Александр Полозун

НУГ “Дальний Север как объект региональной политики: преодоление негативных последствий удаленности”

Нормализация Севера: города-ворота и конец эпохи фронтира


Regional Science in Turbulent Times
Regional Science in Turbulent Times
Regional Science in Turbulent Times


Regional Science in Turbulent Times
In search of a resilient, sustainable and inclusive future
26-29 AUGUST
Panteion University
ATHENS GREECE
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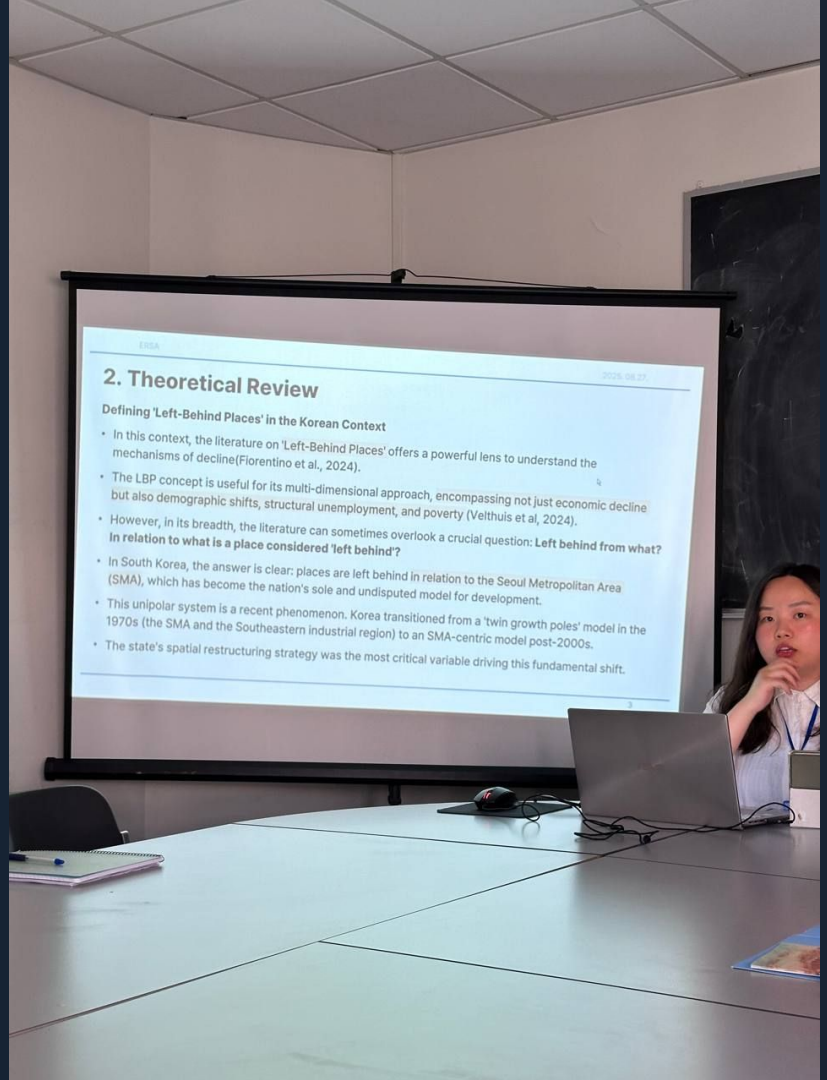
Paul Krugman
Turbulent Times


Regional Science
or
Spatial Economics
Regional Science in Turbulent Times
in search of a resilient, sustainable and inclusive future


ERSA
2026.08.27
2. Theoretical Review
Defining 'Left-Behind Places' in the Korean Context
In this context, the literature on 'Left-Behind Places' offers a powerful lens to understand the mechanisms of decline(Fiorentino et al., 2024).
The LBP concept is useful for its multi-dimensional approach, encompassing not just economic decline but also demographic shifts, structural unemployment, and poverty (Velthuis et al, 2024).
However, in its breadth, the literature can sometimes overlook a crucial question: Left behind from what? In relation to what is a place considered 'left behind'?
In South Korea, the answer is clear: places are left behind in relation to the Seoul Metropolitan Area (SMA), which has become the nation's sole and undisputed model for development.
This unipolar system is a recent phenomenon. Korea transitioned from a 'twin growth poles' model in the 1970s (the SMA and the Southeastern industrial region) to an SMA-centric model post-2000s.
The state's spatial restructuring strategy was the most critical variable driving this fundamental shift.


Region under pressure:
Wind power technology and the rewriting of new regional conflicts and local identities.
64th ERSA Congress, Athens
Panel:
Left Behind Areas, Insularity, Inner Areas and Border Regions
Connie Reksten
Western Norway University (HVL)

A HYPOTHESIS ABOUT GATEWAY CITIES

A. F. BURGHARDT

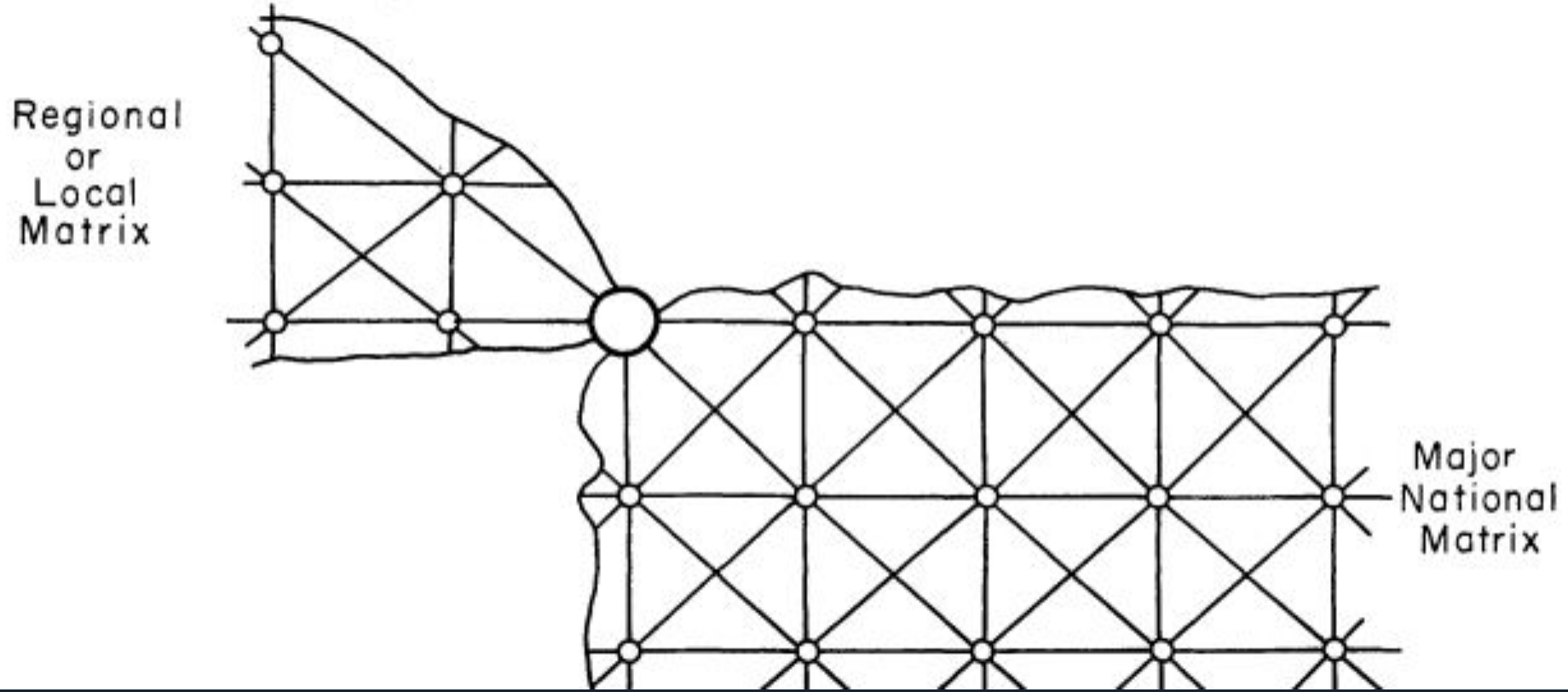
ABSTRACT. Gateway cities develop between areas of differing intensities or types of production; they are located towards one end of their tributary areas; and they are heavily committed to transportation and wholesaling. It is hypothesized that if the tributary area of a gateway city is large enough and productive enough to support the rise of large central places, then the gateway will be shorn of much of its previous hinterland and will itself come to function as a central place. The pattern of growth of Winnipeg fits the sequence set out in the hypothesis. Briefer case studies of Cincinnati, St. Louis, Minneapolis-St. Paul, and Cluj also support the hypothesis. The rise of gateways is dependent upon the presence of threshold values for distance, and levels of productivity. The gateway concept may help explain the existence of twin cities, but is in opposition to the basic spatial postulate of the von Thünen model. KEY WORDS: *Central places, Gateway cities, Transportation, Twin cities.*

Gateway cities: stages of development (A.F. Burghardt, A Hypothesis about Gateway Cities, 1971)

Gateway cities develop at the boundary of contrasting territories (fertile/non-fertile, industrial/agricultural, developed/developing).

Stages of gateway city development:

1. Growth through income and investment in new territory.
2. If the region is small, no major central places emerge; if large and economically significant, new competing centers appear.
3. As new centers grow, the gateway city loses its “gateway” role but remains a key transport hub.
4. If no new centers develop (e.g., due to harsh climate), the gateway city retains dominance.


Regional
or
Local
Matrix
Major
National
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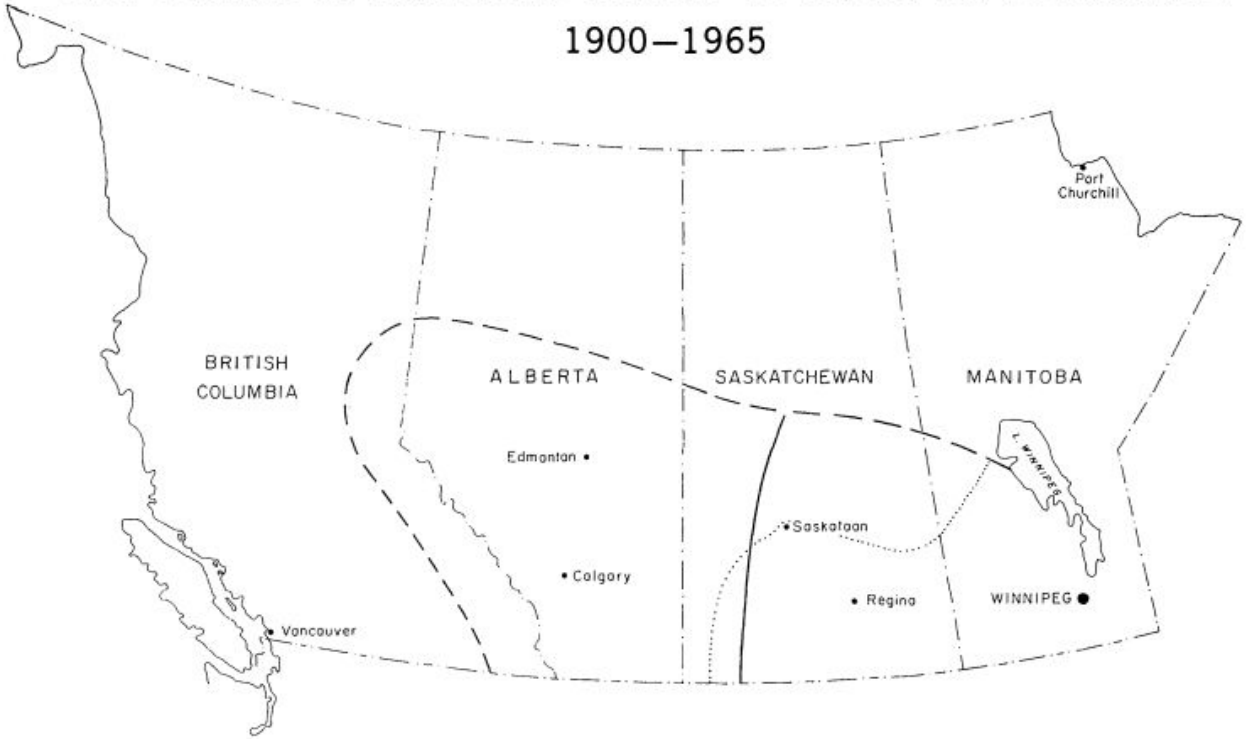
THE DECLINE IN THE AREAL EXTENT OF WINNIPEG DOMINANCE
1900–1965

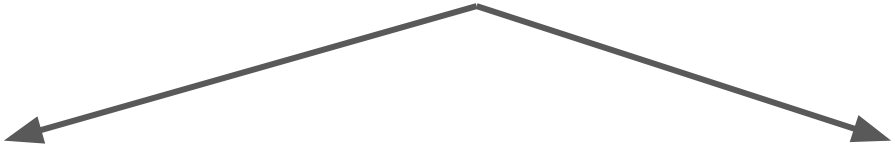


Approximate Extent of Winnipeg's Service Area, 1900.

Major Influence Divide between Winnipeg, and Edmonton & Calgary, 1965

Limit of the Grain Export Hinterland of Winnipeg, 1965, as defined by freight cost.

Величина зоны обслуживания города-ворот?



Маленькая

(по территории, по ресурсной базе)

На ней не появится новых крупных городов, а город-ворота будет сохранять доминирующую позицию

Большая

Появятся новые центральные места, **забирая на себя** в отдельных случаях функцию “ворот”

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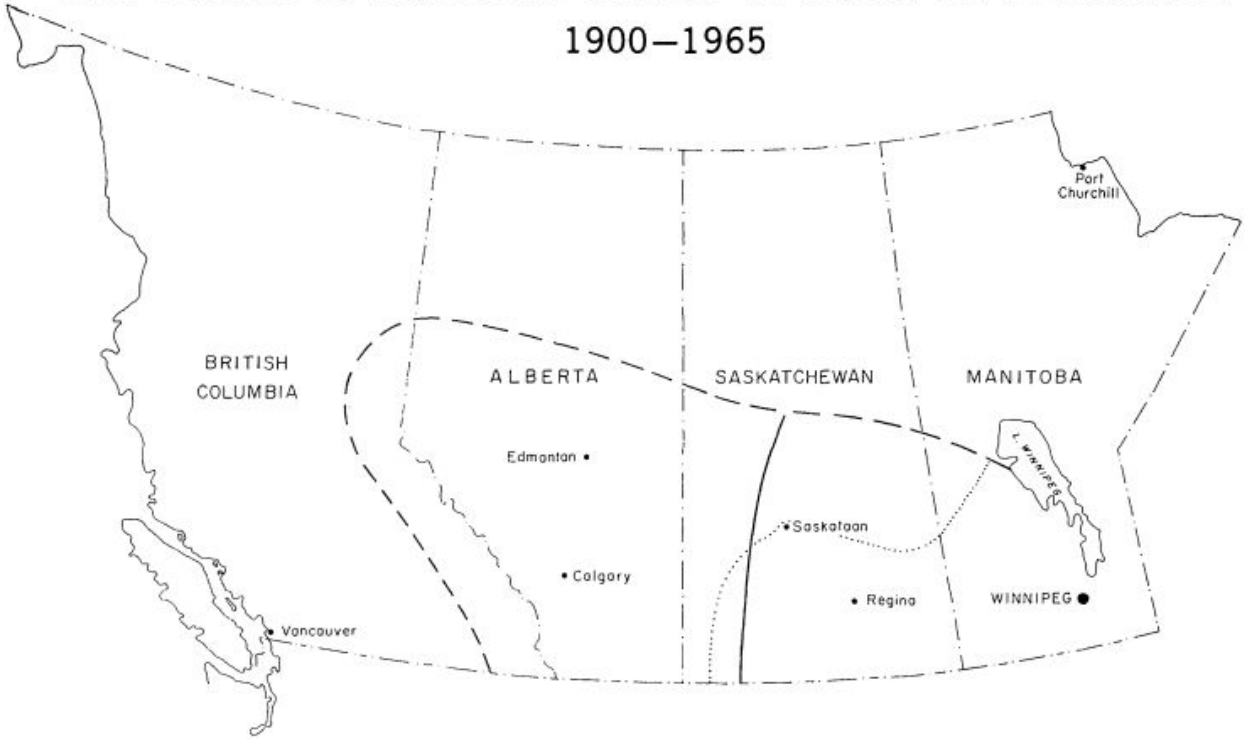

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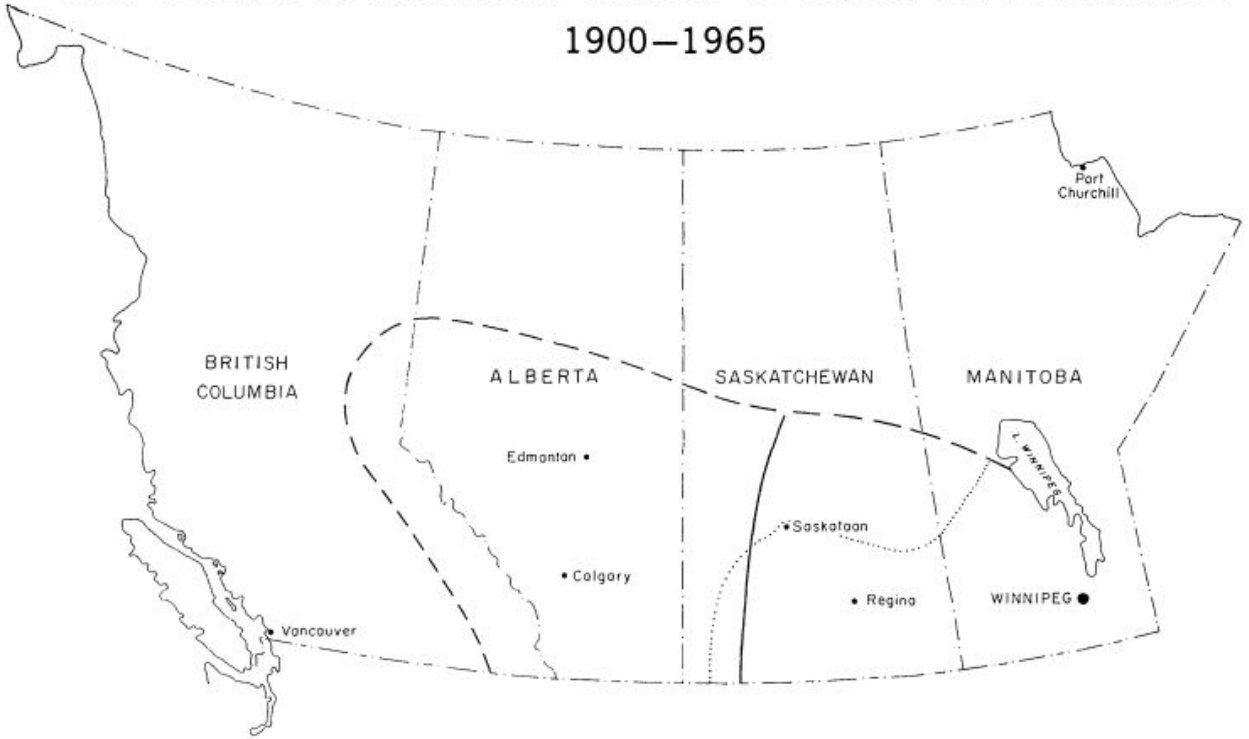

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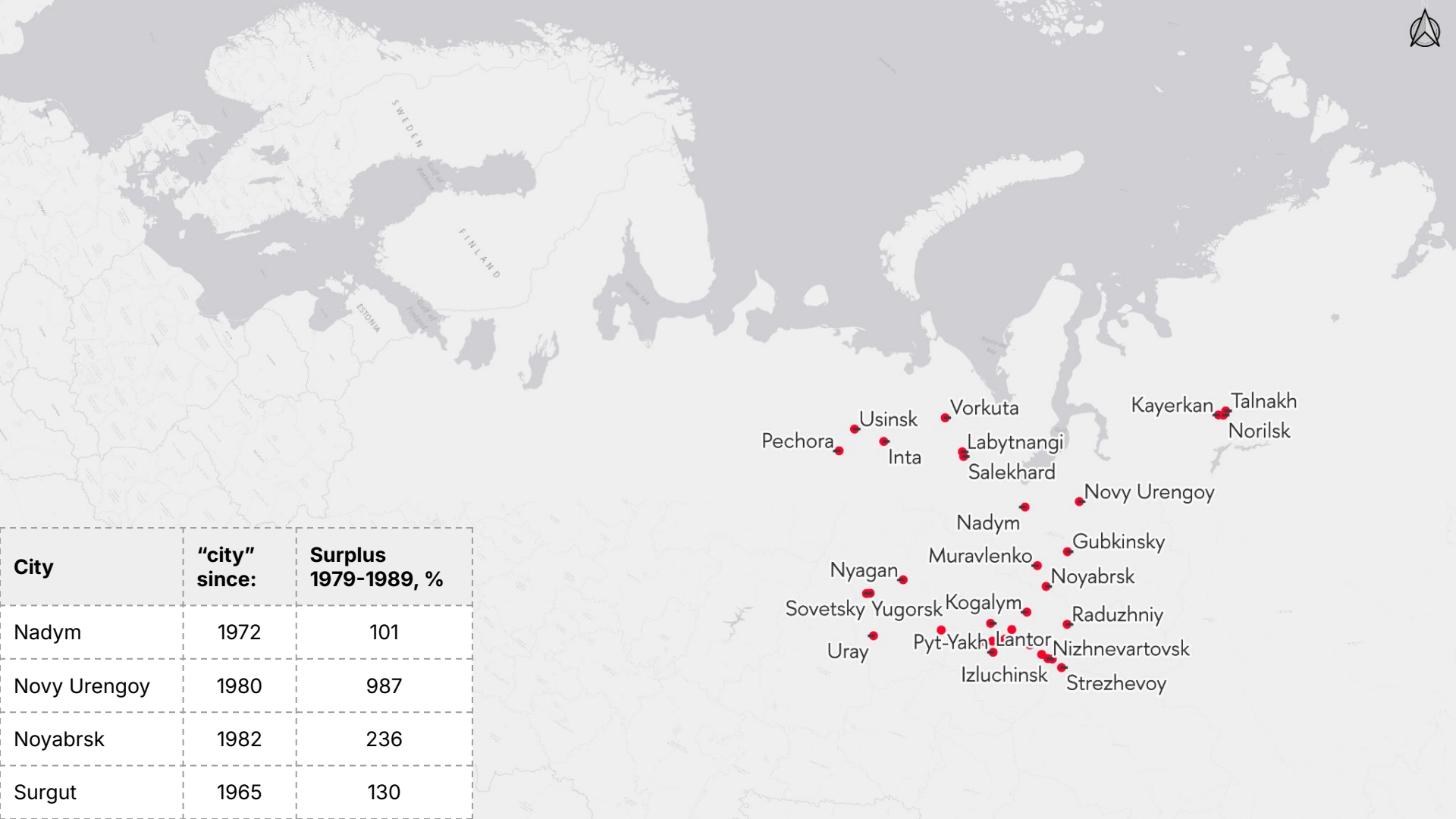
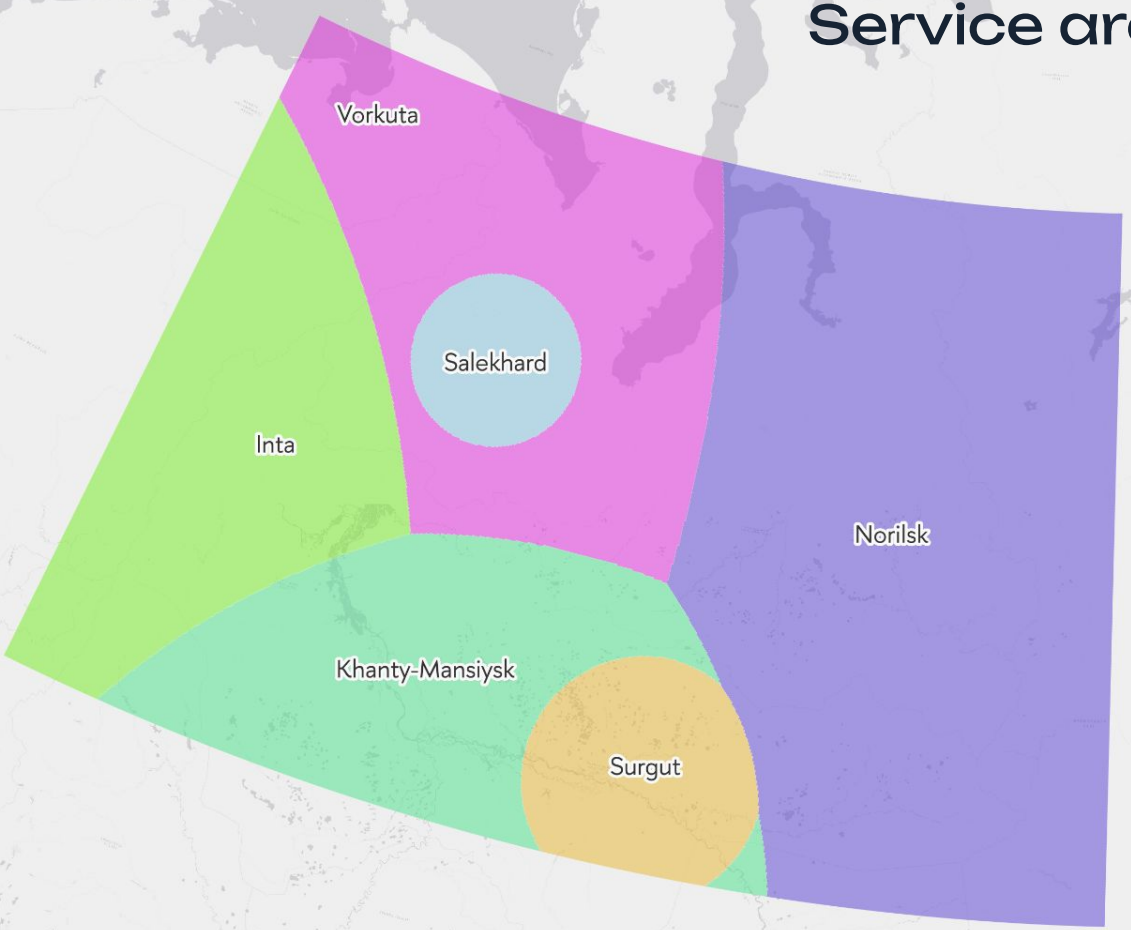
Yamburg
Salekhard
Nadym
Novy Urengoy

Vorkuta
Yamburg
Labytnangi
Salekhard
Nadym
Novy Urengoy
Gubkinsky
Muravlenko
Noyabrsk

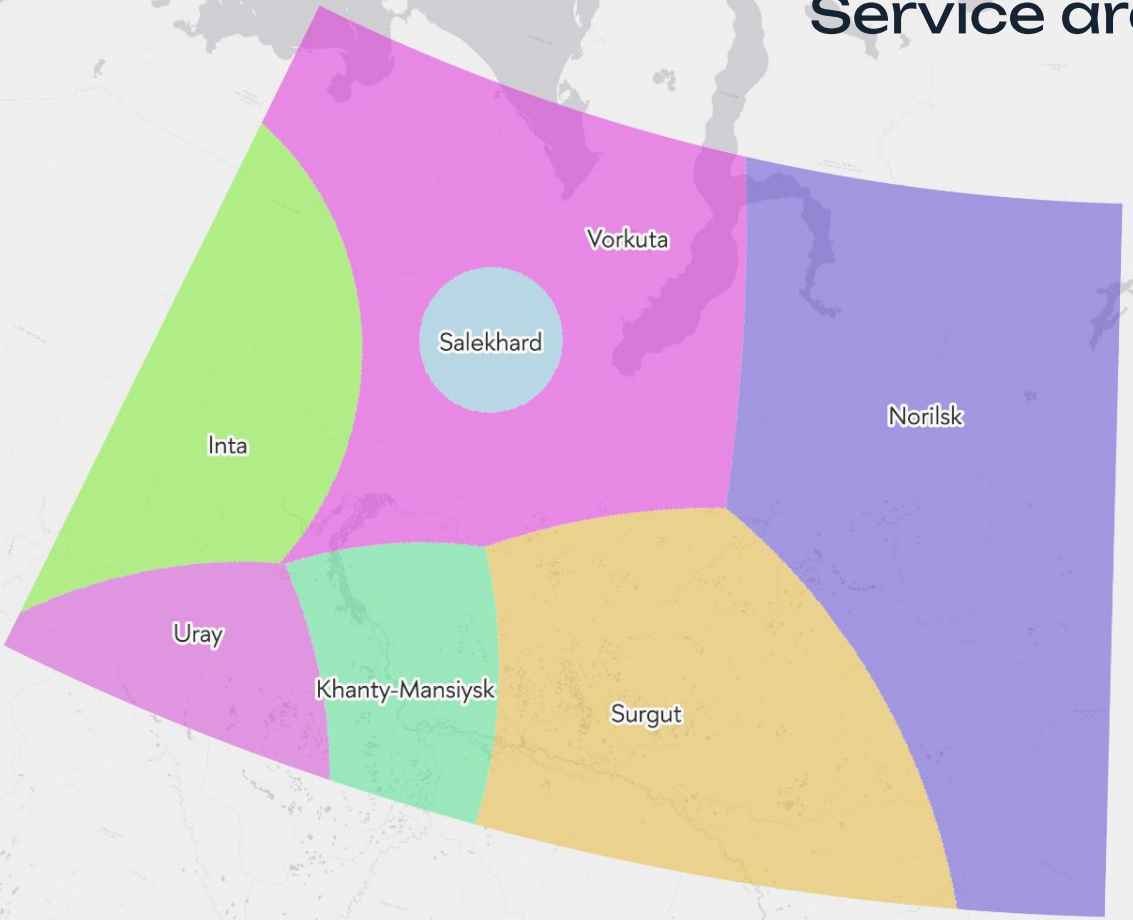


City	"city" since:	Surplus 1979-1989, %
Nadym	1972	101
Novy Urengoy	1980	987
Noyabrsk	1982	236
Surgut	1965	130

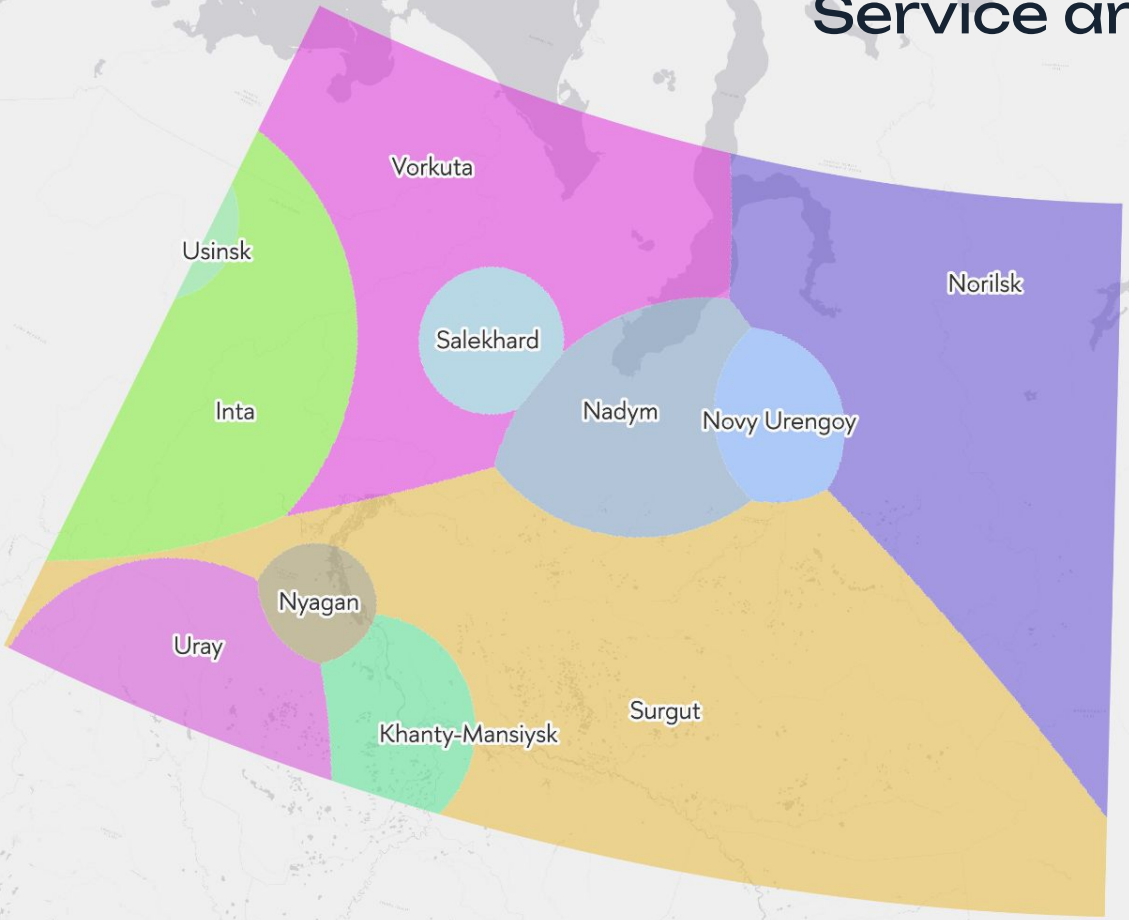
Service areas – 1959



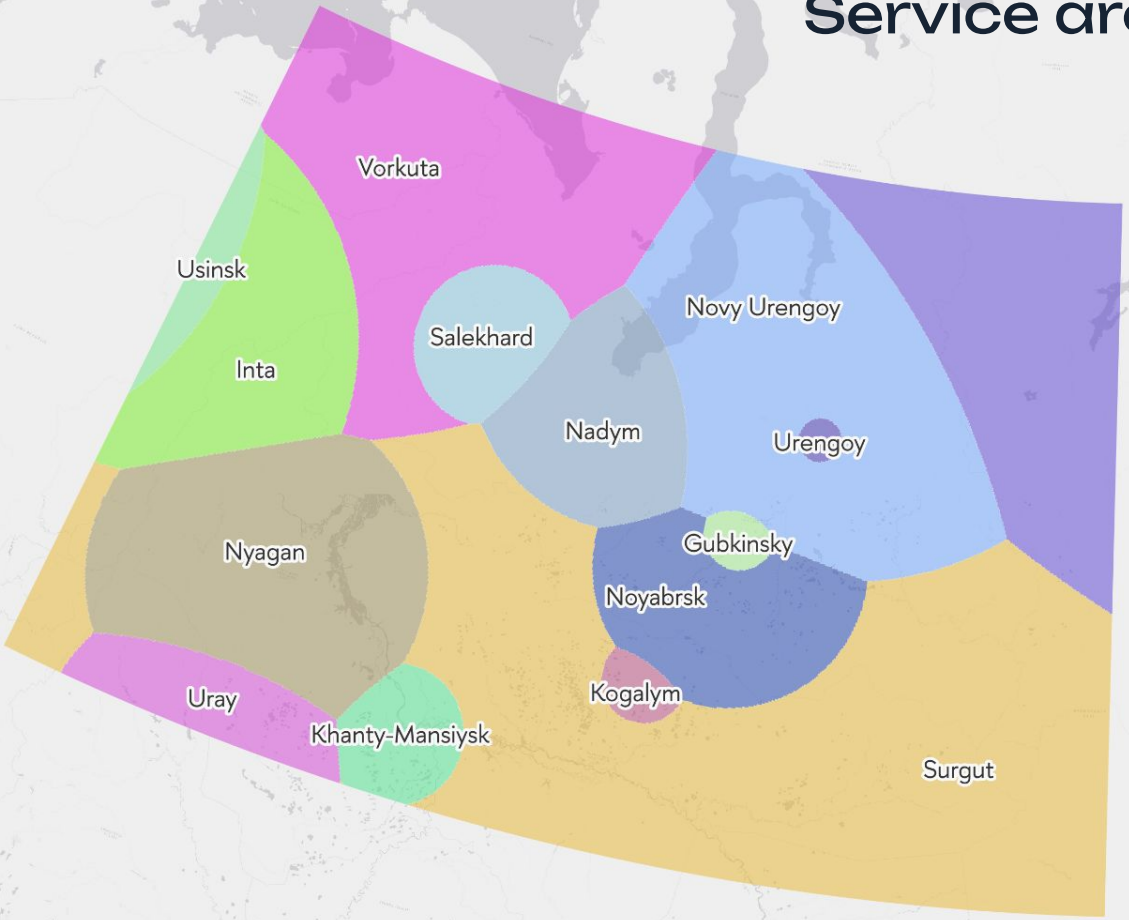
Service areas – 1970



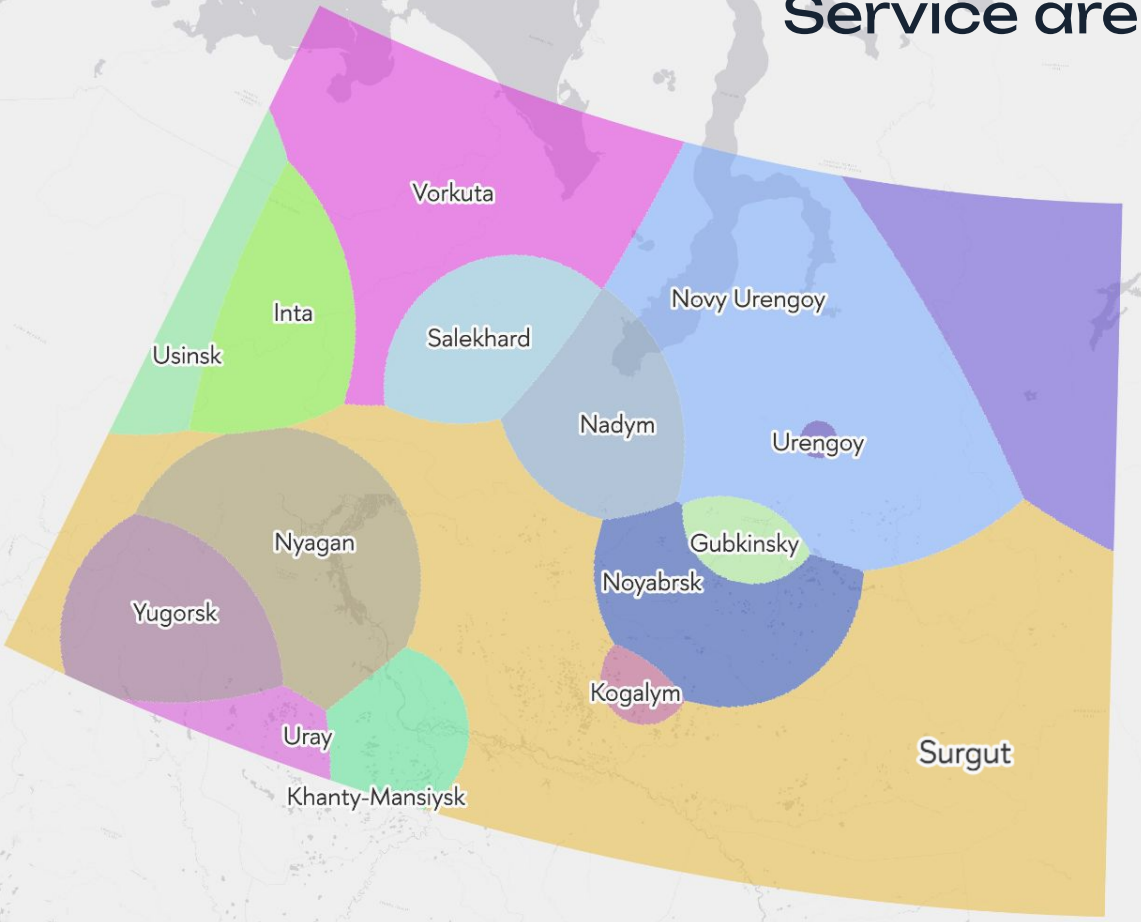
Service areas – 1979



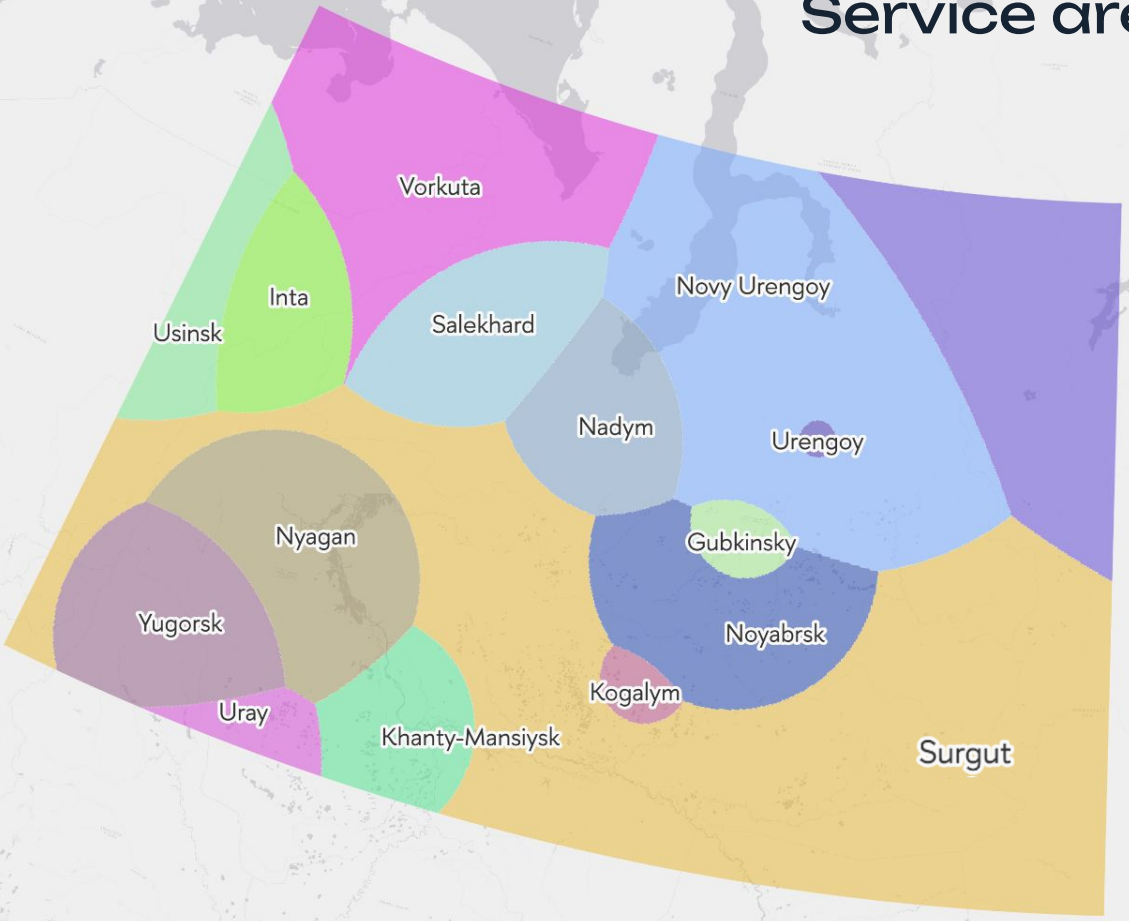
Service areas – 1989



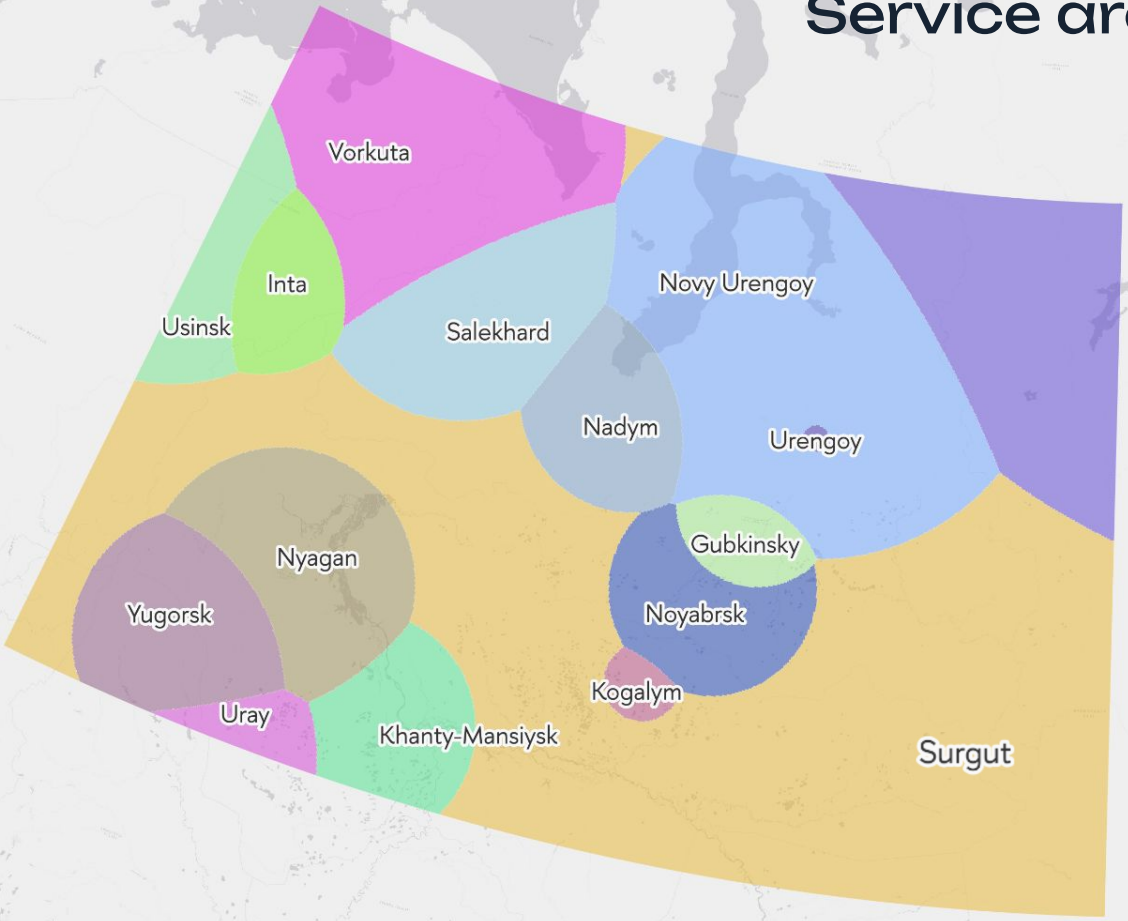
Service areas – 2002

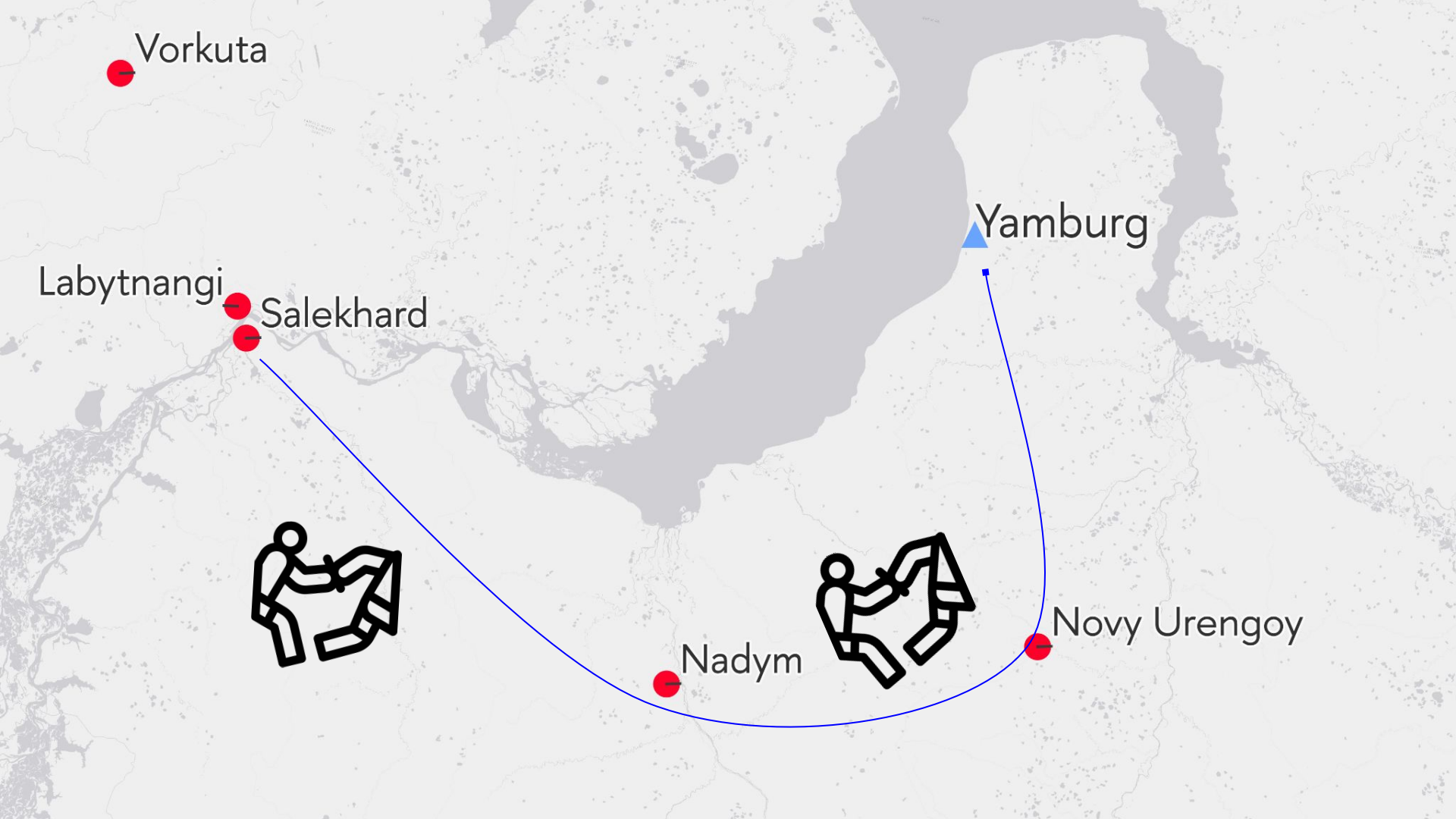


Service areas – 2010



Service areas – 2021




Vorkuta
Yamburg
Labytnangi
Salekhard
Nadym
Novy Urengoy

Наблюдения

Города Надым, Салехард в большей степени утратили функцию “ворот” и с этой т.з. встраиваются в основную сеть расселения

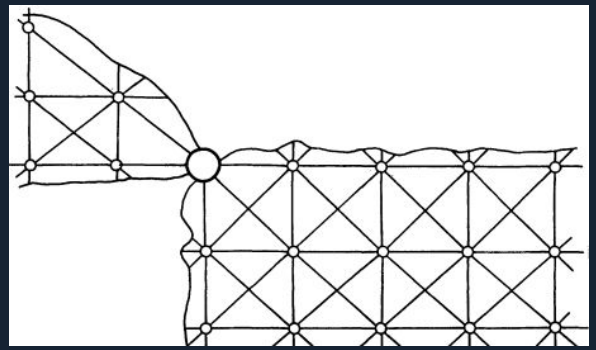
Развитие сместилось от скачкообразного к более закостенелому

Концепция городов-ворот применима для описания развития фронтирных регионов

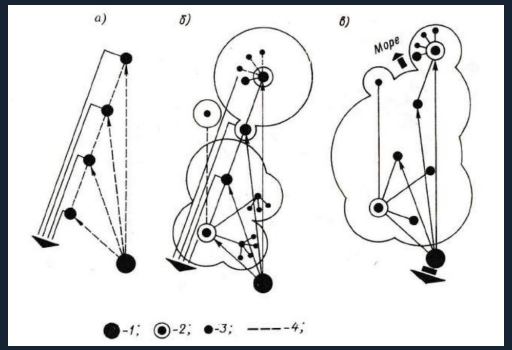
Лирическое отступление!

Theoretical approaches to transforming Central place theory in frontier regions

Concept of gateway cities
transformation of configuration the Central place theory

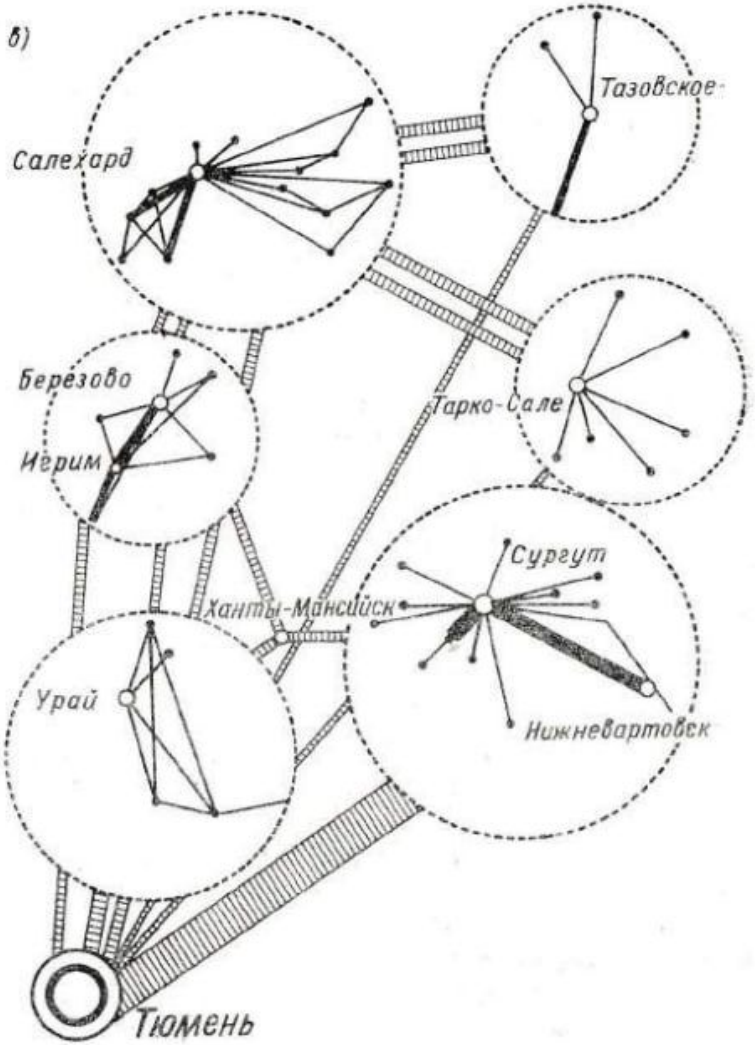


Soviet Theory of interregional settlement systems
transformation of the scale and functional structure of central places



Gateway Cities

connecting **link** between territories of contrasting types (e.g., developed and developing).


б)
Салехард
Тазовское
Березово
Игрим
Тарко-Сале
Сургут
Ханты-Мансийск
Урай
Нижневартовск
Тюмень

Вторая часть

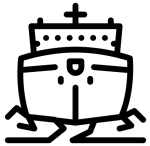
Kondratiev waves (Carlota Perez) and technological paradigms

Transport infrastructure as a factor of technological paradigm applicable to the development of the North

1

2

3



4

5

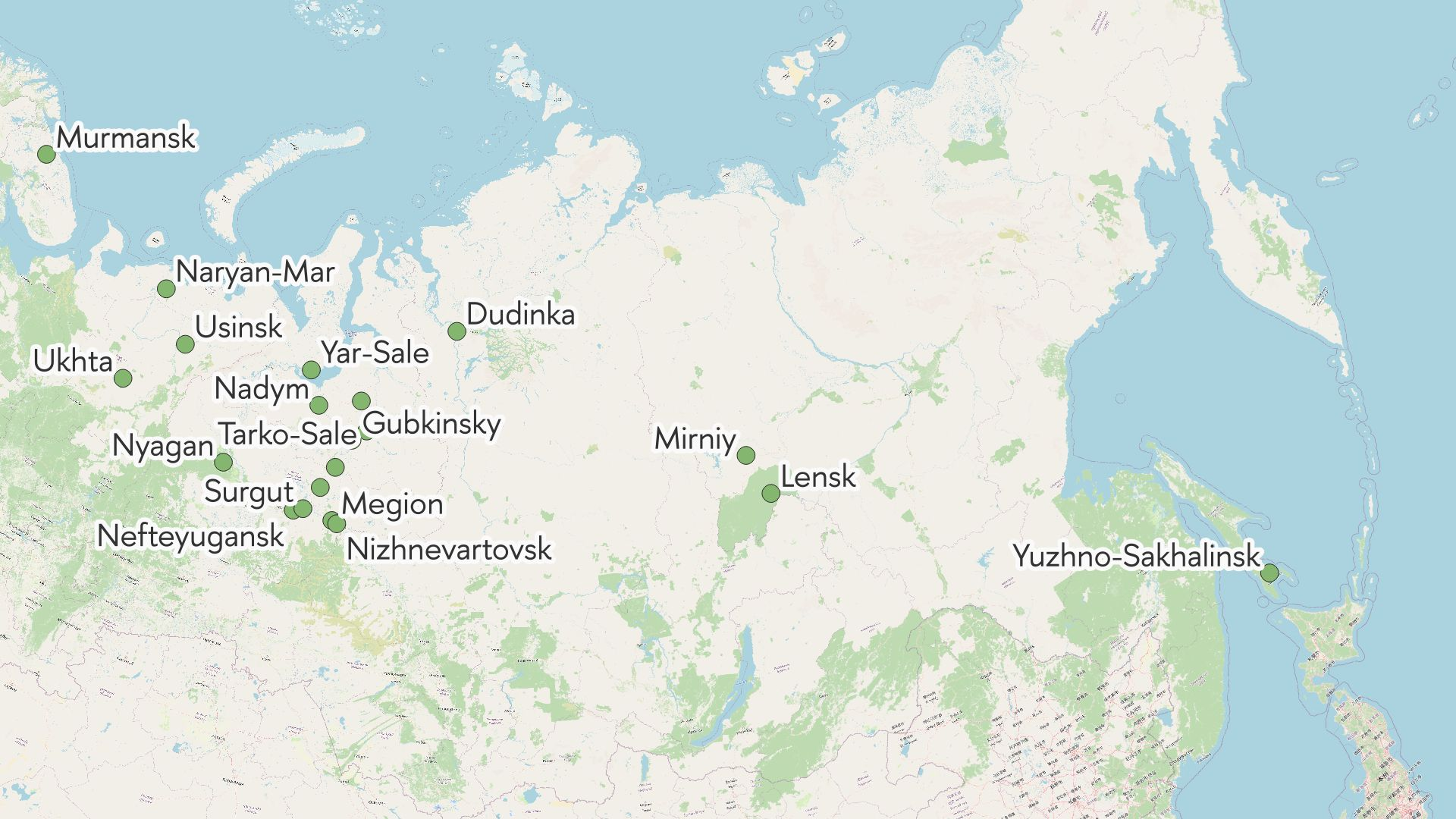
6

Transport and Resource Management in the North

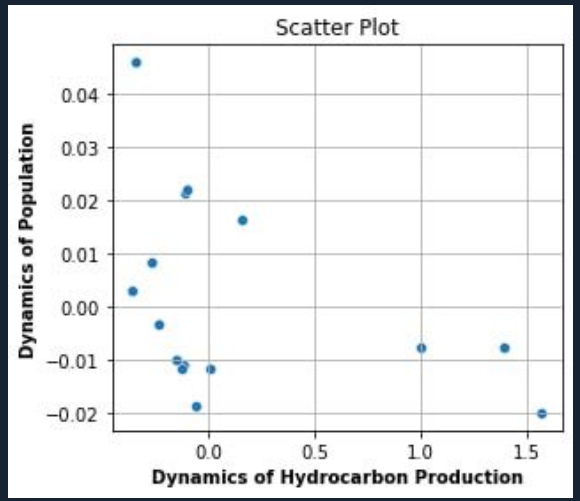
This study tests **two main hypotheses**:

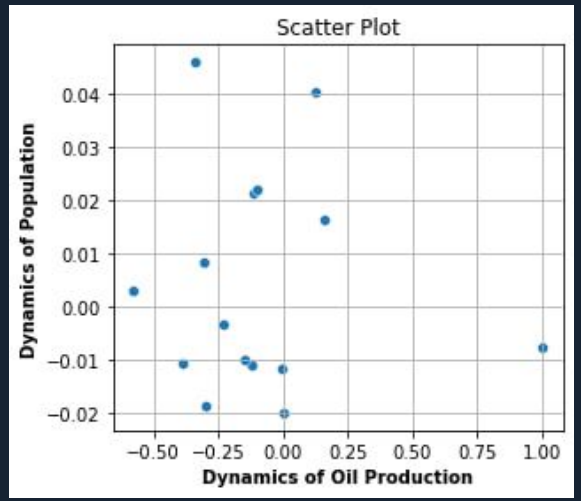
1. **Transport accessibility** — how strongly Arctic cities depend on the presence of year-round ground transport and to what extent their development aligns with modern infrastructure demands.
2. **Oil and gas extraction** — whether the pace of resource exploitation (reserves, production volumes) directly affects population dynamics.

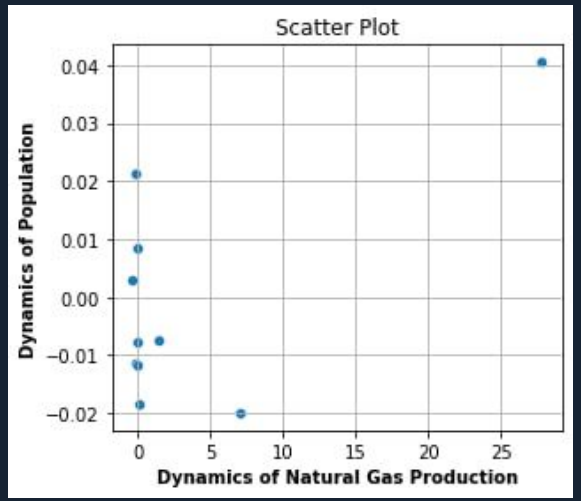
For this purpose, we
1) collected open data on oil and gas fields (2014–2024),
2) identified cities hosting corporate management centers,
3) compiled population statistics for the same period,
4) determined the availability of permanent land access to each city.


Murmansk
Naryan-Mar
Usinsk
Dudinka
Ukhta
Yar-Sale
Nadym
Gubkinsky
Tarko-Sale
Nyagan
Mirniy
Lensk
Surgut
Megion
Nefteyugansk
Nizhnevartovsk
Yuzhno-Sakhalinsk

Oil & gas extraction – linear regression analysis







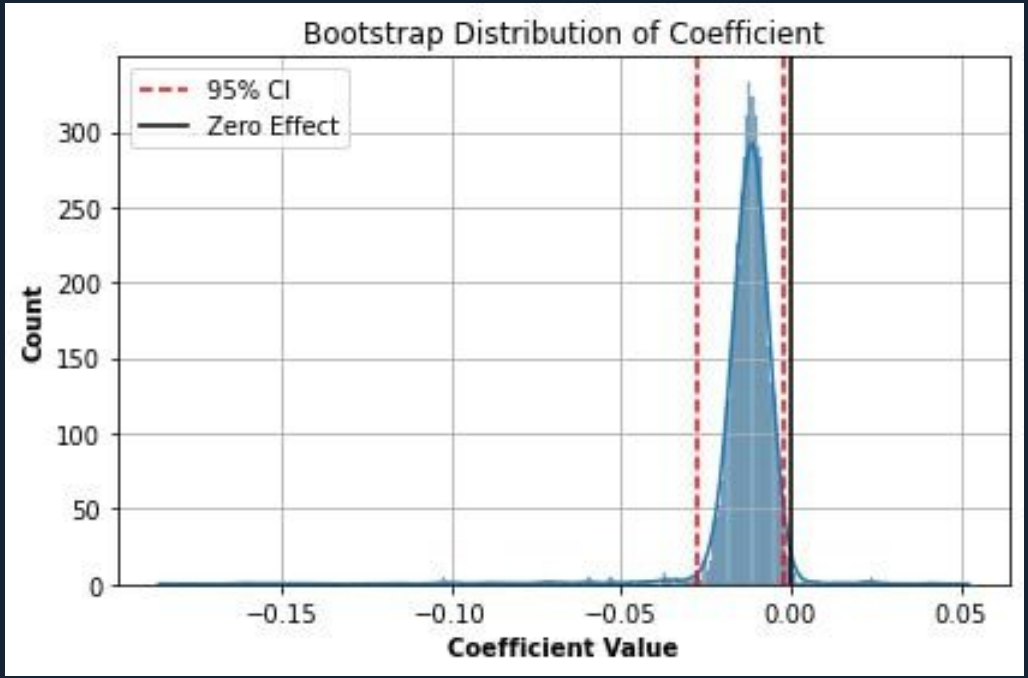
Results of the linear regression analysis are **EITHER** insignificant (due to the sample being too small) **OR** indicate that there is **no relationship** between population dynamics and resource extraction dynamics.

Oil & gas extraction – Bootstrapping

The bootstrap model turned out to be **significant** (!). The coefficient of the impact of extraction dynamics on population dynamics is –0.010.

There is no significant effect of extraction dynamics on population change.

In practical terms, this literally means that if extraction dynamics change by 1 percentage point over five years, population dynamics would respond by only 0.01 percentage points per year.



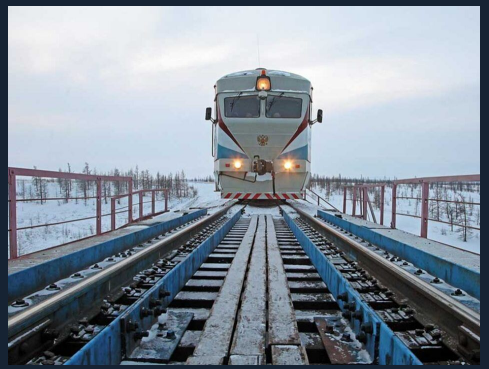
Transport infrastructure – correlation analysis

Typology of cities:

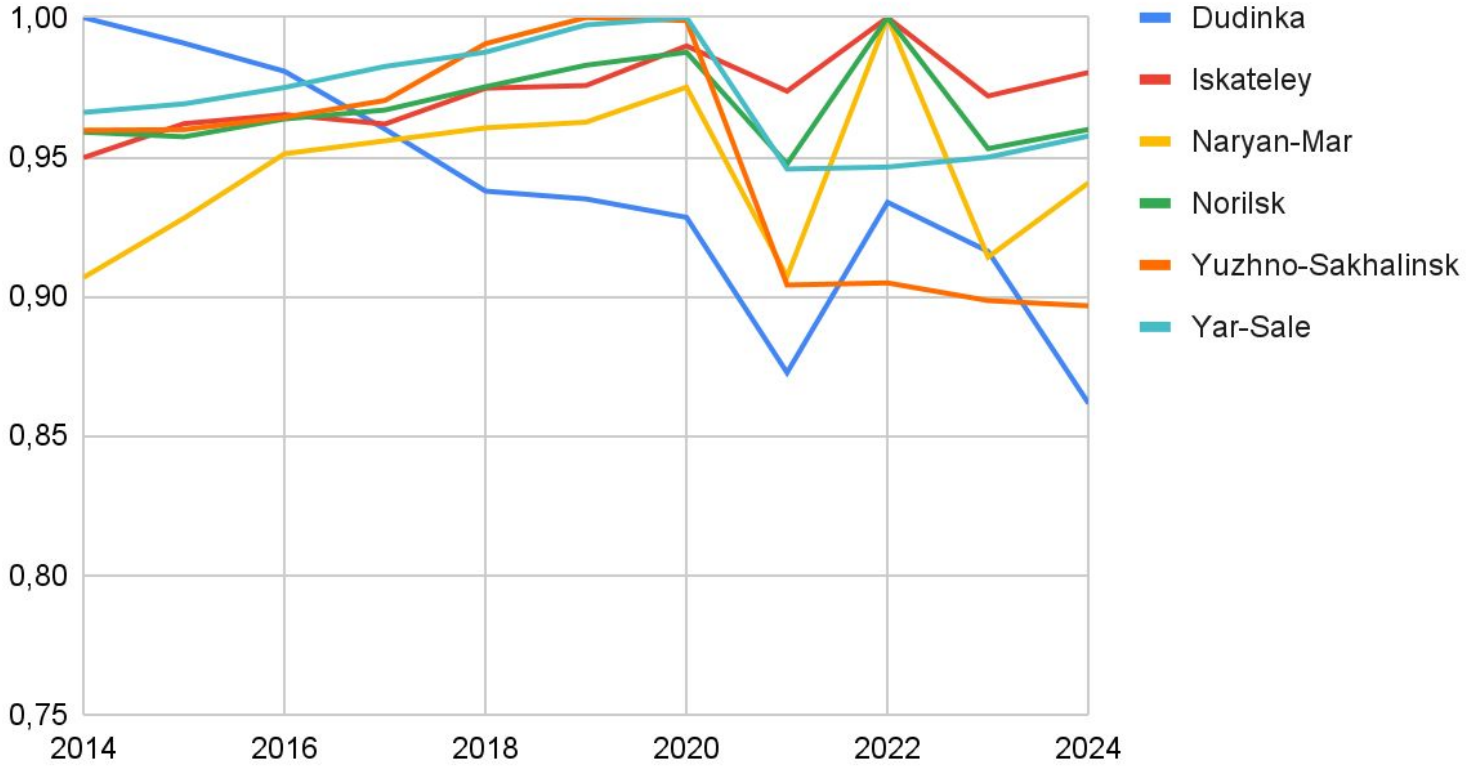
0 – No year-round ground transport access

1 – Only automobile year-round access

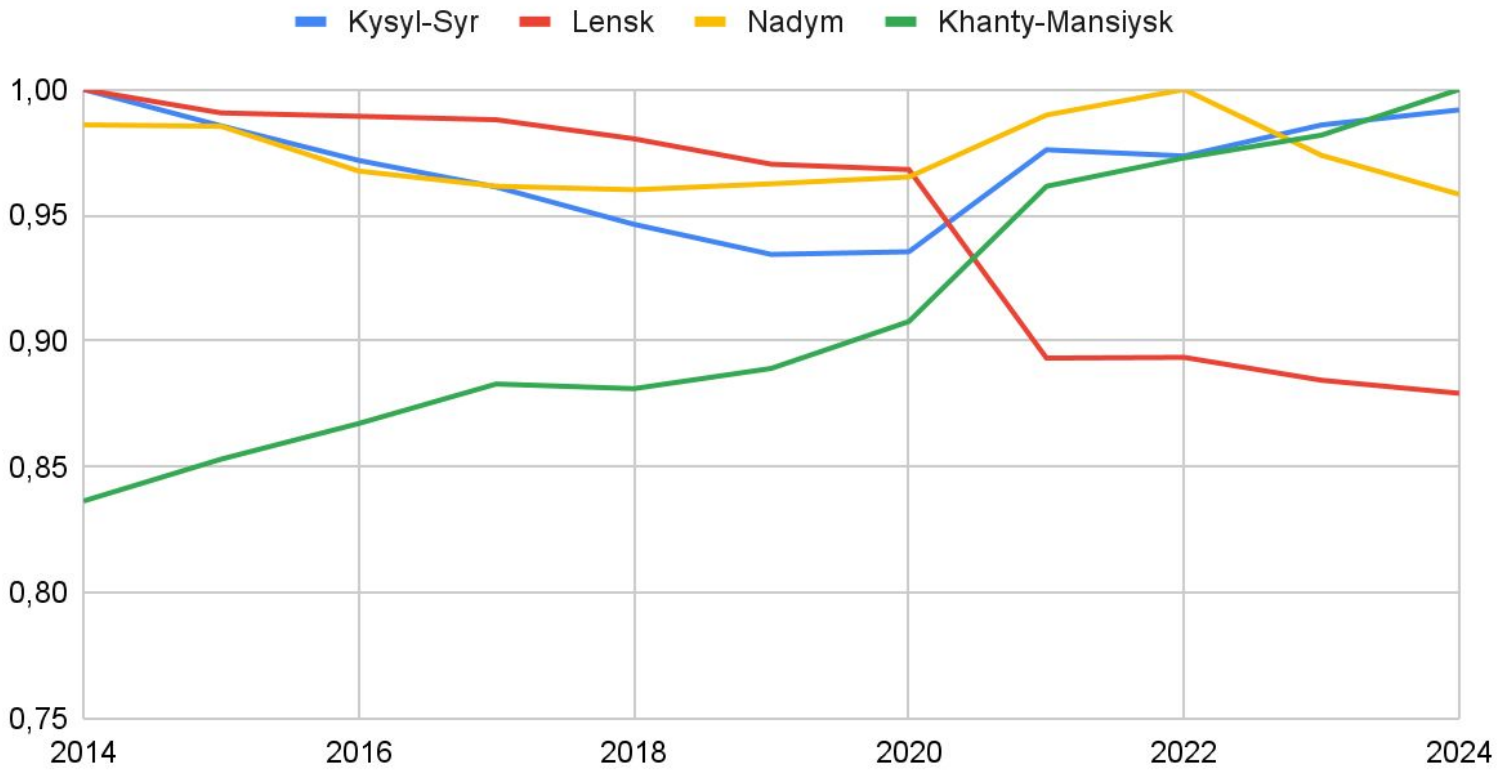
2 – Automobile and railway year-round access



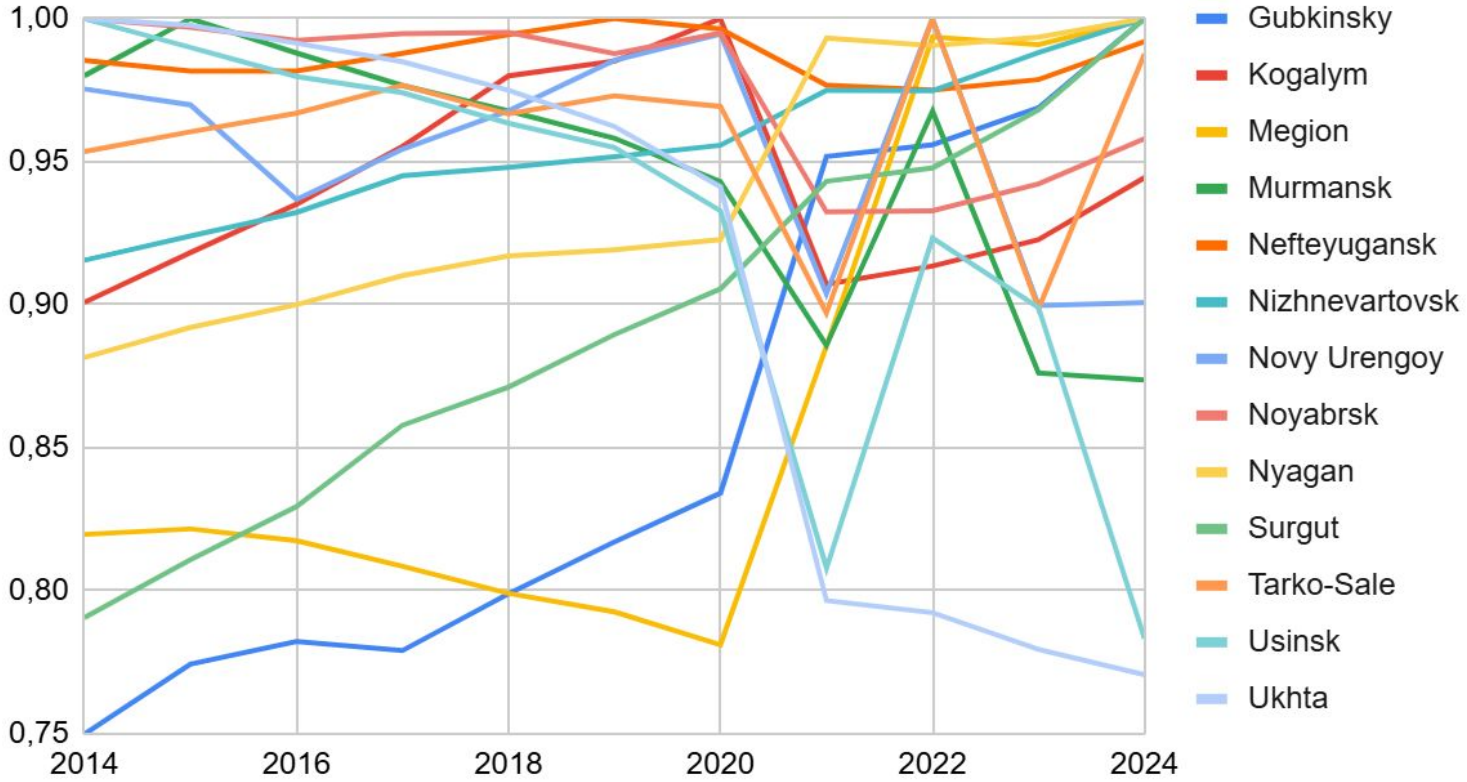
No year-round ground transport access



Only automobile access



Automobile and railway access

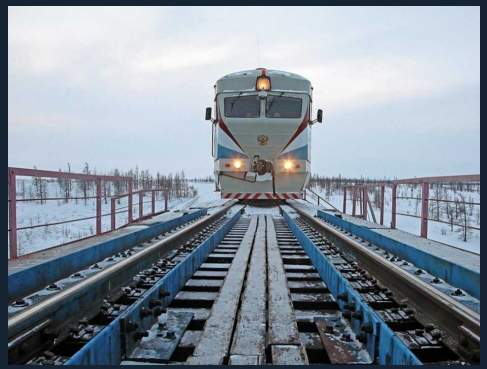


Transport infrastructure – correlation analysis

Results:

1) No significant relationship of transport infrastructure and cities` growth.

2) The majority of cities has both automobile and railway year-round access which may be considered as **shift to the next technological paradigm**.



V.E. Popkov. Workdays.
From the series “Transport”.

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Спасибо Н.Ю. Замятиной, Р.В. Гончарову, И.С. Левиной!

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