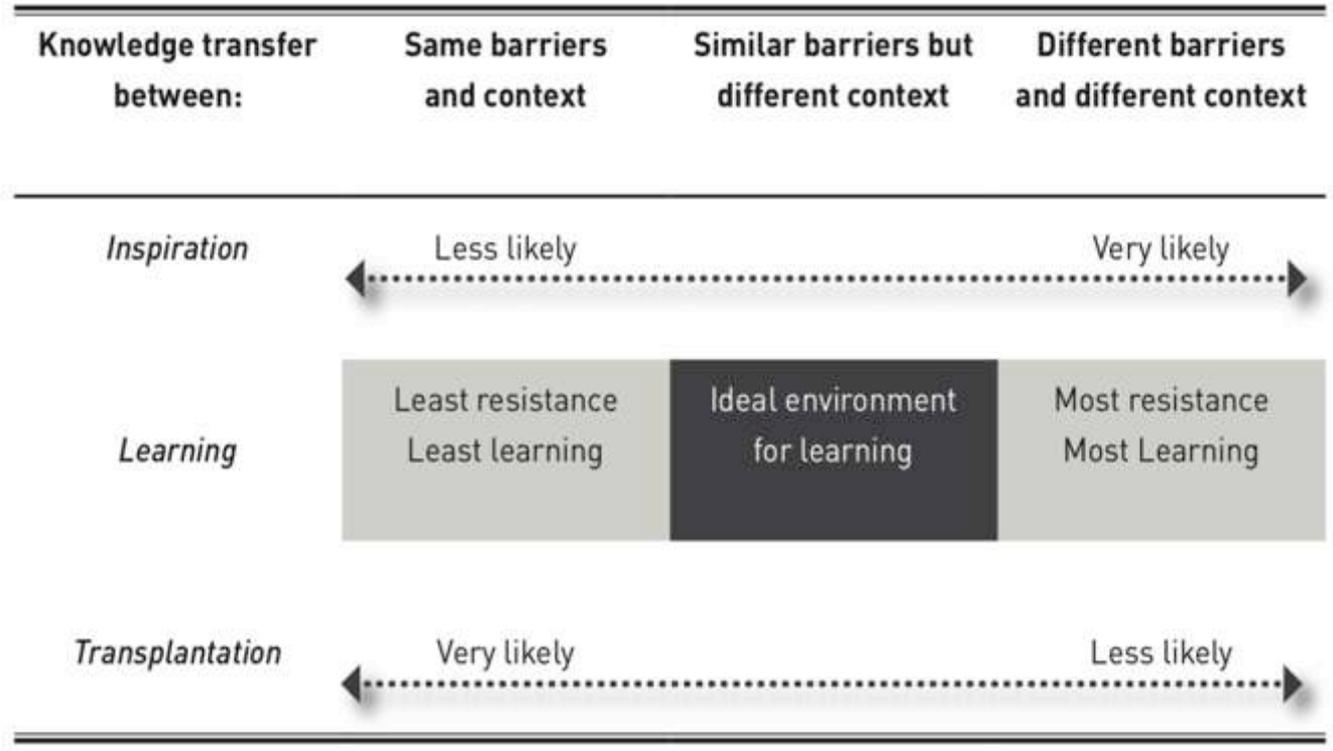
Framework on the likelihood of transfer between same, similar and different systems (barriers and context)

Tehran, a metropolitan of 15 million inhabitants; with three railway stations

Different problem?
Similar nature, different scales

Tehran as a overcrowded metropolitan city has no capacity for resiliency in case of confronting natural and man-made catastrophes

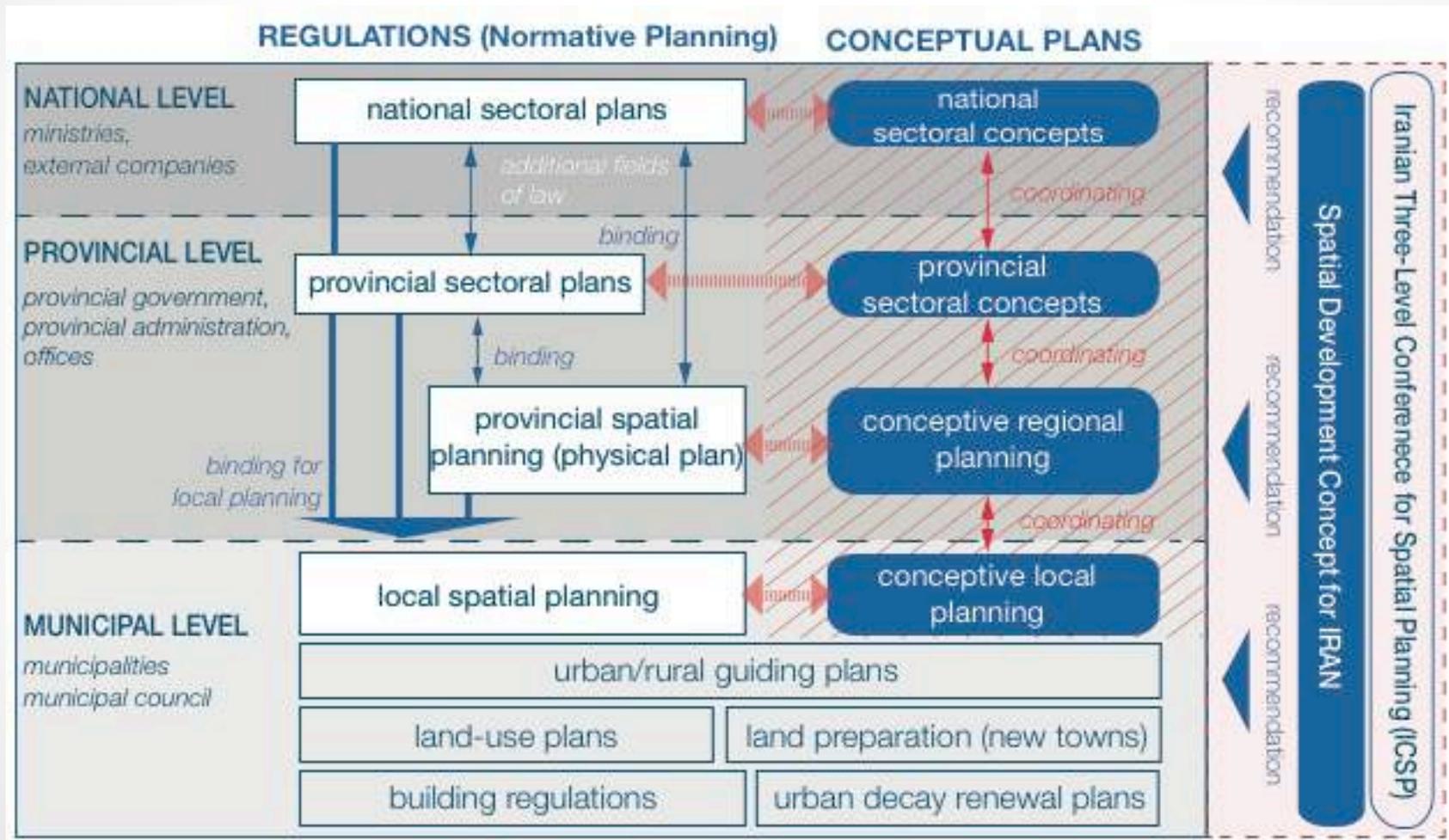
A rapid population growth is expected in the northern rural areas due to expansion of road infrastructure;



Source: author adapted from TAN, 2013

Possible solution?
Supplementary informal planning instruments

Proposed structural shift in spatial planning system in Iran



Source: Soltaniehha, M. 2019

Thank you!
Sepas!
Je vous remercie!

