

Regional report on small ports phenomenon in the Veneto Region

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1. Introduction

The aim of the FRAMESPORT project is to create a coordinated and cross-border initiative to support the sustainable development of the small ports, including the marinas, of the Adriatic basin. The small ports characterize the coastal area of both Italy and Croatia but there is not a homogeneous development of the nodes between the two Countries. The small ports should contribute to a socio-economic development of the coastal area, but a series of limitations slows down this beneficial process. Missing exchange of information between small ports and the landside territories (touristic attractions, mobility and public transport services), lack of transparency about small port facilities and available services, missing data exchange within small ports community in order to create specific itineraries. Those are just examples of what is missing, but the most important thing the small ports miss is for sure data related to facilities, services and features existing at ports and within their surroundings and data exchange. Data collection and exchange will boost the proactive role of small ports as driver for regional development, delivering new value to services and relation with users.

The integrated regional development requires a holistic and interdisciplinary approach, where the identification of priority themes to be promoted within the overall strategy, as well as the exploitation of multiple pilot projects, coordinated by a comprehensive strategy and shared within a common ICT platform, could contribute to this achievement. All these activities are following a bottom-up approach where multiple stakeholders, from port users to national authorities, are involved. Almost all the Programme area is covered by the territorial wide partnership, this allows a realistic and complete representation of the small port scenario in the Adriatic basin.

The aim of the Italian and Croatian partners is to address the planning and management topics, the improvement of business models, the enhancement of training and competence, as well as the development of Information and Communication Technologies (ICT) tools and services. As previously cited, FRAMESPORT project aims at developing a common ICT platform able to collect and systematize small ports' key data that will be used to produce Decision Support Systems and high value-added services for end users and decision makers. The ICT tool will be capable to consolidate the cross-border network of small ports, to create links between regulatory institutions involved, to develop new services that could add value to marinas' business propositions and touristic attractiveness of the territories involved. The first step was the construction of a common data set able to illustrate the features of small ports and marinas. This will allow the comparison and homogenization of data, helping the user in choosing the services needed and it will represent the baseline to create common and cross-border new value-added services.

1.1. Purpose of the document

Small ports are currently encountering crunch times: excess of berths, concerning demand levels, is to be underlined with particular reference to Italy, thus resulting in a difficult economic and financial condition of companies and organizations, which are also facing in parallel a steadily increase mean age of users. Moreover, the traditional relationships between the Italian and Croatian systems in the Adriatic turns out to be unbalanced, as far as the Croatian marinas are attracting more users. An overall issue of lack of competitiveness exists for both Italian and Croatian small ports and marinas in the Adriatic. As a consequence, there is the need of implementing new business models, measures and actions, especially in the Italian side, aimed at recovering overall efficiency, that is, optimizing the existing assets as to be more competitive and attractive.

The Regional report is focused on a regional level of investigation, in this case the Veneto Region, in Italy. The aim of the report is to depict an overall picture of the socio-economical, infrastructural and governance scenario in Veneto, by introducing the description of the current state of the small ports and marinas within this territory and by presenting relevant information on the existing facilities and single port characteristics and services, on the basis of the data collected through the questionnaire provided as part of the technical WP3¹ by the Lead Partner (CORILA – University IUAV of Venice). After having collected the above-mentioned relevant information from the Veneto small ports, the core of this report is to present the main infrastructural features and services available at ports' level.

The same information collected by means of the other regional reports, will allow to build an overall detailed picture of the two coastlines of the Adriatic Sea, as well as representing a first source of information for ultimately filling in the FRAMESPORT platform.

As previously said, this report has been built and filled in order to understand the current situation of small ports in the different Regions of Italy and Counties of Croatia. The first part of this document (Chapter 1) starts with an introduction to the need of this report, while Chapter 2 describes the Veneto region in a nutshell by providing an overview of the socio-economic scenario in the Region, then focusing on the regional transport and mobility system and ending with the description of the governance and transport planning policies.

Chapter 3 is dedicated to the description of the regional small ports. It is in this section that data on infrastructures, services and traffic flows collected are shown. Chapter 4 is dedicated to a SWOT

¹ https://ec.europa.eu/eusurvey/runner/IUAV_questionnario_framesport_servizi_porti

analysis that aims to summarize the strengths, weaknesses, opportunities and threats in Veneto for what regards the small ports sector.

The last chapter provides some conclusions that spread up from the data collected from multiple sources, especially from the developed innovative questionnaire.

2. The region in a nutshell

2.1. Geographical context and socio-economic description of the region/county

The Veneto region has a very varied natural and landscape system that derives from the many areas that characterize it: the mountains, the plateau, the hills, the plains, the coast and the lagoon. The region, in fact, with its 18,391 km² develops from the altitude of sea level and depressions in the areas overlooking the Adriatic Sea, to peaks placed over 3,000 m in the northern dolomite sector. The mountain area and the hilly area occupy over 40% of the regional territory and are characterized by areas of high naturalness, accompanied by elements of hydrogeological fragility and anthropogenic pressures.

The plain, which represents just under 60% of the territory, originates from the sediment deposit action carried out over millennia by the rivers Po, Adige, Brenta, Sile, Piave, Livenza, Lemene and Tagliamento. In the region there is also the most important water basin in Italy, Lake Garda, whose coasts extend into the Veneto region for approximately 45 km. Beyond that, Veneto hosts the Venice lagoon, which is the largest lagoon in Italy and the largest of the Mediterranean basin, covering an area of 55,000 ha. It is a transitional area that includes: the IBA - Important Birds Area - of greater extension in Italy and with the highest number of species of community interest to be preserved; 1 Special Protection Area (SPA) extended to the entire lagoon; 4 Sites of Community Importance (SCI) located around the harbour inlets; it is a World Heritage site (since 1987). This presence of rivers, lakes, lagoon and coastal areas is of utmost importance regarding the scope of this report.

The great territorial variety translates into a natural capital of considerable extension and quality; in fact, the biological variety determined by the sites that make up the regional ecological network covers a total of 40% of the entire Veneto territory, extended of which the 128 sites of the Natura 2000 network occupy an area equal to about 414,675 ha (22.5% of the regional territory).²

The natural capital is flanked by the cultural capital generated by the historical transformations that lead Veneto to be the region with the greatest presence of assets subject to protection measures (over a thousand), inherent both individual beauties and very large portions of the territory, in which historical values are deeply intertwined with the morphological characteristics and with the

² Natura 2000 is a network of sites of Community interest (SCI), and special protection areas (SPAs) created by the European Union for the protection and conservation of habitats and species, animals and plants, identified as priorities by the Member States of the European Union.

naturalistic values present. An example of the wealth of cultural heritage is certainly represented by the presence of 3,828 Venetian villas.

In relation to this framework of excellence, the mobility system, both freight and passenger, has reached such a dimension as to constitute an element of conditioning for all aspects related to human activities and the environmental system. In this sense, the Veneto region reflects a social and economic model oriented towards intensive land use, largely based on private mobility and low-cost settlement logics that have often had the upper hand over territorial and urban planning.

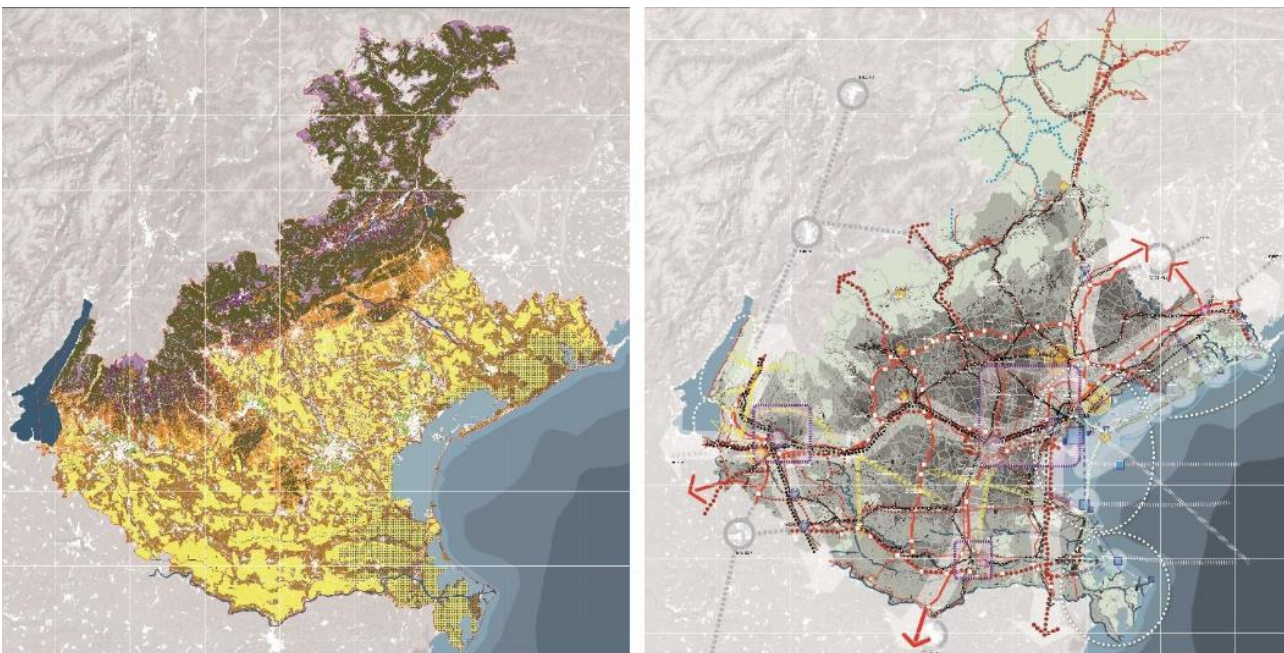


Figure 1- Land use and Mobility - Source Regione Veneto

The mobility sector is responsible for about 29% of final energy consumption and represents an increasingly central element in policies to combat climate change and reduce pollution in urban areas. Statistics show, in fact, that 28% of carbon dioxide emissions, as well as a considerable part of urban air and noise pollution, are attributable to transport. In Veneto region road transport is responsible, among other things, for 15% of total emissions of fine particles and 47% of total emissions of nitrogen oxide. The roads and highways of Veneto are characterized by considerable flows and consequently the impact on the environment and accidents are particularly significant. Road transport in Veneto accounts for 27.9% of total CO₂ emissions, the highest ever among the various macro-sectors, and heavy vehicles with more than 3.5t count in the production of these

environmental costs for 21.9% of total transport. The strong imbalance towards the use of private transport deriving from the widespread settlement model inevitably involves externalities that affect the natural environment and ecosystems (greenhouse effect, climate change, acid rain, etc.), the urban environment (air quality, noise, land occupation, degradation of buildings and monuments, etc.), health and quality of life (diseases, accidents, injuries etc.) and in absolute terms stress deriving from the consequences of traffic congestion, as well as going to affect in terms of land consumption and alteration of landscape lines.

The relationship between the transport system and the environment induces negative externalities in terms of land use, noise and air pollution, pressures on wildlife, which in some territorial areas are critical. In large urban centres it seems appropriate to identify concrete and effective policies for the reduction of noise pressure and dispersed air pollution levels. In more fragile contexts, such as those of the mountain and foothills and in areas with a greater tourist vocation such as those of the Venetian coast, the vehicular pressure induced by the tourist component must be more regulated as it generates negative impacts on the environment.

The population in Veneto slightly exceeds 4,900,000 inhabitants (2018), with a trend in the process of stabilization after that in the decade 2008-2018 there was an increase of 2.1%. Within this growth, the process of aging of the population is relevant, together with the increase in the average age, the context shows a society where 22% of the inhabitants are over 65 years old and 7% over 80 years old. Demographic forecasts indicate a further accentuation of the aging process for the coming decades: it is estimated that the percentage of the over sixty-five will reach 27% of the population in the period 2025-2030 and 35% between 2045-2050.

The population resides for 40% in five urban areas (Padova, Treviso, Venezia, Verona and Vicenza) and in some smaller poles with relevant urban functions, all however located along the main roads. The result is a territory with residential densification processes in specific areas, which are characterized by a series of localization advantages that can be summarized as follows:

1. proximity of urban centers with the availability of public health services and school and university education;
2. proximity of "non-cities" of consumption, services and leisure;
3. availability of higher-ranking connecting infrastructure;
4. residential location choice advantages for the quality of life.

The described processes of population aging in the major cities are counterbalanced by a related process of social integration with a component consisting mainly of university students, tourists,

workers of the Public Administration and public and private services, with a strong commuting component.

Another element of the picture is given by the marginal areas or far from the centers for geographical and morphological reasons: the mountain, the "*granda*" plain of the Polesine, the internal areas and some "corridors" that separate the most recent demographic thickenings. These are the areas affected by the phenomena of depopulation and aging of the population that worry above all for both in the Belluno area and in the Polesine. For the effects on the mobility of people, it has followed that, with the exception of a substantial share of travel in the major cities for the tertiary labor market, which has expanded, and the flows linked to large universities that use public transport both by rail and by road, the other processes are strongly characterized by dispersion of demand and by a recourse to private vehicles both by choice and by the absence of a competitive alternative offer. A corollary of this misalignment consists in sustainable mobility, which is always growing in the tourism sector, and instead little practiced by the population of the major cities where most of the journeys are concentrated. The dualism between the widespread residential settlement principle and the formation of two polarizations, one in urban-metropolitan centers and one in the "non-cities" of consumption and leisure, is generating on the one hand an extensive increase in areas with dispersed and weak demand for public transport and on the other a congestion on some privileged axes of the most consistent mobility flows and only partially services from public transport.

In the last decade the dynamics of Veneto companies in terms of birth rate has been decreasing. At the end of 2018 there were 423.970 companies, showing a reduction of 5.5% compared to 2008. It should be noted that the provinces least affected by this retreat are those of Verona and Vicenza, more virtuous also from the point of view of the dynamics of the labor market. To these is added the Metropolitan City of Venice which grows significantly in the tertiary sector with the very consistent pull of tourism. The territories of the mountains and the plains are the ones that lose the most companies: Belluno – 8.2%, Rovigo – 7.8%.

In the overall composition, the sector that has the largest surplus is the tertiary sector, with a growth of 3.7% in the decade 2008-2018. In the industrial sector the balance is negative by -14.6% with the provinces of Verona, Venice and Treviso losing above the average, while Vicenza, the historically most industrialized province of the region, is significantly the one that has suffered from a lower impact (-11%). Finally, in the primary sector, the entrepreneurial contraction is almost a fifth of the total of ten years earlier: - 17.9%. In the area of Padova, companies in the primary sector decreased by a substantial share (-26 and -24%). Treviso, on the other hand, which had already shown growth

in agriculture by employees, loses only half of the companies compared to the other two territories:
- 12%.

From a localization point of view, the impact in recent years of the evolution generated by e-commerce and the relative relocation of companies forced to cope with the increase in parcelled shipments in relation to the dynamics of international trade and technological evolution has been remarkable. In relation to all this, there has been a need for new forms of connectivity and services with high added value; the areas able to offer these performances are still limited on the regional territory and companies still tend to favour a pulverized settlement, basing their choices on economic logics linked to the contingent opportunity. The latter is also a consequence of the regional productive fabric, still characterized by a strong manufacturing sector composed mainly of small-medium enterprises, with a high level of specialization and by a high competitiveness at a global level, which is expressed in a strong orientation towards exports. In this context, the industrial districts (clusters) have a significant weight, established over time as real production systems with particularly refined expertise. The districts have become an expression of the ability of the business system and local institutions to develop a strategic planning, among other things recognized by regional law no. 13/2014. Veneto recognizes 17 of them, divided mainly between the provinces of Vicenza, Verona and Treviso, representing over 25 billion euros in exports in 2017.

The industrial districts recognized in the Veneto Region are the following: Footwear (Riviera del Brenta), Artistic ceramics (Nove and Bassano del Grappa), Conditioning and refrigeration (Padova), Conegliano Valdobbiadene Prosecco (Wine district), Appliances and stainless steel (Conegliano and Treviso), Giostra del Polesine (Carousel district), Fish (Rovigo and Chioggia), Furnitures (Treviso), Marble and stone (Verona), Mechanics (Vicenza), Furnitures (Verona), Eyewear (Belluno), Goldsmith (Vicenza), Leather (Chiampo Valley), Sportsystems (Asolo and Montebelluna), Artistic glass (Murano and glass of the Venetian), Wines (Verona).

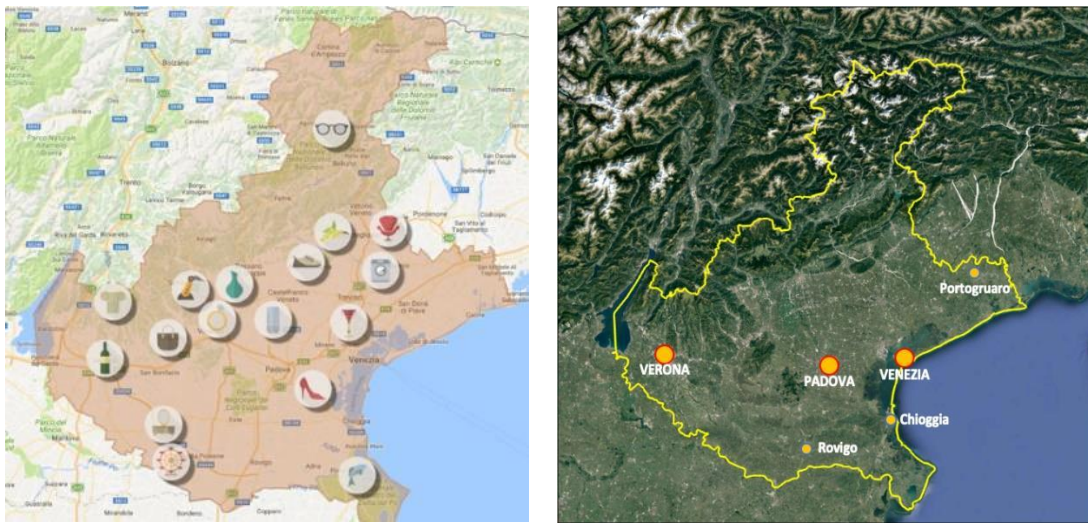


Figure 2 - Industrial districts and regional logistics hubs - Source Regione Veneto

The reading of the infrastructural transformations of the regional territory with the highlighted social and demographic dynamics highlights how, with the affirmation of new infrastructures and the proximity of large public services and shopping centers, a densification process occurs. These dynamics are mirrored to the processes of aging and depopulation of the mountains, of the less accessible areas and of the entire Polesine plain. On the other hand, the increase in nodes has also led to an increase in extra local and non-systematic displacement rays. In this context, the impact generated by large infrastructures on the dynamics of territorial development has increased: their reticular configuration has in fact generated clear phenomena of hierarchization of inhabited centers. This configuration does not characterize the whole of Veneto, but differs from the two "unfinished magnets" of the Pa.Tre.Ve. and Verona – Brenner, attractors of both ordinary movements and tourist flows³.

³ Metropolitan area between PAdova, TREviso and VENEzia

2.2. Regional transport and mobility overview and main features

The dynamics of the demand for mobility that characterize the Veneto have recorded in recent years a redistribution between systematic (study or work) and non-systematic (leisure, family management) reasons for movement due to an accentuation of urban diffusion and the affirmation of an increasingly widespread commercial and production system; this has generated the increase in the weight of non-systematic movements with the consequent expansion of daily peak times and the distribution of traffic throughout the time span of the day.

At the macro level, it should be noted that, after a downsizing in the demand for mobility due to the economic crisis, since 2013 there has been a gradual recovery in the volumes of vehicular traffic on the road and motorway network of all mobility components, in particular of the heavy component that has returned to equal, if not even to exceed in some road sections, the values of Average Daily Traffic pre-crisis.

In Veneto, the sector of public services of automotive, tramway and navigation transport showed some signs of recovery in 2016; in fact, the number of passengers transported in all modal segments increased in the face of funding and a substantially stable supply of services in line with previous years (data from the Veneto Region - U.O. Mobility and Transport). In 2017, a total of 419.6 million passengers were transported, confirming the modest signs of recovery recorded in 2015. Compared to 2010, the demand met in Veneto has increased by about 46.5 million passengers. Disaggregating the data by mode of transport, it is particularly noteworthy the number of passengers who have used tram services in the cities of Padua and Venice, as many as 24.7 million, confirming the importance of these systems in urban and metropolitan areas with high density. A peculiar phenomenon in the panorama of the Venetian public transport system is the constant increase in travellers on navigation services, which in 2017 reached the value of 145 million.

Finally, and with reference to air transport, the data relating to demand highlight the role of the intercontinental airport of Venice, which with over 10 million passengers and 60 thousand tons of goods ranks fourth in the Italian panorama. In the last 7 years, before the pandemic period, the airport has recorded an average passenger growth of 6.1%, higher than the national average which was 3.3%. The Veneto airports of Venice, Treviso and Verona in 2018 handled a total of 17.9 million passengers, up 9.1% compared to the previous year.

From 1970 until 2008 in Veneto were allocated considerable resources, and progressively increasing, for the construction of public works and infrastructures; from 2008 onwards, the global

economic crisis has led to a general decline in investments in infrastructure works. With these resources it was possible to increase the infrastructure endowment both road and motorway (general increase of 15% in the Centre-North) and rail (to a lesser extent, by 2.9%). A considerable part of the use of funding and resources has been invested in improving existing infrastructure, with technological adaptations such as increasing the electrification of railway lines (reducing the percentage of kilometres of non-electrified lines to less than 20%). The level of accessibility to infrastructure in Veneto is generally high, with the exception of high-speed rail, with a synthetic index of infrastructural competitiveness above the European average and in the first places in Italy.

The attention paid by Veneto to infrastructure, already considerable in the past, becomes more crucial considering the role that the region plays today as an important hub for interregional and international mobility.

This importance is demonstrated by the presence in the territory of three "core" corridors of the trans-European network, out of the four that affect Italy, specifically:

1. "Scandinavian-Mediterranean" corridor connecting Helsinki to Palermo;
2. "Mediterranean" corridor connecting the Iberian Peninsula to the Ukrainian border;
3. "Baltic - Adriatic" corridor that connects the Adriatic Sea with the Baltic Sea.



Figure 3 – Map of the European Corridors affecting Italy and Veneto - Source Regione Veneto

The road network

The regional road network, according to data provided by the Ministry of Infrastructure in 2017, consists of 590 km of motorways (8.5% compared to the national motorway endowment), 732 km of roads of national interest (3.5% compared to the national account) and 9,053 km of regional and provincial roads (6% of the national road equipment), for a total amount of 10,375 km. The maintenance costs of the network were assessed on the basis of the distribution of the regional needs of the standard costs in about 107 million euros, while a similar assessment on extraordinary interventions leads to an investment framework of about 245 million euros.

The figure below shows the articulation on the territory of the road infrastructures.

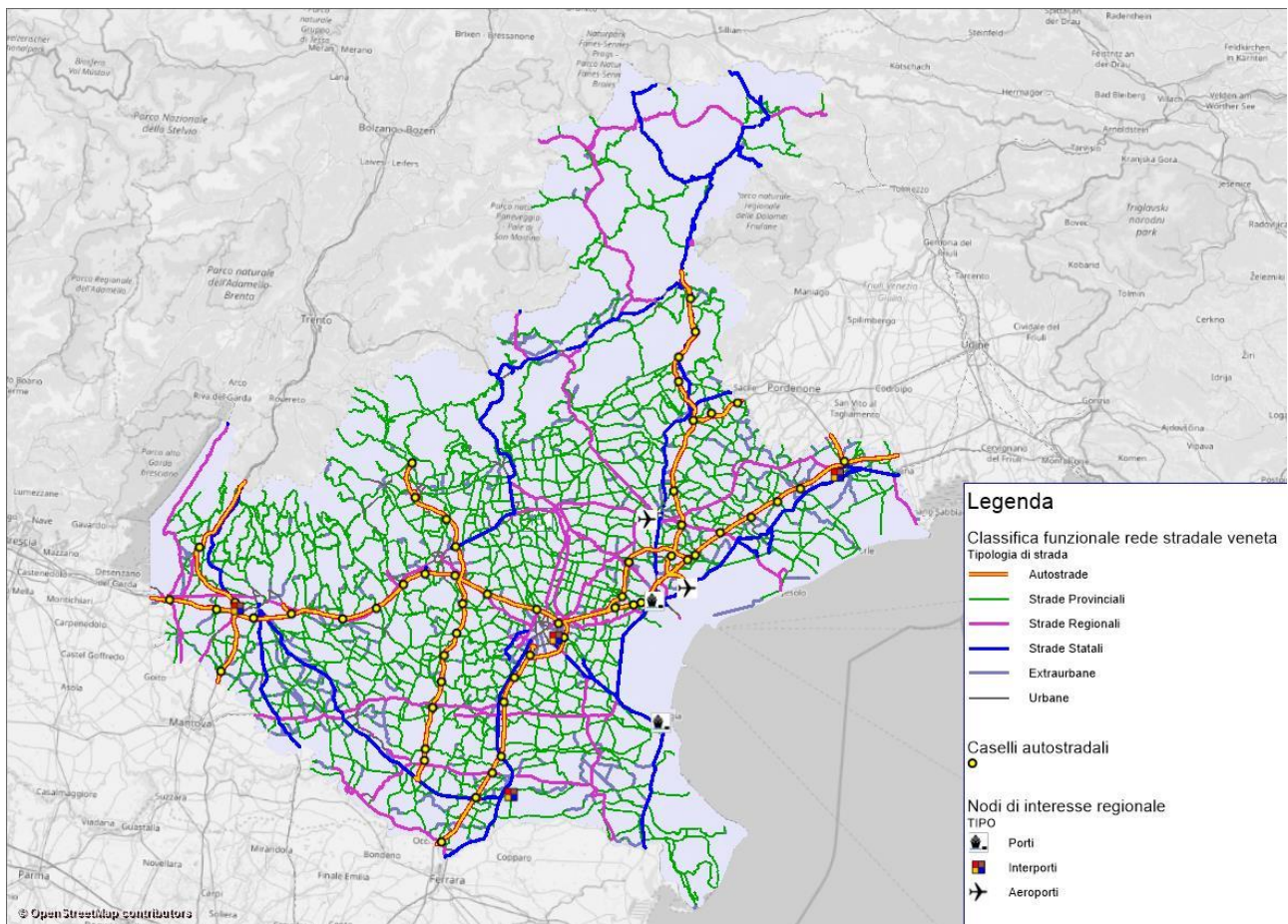


Figure 4 – Road infrastructure network of Veneto - Source Regione Veneto

The rail network

The railway network on the regional territory has a total extension of just over 1,850 km. The sections in conventional line extend for about 1,825 km (7.5% of the national railway equipment), of which 1,245 km in operation. Of the latter, RFI manages 1,188 km for 161 active stations, while the remaining 57 km of operation are managed by Sistemi Territoriali S.p.A. The TAV is active on 25 km of dedicated line, with the 3 stations of Venice S. Lucia, Venice Mestre and Padua.

Most regional lines are used promiscuously by long-distance passenger services, regional services and freight trains. The different performances of the trains in service on the same lines generate a non-optimal use of the network, and a rapid consumption of the available capacity.

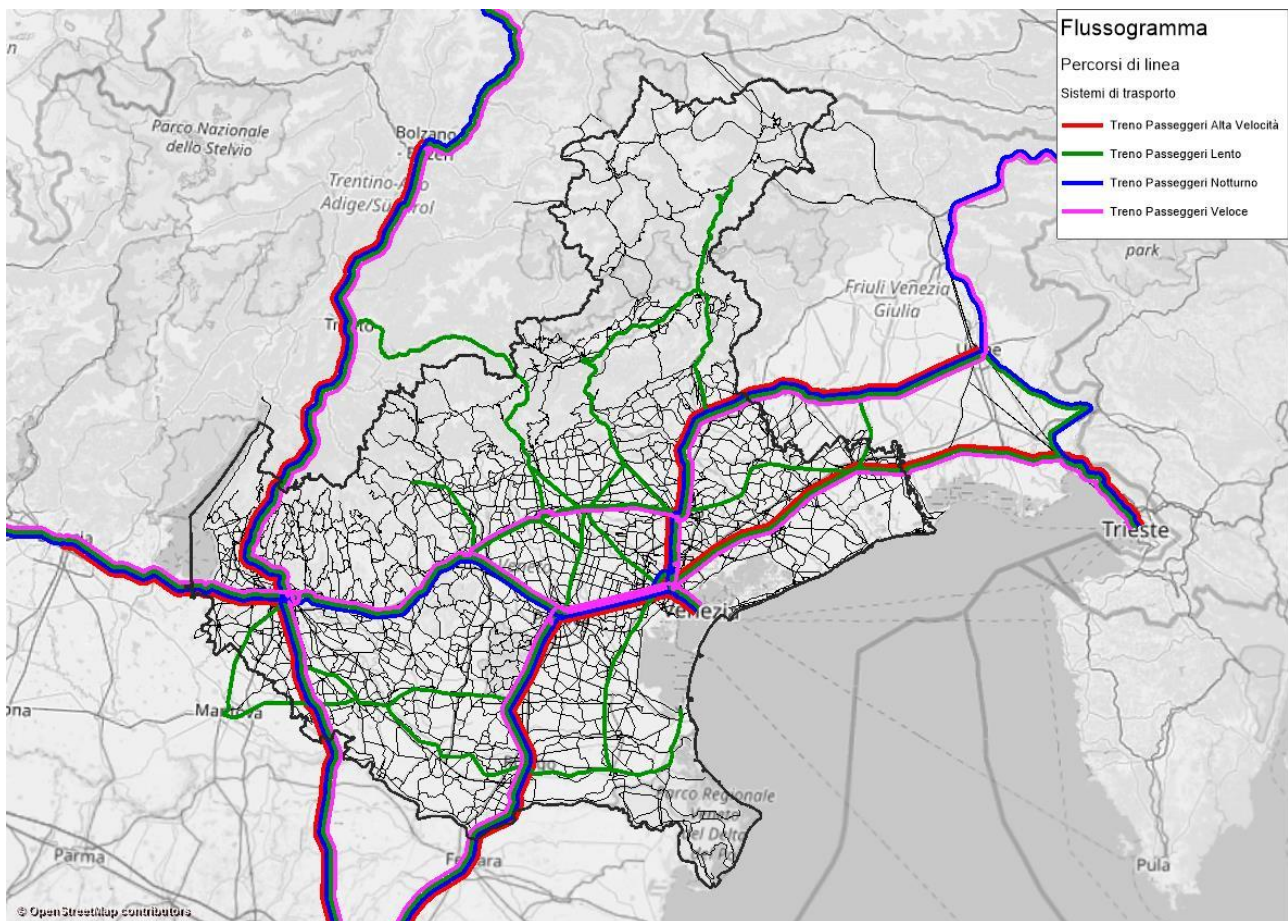


Figure 5 - Railway network of Veneto - Source Regione Veneto

The port system

The Northern Adriatic port system includes the ports of Venice and Chioggia. The port of Venice is one of the largest Italian ports for infrastructure heritage. In fact, it includes 1,447 ha of port and industrial operating areas, as well as another 662 ha of canals, bodies of water, roads and railways served by a total of 12 km of docks. The current deepening of the seabed, guaranteed by a program of periodic excavations, with the landing of ships with drafts up to -11.5 meters. Within the port perimeter there are about 40 km of road junctions and another 45 km of railway shunting network, and 7 of optical fiber. There are over 13,000 employees operating in the port of Venice. In addition to the traditional logistic vocation, a Venetian peculiarity is constituted by being a cruise *home port*. The port can accommodate up to 10 cruise ships at the same time, thanks to 3.5 km of docks, 290,000 square meters of total area, 10 cruise terminals and 11 total berths. Another important infrastructure is the Fusina ferry port which covers an area of 36 ha, being able to count on 4 operating berths and 4 railway tracks from 500 to 700 meters. The planning of the investments of the port of Venice, defined by the Port Operational Plan, includes the works for the logistic conversion of the Montesyndial industrial area (162 million euros), various interventions of maintenance excavation of the port canals, in particular on the Malamocco-Marghera canal (15 million euros), and the construction of the new cruise terminal in Marghera (62 million euros).

Among the significant investments there is also the construction of the LNG tank plant for a total capacity of 32.000 cubic meters (105 million euros). Also important is the role of the Port of Chioggia, connected with the inland navigation system and, through it, to the Po Valley industrial system. The port is connected to the ports of Isola Saloni (historic port that occupies an area of about 100,000 square meters, 1,350 meters of docks and over 47,000 cubic meters of private warehouses) and Val da Rio, equipped with 350,000 square meters of squares, 2 km of docks and connected to the road and rail networks.

The airport system

The Veneto airport system consists of the airports of Venice, Treviso and Verona. With the recent entry of the SAVE group also in the management of the airports of Verona and Brescia, the Northeast Airport Pole (Venice/Treviso/Verona/Brescia) was established, which in 2018 managed a total of 18 million passengers. Venice Airport is the third intercontinental airport after Rome and Milan.

Venice Marco Polo Airport is the main international and intercontinental hub, while Treviso has specialized in low-cost and charter offers. Verona Airport has instead developed the stopover function for charter and cargo scheduled flights.

The Masterplan of Venice Marco Polo Airport envisages a total investment of € 850 million over the period 2012 – 2021, while the 2022 – 2035 investment plan remains currently being defined. Also, within the Northeast Airport Pole, investments of € 53 million are also expected for Treviso airport and € 177 million for Verona by 2030.

With regard to the infrastructure development project of Venice Airport, the Master Plan includes interventions at the airport, the runway and the aircraft parking areas, the parking system and access to the airport from the dock, the logistics hub and the network and energy systems of the area. The main investments concern on the one hand interventions in the environmental and ecological field for a total cost of € 45 million, while on the other hand expansion and new development of the airport and flight infrastructure.

The picture relating to the Veneto airport system is completed by the 11 smaller airports that are regional competence, and about 70 airfields.

2.3. Overall governance and transport planning references

After 2017 the 24 Port Authorities were replaced with the Port System Authorities (AdSP), which merge several neighbouring ports in a given territorial context. At the beginning the number of AdSPs were 15 that bring up 57 ports. In ports where a AdSP is not present a Port Territorial Office is organized. The ports within AdSPs belong to the TEN-T core network. On 7 September 2018, a 16th System Authority was added, that of the Strait of Messina. Among the AdSPs there is that of the Northern Adriatic, which includes the ports of Venice (seat of the AdSP) and Chioggia.

The port system of Veneto includes two ports of national interest Venice and Chioggia, included in the Port System Authority of the Northern Adriatic Sea. The port of Venice represents, in particular, one of the key junctions of the North Adriatic and national ports.

traffici	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
										indice	valori assoluti
rinfuse liquide	100,0	102,2	96,0	95,2	85,1	59,0	76,7	77,4	75,3	80,2	9.362.986
rinfuse solide	100,0	100,9	103,5	101,5	102,1	110,0	115,2	111,9	107,6	116,0	7.380.731
general cargo	100,0	111,5	118,2	57,1	110,1	109,6	122,6	126,4	132,1	135,5	9.751.561
container (tons)	100,0	107,6	126,3	112,2	116,8	124,0	141,7	152,7	154,3	155,0	5.701.390
container (TEU)	100,0	106,6	124,1	116,4	120,8	123,4	151,6	164,0	165,5	171,1	632.250
roro	100,0	95,2	87,4	75,9	65,9	59,5	43,0	56,1	81,2	98,2	1.841.491
totale merci	100,0	104,5	104,2	85,9	96,5	86,3	99,5	100,0	99,6	105,0	26.495.278
numero di navi	100,0	99,3	95,5	85,8	83,1	78,7	79,7	82,0	80,9	84,0	3.593
passengeri corto raggio	100,0	98,3	98,9	55,5	49,4	41,6	33,0	32,4	43,6	44,6	208.602
passengeri crociere	100,0	112,5	125,1	122,5	129,6	123,2	112,7	114,4	101,7	111,2	1.579.246

Figure 6 – Historical series of traffic in the port of Venice by type - source: AdSP data Northern Adriatic Sea, Assoport, UNINA⁴

The terrestrial accessibility of the port of Venice allows you to reach, with the current road transport service, almost the entire regional territory within two hours of travel.

In terms of infrastructural equipment and offer characteristics, it is essential to take into account, in the drafting of this document, the complex planning story connected to the port of Venice and, in particular, to cruise and container traffic. With reference to the latter, the most recent nationwide planning documents recognize the need for a selective increase in the capacity of container terminals, to be achieved through the conversion of the former Montesindial terminal.

⁴ In order to understand better the Figure 6: traffici (traffic flows), rinfuse liquide (liquid bulk), rinfuse solide (solid bulk), totale merci (overall quantity of goods), numero navi (number of ships), passeggeri corto raggio (short distance passengers), passeggeri crociere (cruise passengers).

At a regional level, in the document Regional Transport Plan developed in 2020, it has been stressed the important role of small ports and marinas and the need of a Regional Navigation Plan. This document should help institutions and private stakeholders in taking decisions about investment and regulations.

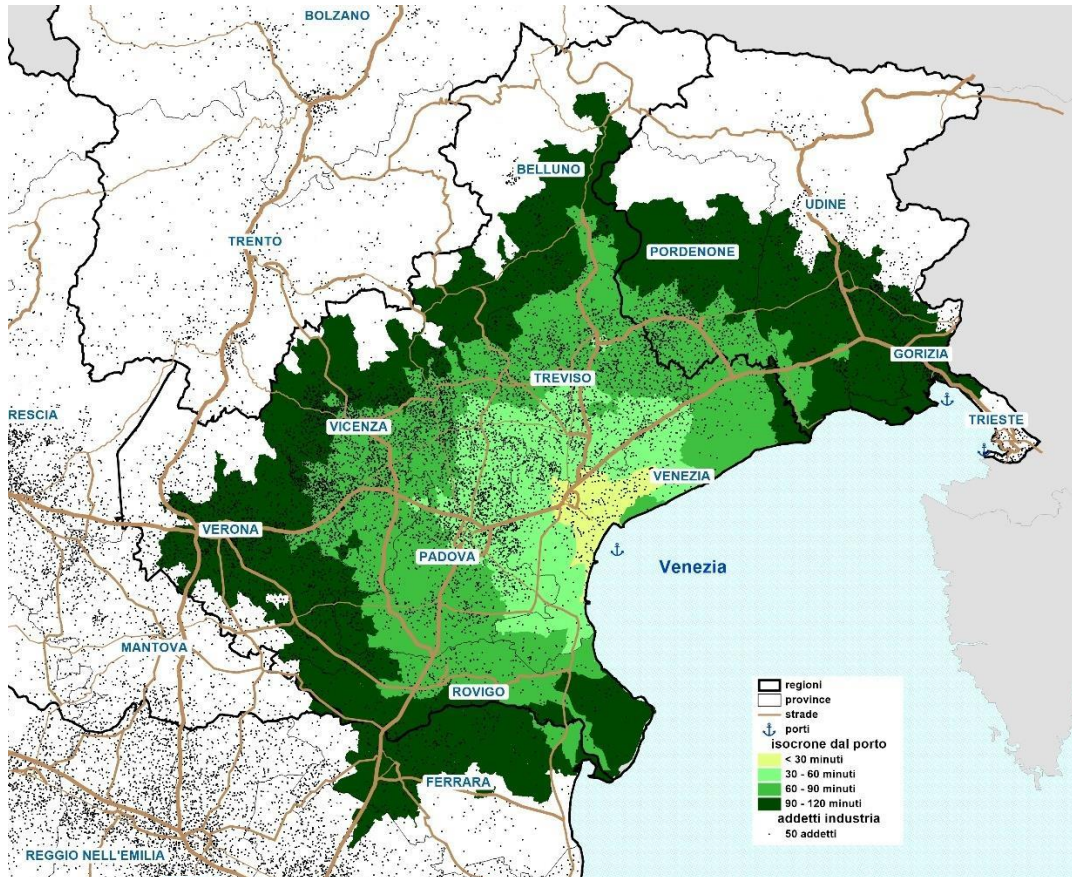


Figure 7 – Road accessibility of the port of Venice: isochronous at 30 minutes, current road offer scenario - source UNINA elaboration

3. Analysis of regional ports phenomenon

This chapter presents an analytical overview of the physical characteristics as well as the existing equipment and services being available at a number of small ports located within the Veneto region; while the findings reported hereinafter relates to a representative sample of small ports, to improve readability, the numerous characteristics contributing to the overall service quality a user may experience in a given small port have been divided into two main clusters, each corresponding to the following sub-paragraphs, namely:

- **land-side and sea-side infrastructure supply**, consisting of dimensional characteristics, core equipment and services, local amenities and access to land-side infrastructures ensuring hinterland connections;
- **end-users' & consumers' services**, consisting of basic port services, repairing and maintenance services, environmental services, other added-value services. Every non-self-explanatory service will be described in the remainder of this chapter.

In accordance with D4.1.1 (*Methodology for analysing the status quo*), the results from the analysis presented in this Chapter are mainly based on responses to the questionnaire developed within the frame of WP3 and still being administered to the Programme Area small ports via the FRAMESPORT project partners under the umbrella of WP4, which represents the project-related area where baseline data collection for small ports is underpin.

While a total number of 8 small ports have so far provided baseline data by filling in data into the designed questionnaire, additional desk-based research was also conducted to enrich such data base, leading to **a total of 46 small ports contributing to the analysis results** presented below.

The location of the resulting small ports addressed in this chapter are shown in the following maps.



Figure 3-1 Location of small ports considered in this regional report

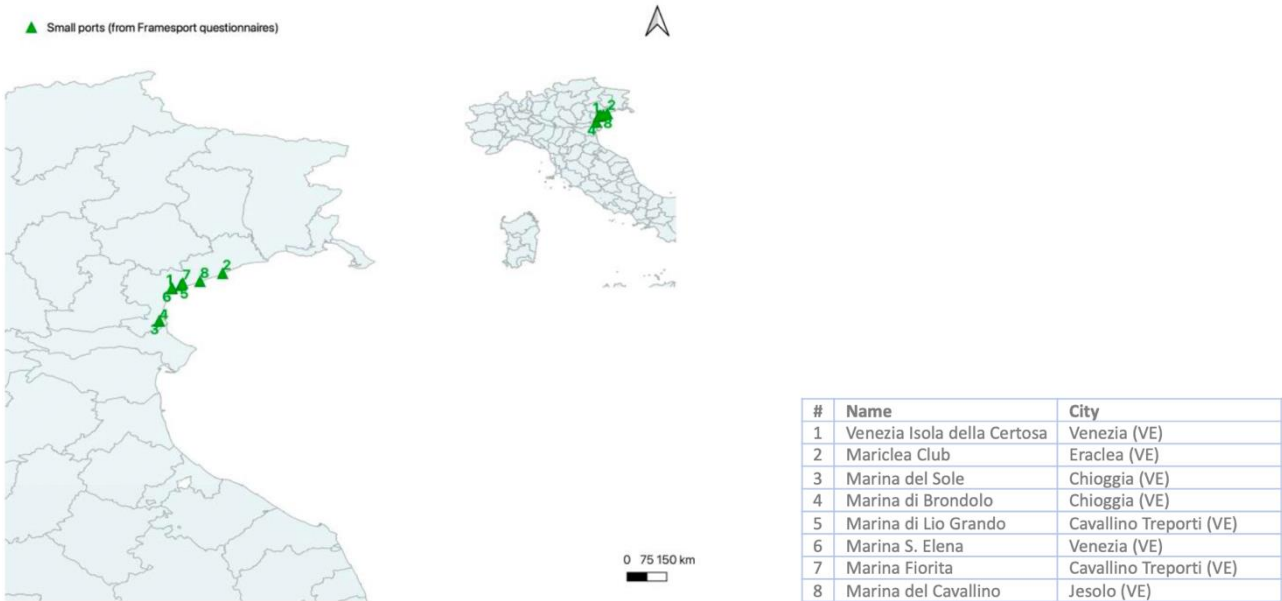
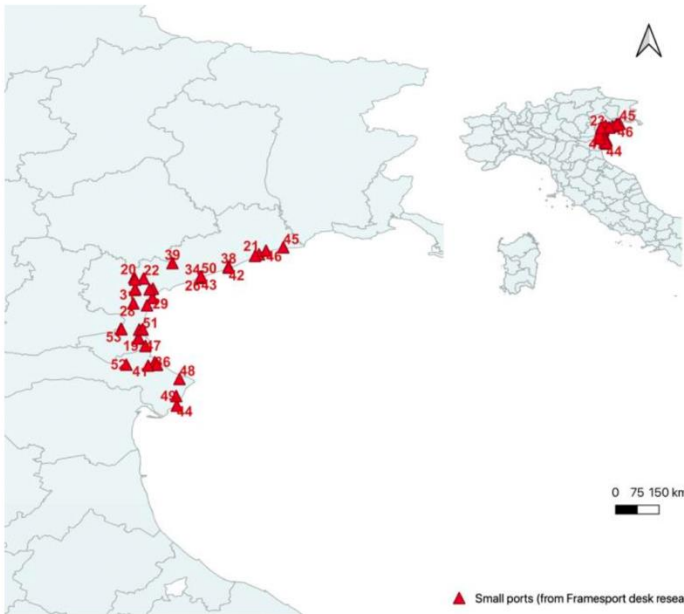


Figure 3-2 Location of small ports being addressed by WP3 questionnaire responses



#	Name	City
9	Cantieri dalla pietà	Malcontenta (VE)
10	Corte Molin Yatching club	Chioggia (VE)
11	Darsena Brenta Service Boat	Chioggia (VE)
12	Darsena DEC	Mestre (VE)
13	Darsena dell'Orologio	Caorle (VE)
14	Darsena di Campalto	Venezia (VE)
15	Darsena di San Giorgio	Venezia (VE)
16	Darsena Fusina	Venezia (VE)
17	Darsena Le Saline	Chioggia (VE)

▲ Small ports (from Framesport desk research)

18	Darsena Marina	Lido di Jesolo (VE)
19	Darsena Mosella	Chioggia (VE)
20	Darsena San Leonardo	Venezia (VE)
21	Darsena Venmar	Venezia (VE)
22	Donà Ormeggi e Approdi di Sauro	Porto Viro (RO)
23	Industria Nautica Venezia	Venezia (VE)
24	Marina 4	Porto di Santa Margherita (VE)
25	Marina Alberoni	Venezia (VE)

26	Marina del Faro	Faro-Piave Cavallino (VE)
27	Marina della Giudecca	Venezia (VE)
28	Marina di Albarella	Rosolina (RO)
29	Marina di Chioggia	Valli di Chioggia (VE)
30	Marina di Cortellazzo	Jesolo (VE)
31	Marina di Portegrandi	Quarto d'Altino (VE)
32	Marina di Porto Levante	Porto Viro (RO)
33	Marina nuova di Levante	Rosolina (RO)
34	Nautica Boat Service	Jesolo (VE)
35	Nautica Dal Vi'	Lido di Jesolo (VE)
36	Porto Barricata	Porto Tolle (RO)
37	Porto Baseleghe - Bibione Mare Spa	Bibione (VE)
38	Porto di Falconera	Caorle (VE)
39	Porto Fossone	Rosolina (RO)
40	Porto Peschereccio di Pila	Porto Tolle (RO)
41	Porto Peschereccio di Scardovari	Scardovari (RO)
42	Porto Turistico di Jesolo	Lido di Jesolo (VE)
43	Porto Turistico San Felice	Chioggia (VE)
44	Porto Viro	Porto Viro (RO)
45	Romea Yatching club	Chioggia (VE)
46	Mestre Scafo club	Mestre (VE)

Figure 3-3 Location of small ports addressed by additional desk-based research

3.1. High-level inventory of land-side and sea-side infrastructure supply for regional small ports

3.1.1. Dimensional characteristics and core equipment

The core physical infrastructure supply and equipment represents crucial elements for a fully functioning small port; key characteristics that have been addressed in the analysis are not only related to the port itself - namely the number of berths, the mooring draught, seabed depth, port entrance - but are also concerned with the physical dimensions of vessels that are feasibly allowed to get in the port.

As previously said, the source of data used for the analysis are the WP3 questionnaire (with total number of 8 records for Veneto regions' small ports) and the additional information coming from the afore-mentioned desk-based survey which brings the number of data records up to 46. In the remainder of this document, and particularly in the following tables, such data sources will be respectively referenced to as "46" and "8" for the sake of brevity.

Table 3-4 provides a synthetic overview of the dimensional elements associated with the geometric-physical characteristics related to small ports and vessels. Due to the large number of regional small ports considered for the baseline analysis, aggregate descriptive statistics are given to picture the existing level of provision at the addressed facilities; particularly, it is worth noting that **251 berths are available on average at the regional ports considered**, though a large variation in the number of berths has been recorded, which range between 30 (for port #34, "Nautical boat service" in Jesolo) and 650 (for port #42, "Porto turistico di Jesolo"). By simply referencing to the standard deviation value shown in Table 3-4, a very large variation between the addressed small ports is also observed in relation to the maximum allowed vessel dimensions and tonnage, the width of port entrance and in the overall port area; on the other hand, a more limited deviation from the average value has been recorded for the **maximum mooring draught and the minimum seabed depth averaging at 4,0m and 2,1m** respectively across the whole data sample.

Table 3-4 Descriptive statistics for dimensional characteristics of small ports

	No. of berths	Max mooring draught (m)	Max vessel height (m)	Max vessel length (m)	Max vessel tonnage (m)	Min seabed depth (m)	Width of port entrance (m)	Total port area (sqm)
Sample size (n)	46	8	8	46	8	46	8	8
<i>Min</i>	30	2,0	4,0	7,0	20,0	1,0	3,0	21200
<i>Max</i>	650	7,0	500,0	100,0	1500,0	3,5	150,0	200000
<i>Average</i>	251	4,0	107,6	24,8	557,5	2,1	34,6	67288
<i>Mode</i>	70	3,0	7,0	15,0	n/a	2,0	3,0	n/a
<i>Standard deviation</i>	154	1,8	219,4	18,8	645,9	0,6	48,8	56793

3.1.2. Connections to local amenities and land-side infrastructure

The landside section of multimodal journeys involving maritime transport is gaining increasing attention nowadays due to the well-known accessibility issues generated, amongst other things, by traffic congestion on roads surrounding ports, thus preventing an efficient hinterland connection; this instance may in some cases lead to a situation whereby the travel time experienced on surface transport may mean sometimes exceeding that of the seaside section, even if the former is much shorter in terms of distance.

As far as ro-ro and container traffic are concerned, road and rail links are essential elements of the overall transport service connecting to/from/between ports; this concept also applies to touristic ports where boaters, who intend to reach a particular small port, may face the situation of having to adapt, or worse scarpify, their needs and travel preferences due to a potential lack of availability, efficiency and quality of the infrastructure being available to reach their chosen destination. Ultimately, a port cannot be considered efficient if its road and rail links are inadequate and insufficient to handle the traffic of users intending to get through them. Consequently, a port with inefficient land connections cannot be competitive and risks to be left behind and, therefore, to not be attractive to boaters and tourists altogether.

Bearing the above in mind, as shown in Table 3-5, the public transport infrastructure is not very well developed around the regional small ports considered, given the low-to-mid transport accessibility level resulting from a large distance from key public transport nodes. Railway stations/train stops, and to a lesser degree bus stations are located further away from the considered small ports, to the extent that walking and cycling modes are not viable options for boaters to reach the small port destinations.

Indeed, the above-mentioned **transport nodes are located at an average respective distance of 15,4km (railway stations and train stops) and 4,5km (bus stations) from small port locations**; on the other hand, **bus stops** appear to be **more accessible, whilst airports and motorway are located further afield**.

It should be again reminded that a large variation across the data sample is observed in the distance between small ports and the individual transport facilities mentioned.

Table 3-5 Distance to transport nodes and infrastructure. Values in km.

	Railway station	Train stop	Airport	Bus station	Bus stop	Tram station	Tram stop	Motorway
Sample size (n)	8	8	8	8	8	8	8	8
<i>Min</i>	3,0	3,0	11,0	0,0	0,0	50,0	5,5	11,0
<i>Max</i>	30,0	30,0	50,0	15,0	5,0	50,0	50,0	50,0
<i>Average</i>	15,4	15,4	34,0	4,5	0,9	50,0	27,8	33,3
<i>Mode</i>	20,0	20,0	50,0	1,0	0,1	n/a	n/a	50,0
<i>Standard deviation</i>	9,2	9,2	17,3	5,4	1,8	n/a	31,5	14,1

Table 3-6 shows a large variation also in the distance to fire stations, police stations and hospitals, respectively averaging at 11,3, 5,1km and 8,0km; **car-borne and walking travel time to first point of call are on average at 7,7 and 55,3 minutes** respectively, the latter clearly not representing a viable option for small ports' users.

Table 3-6 Access to local amenities

	Distance to fire brigade station (km)	Distance to 'Carabinieri' station (km)	Distance to Police station (km)	Distance to nearest hospital (km)	Car-borne travel time to first point of call (minutes)	Walking time to first point of call (minutes)
Sample size (n)	16	16	16	16	16	16
<i>Min</i>	3,0	1,0	0,5	2,0	4,0	2,0
<i>Max</i>	20,0	15,0	20,0	20,0	15,0	300,0
<i>Average</i>	11,3	5,1	10,3	8,0	7,7	55,3
<i>Mode</i>	15,0	1,0	15,0	2,0	5,0	20,0
<i>Standard deviation</i>	6,6	5,0	7,6	6,9	4,1	99,6

Moreover, **more than 50% of small ports provides on-site access to transport rental services, the most popular being motorbikes/scooters and bikes.** Furthermore, it is worth noting that, whilst 19% of the regional small ports analysed provide a touristic guide service, one-day and half-day excursions and/or touristic itineraries can be accessed for up to 38% of the small ports considered.

Notably, **31% of small ports have established cooperation mechanisms with local authorities** in the form of sailing courses with disabled users, plastic waste collection in the islands of the Venice lagoon, sale of tickets for museums and public transport, participation in the organisation of events for the entertainment of guests, nautical and environmental training and culture.

3.2. High-level inventory of end users' & consumers' services for regional small ports

A series of critical points hindering the competitiveness of the nautical tourism sector emerge at present, including the lack of homogeneity and fragmentation of the service offering; poor propensity for improvement, quality and technological innovation; inadequate managerial training; short-term planning; and above all the lack of a centralized information system regarding equipment level and quality of services a consumer may expect to experience at touristic ports and marinas.

A port ability to operate as a port of call depends on its inclusion in an equipped nautical itinerary which, as far as possible, allows yachtsmen to travel along a stretch of coastline throughout the day. An essential condition for a port to be used seasonally is that it is part of a chain of equipped ports, in terms of technical equipment and services enhancing boaters' nautical experience, closely spaced along a stretch of coastline of sufficient interest to justify a cruise. On the contrary, an isolated port along an unequipped coastline is unlikely to become a landing place, even if it is located in a very attractive area.

The remainder of this section provides a snapshot of the range of services being available at small ports located within Veneto region; such services include a) basic technical services to vessels; b) repairing and maintenance services to vessels; c) environmental services for the port system; d) added-value services enhancing consumers' nautical experience.

3.2.1. Basic port services

Basic services consist of technical services dedicated to vessels using the port, and which enable the operations associated with maritime traffic to be carried out in conditions of safety, efficiency, regularity, continuity and non-discrimination.

The following services, corresponding to specific data types envisaged as part of the baseline questionnaire being administered to Italian and Croatian small ports, were considered as characterising the core technical offer that such ports provide:

- Launching and hauling
- Hull washing
- Grounding
- Vessel storage area
- Trailer for moving vessels

- Crane service

It is self-evident from that **the vast majority of small ports investigated offer launching and hauling (52%) and crane service (80%)** as part of their service provision; **the remaining services are a less popular** across the sample of ports considered.

Table 3-7 Statistic representation of basic port services

	Launching and hauling	Hull washing	Grounding	Vessel storage area	Trailer for moving vessels	Crane service (self-propelled, land)
Sample (n)	46	8	8	8	46	46
Percentage	52%	13%	13%	13%	28%	80%

3.2.2. Repairing and maintenance services

Boat repairing and maintenance services fall under the broad service segment characterising highly equipped ports, due to the fact that these must ensure a significantly large area devoted to vessel manipulations and equipped with appropriate infrastructures and superstructure elements.

Table 3-8 Statistic representation of basic port services

Sale of technical products for the boat in shops and/or warehouses <i>n= 8</i> <i>Percentage= 50%</i>	Sale of technical products for the boat on a commission basis <i>n= 8</i> <i>Percentage= 25%</i>	Mechanical workshop <i>n= 46</i> <i>Percentage= 72%</i>
Careening activities <i>n= 46</i> <i>Percentage= 72%</i>	Resining activities <i>n= 46</i> <i>Percentage= 72%</i>	Bodywork activities <i>n= 46</i> <i>Percentage= 70%</i>
Upholstery activities <i>n= 46</i> <i>Percentage= 70%</i>	Electrotechnician <i>n= 46</i> <i>Percentage= 72%</i>	Electronics <i>n= 46</i> <i>Percentage= 70%</i>
Nautical carpenter	Sail-making and sail repair	Rigging activities

<i>n= 46</i> <i>Percentage= 63%</i>	<i>n= 46</i> <i>Percentage= 67%</i>	<i>n= 8</i> <i>Percentage= 38%</i>
Shipmaster <i>n= 8</i> <i>Percentage= 50%</i>	Warehouseman <i>n= 8</i> <i>Percentage= 50%</i>	Technical Diving Operator <i>n= 8</i> <i>Percentage= 38%</i>
Fire Protection System <i>n= 8</i> <i>Percentage= 100%</i>		

The most popular services are mechanical works, careening and resining activities, bodyworks, upholstering activities, electrotechnician/electronics service; moreover, it should be noted that only **31% out of the 8 ports offer a technical diving operator** on site (service providing the expert in sub-aquatic work who is available when the emergency situation arises such as slashed ropes/buoys, concrete weight at the bottom), whilst **all of them are equipped with a fire protection system** to ensure personal safety and vessel security.

3.2.3. Environmental services

According to Nation-wide statistics on touristic ports and marinas, existing ports have significant environmental impacts and potential risks, mainly depending on the size of the infrastructure. Particularly, ports with significant capacity, up to 800/1.000 berths, experience critical management issues (in terms of wastewater, waste collection, access roads, etc.), which may well represent a challenge for small ports, if environmental management processes are not well organised and efficient. Moreover, in recent years, small port managers have voluntarily started environmental certification processes, according to the National ISO 14001 standard, applied to the management of port services, while more and more attention is being paid to green building and energy saving, as well as to the attribution of the 'Blue Flag' to tourist ports.

Of the 16 small ports, 63% of them have wastewater monitoring system and sewage treatment plant in place, whilst **all of them are equipped with separate waste collection systems, waste oil collection and battery disposal systems**. In addition, a largely different degree of provision is found with regard to desalination, water purification and air purification equipment. As a result, there seems to be scope for improvement for small ports not yet fully equipped with wastewater monitoring systems, desalination equipment and air purification systems; once these systems are

operational, soft measures such as enhancing environmental awareness, limiting single-use plastic items in favour of more sustainable products will have to be implemented via collaboration with end-users to scale up.

Table 3-9 Statistic representation of environmental services

Wastewater monitoring system <i>n= 8</i> <i>Percentage= 63%</i>	Separate waste collection system <i>n= 8</i> <i>Percentage= 100%</i>	Sewage treatment plant <i>n= 46</i> <i>Percentage= 63%</i>
Waste oil collection <i>n= 46</i> <i>Percentage= 100%</i>	Battery disposal <i>n= 46</i> <i>Percentage= 100%</i>	Environmental Management System Certification <i>n= 46</i> <i>Percentage= 25%</i>
Desalination equipment <i>n= 46</i> <i>Percentage= 0%</i>	Air purification system <i>n= 46</i> <i>Percentage= 13%</i>	Water purification system <i>n= 46</i> <i>Percentage= 63%</i>
Promotion of sustainable modes of transport <i>n= 46</i> <i>Percentage= 50%</i>	Electric vehicle charging points <i>n= 8</i> <i>Percentage= 50%</i>	Energy supply based on renewables <i>n= 8</i> <i>Percentage= 50%</i>

Sustainable transport means, electric vehicle charging points, energy supply based on renewable sources are respectively promoted/present in **50%** of all small ports analysed.

3.2.4. Added-value services

The quality of services in touristic ports can only be based on their usability by the tourist clientele and related businesses. Three main areas could be identified that form the criteria for a small port to be considered usable from a tourism point of view, namely:

- access, in terms of ease of access to the site and its services;
- reception, in terms of the ability to provide primary reception services, from hygiene to security, to reception offices, etc;

- services to nautical tourists and other consumers enriching their experience at small ports thanks to a wide range of ancillary services to the boating experience being provided within the port area.

This section focuses on primary reception services and added-value services to nautical tourists that enhance their nautical experience within ports of Veneto region; these include, among others, mooring, safety and security, services to basic needs, activities enhancing nautical aptitude as well as well as ancillary services concerning leisure and sport activities.

Among the primary reception service category, **mooring services are supplied in 75% of cases, 44% of which are available 24h a day; night lighting and nights watchmen are also provided for most ports** (100% and 88% respectively), with the latter working also as mooring masters in some cases (38%).

Table 3-10 Statistic representation of primary reception service

Mooring service <i>n= 16</i> <i>Percentage= 75%</i>	Emergency mooring service <i>n= 16</i> <i>Percentage= 88%</i>	Night watchmen <i>n= 16</i> <i>Percentage= 88%</i>
Night lighting <i>n= 16</i> <i>Percentage= 100%</i>	Services to basic needs: toilets <i>n= 16</i> <i>Percentage= 100%</i>	Services to basic needs: showers <i>n= 16</i> <i>Percentage= 100%</i>
Services to basic needs: car parking <i>n= 16</i> <i>Percentage= 75%</i>	Services to basic needs: safety & security <i>n= 16</i> <i>Percentage= 63%</i>	Secretarial service <i>n= 16</i> <i>Percentage= 100%</i>
Management service <i>n= 16 Percentage= 88%</i>	Radio service <i>n= 16</i> <i>Percentage= 50%</i>	Helicopter rescue service <i>n= 16</i> <i>Percentage= 25%</i>
Presence of defibrillators <i>n= 16</i> <i>Percentage= 50%</i>	Fuel distribution facilities <i>n= 16</i> <i>Percentage= 38%</i>	Language certification for secretarial service <i>n= 16</i>

		<i>Percentage= 88%</i>
Language certification for management service <i>n= 16</i> <i>Percentage= 88%</i>	Language certification for mooring service <i>n= 16</i> <i>Percentage= 38%</i>	Language certification for shipyard manager <i>n= 16</i> <i>Percentage= 13%</i>

A **very high service provision** is recorded for some **services to basic needs** (toilets, showers, car parking), as well as **secretarial and management services**; on the other hand, **low- to mid-level provision has been found in relation to radio service, helicopter rescue service and fuel distribution** facility.

It is also worth highlighting that for some small ports secretarial, management, mooring and shipyard managing services are at least provided in English. In addition, **38% of small ports have received National and/or international awards and around 63% have initiated cooperation with research and education establishments** in the form of internships and shared training hours.

According to Table 3-11, **several facilities** enhancing nautical aptitude **are available** at small ports, namely **sailing schools, diving schools, sport associations/clubs**; mid-to-high presence of restaurants and coffee shops is also observed, enabling boaters and additional consumers to entertain on site. Notable, the **average number of restaurants and coffee shops** per site, across the whole sample of ports considered, is at **1,5 and 1,1** respectively.

Availability of port facilities for people with physical impairments is a big advantage as the social inclusion does not represent an obstacle when it comes to visiting ports and harbours in the ports investigated.

Table 3-11 Statistic representation of services enhancing nautical aptitude

Surfing schools <i>n= 8</i> <i>Percentage= 0%</i>	Sailing schools <i>n= 8</i> <i>Percentage= 75%</i>	Diving schools <i>n= 8</i> <i>Percentage= 38%</i>
Sport associations/clubs <i>n= 8</i> <i>Percentage= 63%</i>	Facilities for disabled users <i>n= 8</i> <i>Percentage= 88%</i>	Pet-friendly facilities <i>n= 8</i> <i>Percentage= 75%</i>

Restaurants <i>n= 8</i> <i>Percentage= 75%</i>	Coffee shops <i>n= 8</i> <i>Percentage= 88%</i>	Laundry <i>n= 8</i> <i>Percentage= 63%</i>
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According to Table 3-12, there is a large variation in the presence of **sports facilities** and related activities that can occur on site; however, a **significant provision for these services is within the surroundings of the port location** (i.e., 1km of the port site access). Up to a total of 75% of investigated ports have a tennis court, football pitches, swimming pools and riding schools within close vicinity of the port, while swimming pools and gymnasiums are also available on site in some cases.

Wellness facilities are an essential accessory in modern day's world with the ever-rising demand for various forms of SPA and beauty centers. None of the considered ports present such facilities on site, however they can easily be found **within the immediate port's vicinity**.

Table 3-12 Statistic representation of leisure and healthcare services

Tennis courts within port <i>n= 8</i> <i>Percentage= 0%</i>	Tennis courts within surroundings <i>n= 8</i> <i>Percentage= 75%</i>	Football pitches within port <i>n= 8</i> <i>Percentage= 13%</i>
Football pitches within surroundings <i>n= 8</i> <i>Percentage= 75%</i>	Swimming pools within port <i>n= 8</i> <i>Percentage= 25%</i>	Swimming pools within surroundings <i>n= 8</i> <i>Percentage= 75%</i>
Riding schools within port <i>n= 8</i> <i>Percentage= 0%</i>	Riding schools within surroundings <i>n= 8</i> <i>Percentage= 75%</i>	Golf course within port <i>n= 8</i> <i>Percentage= 0%</i>
Golf course within surroundings <i>n= 8</i> <i>Percentage= 50%</i>	Gymnasiums within port <i>n= 8</i> <i>Percentage= 13%</i>	Gymnasiums within surroundings <i>n= 8</i> <i>Percentage= 50%</i>

SPA within port <i>n= 8</i> <i>Percentage= 0%</i>	SPA within surroundings <i>n= 8</i> <i>Percentage= 75%</i>	Wellness centres within port <i>n= 8</i> <i>Percentage= 0%</i>
Wellness centres within surroundings <i>n= 8</i> <i>Percentage= 63%</i>	Beauty centres within port <i>n= 8</i> <i>Percentage= 0%</i>	Beauty centres within surroundings <i>n= 8</i> <i>Percentage= 75%</i>
Hairdressers within port <i>n= 8</i> <i>Percentage= 0%</i>	Hairdressers within port within surroundings <i>n= 8</i> <i>Percentage= 75%</i>	Barber shops within port <i>n= 8</i> <i>Percentage= 0%</i>
Barber shops within port surroundings <i>n= 8</i> <i>Percentage= 75%</i>	Sale of boat equipment and/or technical clothing <i>n= 8</i> <i>Percentage= 38%</i>	Clothing shops <i>n= 8</i> <i>Percentage= 25%</i>

4. SWOT analysis on small ports phenomenon

<p>Strengths</p> <ul style="list-style-type: none"> • Large coastline and geographical configuration of the Adriatic region • Strategic sector within the Blue Economy • Existing asset availability 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Users' average age • Fragmented offering • Lack of coordination initiatives • Lack of large-scale structured information provision to users • Inefficiencies (operational, financial, socio-economic, environmental) • Poor relationships with surrounding regions and territories • Ineffectiveness (inability to match users' needs effectively)
<p>Opportunities</p> <ul style="list-style-type: none"> • Wide potential for coordinated and integrated initiatives ("Adriatic cluster") • Potential territorial synergies with Croatia thanks to the geographical contiguity • Development of national strategic plans for the sector • Improvement of structures/services in terms of sustainability and energy efficiency • Attracting young people through training and education 	<p>Threats</p> <ul style="list-style-type: none"> • Negative demographic trends (ageing of population) • Unbalanced competitive environment in the Adriatic • VUCA environment (e.g. pandemic, taxation, fuel prices)

Among the major strengths of regional touristic ports can be found the significant development of the coastline. In fact, regional coasts develop over some 200 km, which is about 25% of overall Adriatic coasts. The geographical configuration of the region, then, shows wide opportunities for the development of nautical tourism and touristic ports. On top of that, the role played by regional ports in the so-called Blue Economy is remarkable, both in terms of added value (3% at national

level) and employment (3,5% at national level). Moreover, existing regional asset and infrastructures constitute a relevant strength for the regional system.

At the same time, the average age of typical user in the nautical sector has been increasing over the last decades constantly. This represents a strong weakness of the overall sector, while the need to attract young people strongly emerged. Overall, the offering by touristic ports and marinas is remarkably fragmented and a general lack of coordination initiatives is in place. Such a picture determines a significant degree of inefficiency at management, societal and environmental levels. Moreover, users can hardly access structured information at large geographical scale to support their decision-making process. Overall, the extensively fragmented approach to markets negatively affects industry competitiveness, while several situations of poor financial conditions can be found. Additional weaknesses consist of the poor relationships with surrounding territories: touristic ports development should constitute an opportunity to connect the blue economy with the overall regional systems, which indeed present plenty of touristic destinations.

At the same time, the current lack of competitiveness could be addressed by exploiting a large range of opportunities which are in place in terms of promoting coordinated initiatives to markets and users' needs. From a strategic policy standpoint, the promotion of an "Adriatic cluster of touristic ports and sustainable tourism" should be seen as a priority. Some synergies due to the favourable geographical position of regional ports with Croatian regions and markets could be exploited, thus, generating win-win outcomes. By strengthening cooperation and common initiatives in the industry at geographical level, relevant policy actions can be expected as a result also by national governments to feed national plans.

Additionally, the improvement of structures/services in terms of sustainability may render such realities more efficient, thus contributing to reach the objectives of the European Green Deal, that is the reduction of emission by 50-55% by 2030 and the carbon-neutrality by 2050. Finally, specific relevant opportunities could be envisaged in the educational and training sector to attract young people, which is something crucial to allow the industry to grow.

In that, the current demographic trends showing an increasing ageing of population is not of help. At the same time, the current different level of competitiveness of touristic ports and marinas on the two side of the Adriatic realistically constitutes an issue to be tackled by fostering coordinated initiatives.

5. Summary and conclusions

A total of 46 small and touristic ports of the Veneto region has been analysed in this report and relevant information on ports' structures and services were presented as the result of the data collection by means of a dedicated questionnaire developed within the technical WP3, that adheres to a specifically designed data model, and partly from a secondary source (i.e., desk research). Overall, infrastructure availability – both land-side and sea-side – by regional small and touristic ports turns out to be satisfactory, however a huge variety of features about port sizes and dimensions is in place, including lengths, heights and tonnage of vessels to be accommodated, number of moorings, ports' overall area and entrance width. Such results certainly call for the need to provide users with straightforward information about the variety of features they can find within a port.

Moreover, a general lack of land-side accessibility to the ports is reported, while a rather good availability of port-related services on the surrounding territory can be found at the same time (e.g., bike or scooters rental services, excursions, etc.) as well as a good level of cooperation with local institutions.

As for port services, a good availability of basic ones was found (e.g., launching and hauling, crane services), with some exceptions (e.g., hull washing and grounding, storage, etc.). Small regional ports are generally well equipped with repairing and maintenance services, while the lack of diving services is in place. As for what regards the environmental services within ports, some critical issues were found, including monitoring of wastewater, sewage treatment plant, desalination equipment and air purification system, while an overall lack of renewable energy systems was recorded. Finally, a good availability of added-value services was found, including mooring and night lighting systems, although some critical issues exist, which concern the presence of radio services, helicopter rescue services and fuel distribution. Wellness services are not generally provided at the port premises here investigated but, in most cases, they can be found in the close proximity of them.