Report- Towards a sustainable mobility
Green and blue infrastructures among the Finiq municipality

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Introduction - Finiq is a village located in the homonymous Municipality, which is part of the District of Vlorë. This Municipality has been the subject of the 8th International Workshop of Tirana (9th - 20th January 2023). The workshop, "Re-Inventing Phoeniciae (Finiq): New Intersections of Tradition, Innovation, Landscapes and Tourism", had the aim to address, from different point of view, the problems of "identity", "shrinking" and "isolation" of this area.

The workshop unfolded in two distinct phases. Initially, attendees engaged in a series of enlightening lectures delving into various aspects of Albanian culture, complemented by captivating case studies crafted by both professors and students from Polis University. Additionally, an insightful site-visit to the Municipality of Finiq provided firsthand exposure to real-world applications.

Subsequently, the focus shifted to intensive working sessions, where PhD students were grouped into four specialized teams, each tasked with addressing a specific domain: Infrastructures and Facilities, Environmental Systems, Landscapes and Heritage, and Settlements, Public Spaces and Dwellings. Our team, dedicated to scrutinizing infrastructural and facility concerns within the Municipality, boasted a diverse array of expertise spanning architecture, urban planning, civil engineering, and mechanical engineering.

This diverse blend of skills fostered a rich exchange of perspectives, allowing for a comprehensive analysis and exploration of potential solutions. Through collaborative efforts, this workshop aimed to endeavored to reimagine Finiq by proposing innovative infrastructural and facility enhancements across various scales, thereby contributing to the holistic revitalization of the region.

Re-defining Finiq/Phoenica

The differences in growth between rural and urban areas are deeply rooted in the historical narratives of various regions(Bernard, 2019). There has been a noticeable increase in the focus on rural development in both academic and popular discourse in recent times (Bernard et al., 2019). The problems that rural communities face have been made worse by the collapse of regional transit and the breakup of the socialised sector (Wang et al., 2022). These developments have led to increased rates of unemployment, digital isolation, limited access to public services, and a general reduction in the standard of living(Gray et al., n.d.). Both solo and group modes are included in regional travel; the latter are usually offered by public services (public transport). Key elements impacting regional growth are infrastructure, dispersion of transportation, and public and private transportation (Babin et al., 2022). Villages have serious problems as a result of unequal access to transport services, which lead to poor public transport quality and transport poverty.

In the Albanian context, villages proximate to major urban centers often exhibit isolation primarily attributable to deficiencies in transportation connectivity with adjacent cities. Aligned with this assertion is the case study of Finiq, situated in close proximity to Saranda City, yet characterized by deficiencies in visibility and connectivity to the primary transportation network serving Saranda. Henceforth, these rural communities encounter essential challenges, including but not limited to isolation, depopulation, and an erosion of an identity. Consequently, they forfeit the potential to capitalize on the significance of the opportunities inherent to their territories across various scales.

There are major repercussions when people in rural areas lack access to basic necessities or services, such as greater rates of illness or mortality than in metropolitan areas(Bu et al., 2020). Building new infrastructure—both point-to-point and linear—is a crucial endeavour for rural communities. In order to reduce poverty and promote socioeconomic development in rural areas, new road or rail infrastructure may be essential. It is especially crucial for people who experience social exclusion, of which transport exclusion is a well-known example and clearly separates rural from metropolitan areas. Lack of access to better labour markets or a variety of services is forcing more people from rural communities to migrate to cities, which is causing the rural areas to become less populated(Żukowska et al., 2023). Rural areas' restricted mobility options result in lower levels of education, more difficulty accessing public services, and weaker social ties. Villages without access to transport may turn into "enclaves of poverty" and societal disintegration (Noack, n.d.).

In the case of Finiq/Phoenica, we do find social collapse and population decline as a primarily attributed to economic factors such as unemployment and inadequate service provision, which have driven the younger demographic to seek opportunities elsewhere, notably in Greece. Consequently, the remaining population in these locales consists predominantly of individuals aged 45-65 and the elderly, who are increasingly dependent on social services and healthcare. Across the settlements within the municipality of Phoeniciae, a prevalent social structure is observed, characterized by a dwindling and aging population.

Another significant issue regarding the isolation of the settlements, manifested through their detachment from the central municipality and from one another. Despite the presence of physical connections, isolation persists due to the inadequate quality of these links. Additionally, the level of urban planning exacerbates this isolation, as the settlements are primarily linked only to the center of Finiq/Phoeniciae, remaining disconnected from each other. In some instances, these connections are rudimentary, while in others they are non-existent. Notably, a critical deficiency lies in the absence of a direct connection between Phoeniciae, Saranda and Butrint, and moving on to other cities around.

According to Bu et al. (2020) quick urbanisation, rapidly transformed some major cities, over a period of past 30 years, into a densification reframing the size of the city, impacting directly to the villages around the cities, which are identified as urban villages. In the context of Albania,

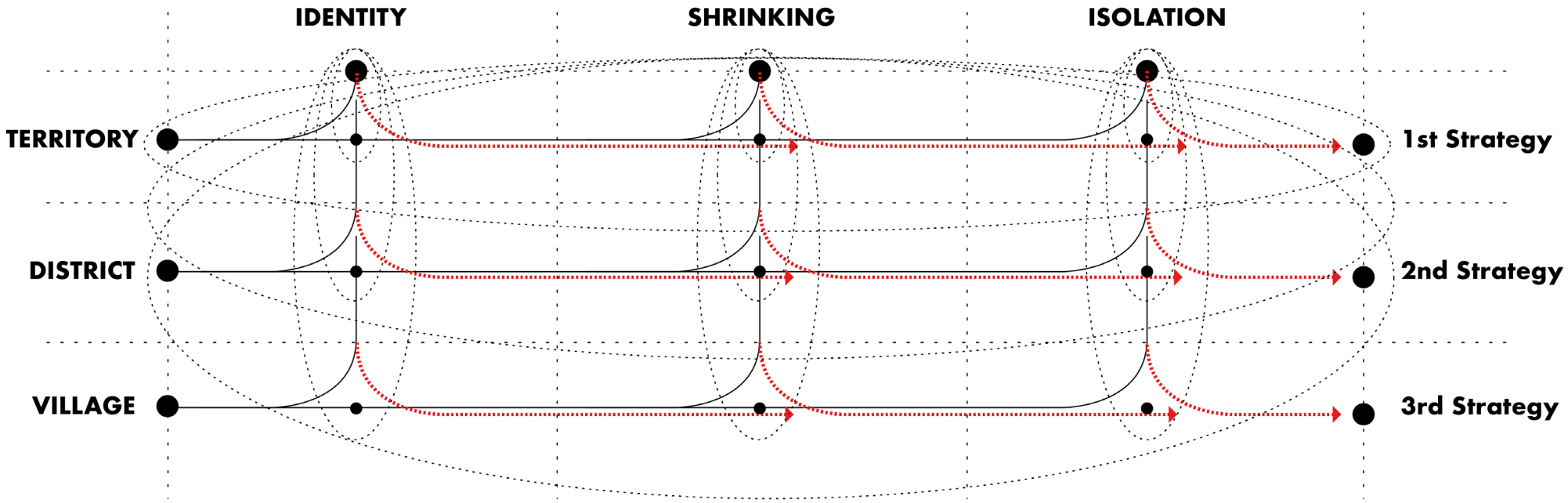


Fig 1 / Workshop Methodology
source / Sadmira Malaj (2024)

2000, some of the villages located within commuting distances from Saranda have been turned into urban villages. More specifically this was more present to Finiq, Mesopotam and Vrion. Meanwhile in the other villages of the Finiq/ Phoeniciae municipality has an agricultural character and relies on the fragmented fields at the property level by law no. 7501 (Law no. 7501, n.d.). The main problem of these agricultural lands is that of floods. The soil drainage system appears to be degraded and there is a need for a renewal of the entire system. This system should be accompanied by the improvement of the quality of the irrigation system.
On the other hand, the Municipality of Phoeniciae presents a series of potentials that, overlapping, make up the "genius" of this area. Located in the southern region of Albania and on the Ionian coast, this municipality combines great natural, historical and culinary assets.
The Finiq community, like many Albanian rural towns, faces the challenges of shrinking population, isolation, and lack of identity. In this section, these issues will be approached from the perspective of the infrastructure and connectivity of the village within the surrounding infrastructure system.

Methodology

From a methodological point of view, this workshop starts with a clear research question. The research question of this workshop is related to finding spatial answers that provide solutions to urban problems generated precisely by the transformations/problematics listed above (paragraph 1). Specifically, the research question of the project is: How should the form of the territory and the settlement be in such a way that it generates well-being and creates conditions so that the population does not shrink?
To answer the above question the workshop is divided into several steps that are not necessarily sequential but that may even overlap with each other. The first step is to gather information at a theoretical level that is directly related to theoretical studies on resilient and shrinking cities. In parallel with this step, detailed analyses will be made at the territorial and urban level on the case of the Phoeniciae Municipality, emphasizing the risks and dangers to which this Municipality is exposed.
The second step has to do with the processing of the data extracted above within the workshop. In this intensive workshop beyond the analyses made in the first step it is expected to give specific proposals at the theoretical and practical level to answer the research question posed at the beginning of the paragraph.
Participants will focus on three main dimensions: i) planning strategies in territorial scale; ii) urban strategies in cities scale; iii) urban projects in architectonic scale.
The third step of this research is related to the detailed research for each of the dimensions mentioned above where each participant in the workshop is expected to develop a theoretical and practical contribution in proposing new strategies or spatial models that are able to withstand the shrinkage of the city.
In detail, the methodology adopted to study the Municipality has been the following:
1) analysis of the geographical position and historical relevance of the Municipality of Finiq;
2) definition of three different scales (territory, district, village);
3) analysis of the three main problems ("identity", "shrinking" and "isolation");
the combination of these various analysis, would lead us to the 3 main strategies in different scale.

Analyses and main findings

Before the analysis of the State of the Art of the Municipality, in order to give solutions to the problem of "identity", between the village of Finiq and the city of Delvina is around 8 km, at South to the Municipality of Konispol, at East to the Municipality of Dropull and at West to the Municipality of Saranda, 20 km from the city of Saranda. The Municipality consists in five municipal units (Finiq, Livadhja, Dhivri, Mesopotam and Aliko) and includes 58 villages overall. Here, the population, according to municipal registers, is around 35000 inhabitants, although these records has not been updated since the 2011 census data, which indicates that the population reaches 11862 inhabitants. (Citypopulation.de, 2017)
The analysis started with the study of the geographical location of Finiq inside the Municipality. In particular we posed attention in the existing heritage of the Municipality. The numerous touristic sites (natural, religion, war-related and archaeological) have suggested us to integrate all these sites with the villages.
As suggested by literature, recently the field of tourism has witnessed a growing proliferation of new forms of tourism, that can be resumed by the expression "slow tourism". People travel to appreciate the natural environment (ecotourism), immerse into different cultures (cultural tourism), visit the authentic past/remains of people and places (heritage tourism), learn the harmony among the environment, residents and visitors (green tourism), or obtain desirable medical treatments and services (health/medical tourism). Our proposal in terms of infrastructures and facilities was specifically addressed in order to attract such kind of tourists.
In our proposal we considered more than just the touristic relevance of the Municipality, but a community improvement for the Municipality. In this regard, we suggested a strategic agriculture Hub, that could be useful for all the community, notwithstanding a correct agricultural management. So, in terms of infrastructures we thought about the connections to the close Municipalities and to Greece. For historical and placement reasons the analysis of the Municipality in different scales (territorial, district and village) and an additional fourth scale, larger than the territory scale, suggested us to conceive sustainable connections in terms of costs and environmental to address the three main problems of the Municipality.
For our research we considered three scales to address solutions for the problems of "identity", "shrinking" and

"isolation":
- a "territorial scale", that includes the entire Municipality of Finiq;
- an "urban scale", which is restricted to Finiq and the close villages;
- a "village scale", that allowed us to propose punctual intervention.

The proposed infrastructures needed to be contextualized in a larger scale in order to properly identify the actual connections with the rest of the country; An additional scale was analysed, including the South-Eastern Albania.

Starting from the larger scale, i.e. the Municipality of Finiq, the "identity" of the area underlines the multiplicity of its various resources; the main aspects are related to agriculture, with olive oil, cheese and honey productions and harvesting of citrus; with mixed cultures and religions due to the integration of Greek population representing the majority of inhabitants. Inside the Municipality, the problem of "shrinking" is mainly due to emigration from the area to other countries, especially Greece, for educational and occupational purposes. In addition, we observe an internal emigration to main cities such as Tirana and Saranda looking for education and facilities.

The issue of "isolation" is related to the geomorphologic characteristic of the area (mountains and narrow valleys); other factors that has determined the segregation of the area is the lack of infrastructures and maintenance of the existing roads.

4. Strategy – FINIQ STREET-SCAPE – Interlinking the potentials

These problems have been addressed in the context of infrastructures and facilities. We started to develop our proposal performing an analysis of the state of the art, considering all type of infrastructures. In particular, we analysed connections, such as road and railway, between villages, towns and cities. We summarized this type of infrastructures as the "grey" infrastructures. In addition, we thought about other infrastructures that are strictly connected to the anthropomorphic infrastructures, such as the "blue infrastructures", i.e. rivers, lakes and sea, and the "green" infrastructures, i.e. greenwoods, hills and mountains. The Municipality of Finiq is crossed by two National Roads: SH97 from North to South, and SH99 from West to East. From these highways, few local roads spread within the rural area and the mountains, underlining the poor existing connections that keep isolate villages.

Our proposal has been therefore directed to roads and mobility, in view of the potential that has been identified in the area, with the main ambition not only to provide an efficient network of mobility for visitors, but also to provide the inhabitants and local users an adequate infrastructure that, with a widespread approach, can reach also the most isolated villages. Our attention has been focused on the connection between people and places. This has always been a key issue for the development of a territory and its community. While in the last century the infrastructures faced the phenomena of individual transportation based on private cars through the construction of roads, bridges and tunnels, the most recent trends of mobility changed this perspective on the integration of different transportations, encouraging a multimodal approach according with the distance to be covered and environment in which they take place. In this scenario the information technology will facilitate the switch from one vector to the other, helping users to move in the fastest and most sustainable way. The actual lack of infrastructures in

EXISTING SITUATION

PROPOSED CORRIDORS

POTENTIAL ECONOMIC & SOFT TURISTIC AREAS

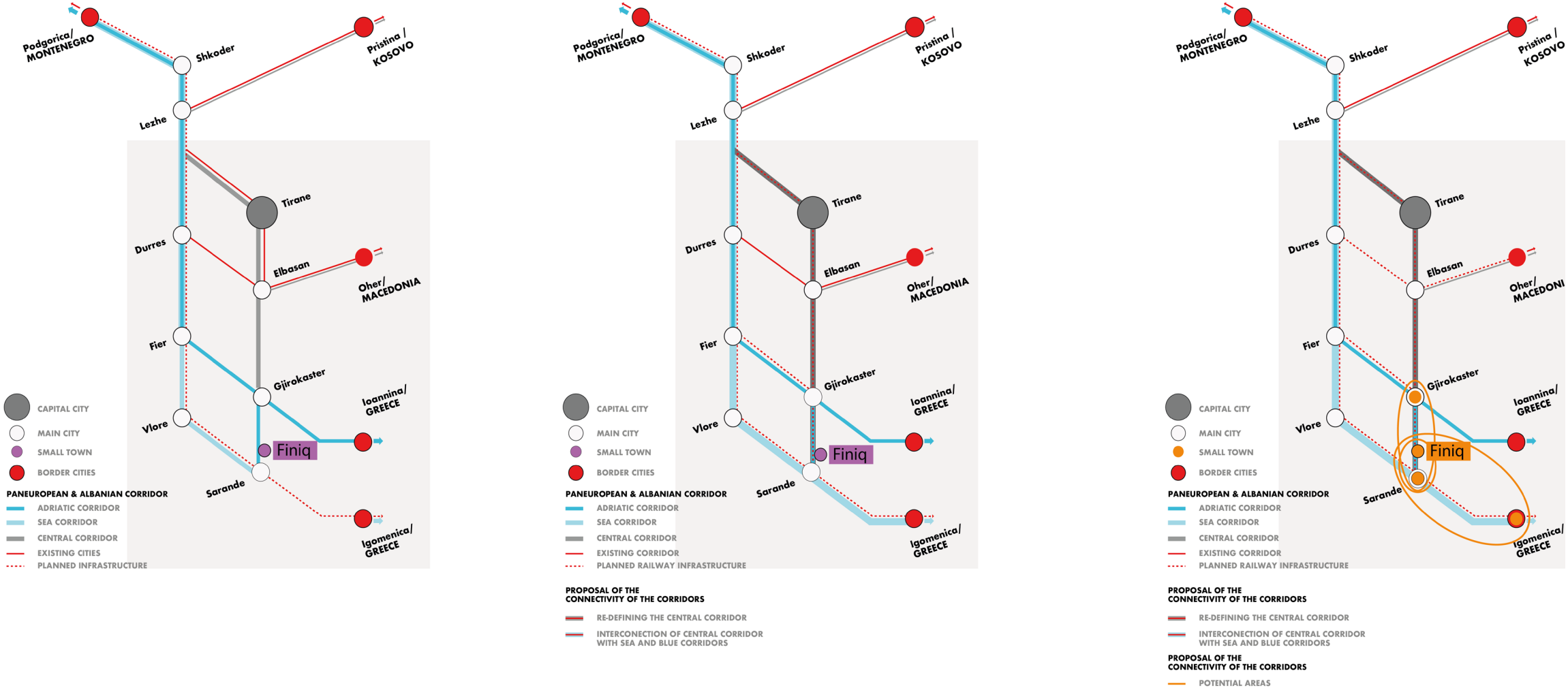
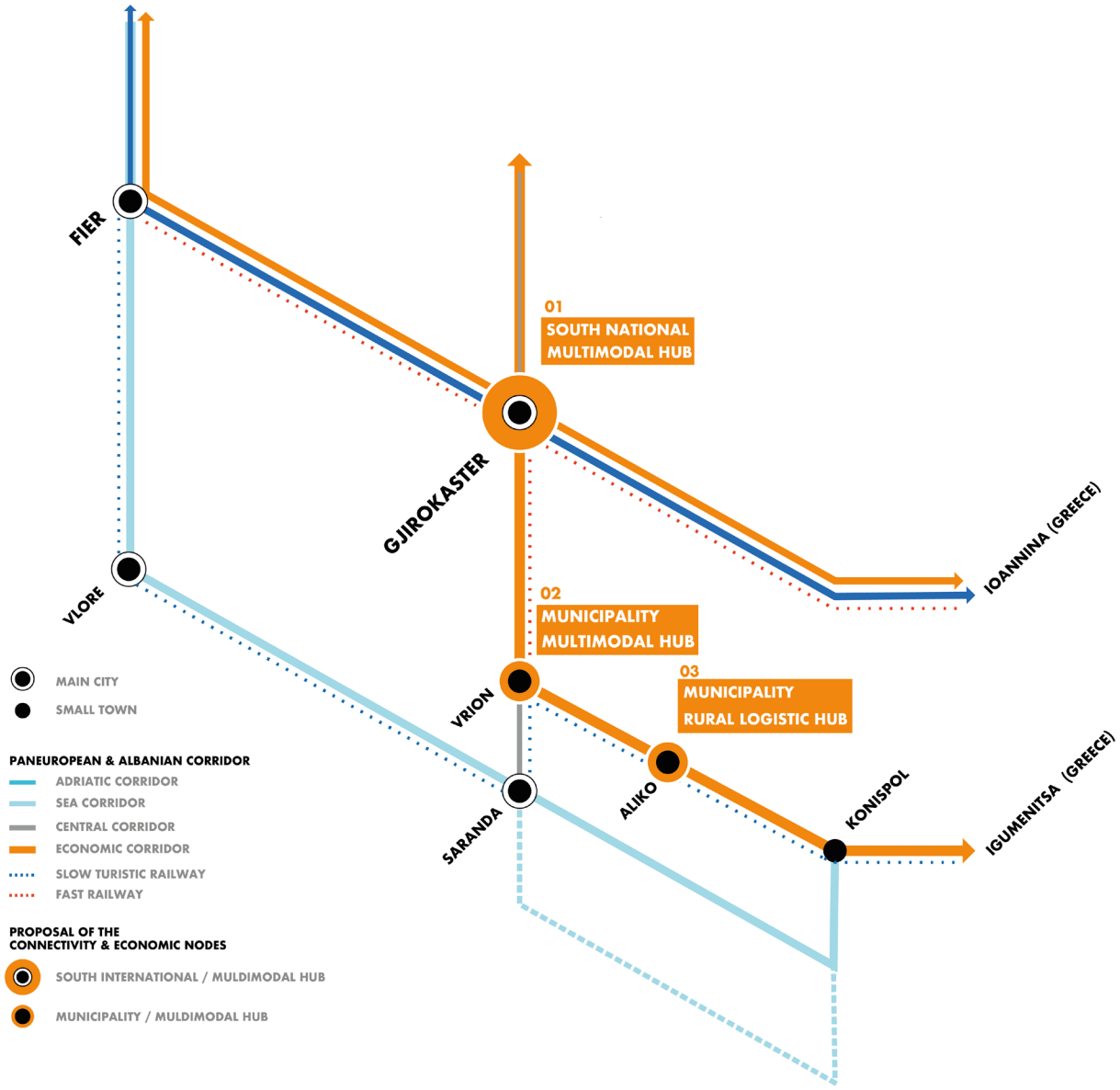


Fig2 / Diagram of the infrastructure transport integration within national and international corridors
source / the authors

the municipality of South of Albania may in fact be an opportunity to develop an innovative network of transportation, preserving the natural environment that lasted so far and makes this region so special on a national scale. Due to these conditions, the proposal relys on the design of a railway line, which would replace the airport planned for the coming future. Instead, a train connection would respond both to the national and international issues, providing the link to the Northern part of the Country and the so-called EU Adriatic corridor toward Greece.
Our proposal at Regional Scale concerns the connection of the National Multimodal Hub located in Gjirokaster, that enabled the connection to Ioannina (Greece), to our proposal Municipality Multimodal Hub in Vrion with a train railway, with an approximate speed of 120-140 km/h, considering the geomorphology of the territory. In addition, a connection to Vlorë has been proposed, that follows the seaside, for touristic purpose and local inhabitants transport in order to reduce the problem of "isolation".
The site location, i.e. Vrion, has been thought due to the nearness to Saranda and Finiq enabling the possibility to integrate the train station to a bus system. Moreover, in the regional scale has been thought to add a Municipality Rural Logistic Hub in the town of Aliko for strategic purpose, e.g. distribution and storage, in the South Albania for the agricultural system in order to integrate the North Albania economy to the local, and in the future exportation and importation of product with Greece, using the railway connection to Igumenitsa (Greece). The choice of Vrion and Aliko, as strategic point for public transport and economy, is connected to the topography of the land, which is flat. This approach allows us also to consider a timescale. Indeed, the idea of using a Logistic Hub is to consider a growth of agriculture in the Municipality and the introduction of regulations that allow the exportation of some typical products of the territory.
At Urban scale, the focus has been the Municipality of Finiq, in which we propose the Multimodal Hub in Vrion was thought to switch from highspeed to low-speed mobility, such as bus, bike or even horses, that will run on the local scale to connect all the highlights of the area in the touristic network, based on natural and cultural attractions. The accessibility would therefore be guaranteed to the largest target of users, from the sport-oriented tourist to the elderlies or the people with different degrees of disabilities. Vrion has been chosen due to its central location, being very close both to the coast, with Saranda and touristic activity, and to Finiq and Aliko, historical and logistic centers of the area.
Moreover, in the scale of the Municipality a system of bus lines has been proposed. The proposal has four lines that connect all the main villages and attractive points. The red line is dedicated to the Archaeological site of Finiq, that connect the main villages around Finiq. The idea is to remind a circle shape in order to connect strictly the core of the Municipality. Subsequently, other three lines have been proposed to connect the North, the East, and South of the Municipality to the West. The aim of proposing this system its mostly because there aren't enough specialised infrastructures, this creates a major risk to traffic on bicycles and foot. Because there isn't a dedicated trail, the path presents a significant risk to traffic of bicycles and pedestrians. Specifically, fast turns and deteriorated surface infrastructure for passenger cars. Particularly dangerous for passenger automobiles are tight turns and poorly maintained surfaces.
The "blue" lines pass through "The Blue



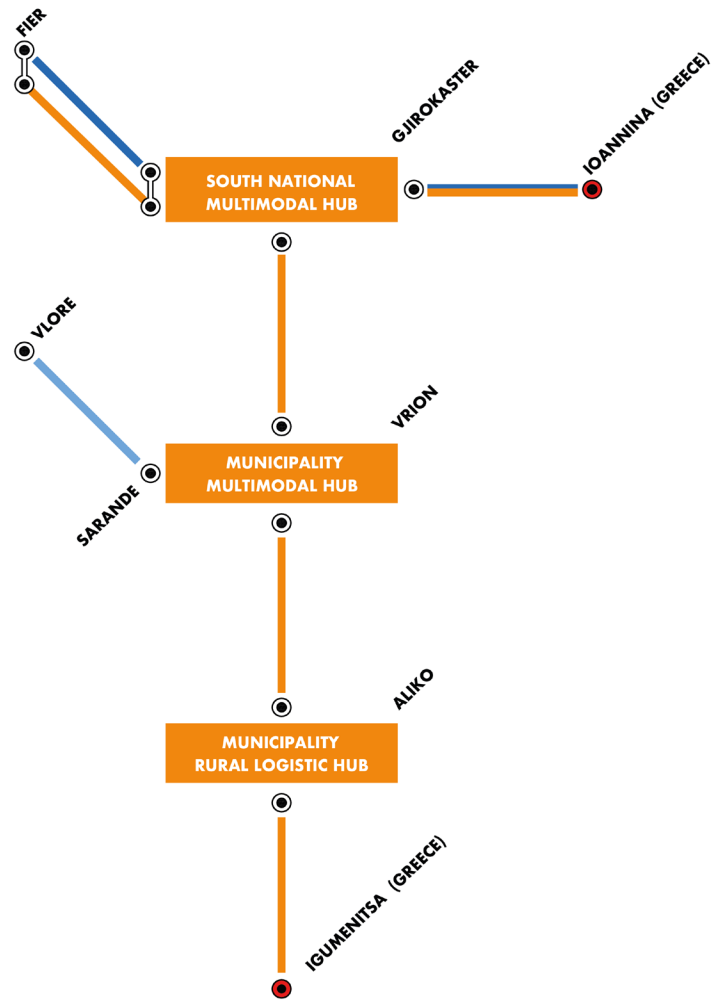


Fig3 / Regional diagram of the proposed infrastructure system
source / the authors

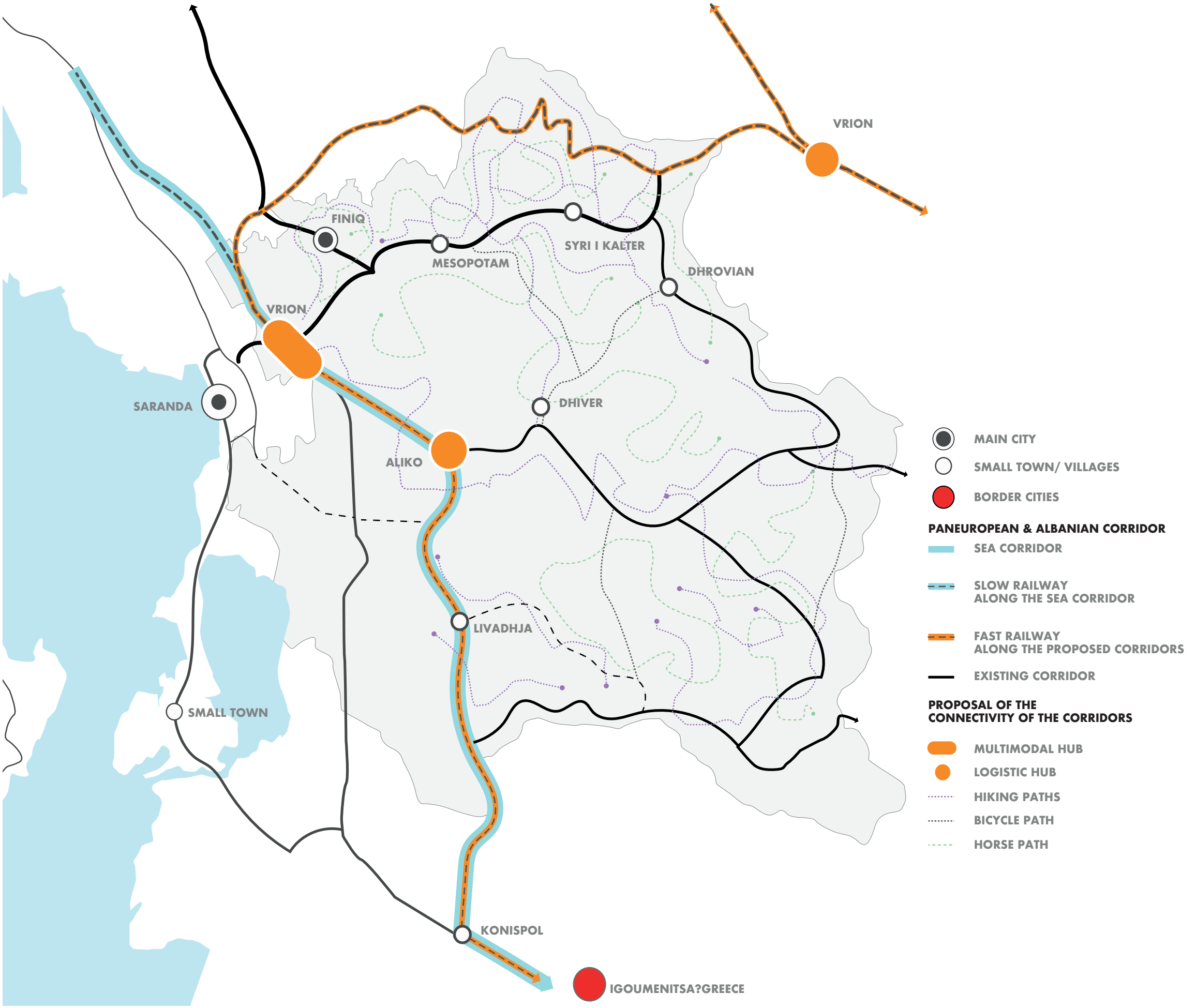


Fig5 / Territorial scale of the proposed infrastructure system
source / the authors

Eye", the main attraction of this line, but also to many important villages, such as Mesopotam and Delvine.
The "green" line goes through some religious attraction, such as the Monastry of St. Nikolla, and important villages, such as Dhivër and Cerkovicë. In addition, this line is connected to Kongji to enable tourist to visit the main attraction of the "blue" line due to this connection.
The last line goes to Konispol, in order to enable a connection to the village of Sagiada (Greece) and this line arrives to Cerkovicë, enabling the connection of the "brown" line to the "green".
The proposal of bus lines is determined to have the least impact to the geomorphology of the territory using the existing road, but intensifying the connection. So, the definition of different bus lines integrated between them gives the opportunity to move freely from different part of the Municipality. On the other side, the distances inside the Municipality must be considered and the morphology of the land does not permit faster connection with low costs.
For touristic purpose and free-time activity, all the bus lines are integrated with "ecological paths" devoted tobicycles, pedestrians and horses in order to visit the natural as well as cultural sites of the Municipality. A series of facilities along this network would also be provided to enhance not only the use, but also the identity of the places.
Jumping at the smaller scale of the Finiq town at Village Scale, the proposal aims to maintain the existing road to the Archaeological site for staff only, while the tourists would reach the top of the hill by a cable way, a shuttle bus line or pedestrian paths. This will allow to avoid the construction of a larger parking area in such a sensitive context; however, accessibility will still be guaranteed by

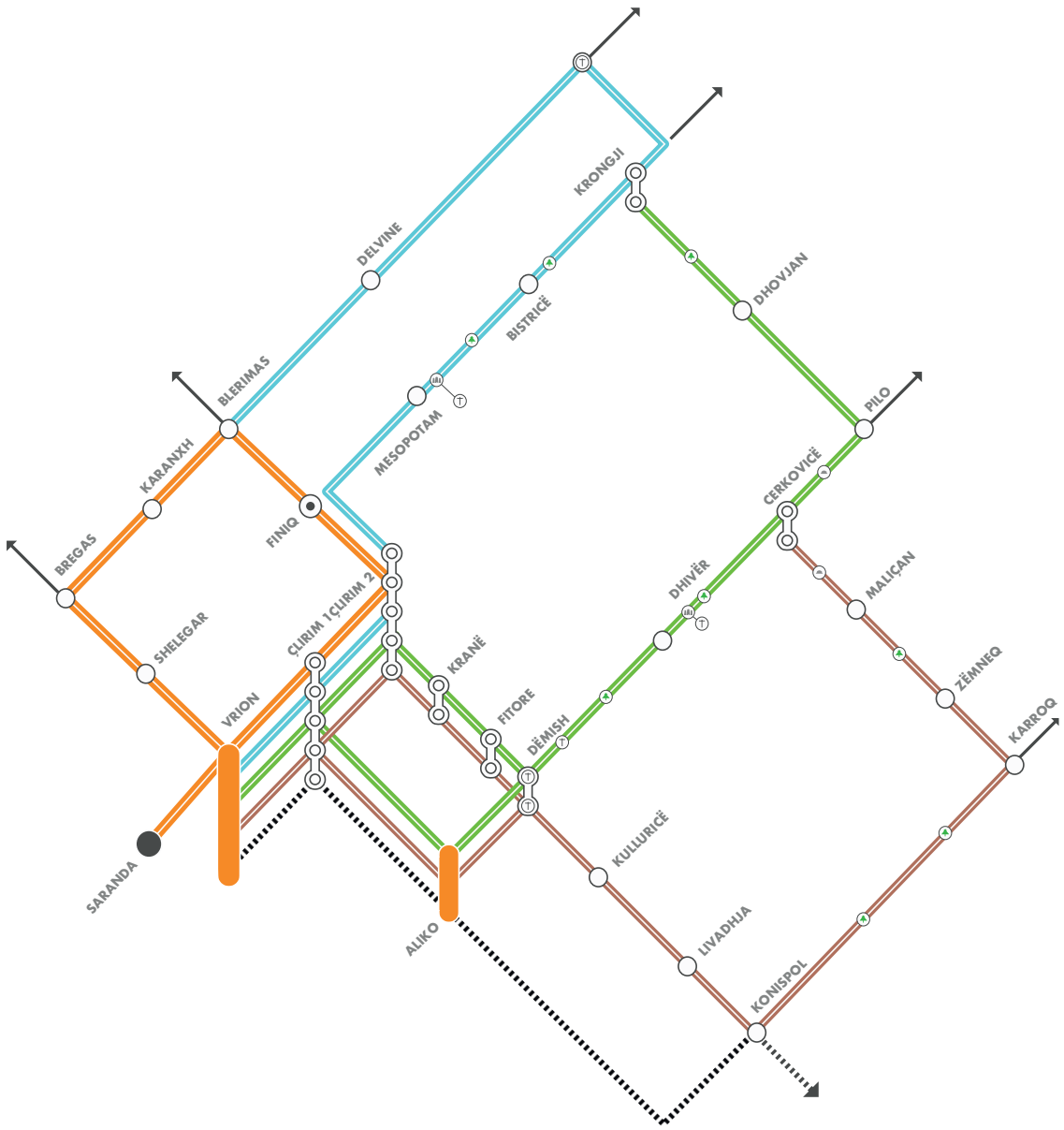


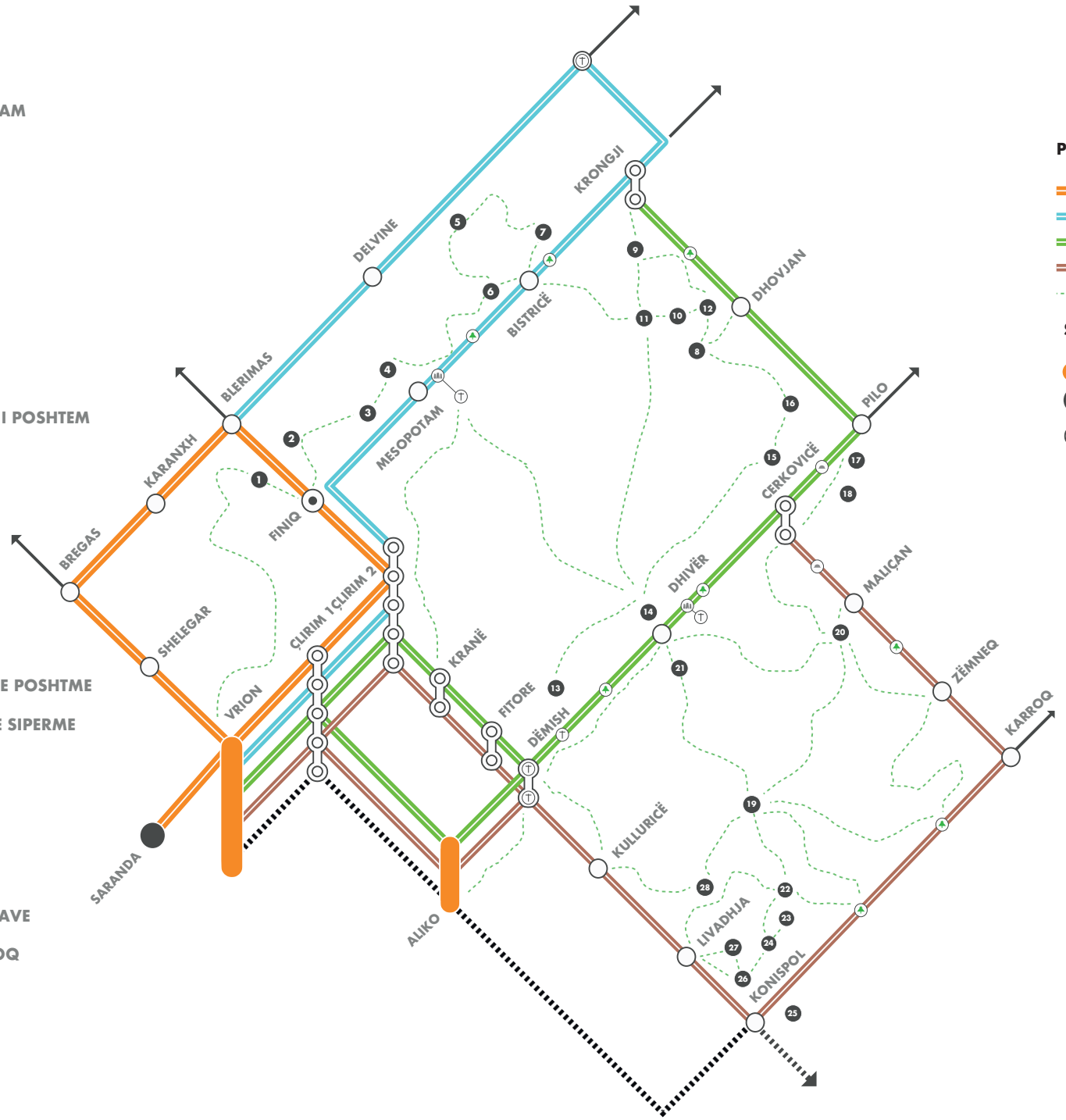
Fig6 / Territorial diagram of the proposed infrastructure system
source / the authors

different options, again according with different kind of users with different interests and capabilities. The cable way will also play a role as landmark, in order to make the site visible and recognizable from distance, attracting those people who would only spend their time in Saranda. The provided shuttle bus path, which creates a ring around the city of Finiq, on the one hand, favours the decongestion of the city center, and, on the other hand, represents an alternative roadway for every kind of transportation when, according to the municipality's objectives, the city center will become a limited traffic zone. The connection between the other villages is guaranteed by the "red" bus line that allows to return to the Municipality Multimodal Hub, located in Vrion. The top of the hill, where the Archaeological site is located, is the starting point of some paths devoted to pedestrians, cycles and horses. The proposal aims to respond to the problem of the "identity", which is strictly connect to the Archaeological site of Finiq, that highlights the area, identifies the town and could brand it abroad. The area is characterised by a significant "shrinking" movement, due to the lack of accessibility of the area that holds back economic improvement in the touristic sector. In addition, the current infrastructure of roads and parking areas determine accessibility difficulties to visit the site, causing "isolation" of the village.
Last but not least, an a-dimensional scale will be introduced by providing the visitors with a mobile application. This digital tool will be a key to give access to the different elements of the project, habilitating the users to the local services. It will include several functions, such as the possibility to check the availability and make reservations for train/bus tickets, cars, (e-)bikes or horses rent, showing the itineraries compatible with the different transport modalities. It will also indicate the hot spots where to find facilities like bus stops, re-charging stations for e-bikes, feeding areas for the horses, and of course restaurants, resting areas, wi-fi spots, etc... Parking will be also included in order to allow the switch from cars to the alternative transportation systems. A dedicated area will be the place to leave comments, suggestions and feedbacks coming from the previous users. At last, an algorithm will be able to calculate the CO_2 emissions of each trip according with the chosen modality, as a tool to increase the awareness and motivate users to the more sustainable choice.

Conclusion

In conclusion, our proposal has concerned the connection between the local villages to enhance tourism, local inhabitants transportandingeneralsenseacommunity improvement of the Municipality. From a larger viewpoint, it is possible to see transport exclusion as a result of the risk of poverty and the relationship between transport inaccessibility and transport poverty. The general lack of access to commodities, services, quality education, entertainment, and culture, as well as an adequate number of social connections, is impacted by the absence of transportation (Lucas, 2012). The use of the existing roads, integrated with several typologies of public transport, such as train and bus, and with predefined walking, cycling and horse-ridingpaths,representalow-impact strategy, in terms of environment and economy. Indeed, this approach enabled not only the tourism oriented to visit the heritage provided by the area, but also for

1 ARCHAELOGICAL PARK OF PHOENICE
2 MONASTRY OF ST. NIKOLLA - MESOPOTAM
3 SHEN MERIA E KOSTARIT - KOSTAR
4 MONASTRY OF KAMENA - KAKODHIQ
5 KARDHIKAQI WATERFALL
6 BOKERIMAT E MUZINES
7 THE BLUE EYE
8 RRAPI I MUZINES
9 BISTRICA RESOURCES, NAVARICE
10 MONASTRY OF ST. NIKOLLA - DHROVIA I POSHTEM
11 RRUGA E GJARPRIT
12 VALABIDHET E DHOROVIANIT
13 MONASTRY OF ST. GJERGJI - DHIVER
14 MONASTRY OF ST. NIKOLLA - DHIVER
15 BRIDGE OF CERKOVICA - CERKOVICE
16 BRIDGE OF LESHNICA - LESHNICE
17 MONASTRY OF ST. THANASI - LESHNICE E POSHTME
18 MONASTRY OF ST. GJERGJI - LESHNICE E SIPERME
19 BREDHI I SOTIRES
20 CHURCH OF MALCANI
21 RRAPI I DHIVRIT
22 QYPAT E CEZARIT - QESARAT
23 CASTLE OF MEHALLA (ALI PASHAIT) - GRAVE
24 CASTLE OF VRANJA AND RIPESI - KARROQ
25 VILA E DOBRES - VANGALAT
26 CAVE OF ST. MARINA - MILE
27 CHURCH OF ST. THANASI - SOPIK
28 MONASTRY OF SORONEA - PLLAKE



PROPOSED BUS LINES

- RED LINE
- BLUE LINE
- GREEN LINE
- BROWN LINE
- BICYCLE ROAD

STOP STATIONS

- MULTIMODAL HUB / LOGISTIC HUB
- CITY
- VILLAGE STOP
- SECONDARY STOP
- NATURAL SITE
- WAR SITE
- CHURCH
- MONASTERY
- ARCHAEOLOGIC AREA

Fig7 / Territorial diagram of the proposed infrastructure system/all modes
source / the authors

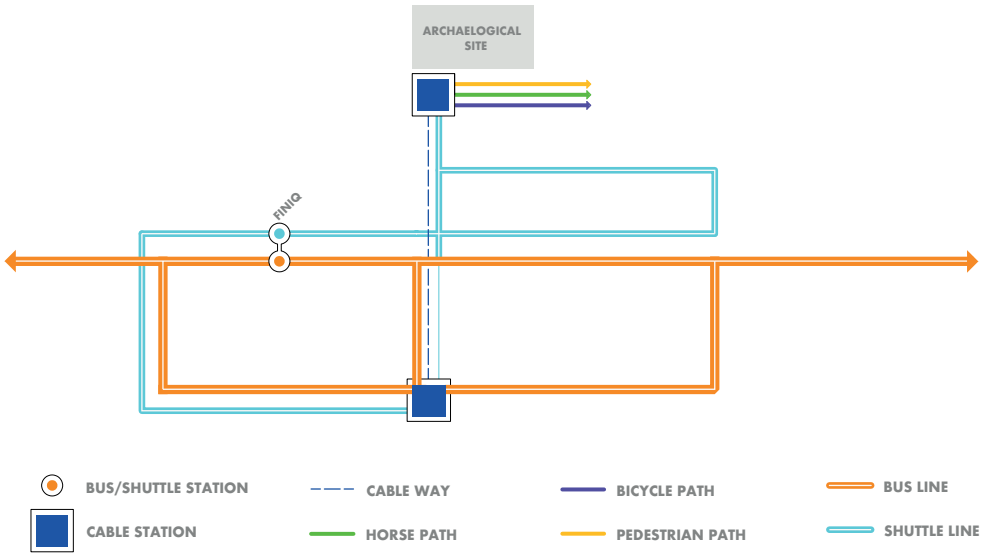


Fig8 / Urban diagram of the main proposed internvention source / the authors

sport-oriented people. The attraction of "slow tourism" would potentially create job opportunities in activities related to tourism, such as accommodation services, catering business.

In addition, the use of a Municipality Multimodal Hub for public transport, located in Vrion, and a Rural Municipality Hub for agriculture enabled the Municipality to be connected with the border country (Greece), the border Municipalities (Saranda, Delvina, Konispol and Dropull), but also with a National Multimodal Hub, located in Gjirokaster, that enable the South of Albania to be connected to the centre of Albania, and with a low speed train that goes through the seaside, connecting all the villages of the coast.

The proposed infrastructures and facilities were aimed to tackle the problem of the identity of the municipality in a twofold way: on one hand, thank to "slow tourism", local people can disseminate their historical, cultural as well as natural identity to the tourists. On the other hand, the cable way, proposed to reach the Archaeological Park of Finiq, can be a recognizable as well as identity landmark for the locals.

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