



TURIN FOOD METRICS REPORT 2022

December 2022



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INTRODUCTION & METHODOLOGY

The City of Turin is strongly committed on policies and activities promoting fair quality food access and at the same time awareness culture for healthy and sustainable lifestyles, enhancing local food excellence. The City has been taking several steps in order to achieve development about food policies that combine food rights into an environmental sustainability context, fighting against waste and enhancing the complex local food ecosystem. The article 2 of the statute of the city, modified in 2016 (proposed by the City Government in September 2015 and approved by the City Council in March 2016) has signed this commitment about promotion of suitable food rights providing a regular, permanent and free access to good, adequate and healthy food. Today an inter-departmental group set up by the municipal administration is committed to food issues working on four topics: environmental sustainability and circular economy, food security and waste, urban agriculture, and cultural promotion. The goal is to promote the most of the existing realities and enhance new synergies with institutions and territories, in a close dialogue with the activities of Food Atlas.

The first handout of *Prediche Inutili* (Useless Lectures) by Luigi Einaudi was published in 1956, shortly after the end of his term of office as President of the Republic under the title “*Conoscere per deliberare*” (Knowing for Ruling). It is an exhortation to politicians and public decision-makers to devote their time and resources to thorough, evidence-based studies about matters which urge them to take action on. At the same time, the author exhorts them to refrain from giving in to hasty decisions that might win popular consent in the short run, yet reveal rather ineffective in producing a real transformation of society and economy over the long run.

This was the underlying logic of the first Food Metrics Report compiled by the City of Turin in 2020 on the city food system, designed to be regularly updated every two years at most. The purpose of the report is to take stock of the urban food system, highlighting its transformations and, consequently, the effectiveness of public policies aimed at increasing environmental sustainability, social equity and economic competitiveness.

Our approach is based on the virtuous experience of New York City, which has been publishing its own Food Metrics Report since 2012, based on a set of indicators that can be updated on a regular basis¹.

The objectives of the Turin Food Metrics Report are consistent with the endorsement of the City of Turin to the Milan Urban Food Policy Pact (2015), an international treaty through which more than 200 cities around the world commit to “*work to develop sustainable food systems that are inclusive, resilient, safe and diverse, that provide healthy and affordable food to all people in a human rights-based framework, that minimise waste and conserve biodiversity while adapting to and mitigating impacts of climate change (1)*”

Since the 2020 edition, the Turin Food Metrics Report has been developed with the scientific support of the Department of Culture, Politics and Society of the University of Turin (inter-university and inter-institutional research group of the Turin Metropolitan Food Atlas Group²), whose primary objective is in fact to set up a permanent observatory of Turin food system to the benefit of its players and their activities, including also the development of local food policies based on an in-depth knowledge of the scenario in which they operate.

This second edition of the Turin Food Metrics Report is especially relevant as it constitutes one of the key activities carried out by the City of Turin within the framework of the Horizon 2020 project named FUSILLI (Fostering the Urban food System Transformation through Innovative Living Labs Implementation). Fusilli brings together twelve European cities, including Turin, in a three-year process designed to foster a participatory development of local food policies along with the development and implementation of practical measures aimed at strengthening circularity practices

1 You can download the 2021 edition of the NYC Food metrics Report at <https://www1.nyc.gov/assets/foodpolicy/downloads/pdf/Food-Metrics-Report-2021.pdf>

2 The partners of the Turin Metropolitan Food Atlas are: University of Turin, Turin Polytechnic, University of Gastronomic Sciences, Turin Chamber of Commerce, City of Turin, Metropolitan City of Turin, Ires Piedmont, Urban Lab.

for a more sustainable urban food system.

This 2022 report includes updates of most of the indicators used in the previous edition; in some cases, such indicators have been slightly modified to make them clearer and more effective, and new indicators have been included whenever the need was felt to investigate further on issues unexplored in the 2021 report. These will be updated in future editions.

The 2022 Turin Food Metrics Report is thus based on a set of 109 indicators on eight thematic families:

1. Food offer
2. Food processing
3. Urban farming
4. Food security
5. Health, green and supportive public procurement
6. Food nutrition & health
7. Circular economy
8. Training & research
9. Tourism and food and wine

The indicators in each section are commented on and visually illustrated by means of tables, graphs, infographics, and maps. Where possible, the Figures have also been compared with figures from previous years, with particular attention to variations potentially related to the consequences of the Covid-19 pandemic.

The analysis refers to a city scale, although in some cases the Figures refer to a district /neighbourhood scale, including the 23 so-called “former neighbourhoods”, constituting a spatial behavioural pattern of Turin’s inhabitants.

The report provides figures on Turin food system. At this stage, though, such figures do not relate to figures from other similar scenarios, nor do they provide an assessment based on food system monitoring parameters (such as the Milan Urban Food Policy Pact Monitoring Framework). This is a further step that could supplement this report at a later stage, as it could be paramount to make a linkage between the analysis work and the design of policies aimed at addressing critical issues as well as upholding positive forces.

**TURIN
FOOD METRICS REPORT
2022**

1

**FOOD
OFFER**

Foodscape can be defined as the set of all the physical and virtual places in which a person comes into contact with food in the course of his / her daily life, including the material, socio-cultural, economic and political influences affecting their food choices at every level. The foodscape concept is often associated with food environment. (Lake et al., 2010, Roe et al. 2016; Goodman, 2016).

When analysing the elements of the foodscape in which city dwellers are immersed, several patterns can be followed. Some (Glanz et al., 2005) identify three main foodscape areas with regard to factors that determine food choices:

- (1) institutional policies and corporate strategies that define the general environmental conditions under which a consumer can choose how to eat;
- (2) a series of environmental variables varying in scale - from household to city - and nature, influenced by the inputs and communications provided by the media, upon which the availability and accessibility of certain foods depend;
- (3) a number of individual, socio-demographic, psychosocial and perceptual variables.

The foodscape analysis is a recurrent theme in research on the relationship between environment, eating habits and health (Lake et al., 2010), where the link between accessibility to quality food and social-spatial injustice is often emphasised.

Hence, if we are to understand the material dimension of a specific food system foodscape, we must begin from the analysis of the spatial distribution of the physical places where food is accessed, i.e., markets, shops, supermarkets, cafés, restaurants, and so on.

However, this is not in itself a comprehensive overview of how food is accessed by city dwellers. It needs further explanation of a different nature, e.g., about social-spatial inequalities and measures to grant better food access. This report provides this kind of information in the following sections.

The main distribution channels, whose terminals are the material points of access to food by the citizens, include large-scale distribution (LSD), retail shops, street markets, a number of alternative agri-food networks such as direct sales, Ethical Purchasing Groups (GAS), community-supported agriculture-CSA, and other, in addition to an increased use of e-commerce. Food distribution touches on spatial, social and environmental urban patterns - it affects the way in which space is lived, designed, consumed and represented, it concerns the relationships between players, and it generates different impacts in terms of air pollution, traffic and congestion, land consumption, energy consumption, etc., respectively.

The events that have transformed the distribution sector since the 1990s have led to markedly longer supply chains resulting in multiple intermediaries, widespread large-scale distribution actors and subsequent decreased retail sales. While this type of distribution system has brought about a general containment of prices for consumers as well as a significant reduction in the producer price, a higher variability and availability of products, including non-local and non-seasonal products, along with an increased purchasing times has increasingly alienated consumers from producers. This has contributed to diminished, almost impossible direct social interactions, knowledge diffusion and trust relationships between them; moreover, over time this has also consumed large portions of territory for sales, storage and logistics areas, and has become highly energy-consuming (Dansero et al., 2014).

Despite the massive spread of large-scale retail stores, the small-scale retail scene in Turin (the so-called neighbourhood shops) still appears to be sufficiently active and widespread; extensive access to food is also favoured by the presence of numerous street markets.

The following section provides an analysis of the different types of food venues in Turin, focusing in particular on markets, small-scale shops and large-scale distribution (LSD) stores.

STREET MARKETS

Turin is one of the Italian cities with the largest number of street markets. This typology of food supply has a strong social value, as it contributes to establishing meaningful gathering spaces on a neighbourhood scale.

The feature that distinguishes Turin Street markets from the markets in most large Italian cities is their daily frequency for most of them in addition to the frequent presence of spaces dedicated to direct sales by local farmers.

Every day, excluding holidays, an average of 32 markets where to buy foodstuffs, fruit and vegetables and/or fish stalls are active in Turin. The best served day of the week is Wednesday (34), while the day with the fewest number of markets is Monday (30).

The size of food markets varies widely. They range from the huge Porta Palazzo market (an average of 338 foodstuffs stalls every day, of which 237 are under license) to a handful of streets markets sometimes consisting of just one stall, whose survival depends on the possibility of increasing their efficiency and economic attractiveness to secure their role of social stronghold.

The total number of pitches for the sale of foodstuffs is 1,748, including pitches allocated on a multi-year concession basis and ‘ticketed’ pitches, i.e. assigned directly on the spot every morning; they are divided into generic food items (491), fruit and vegetables (880), fish (73) and farmers (304).

If we are to understand the actual size of each market as well as its potential, we must take into account the differentiation between the pitches allocated under a ten-year licence and the so-called ‘free’ pitches, which can be allocated on a daily basis to different vendors. The potential size of a market is thus the sum of the licensed and vacant pitches. The actual size, on the other hand, depends on the number of free pitches allocated day by day. Table 1 provides figures about daily average sizes for the different types of food stalls.

A crucial feature of our street markets for the connection of the city with the surrounding rural areas is the daily presence of a large number of pitches for farmers, mostly from the hilly area to the south and east of the city and the whole Piedmont region (Dansero and Pettenati, 2018).

N° OF STREET MARKETS	FRUIT & VEGETABLES		FISH AND SEAFOOD		OTHER FOOD ITEMS		FARM PRODUCERS	
	C	L	C	L	C	L	C	L
32	C:547	L:321	C:51	L:20	C:311	L:163	C:184	L:115

Table 1 – Media Average presence of street markets and food stalls in Turin during the week (excluding Sundays). C = pitches under license; L = free pitches on a rotating basis (Please note that the Figure for free pitches refers to available pitches only)

As illustrated by Fig. 1 map below, the street markets are distributed quite evenly across the urban territory, although some neighbourhoods have a significantly shrinking market presence.

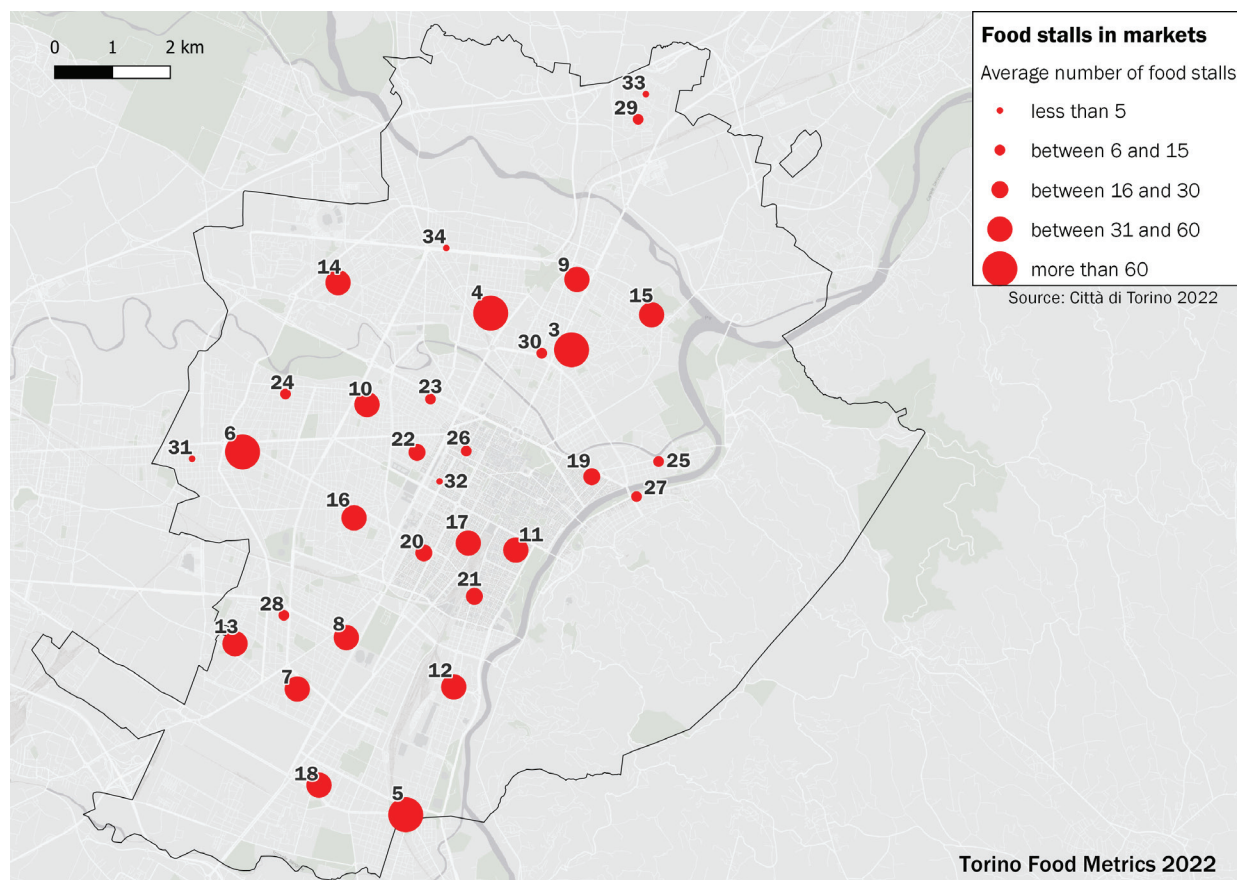


Figure 1 – Distribution and (potential) size of municipal foodstuff markets. Pitches under street trading licenses + free pitches (Source: City of Turin, 2022)

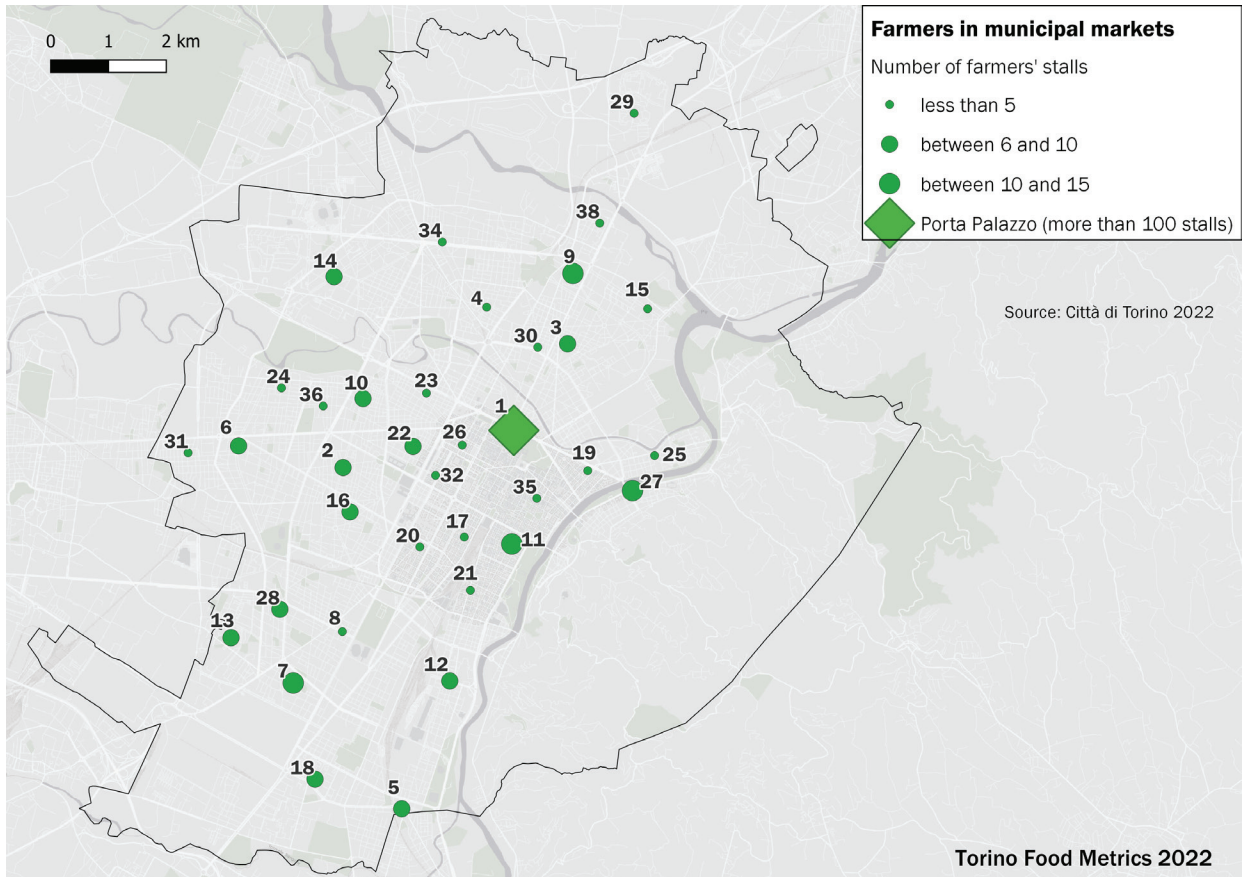


Figure 2 – Presence of pitches dedicated to direct selling by local farmers in the city street markets. Pitches under street trading licenses + free pitches (Source: City of Turin, 2022)

N.	Street Market
1	Porta Palazzo
2	S. Paolo - Racconigi
3	Foroni
4	Vittoria
5	Bengasi
6	Brunelleschi
7	Don Grioli
8	S. Rita - Sebastopoli
9	Porpora
10	Svizzera
11	Madama Cristina

N.	Street Market
12	Spezia
13	Nitti
14	Cincinnati
15	Taranto
16	Di Nanni
17	San Secondo
18	Guala
19	Santa Giulia
20	Crocetta
21	Nizza
22	Benefica

N.	Street Market
23	Barcellona
24	Campanella
25	Chieti
26	Palestro
27	Casale
28	Baltimora
29	Falchera Vecchia
30	Crispi
31	Rua
32	Bolzano
33	Falchera Nuova
34	Grosseto

Table 2. Keys for Figure n. 2

The food offer of Turin street market is rounded out by two large covered markets, i.e., Porta Palazzo (Mercato Alimentare IV, also known as Antica Tettoia dell’Orologio and Mercato Alimentare V), hosting a total of 127 stalls, mainly dedicated to meat, cheese and delicatessen/gastronomy products.

In addition to that, 15 street markets devoted exclusively to direct sales by farmers are also organised by private operators, such as farmers’ associations, namely Coldiretti and Cia which are in charge of organising some of the largest farmers’ markets on a monthly or bi-weekly basis in a selection of piazzas in the city centre (Piazza Bodoni, Piazza Vittorio, Piazza Palazzo di Città).

ORGANIZER	LOCATION	FREQUENCY
Agrimercato	Via Mittone	On Tuesdays and Thursdays Until 31/12/2022
Agrimercato	Giardino La Marmora	On Fridays Until 31/12/2022
Agrimercato	Piazza e Via Palazzo Di Citta', Piazza Corpus Domini	On the 1st Sunday of each month Until 31/12/2022
Agrimercato	Piazza e Giardini Cavour	On the 2nd Sunday of each month Until 31/12/2022
Agrimercato	Piazza Bodoni	On the 4th Sunday of each month Until 31/12/2022
Agrimercato	Corso Umbria - Tratto Fra C. Reg. Margherita E V. Livorno	On Wednesdays Until 31/12/2022
Agrimercato	Piazza Vittorio Veneto	On the 3rd and the 5th Sundays of each month. Until Al 31/12/2022
Agrimercato	Via Vigliani 102	On Fridays
Provincia Cia Agricoltori Delle Alpi (Gia' C. I. A.)	Piazza e Via Palazzo Di Citta'	On the 2nd Sunday of each month. Until 31/12/2022 (except for the months of July and August)
Provincia Cia Agricoltori Delle Alpi (Gia' C. I. A.)	Piazza Bodoni	On the 3rd Sunday of each month. Until 31/12/2022 (except for the months of July and August)
Perotti Giuseppina	Via Nizza 230/14 Area antistante Eataly	2 [^] Sunday of each month. Until 11/12/2022
Perotti Giuseppina	Via Monferrato	On the 1st and the 3rd Thursday of each month. Until 15/12/2022 (except for the months of July and August)
Korto S.R.L. Societa' Agricola	Giardino Sambuy Piazza Carlo Felice	On the 2nd Sunday of each month until December 2022 (except for the months of July and August) On 21-22 May 2022, 24-25 September 2022, 17-18 December 2022
Association produttori del paniere provincia di Torino	Piazza C.L.N.	On the 1st Sunday of each month from February to December 2022 (except for the months of July and August)
Other Organizers	Piazza Vittorio Veneto	On the 4th Sunday of each month (on the 2nd Sunday in March and December)

Table 3. Street markets organised by private entities for direct sales by farmers only

FOOD STORES & LARGE-SCALE DISTRIBUTION

The analysis of food retailing in Turin shows a decidedly capillary distribution across the city.

On one hand, Figures 3 and 4 indicate that the concentration of food retail stores is as heavy in the central and semi-central neighbourhoods as in semi-peripheral neighbourhoods, characterised by high population density and relatively low socio-economic indices, such as Aurora and Barriera di Milano.

On the other hand, the concentration of large retailers (LSD) reaches its peak in some non-central neighbourhoods (Barriera di Milano, San Salvario, Mercati Generali, Santa Rita), in line with the population distribution pattern; however, this is also likely to be caused by a higher availability of large retail spaces.

The total number of retail stores in the city is 4.727, while the number of large retailers is 269.

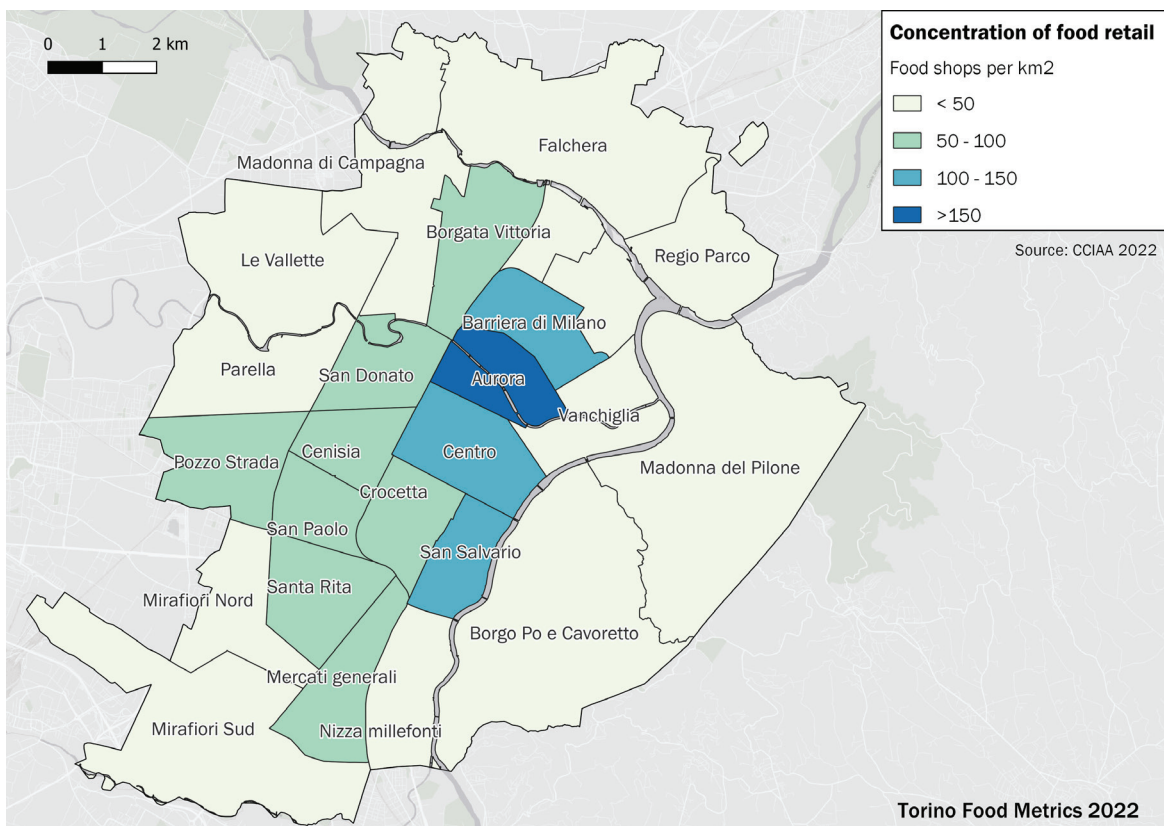


Figure 3 – Food retail stores density per neighbourhood by area size (Source: Chamber of Commerce 2022)

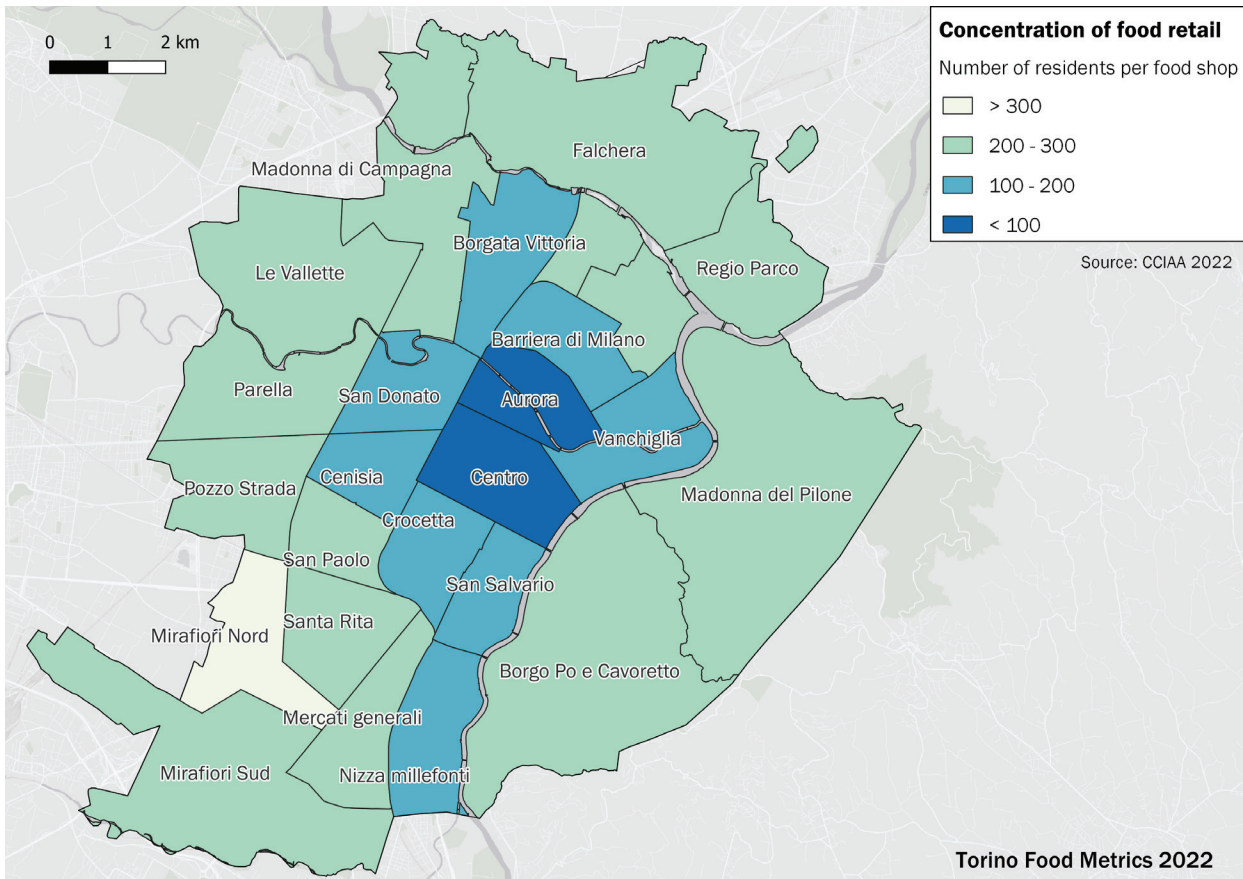


Figure 4 – Food retail stores density per neighbourhood by number of inhabitants (Source: Chamber of Commerce 2022)

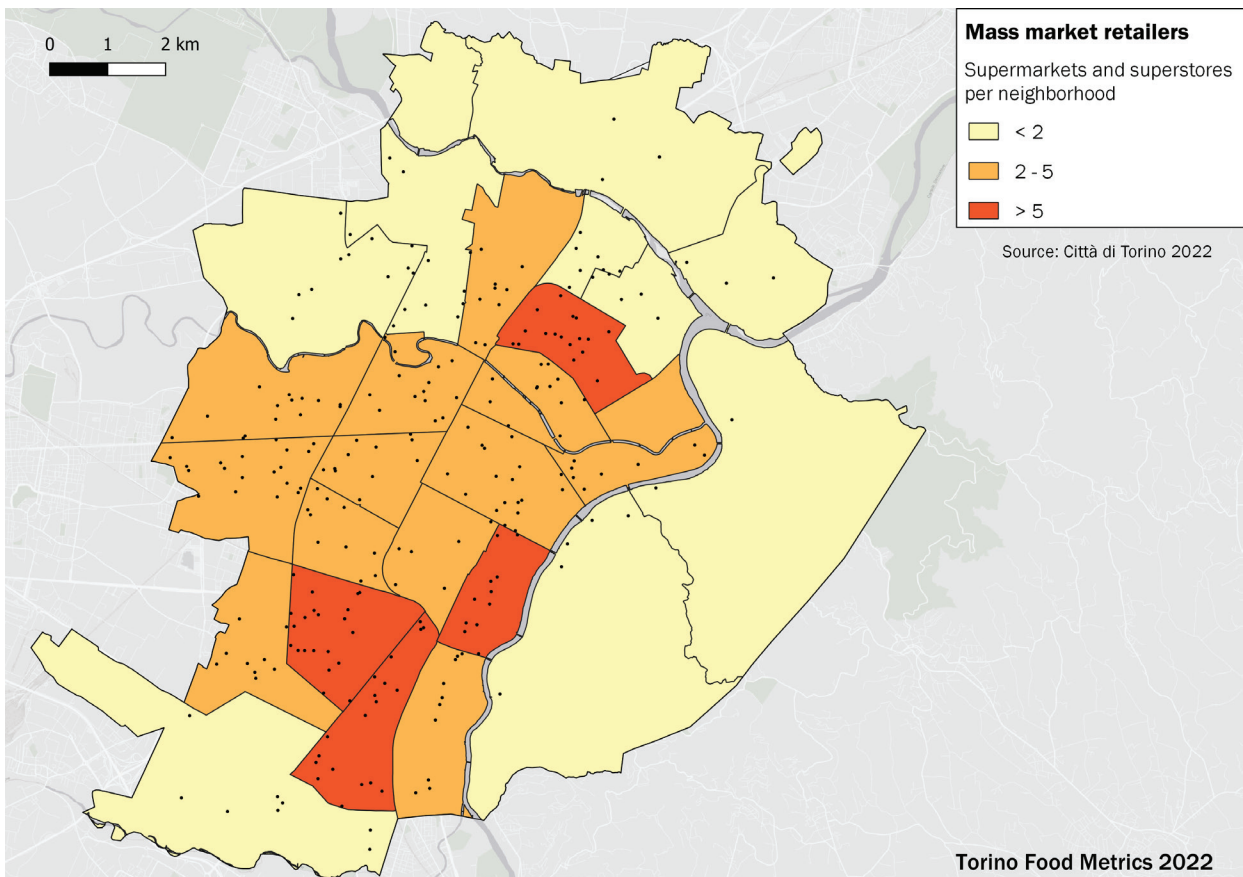


Figure 5 – Distribution and density of large retailers (Source: City of Turin 2022)

A closer look at the linear distance of all city blocks from all food points of sale, i.e., stores, street markets, supermarkets, and so on, reveals that hardly any of them are more than 250 metres from a food access point, with a concentration of low-density residential blocks in the hilly and pre-hilly areas, including Villaretto. We can therefore conclude that the phenomenon of so-called *food deserts* is almost absent in Turin, at least with regard to the presence of stores.

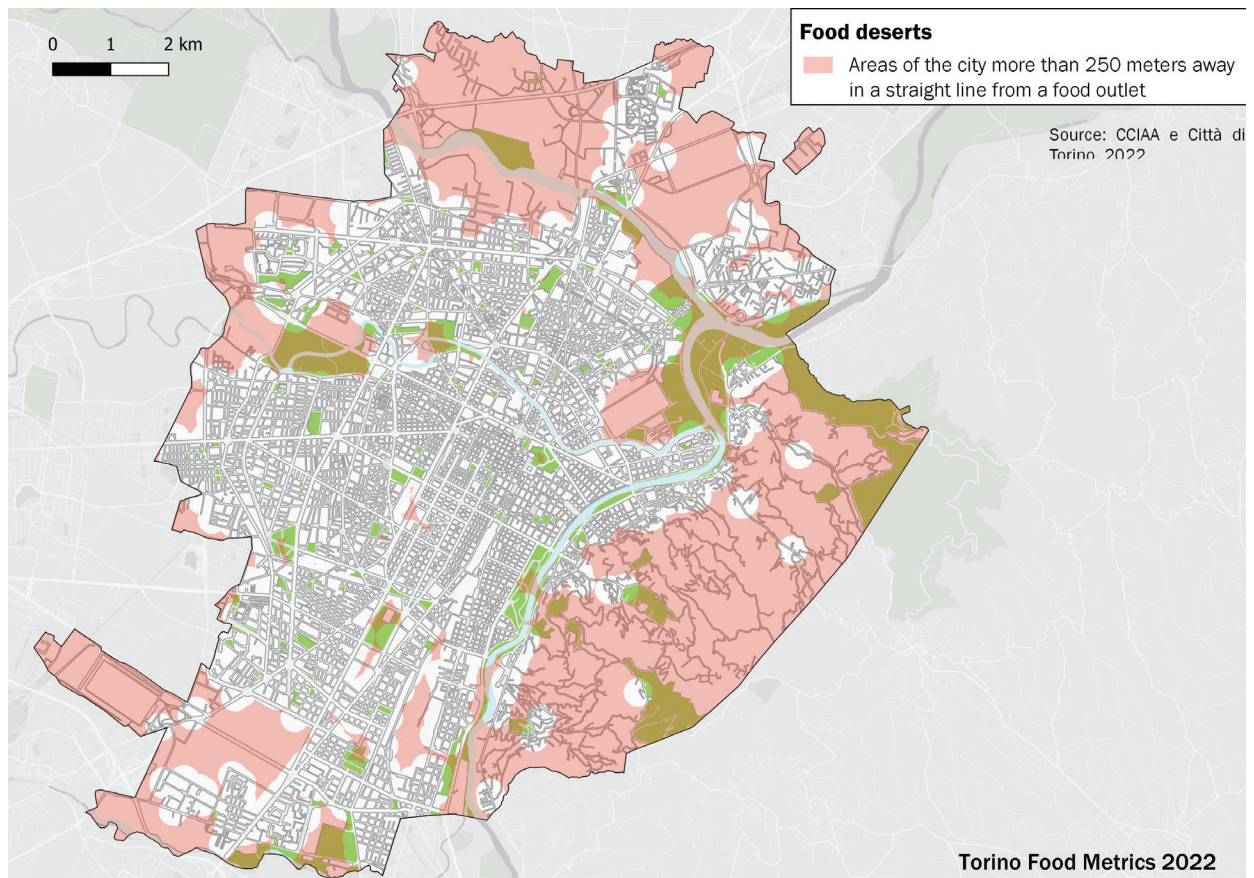


Figure 6 – Physical access to food. Areas of the city farther than 250 metres in a straight line from a food store (analysis on data provided by the City of Turin, 2022)

CAFÉS, RESTAURANTS & CATERING

One of the main phenomena occurring in the central areas and neighbourhoods subject to gentrification processes in most European cities is the increase in the presence of businesses intended for on-site serving and consumption of food and drink. Cafés and restaurants are at the core of a process of growing specialisation of many urban areas addressed by the international debate as “*foodification*”. This has highlighted both the potential for economic development and the possibly adverse effects of this process - risk of social -spatial exclusion and a diversification of the local social-economic fabric. (Loda et al., 2020; Bourlessas et al., 2021).

There are as many as 8,599 on-site food and drink businesses in Turin, reaching a maximum concentration in the city centre and in San Salvario neighbourhood.

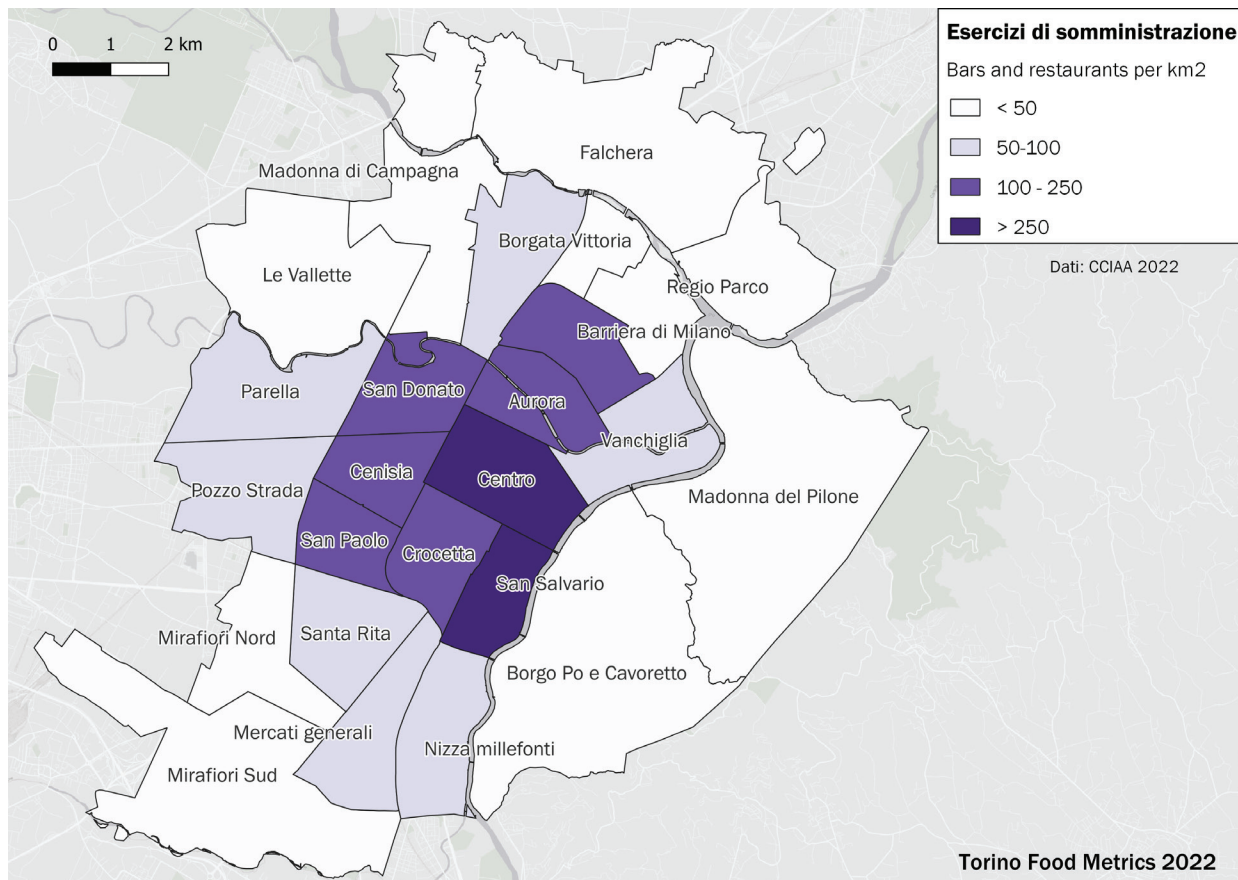


Figure 7 – Density of food service businesses per neighbourhood (Source: Chamber of Commerce of Turin, 2022)

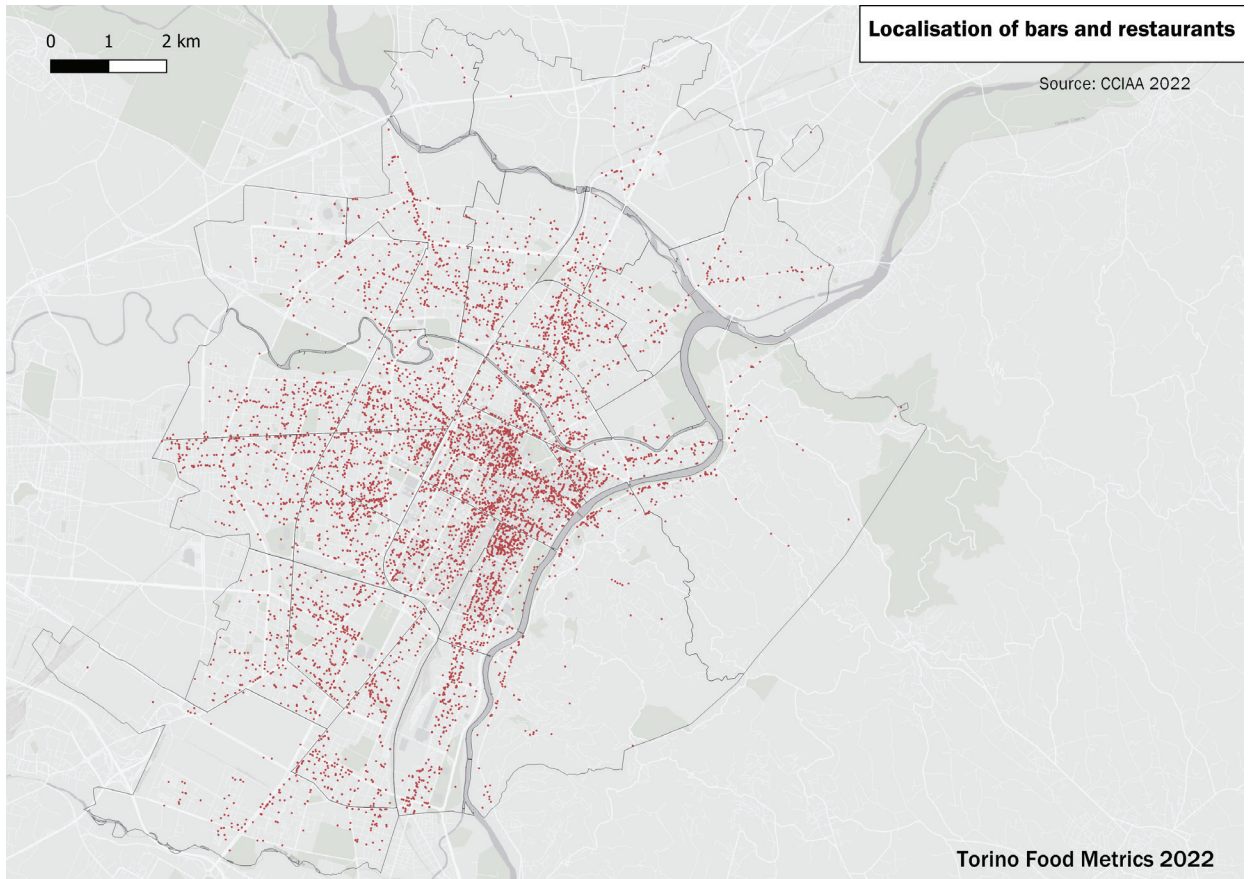


Figure 8 – Location of food service businesses in Turin (Source: Chamber of Commerce, 2022)

GAS – ETHICAL PURCHASING GROUPS

The range of food purchasing opportunities is broadened by various types of Alternative Food Networks (AFN), as referred to in the international debate. They consist of a variety of practices through which consumers can buy food produce in an 'alternative' way as compared to conventional channels, most often by purchasing directly from producers, often on a collective basis. One of the most widespread types of AFN is known as Gruppi di Acquisto Solidale, whose members explicitly intend to support specific models of production and distribution through purchasing (Grasseni, 2013; PettenatiandToldo, 2018).

The quantity of GASs in a given territory is particularly difficult to determine, since many of them are informal and only some are formally established, for instance as associations.

Nevertheless, the number of the most active GASs, as approximate as it may be, can be derived from self-censuses and participatory mapping initiatives carried out by actors such as the national Solidarity Economy network.

Most of the 42 GASs registered with the Solidarity Economy web portal as based within the Metropolitan area of City of Turin are self-censored; 26 of them are located in the municipality of Turin (Source: <https://economiasolidale.net>).

2

**FOOD
PROCESSING
INDUSTRY**

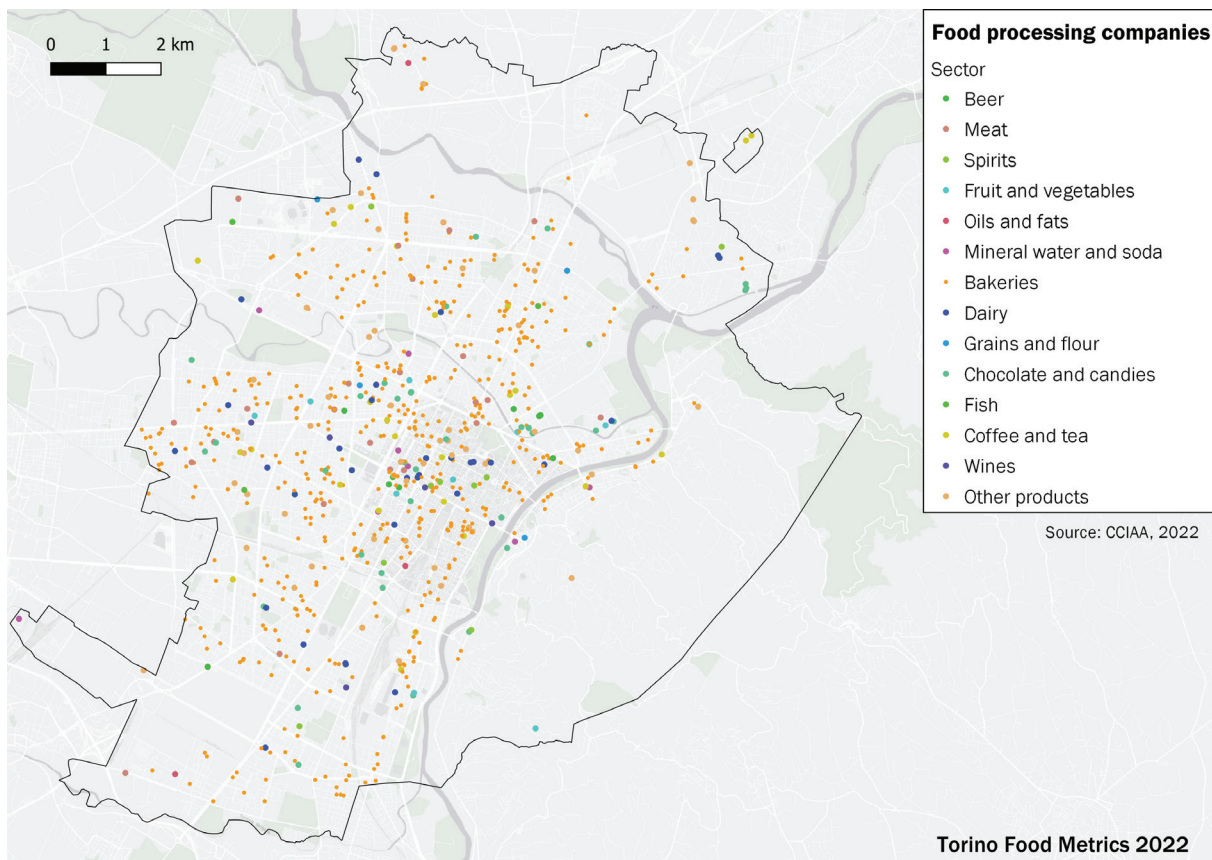


Figure 9 – Location of food production and processing businesses (Source: Chamber of Commerce, 2022)

Despite being considered mainly places for food consumption, cities have long been places of food production, whether by crafts, industry, or farming. Increased awareness of the food-producing nature of cities constitutes a fundamental step in the management and planning of resilient, sustainable food systems, which also entails shorter supply chains, where possible and advisable (Dansero et al. 2015). As a manufacturing city par excellence, Turin boasts deep-rooted food production and processing businesses, with 801 companies active in this field, mainly concentrated in the bakery sector (table 4).

Sector	# of business
Birra	9
Carne e insaccati	86
Distillati e alcolici	9
Frutta e ortaggi	3
Oli e grassi animali e vegetali	3
Bibite analcoliche e acque minerali	9
Prodotti da forno	564
Prodotti lattiero-caseari	33
Farine e granaglie	5
Cioccolato, cacao e confetteria	38
Pesce e derivati	4
Caffè e tè	84
Vini	6
Altri prodotti alimentari	60

Table 4.
Number of food production
& processing businesses in Turin

3

URBAN FARMING

Among the numerous definitions and interpretations of urban farming, we find it useful to use the definition provided by “Cities Farming for the Future: Urban Agriculture for Green and Productive Cities” as a common frame of reference for reading this report and subsequent updates: “The growing of plants and the raising of animals for food and other uses within and around cities and towns, and related activities such as the production and delivery of inputs, and the processing and marketing of products. Urban Agriculture is located within or on the fringe of a city and comprises of a variety of production systems, ranging from subsistence production and processing at household level to fully commercialised agriculture’ “ (RUA, 2006).

Through this definition, several non-marginal aspects of urban agriculture are grasped, i.e. its capacity to become an instrument of suburban regeneration, remodeling our urban as well as human and social landscape profoundly.

Among the various forms of urban agriculture, the report draws particular attention to urban horticulture. Besides producing fresh food, namely vegetables and fruit in the fields, in crates or by soil-free farming, urban horticulture can trigger community integration, and foster citizens’ education on environmental sustainability, food security, and solidarity-based consumption

An urban vegetable garden is a form of active citizenship that has a positive environmental impact by contributing to increased urban biodiversity, the creation of ecological corridors, and the production of zero food miles.



URBAN VEGETABLE GARDENS

According to the latest Strategic Plan for the Green Infrastructure (2021), several types of urban vegetable gardens can be found across the city territory:

- city gardens in public green areas assigned under concession by each district through calls for tenders.
- Project-based gardens established as part of various projects with different aims - social inclusion, urban regeneration, horticultural therapy, environmental education, and so on.
- School gardens set up in the courtyards of city schools
- Private gardens in private houses or on other privately owned land.
- Spontaneous gardens informally grown in interstitial green spaces, e.g., on the banks of rivers

As a whole, there are 22 project-based gardens (one of which is under construction and one in the process of expanding its cultivated area) and 7 areas dedicated to vegetable gardens managed by the reference districts. The total surface area covered with project-based gardens in Turin amounts to 61,049 sqm.

The overall area devoted to vegetable gardens in Turin is 138,194 sqm, comprising 1033 single plots and crates and 77 community-managed gardens and crates.

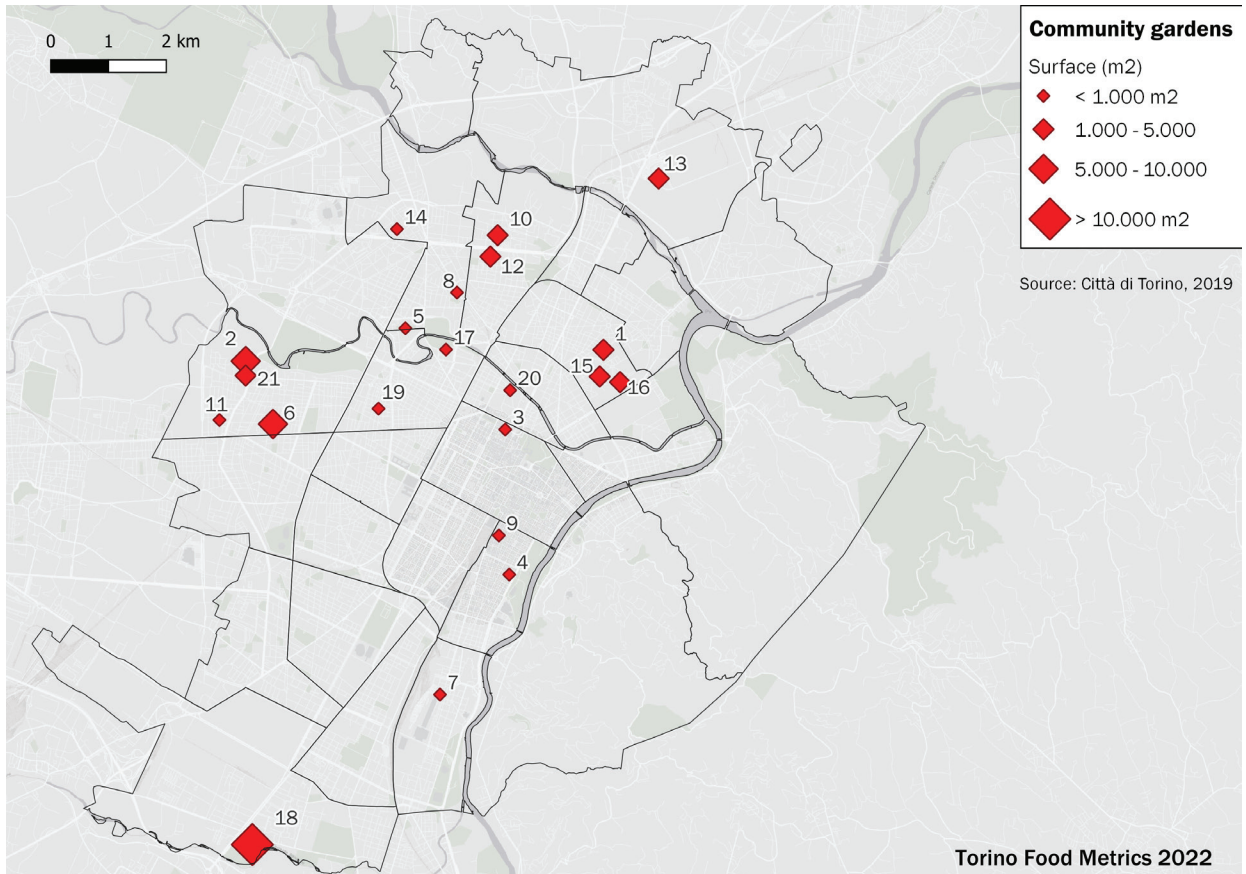


Figure 10 – Location of project-based gardens (Source: City of Tourin 2019)

N.	Name
1	Agrobarriera
2	Cascina La Luna
3	Cascina Quadrilatero
4	Giardin8
5	Hortus Conclusus
6	Officina Verde Tonolli
7	OrTO
8	Orto Alto Fonderie Ozanam
9	Our Secret Garden
10	Orto Collettivo Massari
11	Orto Centro Diurno
12	SCiA 131
13	Orto Fa da Noi
14	Orto Mannaro
15	Orto Lidl
16	Bunker
17	Orti al Centro
18	Orti Generali
19	Orti in Piazza
20	St'Orto Urbano
21	VialedellaFrutta

Table 5.
Keys for Figure 10

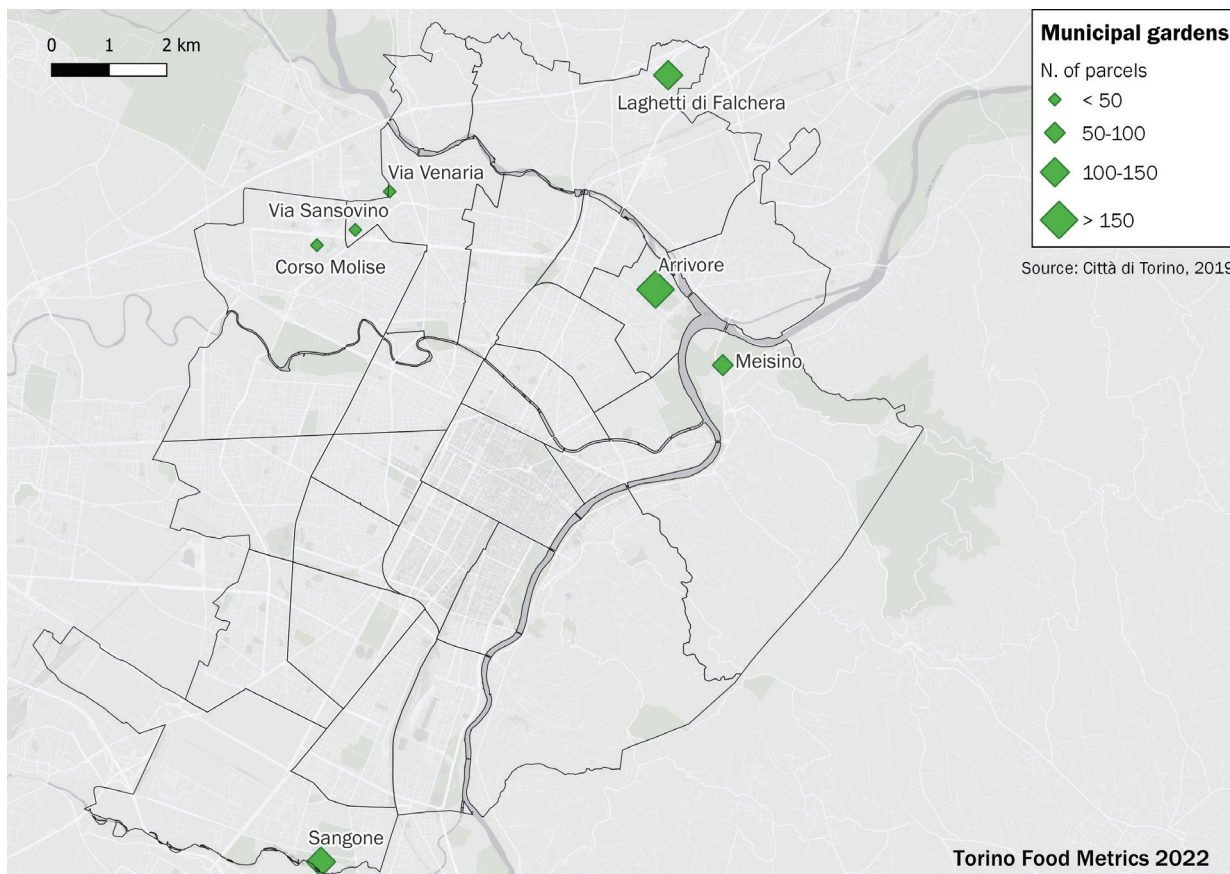


Figure 11 – Location of city gardens (Source: City of Turin, 2019)

Or.Me (*Orti Metropolitan* - Metropolitan Gardens) network, a second-level association bringing together a series of urban gardens, farms, third-sector associations and numerous actors supporting horticulture and urban agriculture across the metropolitan area of Turin, is a particularly intriguing example.

To cut a long story short, a process of dialogue and co-planning between the seven bodies involved began in 2016. All their actions and initiatives had been conducted as an informal network until October 2021, when they established a second-level association under the name of Or.Me. To date, Or.Me network is made up of 11 members and involves an average of 3,000 horticultural enthusiasts who handle more than 50,000sqm of vegetable garden area.

Currently, on average 15 people attend Or.Me meetings, each one representing a different stakeholder - in addition to the member organisations, Or.Me assemblies can be attended by all organisations in the area with a view to building opportunities for extensive exchange.

One aspect to highlight in urban horticulture realities throughout Italy is the continuous growth in the number of beekeeping activities. This trend is probably linked to the phenomenon of honeybee mortality and the massive communication, education and awareness campaigns on the subject.

According to the ASL (Local Health Unit), there were 801 apiaries in Turin in 2021 (this figure does not include the number of hives/bees included in each apiary). Some beekeepers are members of private associations, which popularise the passion and knowledge of beekeeping. One of the most interesting associations in Turin is *Associazione/Comunità Impollinatori Metropolitan* (Metropolitan Community/Association of Pollinators, T'sN), encompassing 158 apiaries.

Many school gardens play an important role in environmental education paths and programmes. Thanks to this Food Metrics Report, the City of Turin, in collaboration with the University of Turin, has designed and disseminated a simple questionnaire to survey school gardens and learn about their nature and exact number, which had never been done before.

The questionnaire is currently being filled out by the numerous city schools involved, which means that the related data will be available in the next issue of the report.

Yet, it is indeed possible to recognise some interesting findings as of now: 31 schools have established (or are in the planning stage) school gardens in the open field, while 27 schools have cultivate their foodstuffs in creates.



PROFESSIONAL AGRICULTURE

According to the Anagrafe Agricola Unica (Single Farm Register), 307 farms are based within Turin area as of 2022, of which 100 include farmland, and 36 are organic farms. The agricultural land (AL) on the municipal territory totals 5,200 hectares. There are 36 livestock farms with a total of 9,092 cattle. It should be noted that, even though the vast majority of these farms have their registered office in the territory, they operate in other territory.

Arable land covers about 380 hectares. The most extensive crop is grain cereals - maize, soft wheat, triticale, barley - with a prevalence of maize. Of particular importance is the area of arable meadows and pastures, amounting in total to about 110 hectares.

The area covered in woodland, mainly concentrated on the hillside, accounts for 77.50 hectares.

Fruit varieties include actinidia or kiwifruits (1.74 ha), apple trees (0.60 ha), cherry trees (0.37 ha) and wine grapes (0.81 ha). Nurseries occupy an area of approximately 2.40 ha.

The areas for non-agricultural use, with particular reference to buildings, yards and roads, amount to approximately 73 hectares (table 6).

	FARMS					FRUIT ORCHARD				
	SAU TOT	SAU Seminativi	Pascoli e Prati seminabili	NON AGRICOLO	BOSCO	Kivi	Melo	Ciliegio	Vite	VIVAI
HECTARES	5200	380	110	73	77.50	1.74	0.60	0.37	0.81	2.40

Table 6. Agricultural / non-agricultural land, nurseries and woodland (including fruit trees) in the City of Turin

The City-owned cultivated areas account for about 1,893,776 m², while the agricultural areas owned by third parties are about 4 million square metres(3,977,361 m²) (table 7).

The City of Turin has assigned approximately 167 hectares of its own land to farmers under concession.

The cultivation of free public land is currently regulated by a lease contract signed by the city and by private citizens / farms for a duration of three years. The existing contracts were born to regulate a *de facto* situation that had persisted for years; they can be renewed by the same parties with no need for public tenders. There are no qualitative or quantitative criteria to assess the activities carried out under the contract. As a result of the limited duration of such contracts, and because of the absence of allocation criteria and tendering procedures, the activities executed to date on the free public land are limited to the cultivation of cereals.

The lease contracts allow the city to save money on the management of the land and to earn some rent.

As reported in the first Food Metrics Report, we confirm the presence of 2 educational farms within the city territory.

SPECIAL AREAS	EXTENSIONS(SQM)
City-owned surface identified as cultivated land	1,967,321
City-owned surface identified as non-cultivated land	42,421
Third party-owned surface identified as cultivated land	4,124,516
Third party-owned surface identified as non-cultivated land	256,111

Table 7. City- and third-party owned surfaces identified as cultivated and non-cultivated land

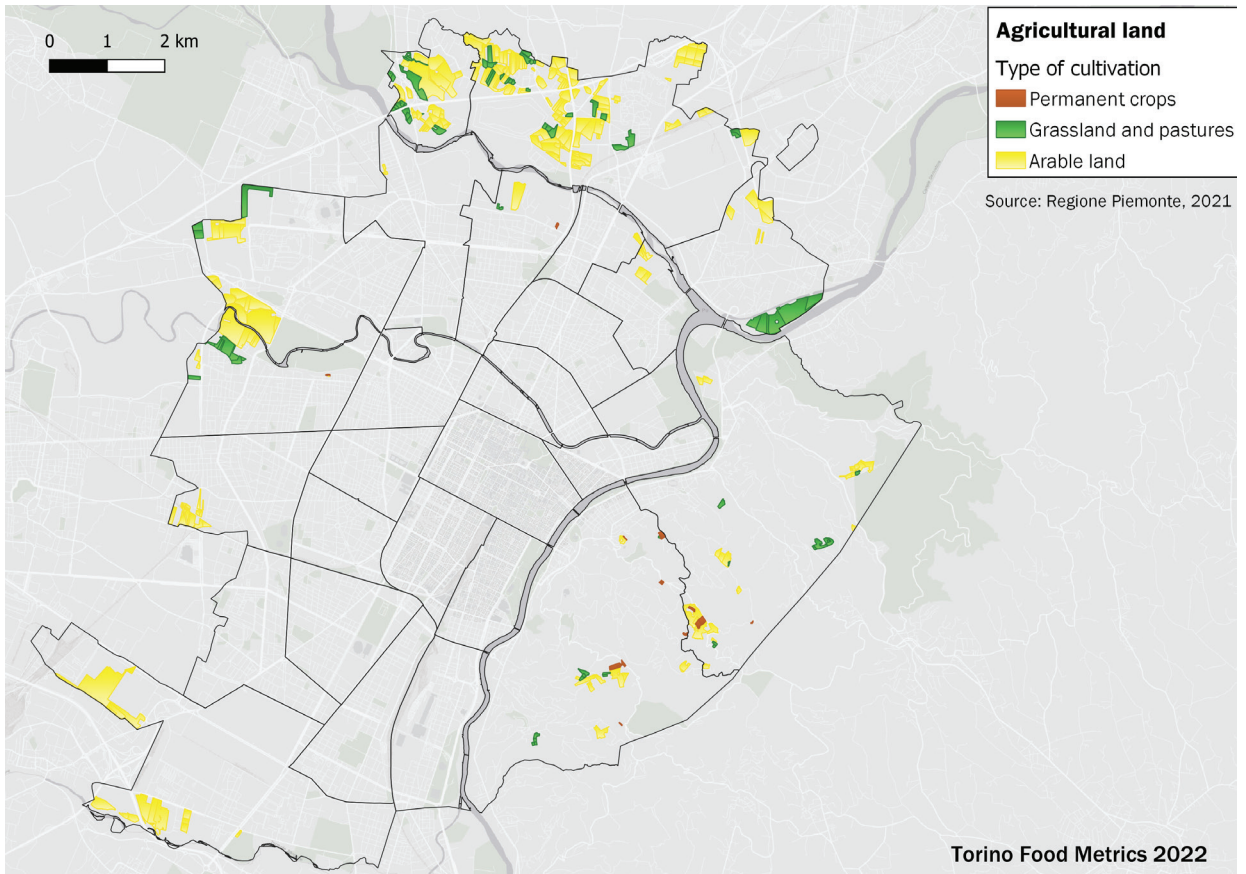


Figure 12 – Farmland within the Turin area (Source: Piedmont Regional Authorities, 2022)

4

FOOD

SECURITY

The best-known definition of food security is “when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and. healthy life” (FAO, 1996).

No reliable disaggregated data currently exist on levels of food insecurity at an urban scale. For this reason, we relied on some useful proxies to describe the phenomenon in the city of Turin, such as the number of people assisted by Banco Alimentare³ or the number of ongoing food assistance projects.

Furthermore, it is worth considering that other definitions have been developed in recent times which provide a more comprehensive understanding of the matter while also referring to the phenomenon of food access.

As O’Connell and Brannen (2021) argued, food poverty is in fact seen as the sum of the following:

- material dimension - the inability to consume an adequate quality or sufficient quantity of food and higher percentage of income on food;
- social dimension - the inability to maintain food social acceptability and habitual food practices;
- psycho-social and emotional dimension - concern, stress, and stigma related to a lack of resources to access food

This dimension can only be analysed on the basis of qualitative/quantitative datasets that are not available to us today on a large scale or in a representative form. For this reason, we stress the need to flank surveys such as those that provided the data for this second edition of the Report with qualitative analyses that investigate the various dimensions of food poverty with a view to giving policy indications to the actors concerned, such as the city services, the associations network, and the third sector.

BANCO ALIMENTARE DEL PIEMONTE ONLUS 2021 ACTIONS

	TOTAL
LOCAL CHARITIES RECOGNISED BY BANCO ALIMENTARE	187
#RECIPIENTS	39,670
KG FRUITS & VEGETABLES DISTRIBUTED	138,310
KG from AGEA ⁴	1,433,819
KG from INDUSTRIES +FOOD COLLECTION	870,672
RESTAURANTS + DONORS	6,259
KG from SITICIBO+ LSD	763,058
Kg/ PER HEAD	81
TOTAL KG FOOD DISTRIBUTED	3,212,118

Table 8. The actions of Banco Alimentare in the city of Turin

3 Italian non-profit organization that collects foodstuffs and recovers food surpluses from agricultural and industrial production for redistribution to charitable organisations throughout the territory that provide assistance to the most deprived persons, T’sN

4 Agenzia per le erogazioni in agricoltura: an Italian state body serving as Coordinator and Paying Agency within the framework of EU funds allocation to agricultural producers, T’sN

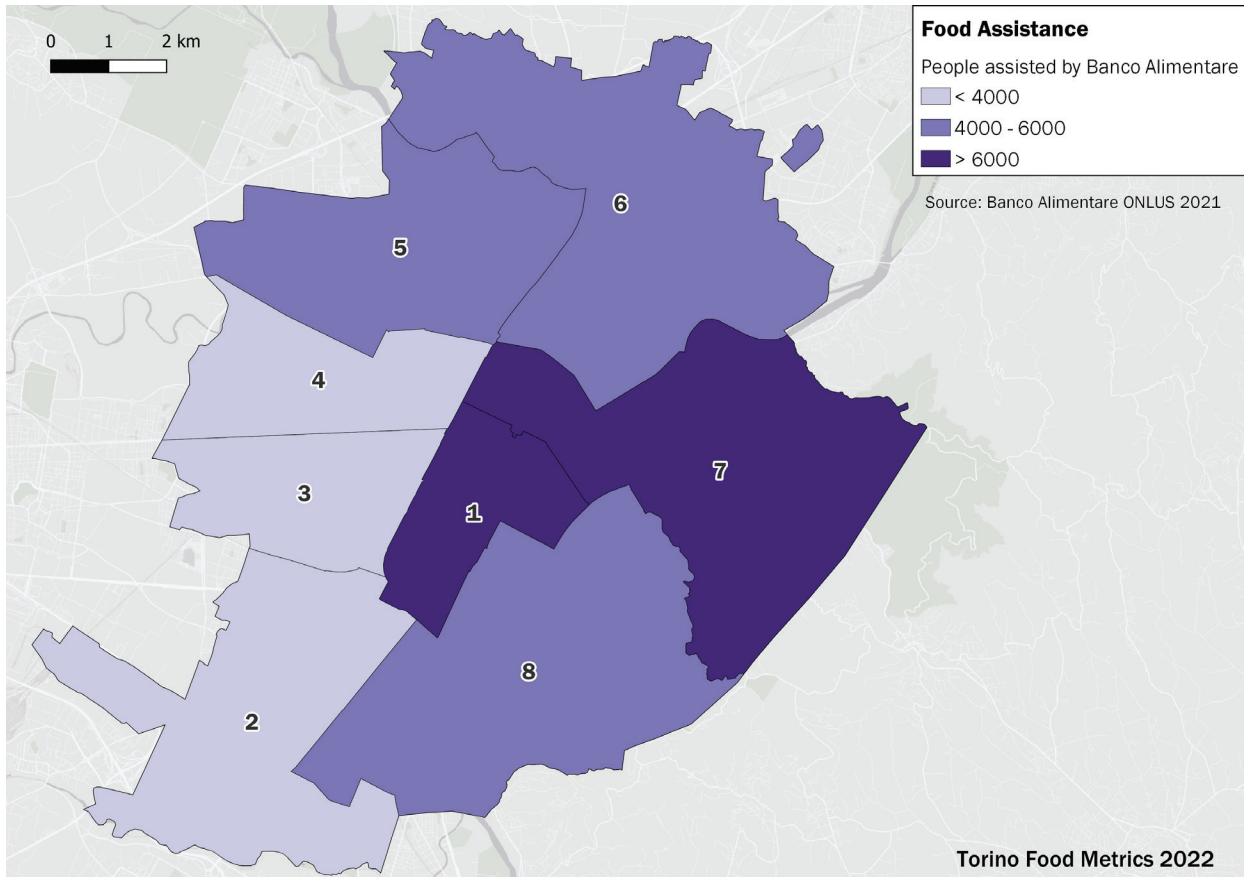


Figure 13 – Number of recipients assisted by the Banco Alimentare per district (Source: Banco Alimentare, 2022)

CITY DISTRICT	# FACILITIES	#RECIPIENTS	Kg. / RECIPIENTS	TOTALE KG DISTRIBUITE
TO1	29	6,844	59.4	406,264
TO2	24	3,819	88	336,089
TO3	20	3,110	117.7	365,899
TO4	22	3,708	80	296,534
TO5	24	4,663	81.6	380,503
TO6	18	5,098	103.1	525,464
TO7	26	7,471	62.4	466,469
TO8	24	957	87.7	434,896
TOTAL CITY OF TURIN	187	39,670	81	3,212,118

Table 9. The actions of Banco Alimentare - Piedmont section in the city of Turin for the year 2021.

When compared to 2020, the number of recipients assisted by Banco Alimentare network in Turin has increased by about 1,500 (from 38,081 to 39,670 - table 9), thus reflecting worse living conditions for Turin's citizens during the pandemic. Yet, the increase in the number of people receiving food assistance (table 10) is not evenly distributed throughout the city: while those who visit charitable organisations in Districts 1-4-5 have dropped, the number of people in need has risen in Districts 1-2-3-6-7-8, especially in San Paolo - Cenisia - Pozzo Strada - Cit Turin neighbourhoods (+15%).

CITY DISTRICT	RECIPIENTS IN 2020	RECIPIENTS IN 2021
TO1	5,671	6,844
TO2	3,475	3,819
TO3	2,653	3,110
TO4	4,109	3,708
TO5	5,870	4,663
TO6	4,711	5,098
TO7	6,979	7,471
TO8	4,613	4,957
TOTAL CITY OF TURIN	38,081	39,670

Table 10. Comparison 2020 / 2021 of the recipients assisted by Banco Alimentare del Piemonte network in Turin divided by district

At the same time, the number of accredited charities decreased from 194 (2020) to 187 (2021)(table11).

CITY DISTRICT	#FACILITIES IN 2020	#FACILITIES IN 2021
TO1	29	29
TO2	25	24
TO3	19	20
TO4	23	22
TO5	27	24
TO6	20	18
TO7	26	26
TO8	25	24
TOTAL CITY OF TURIN	194	187

Table 11. Comparison 2020 / 2021 of the charities recognised by Banco Alimentare - Piedmont region divided by district.

The amount of food distributed increased (table 12), both in total and per head, except for the fruits and vegetables, for which Banco Alimentare network recorded half the donation as compared to last year.

CHANNELS	KG of FOOD DISTRIBUTED IN 2020	KG of FOOD DISTRIBUTED IN 2021
Fruits & vega producers	258,481	138,310
AGEA	1,071,623	1,433,819
Industry+food collection	816,467	870,672
Restaurants + donors	6,278	6,259
Siticibo+ LSD	607,947	763,058
Kg / per head	72.5	81
TOTAL	2,760,796	3,212,118

Table 12. Quantity of food distributed

Type of facility	#recipients	FRUITS & VEG PRODUCERS [KG]	AGEA KG	INDUSTRY + FOOD COLLECTION [KG]	RESTAURANTS + DONORS [KG]	SITICIBO LSD [KG]	QUANTITY PER HEAD [kg/RECIPIENT]	TOTAL FOOD DISTRIBUTED [KG]
Miscellaneous	2,127	35,314	73,647	155,59	726	46,321	146.5	311,606
Association	10,333	42,115	366,008	236,264	4,047	292,574	91.1	941,008
CAV-Centri d'Assist. Alla Vita ⁵	1,187	737	46,294	17,900			54.7	64,931
Evangelic Church	1,174	3,492	45,033	31,404		40,553	102.6	120,482
Congregation	1,186	1,101	39,199	20,415		40,558	85.4	101,273
Social Cooperative	704	883	30,854	26,989		65,102	175.9	123,828
Parish Church	20,838	50,726	751,100	347,851	1,486	272,733	68.3	1,423,896
Volontariato Vincenziano ⁶	2,121	3,942	81,684	34,251		5,217	59.0	125,094
TOTAL CITY OF TURIN for each type	39,670	138,310	1,433,819	870,672	6,259	763,058	81.0	3,212,118

Table 13. Actions Banco Alimentare del Piemonte network, broken down by type of charitable structure, year 2021.

GROCERY COUPONS FOR PEOPLE IN FOOD POVERTY

YEAR	MONTH	N.	€
2020	April	40,000	990,000.00
	April	104,960	€ 2,597,760.00
	April	26,520	€ 656,370.00
	December	1,262	€ 24,987.60
	December	75,000	€ 1,485,000.00
	December	50,000	€ 990,000.00
	Total 2020	297,742	€ 6,744,117.60
2021	Total 2021	115,345	€ 2,283,831.00
	TOTAL COUPONS ISSUED SINCE PANDEMIC OUTBREAK	413,087	€ 9,027,948.60

Tabella 14. Grocery coupons granted by the City of Turin.

Source: City of Turin - Department of Finance and Supply of Goods and Services

5 Voluntary, catholic-inspired, non-partisan associations aimed at helping women struggling with a difficult or unwanted pregnancy, as well as supporting young mothers who lack the means or capacity to provide care for their child, including food, T'sN

6 Volunteers who work in cooperation with the Church and civil society to promote the integration of the poorest and most deprived members of society, T'sN

TORINO SOLIDALE NETWORK

On 24 March 2020, to deal with the emergency resulting from the spread of the COVID-19 virus and the consequent restrictions on movement and contact with people, the City of Turin activated the Torino Solidale network, a city-wide system aimed at supporting people in a situation of personal, social and economic fragility as a result of loneliness and absence of family networks.

Thanks to the proactivity of its members - *Case del Quartiere* (Neighbourhood Houses), Arci Clubs and numerous Third Sector organisations - Torino Solidale network has set up a system to deliver food and staple commodities home or distribute it through its hubs scattered over the city since the first lockdown phase.

In the following months, the network grew with new partners, resources, project proposals and local facilities, in an attempt to respond not only to food needs, but also to reception, assistance and support needs.

At present, the network includes 17 local hubs (see map below) that provide proximity welfare services, distribute foodstuffs, and assist about 11,000 beneficiaries with the support of the so-called sub-hubs, excluding the homeless who amount to about a few hundred individuals.

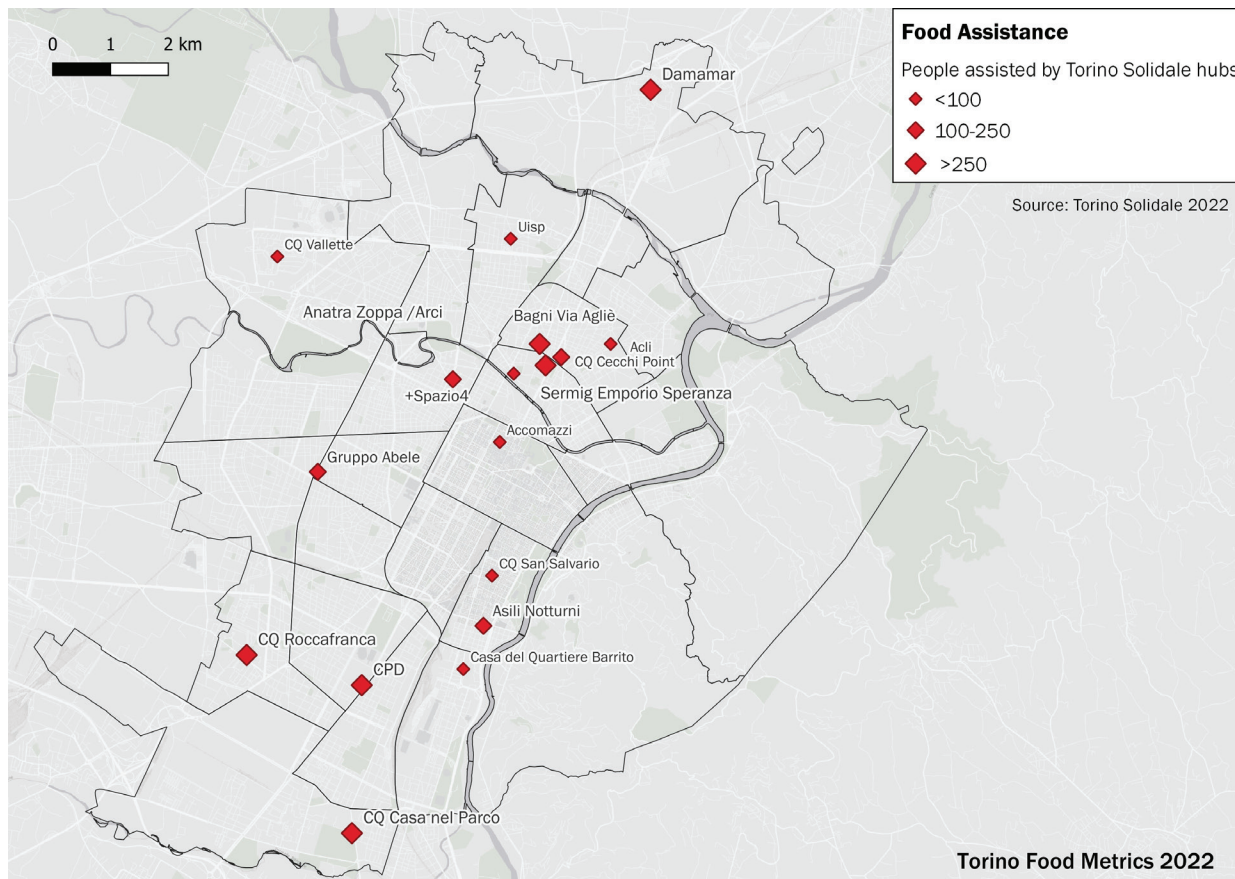


Figure 14. Torino Solidale network hubs (Source: Torino Solidale, 2022)

5

PUBLIC PROCUREMENT

HEALTHY, GREEN, AND SUPPORTIVE PUBLIC PROCUREMENT

Public procurements are a significant share of the world economy. Indeed, according to the European Commission's data (2015), the city expenditure for works, goods and services represents approximately 14% of the entire European GDP, which corresponds to almost 1,800 billion euros.

Food procurement is linked to numerous topics, from public health to social integration, from sustainable consumption to the promotion of local products. Having said that, public procurement can be used as a means of pursuing economic and social goals, as well as a means of directing food economies towards a more sustainable path.

VENDING MACHINES

The 2021 figures on the 250 vending machines for hot and cold drinks and various foods installed and run in over 100 city offices, libraries, kindergartens, schools, civic centres, meeting centre, senior centres, social services, district offices, sports centres, and many more do not change from their previous year, even considering the three-year renewable contract signed with the licensee for an annual fee of approximately 100,000.00, and an estimated value of approximately 270,000.00 per year.

The machines have a state-of-the-art design allowing low consumption and high energy performance (table 12). Since June 2019, still water has been available in bottles made up of 50% regenerated plastic (rPET) which can be further regenerated. Vending machines offer organic, gluten-free and some fair-trade products.

Description		YEAR		
		2019	2020	2021
Vending machines installed City of Turin	n.	250	250	250
Bottles of water sold in the Turin area	n.	583,000	343,000	3,550,000
Sweet and savoury ORGANIC snacks sold in the Turin area	n.	7,140	4,200	n.d.
	%	3	3	n.d.
Sweet and savoury snacks sold in the Turin area - ESTIMATES	n.	28,560	16,800	24,000
		97	97	//
Recycled plastic bottles of water	%	50	50	50%
% on total number of still water sold	%	ND	ND	70
Drinking water fountains installed City of Turin	n.	1	1	1

Table 15. Vending machines in the City of Turin

COLLECTIVE CATERING

Public procurement of food and collective catering is an extremely interesting subject for several reasons. In the first place, managing a canteen, be it in a social/therapeutic, school, university, hospital, and prison context and the like, requires an integrated approach to all the stages of the food supply chain, and therefore taking into account a broad, varied set of subjects, resources, actions, spaces, relations, flows, opportunities and threats. Moreover, the so-called “public meal” brings together issues related to health, social justice, food security, economic development, environmental sustainability, culture and ethical-religious integration, etc.

Finally, the beneficiaries (the elderly, minors, adolescents, prisoners, people with disabilities) are in many cases vulnerable individuals, for whom the relationship with food takes on particular importance. Accordingly, collective catering can be understood to all intents and purposes as a true care system designed and managed by the city in collaboration with various partners in line with its competences and responsibilities.

SOCIAL CATERING

The city collective catering service managed by the Department of Finance and Supply of Goods and Services, is one of the services provided by the City within its residential and/or day care reception facilities for adults, elderly, disabled and minors in need of protection and appropriate interventions of various kinds - welfare, health, education. This is supplemented by the distribution of meals at home for non-self-sufficient persons.

Specifically, the data refer to:

- Social-therapeutic Day-Care Centres in the city area (now called Day-Care Centres);
- Users assisted by the city Social Services;
- Soup kitchens affiliated with the City.

The Figures from RSA⁷ ASL TO2 Maria Bricca, whose meals were under the responsibility of the City until 2021 (now under the responsibility of the Piedmont Regional authorities) are new to this edition of the report.

In 2021, the City of Turin provided some 321,000 meals for a total expenditure of over 1,000,000 euro (table 16).

	SOCIAL CATERING					
	2019		2020		2021	
	Meals (#)	Expenditure (€)	Meals (#)	Expenditure (€)	Meals (#)	Expenditure (€)
DAY-CARE CENTRES	24,868	133,057.48	10,579	57,088.61	17,995	86,719.02
SOCIAL SERVICES	33,568	325,917.74	30,299	294,627.48	31,793	291,341.14
CHARITY CANTEENS	101,280	291,176.59	199,945	583,857.77	186,206	567,478.31
BRICCA	84,966	266,102.98	85,644	267,767.87	85,380	265,490.77
TOTAL	244,682	1,016,255	326,467	1,203,342	321,374	1,211,029

Table 16. Social catering in the city of Turin

7 Residenza socio-assistenziale: usually a large residence that mainly provides social and care services to elderly people, usually over 64 years of age, with severe psycho-physical deficits but no need for complex healthcare services, T'sN

According to the following graphs, a drop in meal distributions in day care centres was recorded in the first year of Covid-19 pandemic due to containment measures, but the Figure rebounded in 2021, while the number of home meals and RSA Bricca meals were almost stable. Conversely, Covid-19 health emergency, which soon resulted in greater social fragility, led to a twofold increase in meals distributed through soup kitchens in 2020, with a slight decrease in 2021.

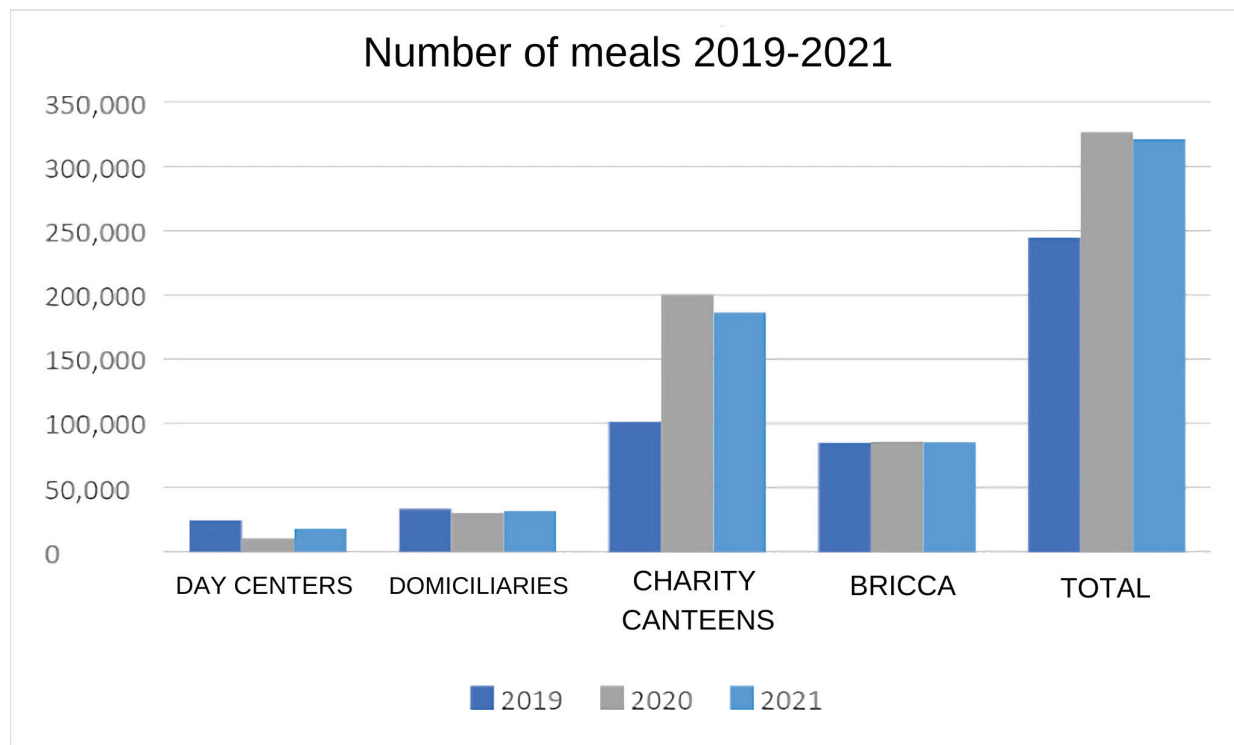


Figure 15. Number of meals distributed through social catering services (Source: City of Turin, 2021)

Soup kitchens are the largest cost component, accounting for slightly less than half of the 2021 expenditure.

In the process of research and information retrieval, one Figure should be analysed as essential - the number of food recipients assisted by city services.

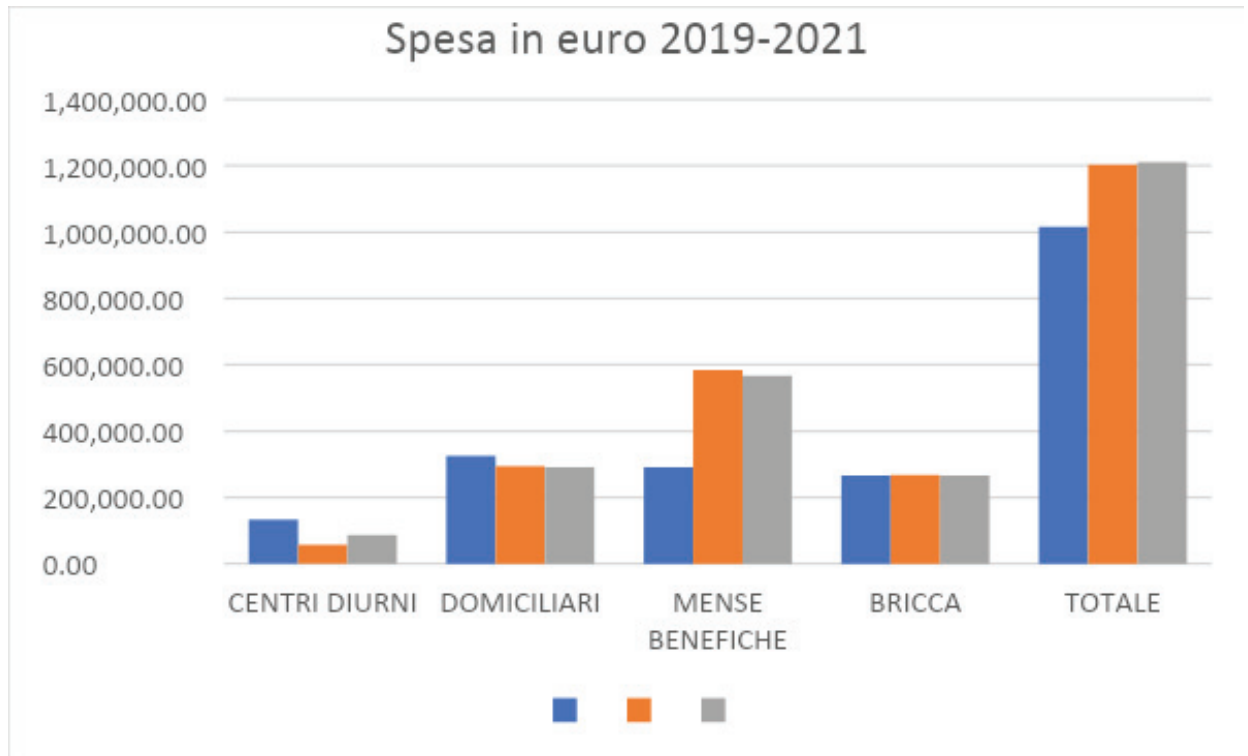


Figure 16. Expenditure for social catering services (Source: City of Turin, 2021)

As highlighted in the previous report, the food served met the contract criteria required by the MEC (Minimum environmental criteria) standards set for the service, including organic production. The rewarding criteria required a commitment to use more organically produced products (such as fruit, greens and vegetables, dairy products, oil, etc.) in the contractual period, in addition to products made through integrated production systems, products coming from the Italian supply chain or from organic crops from fair trade (e.g., bananas, pineapples, etc.), if need be. The new MEC standards (set in the Min. Dec. of 10 March 2020)⁸ has been included in the next call for tender 2022-2024.

8 Decreto = Governmental decision, T'sN

SCHOOL CATERING

The School Catering Service is managed by the Department for Educational Services, which is in charge of liaising with catering companies, school secretariats and school treasurers regarding the daily booking of meals and the day-to-day management of the catering service.

2021	TOTAL
MEALS DISTRIBUTED PER YEAR	5,936,210
EXPENDITURE	33,169,032 euro

Table 17. Number of meals for school catering and related expenditure

SCHOOL CATERING				
Year	2018	2019	2020*	2021*
Meals distributed per year	6,728,493	6,653,883	4,478,623	5,936,210
Expenditure in euro	30,331,039.28	30,470,676.69	19,274,598	33,169,032
Reusable tableware %	100	100	100	100

Table 18. Meals distributed per year, related expenditure and reusable tableware

*COVID

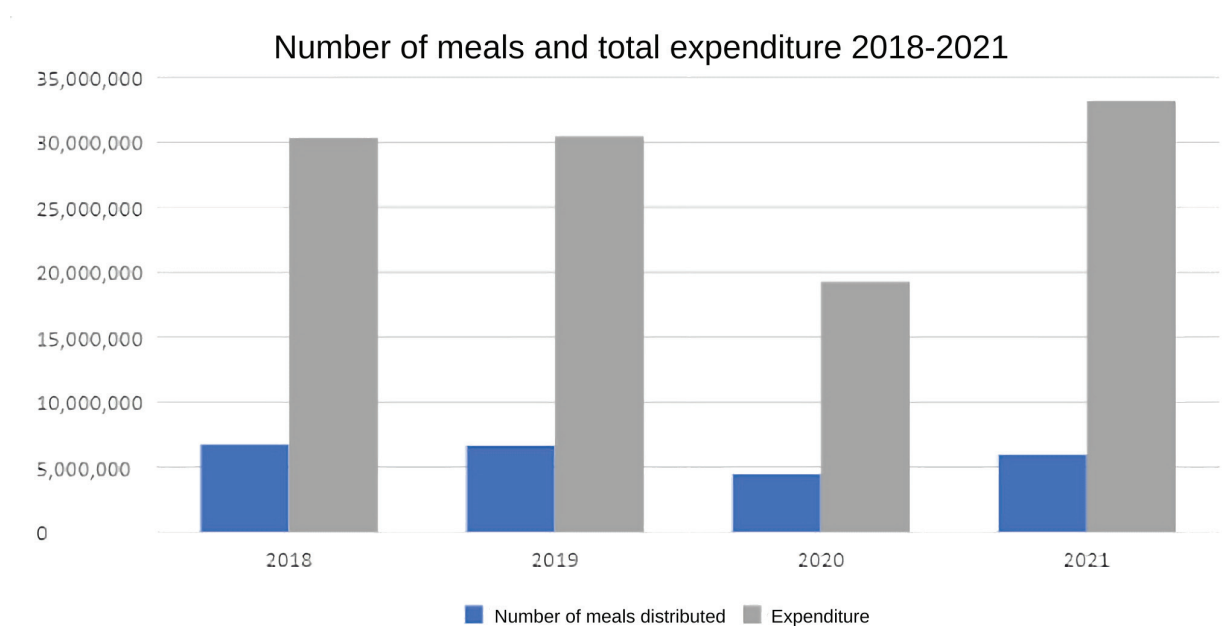


Figure 17. Number of meals for school catering and related expenditure (Source: City of Turin, 2021)

According to the graph, the drop recorded in 2020 due to pandemic containment measures was reabsorbed in 2021, despite the persistence of the emergency and its impact on schools. The Covid-19 crisis has highlighted the relevance of the school catering service as a guarantee of a nutritious and complete meal in a situation where the crisis-related fragility has often led to worse diet and worse access to food for many households.

TOP MENU PRODUCTS

Food Items

Most fruit and vegetables (potatoes, tomatoes, peppers, cauliflower, broccoli, cabbage, savoy cabbage, aubergines, onions, leeks, courgettes, lettuce, kiwifruit, apricots, prunes, plums, apples, pears, and peaches) are either from organic farming, integrated production, or from low-impact farming. They are grown, packaged, and distributed in Piedmont only (table 16). The use of locally sourced products, i.e., supplies close to the direct producers, favours forms of cooperation between the farmers themselves, thereby limiting intermediate stages for a better knowledge of local produce. Moreover, it allows to eat fresh and seasonal food that are high-quality and secure, ultimately reducing pollution levels to support the environment. The remaining share fruit and vegetables is acquired from organic supply chain, which means that they must be grown without using pesticides.

QUALITY	FOOD ITEM	QUANTITY
BIO	pasta	kg 152,388
BIO	Fruits	kg 515,672
BIO	Vegetables	kg 586,003
BIO	cereals (rice, ...)	kg 37,374
BIO	Red meat	kg 22,939
BIO	White meat	kg 48,186
BIO	Pork meat	kg 11,290
BIO	Cheese	kg 384,788
BIO	fish and/or MSC	kg 87,886
BIO	Salami	kg 22,543
BIO	EVO ⁹ olive oil	kg 30,760
BIO	Beans	kg 41,898
BIO	pesto sauce	kg 1,088
BIO	Flour(s)	kg 14,513
BIO	Milk	kg 36,818
BIO	tomato pulp and/or puree/peeled tomatoes	kg 84,528
BIO	Miscellaneous	kg 7,885
BIO	Fresh eggs	N 202,773
BIO	desserts, yoghurt, jam, juice, chocolate	N 619,411
BIO	snacks (plum cakes, tarts, bars)	N 997
BIO	Chocolate	N 67,040
BIO	mousse	N 161,840
BIO	jam	N 23,229
BIO	Yoghurt	N 260,144
BIO	Fruit juices	N 134,552
	TOTAL	kg 2,087,456 Number of products 1,616,192

Tabella 19 Food items (kg/number of products)

9 Oil obtained exclusively through mechanical pressing processes, which allow all the properties of the olive fruit to be retained, T'SN

Short chain food

All products supplied are expected to come from Piedmontese producers, i.e., the whole chain must occur within the regional territory, from the raw material to the finished product, including butter, poultry chicken meat, high quality fresh milk, and organic natural/fruit yogurt. All the foodstuffs listed below (table 20) must be made in Italy: Cooked ham, Turkey, Corn flour, Extra virgin olive oil, for cooking food, Pork meat, Fresh and medium-ripened cheeses, Peeled tomatoes/Tomato pulp, Fruit juices, Organic fruit puree, Extra fruit jam/Organic jellies, Red/white vinegar, Aromatic herbs.

QUALITY	FOOD ITEM	QUANTITY
FC	Fruits	kg 338,936
FC	Vegetables	kg 109,002
FC	miscellaneous SC foods	kg 2,946
FC	Red meat	kg 22,052
FC	White meat	kg 55,297
FC	Cheese	kg 32,267
FC	Desserts	Number of portions 25,000
	TOTAL	kg 562,868 (excluding desserts)

Table 20. Short-chain food (kg /number of products)

QUALITY	FOOD ITEM	QUANTITY
C	Fruits	kg 9,687
C	Pork meat	kg 12,405
C	Fish	kg 49,135
C	Salami	kg 5,377
C	EVO olive oil	kg 25,488
C	Desserts	Number of portions 158,503
	TOTAL	kg 102,092 (excluding desserts)

Table 21. Conventional food items (kg /number of products)

Organic products out of the total	kg	71.52%
	No. products	82.10%

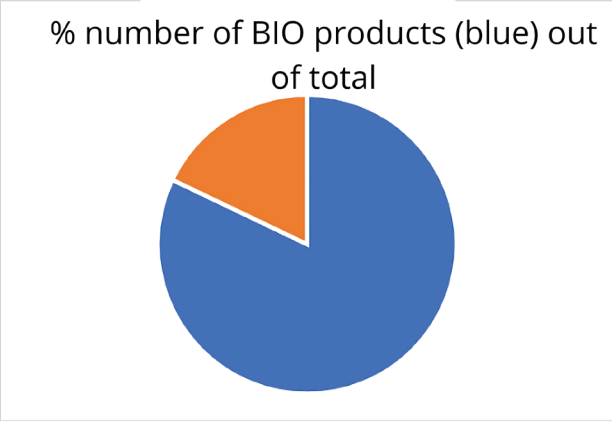
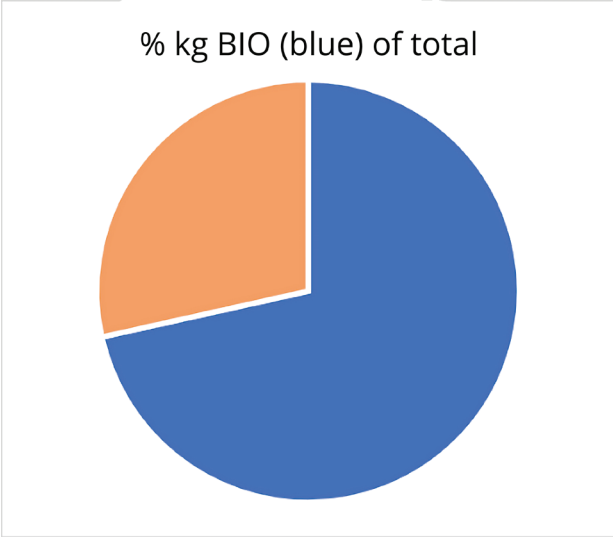


Table22 and Figure 18. Percentages of total organic products (Source: City of Turin, 2021)

Short-chain foods (SC) out of the total	kg	24.26%
	No. products	9.36%

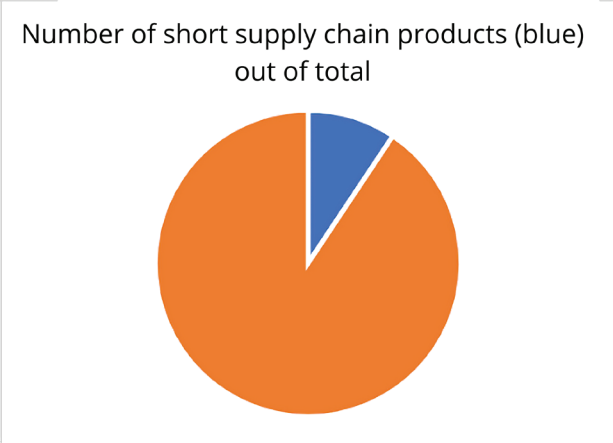
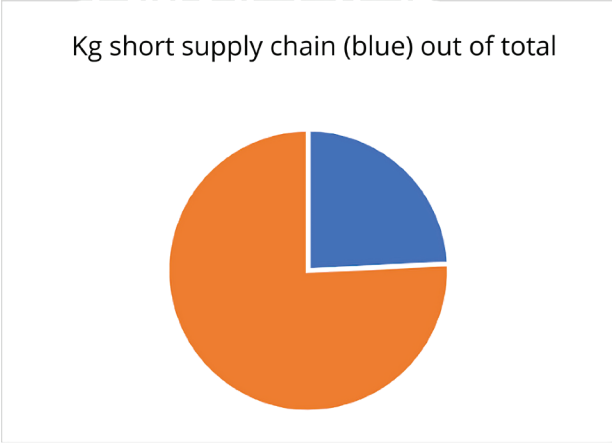


Table 23 and Figure 19. Percentages of total short-chain foods (Source: City of Turin, 2021)

ORGANIC + SC out of the total	kg	95.77%
	No. products	83.45%

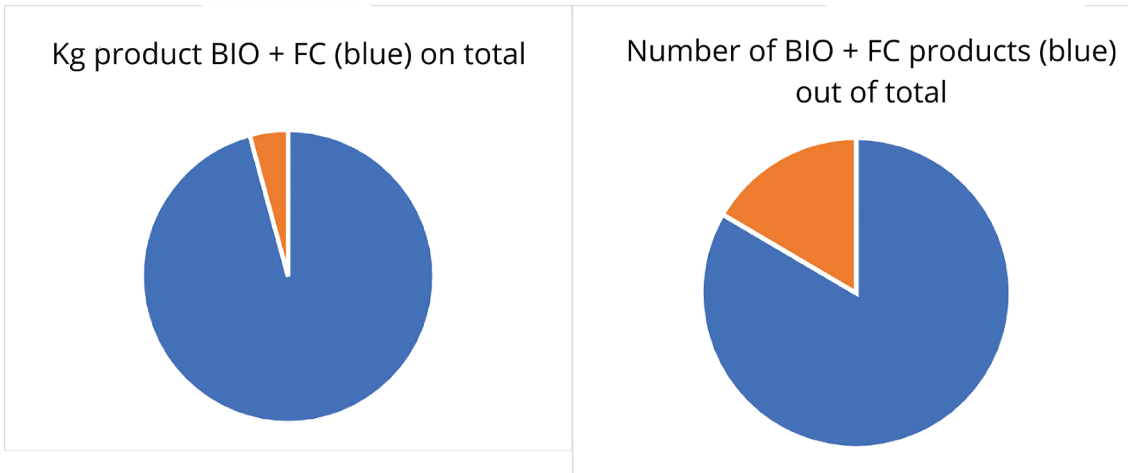


Table 24 and Figure 20. Percentages of total organic products and short-chain foods (Source: City of Turin, 2021)

PDO products

Parmigiano Reggiano, Piedmontese Grana Padano, Extra virgin olive oil from north-central Italian regions to be used for raw dressing, Raw ham, Piedmontese Toma cheese, Bra cheese, Raschera cheese.

Fair-trade products

We envisaged a supply of fair-trade produce, namely from markets in non-European countries, in order to support disadvantaged producers, who produce organic fruits such as bananas and pineapples, made-in-Italy biscuits from fair-trade raw materials, cocoa and milk chocolate.

Frozen vegetables using innovative methodologies

Small quantities of green beans that are frozen after rapid steaming or quick freezing are employed in order to preserve their peculiar organoleptic qualities.

Smat mains Water

The mains water supplied in schools is absolutely safe. Every day Smat, the Metropolitan Water Company of the City of Turin, handles the entire water production cycle, from its facilities to urban buildings. The mains water quality is guaranteed by over 1,000 daily controls and analysis. To further guarantee safety to users, catering companies periodically carry out appropriate chemical/microbiological analysis of the water at a supply point (tap) in each school complex. The analysis are performed in accredited laboratories, on behalf of the City in order to check that the water quality complies with the legal parameters. Additional information on SMAT water is available on the SMAT website, www.smat torino.it/qualita, which provides mains water-related data within the urban area.

ALTERNATIVE MENUS FOR SCHOOL CATERING

SCHOOL YEAR	TYPE OF MEAL	TOTAL # MEALS	TOTAL# DAILY MEALS	CATERING DAYS PER YEAR
2021-22	DIET		1,040	193
2021-22	STANDARD	4,776,049	24,746	193
2021-22	NO MEAT	459,545	2,381	193
2021-22	NO PORK MEAT	272,637	1,412	193
2021-22	NO FISH/MEAT	14,024	72	193
2021-22	NO ANIMAL PROTEINS	4,226	21	193
TOTAL			29,672	

Table 25. Alternative menus for school catering in the City of Turin (Source: City of Turin)

The users of the school catering service in the City of Turin are about 43,000 in the school year 2022/23. Of them, about 3,900 have requested one of the so-called alternative menus available, i.e., (i) no pork meat; (ii) no meat; (iii) no meat / fish; and (iv) no animal proteins. Approximately 1,000 more are on a special diet for eating disorders.

MEAL VOUCHERS TO EMPLOYEES OF THE MUNICIPAL ADMINISTRATION

The City of Turin provides all employees of the municipal administration with meal vouchers (table 29) that are redeemable for a meal at cafeterias and restaurants and/or for commodities at affiliated businesses, usually food shops and large-scale distribution. 7€ meal vouchers cost the City about € 6 each. Employees receive a meal voucher per working day. Meal vouchers are cumulative and can be only used for purchasing food, even in markets and supermarkets. As shown by the quantitative Figures below, this policy is an item of high overall expenditure; on the other hand, though it supports both workers and food-related businesses on the territory, in particular the ones located near the administrative offices of the City.

The Meal voucher service is provided by Day RistoserviceSpA based on the CONSIP agreement.

Year	WORKERS who can take advantage of MEAL VOUCHERS	VOUCHERS paid per year and RELATED EXPENDITURE		AFFILIATED BUSINESSES in Turin/ province
2019	8,976	1,422,444	8,486,230	938
2020	8,608	1,185,651	7,262,823	1,268
2021	7,696	1,267,067	7,765,747	2,546
2022	7,413	1,130,828	6,938,760.61	

Table 26. Meal vouchers to employees of Turin municipal administration (Source: City of Turin)

AFFILIATED BUSINESSES IN TURIN/PROVINCE

TYPE OF BUSINESS	NUMBER
Fast Food restaurants	30
Delicatessens	55
Delicatessens inside supermarkets	146
Restaurants	153
Restaurants- pizzerias	102
Self service restaurants	11
Takeaways	40
Diners	315
Lunch bars	90
Trattorias	16

Table 27. Number and type of businesses affiliated to the voucher system in the City of Turin (Source: City of Turin, 2021)

6

FOOD, NUTRITION & HEALTH

Data of diffusion of food-related chronic diseases, in particular diabetes, do not show a different trend with respect to the ones presented in the latest edition of the Report. A higher incidence of diabetes – chronic non-transmissible disease related to diet and nutritional choices – in some areas of the City needs surely more in-depth studies about the spatial distribution and possible direct and indirect correlations with other socio-economic factors that have an impact on the capability of food supplying and consumption habits. In this sense, from one side it will be crucial, for the oncoming edition of the Report, to have a better focus on the relation between social vulnerability, nutrition and health, in order to check if there are areas of the City particularly affected by epidemiological geographic-concentrated phenomena. From the other side, in relation to possible mitigation actions, it would be important a detailed analysis of the local food system (and the relations that link it to other urban systems, like the social welfare and the health system), in order to valorize it as a tool able to produce health results (it may be useful to think to the role of urban gardens, to practises of fight against food poverty, to actions of awareness raising that can already be carried out in the selling points).

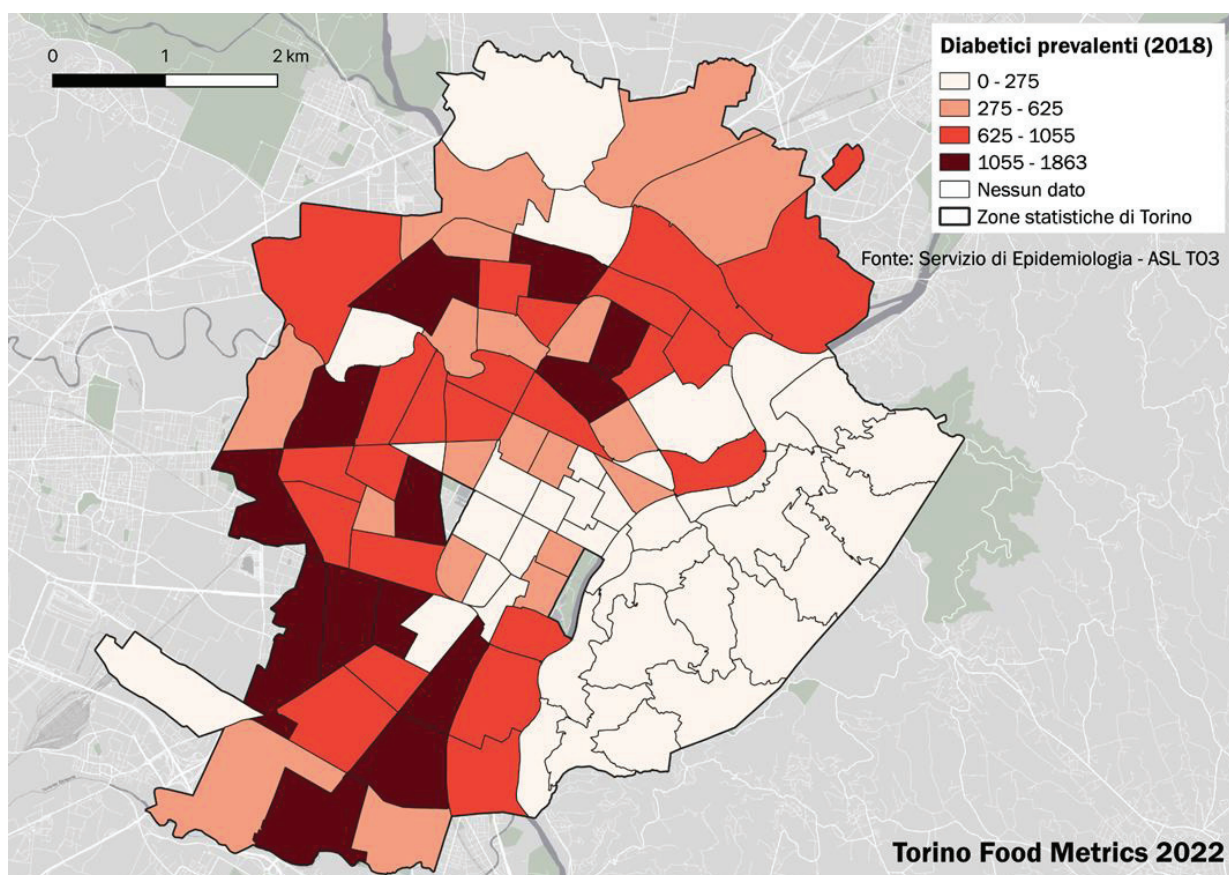


Figure 21. Number of prevalent diabetics in 2018 in the city of Turin (source: Epidemiology service - ASL T03)

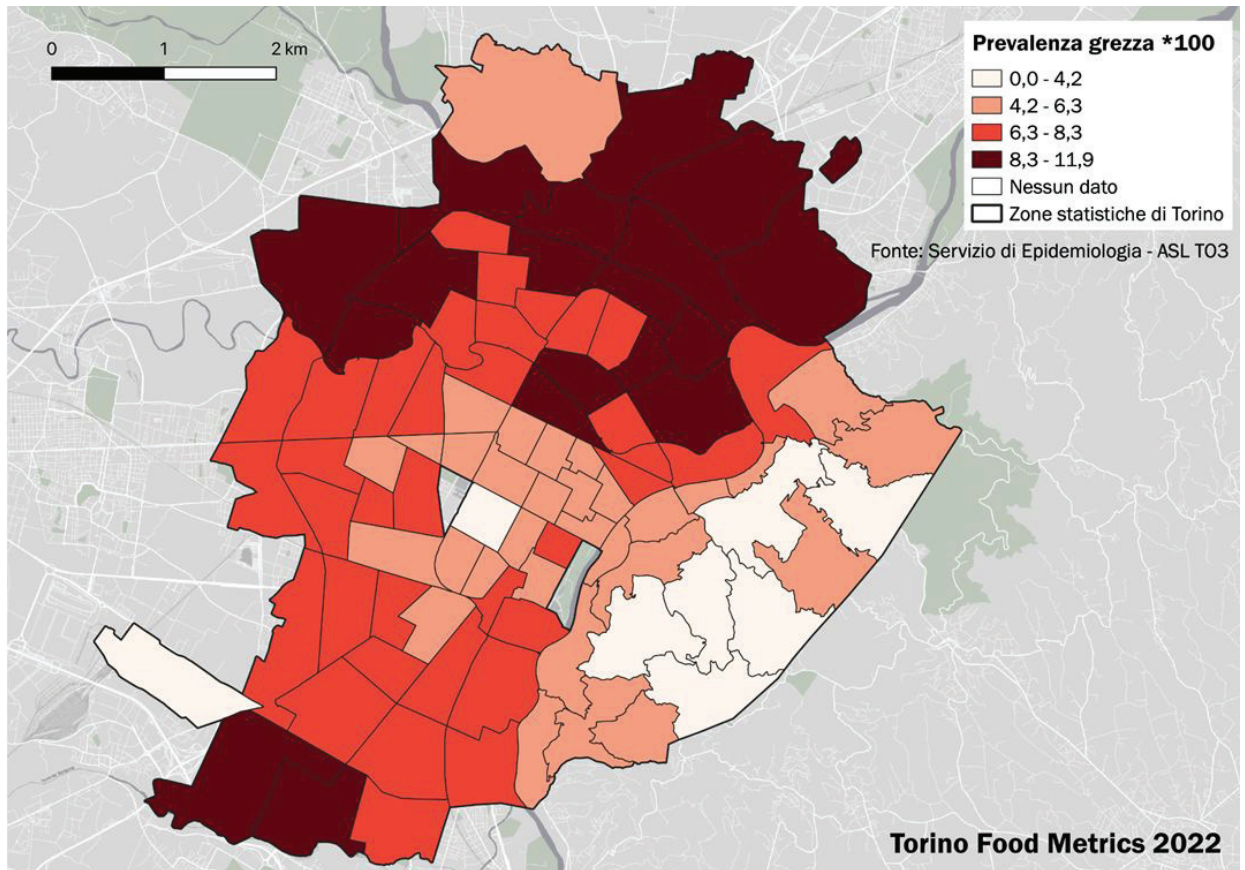


Figure 22. Crude prevalence of diabetes in the city of Turin, 2018 (source: epidemiology service - ASL TO3)

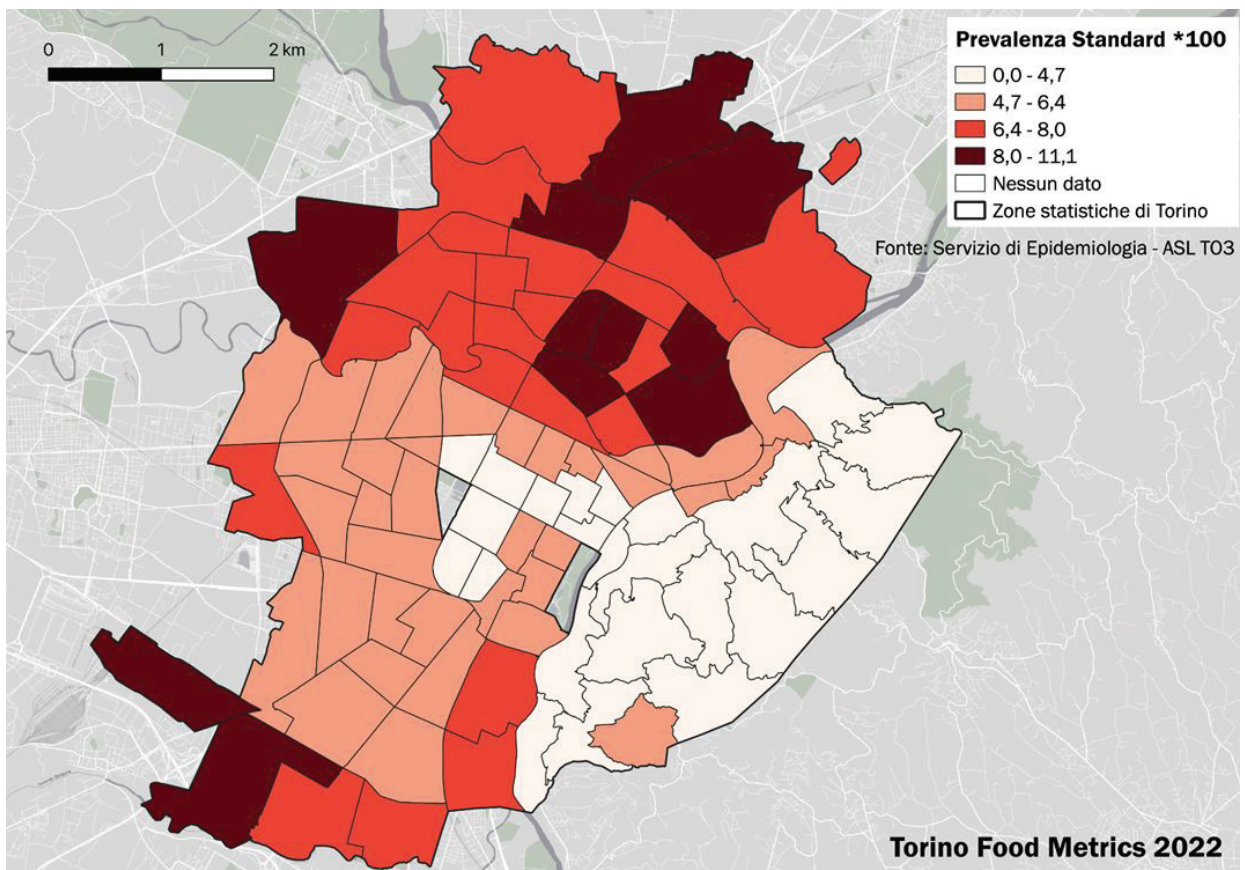


Figure 23. Standard prevalence of diabetes in the city of Turin, 2018 (source: Epidemiology service - ASL TO3)

7

FOOD & CIRCULAR ECONOMY

Circular economy is an alternative model of development based on the reuse of products, the reduction of environmental impact and the recycling of materials.

According to the circular economy perspective, food is a key policy matter, where an investment in waste reduction and waste utilisation could help combat malnutrition and undernourishment in many areas of the world.

According to recent IPSOS data (2020), around 30 kg/head of edible food is wasted annually in Italy. In an attempt to reduce this massive food waste, since the signing of the Milan Urban Food Policy Pact in 2015, a number of Italian administrations, including the administration of the City of Turin, have committed to rethink their food system.

In this light, Turin has launched pilot initiatives and joined ongoing European projects which aim to recycle waste and reintroduce it into the city distribution and consumption process in line with the circular economy model. These projects have been coupled with a constant commitment to improve the system of organic waste collection, management and processing thanks to a long-standing collaboration with AMIAT (Azienda Multiservizi Igiene Ambientale Turin).

Secondly, the city of Turin has also demonstrated its ability to better apply the circular approach in the management and distribution of drinking water. Specifically, the city has chosen to work on the supply and provision of drinking water to citizens with a view to reducing packaging and transport emissions. This commitment has resulted in an increase in the number of “torèt”, the iconic fountains in the shape of a bull’s head, and in the spread of SMAT water kiosks.

WASTE SORTING

In 2017, the transformation of the waste collection system in the City of Turin was accelerated by the extension of door-to-door collection to a higher number of neighbourhoods. In 2019 the City of Turin launched a system of waste collection based on the so-called smart waste recycling points. This system allows the residents to dispose of glass and metal packaging, plastic packaging, organic waste and non-recoverable waste using personal electronic cards. It is yet a further step forward implementing the separate collection of municipal waste, with a view to raising citizens’ awareness of the correct sorting of wastes and encourage proper disposal in dedicated bins.

Excellent results have been achieved in separate collection (56.7%) in the districts where the two systems were introduced (Figure 24), far above the percentage achieved in districts where traditional street collection is still in place (39,2%).



Figure 24. Smart waste recycling points for waste sorting in Turin (Source: Informambiente City of Turin)

In 2021, the door-to-door collection systems and Smart waste recycling points served about 80% of the resident population, allowing about 56,000 tonnes of organic waste to be effectively sorted. Approximately 14% of this amount was transformed into compost, valuable for fertilisation in agriculture.

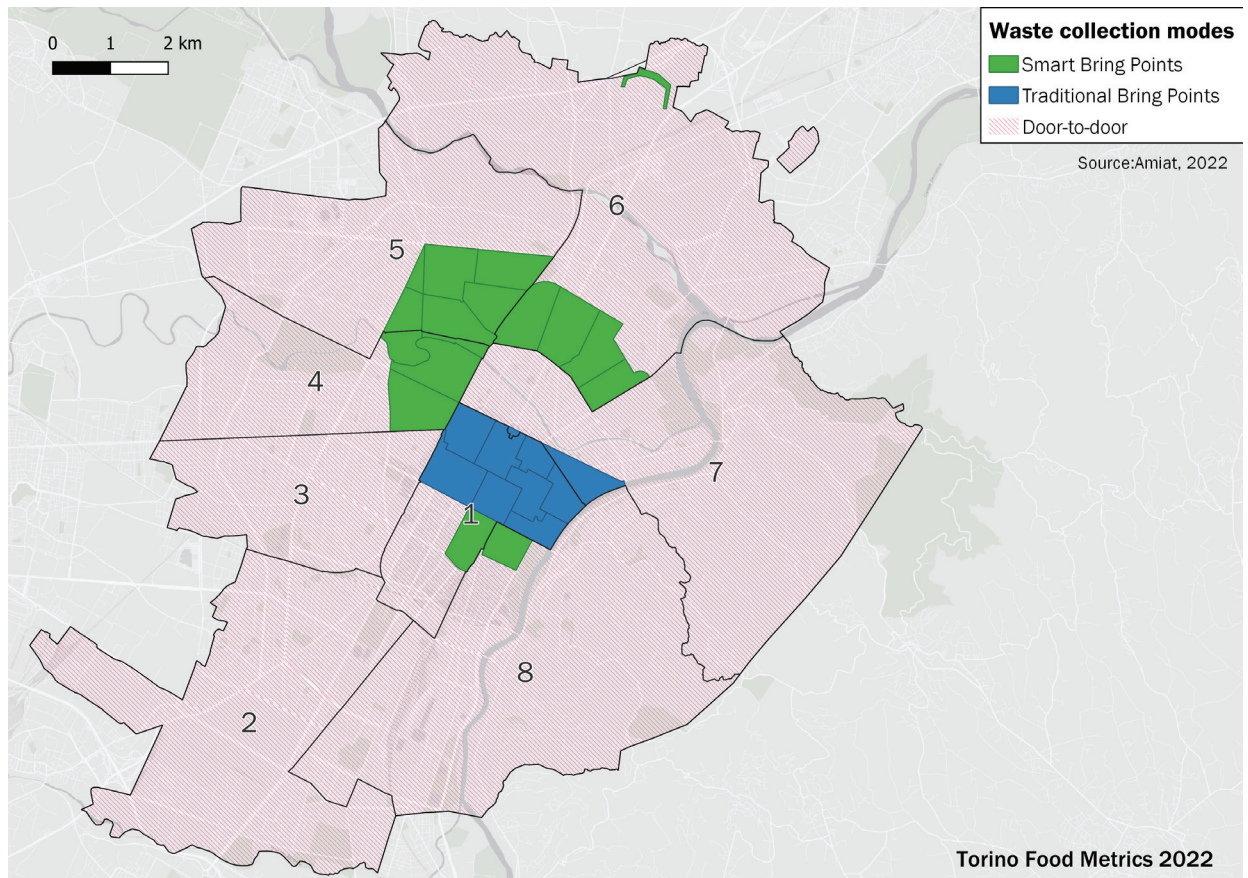


Figure 25. Waste collection methods in Turin neighbourhoods(Source: Amiat, 2022)

SMAT WATER DISPENSING KIOSKS

SMAT water kiosks scattered throughout the city in gardens and green areas are precious for the supply of high quality still and sparkling drinking water. The water is filtered and sanitised by state-of-the-art ultraviolet systems inside the kiosks under constant monitoring and control by SMAT Research Centre laboratories. Each kiosk can dispense an average of 180 litres of chilled water per hour. According to SMAT estimates, this can virtually prevent the purchase of approximately one million plastic bottles per year. From 2020 to 2021, the number of SMAT kiosks within the city administrative boundaries increased from 13 to 18, confirming their role as a major driver of circular economy for the administration as well as a public service particularly appreciated by citizens.



Smat Water Dispensing Kiosk

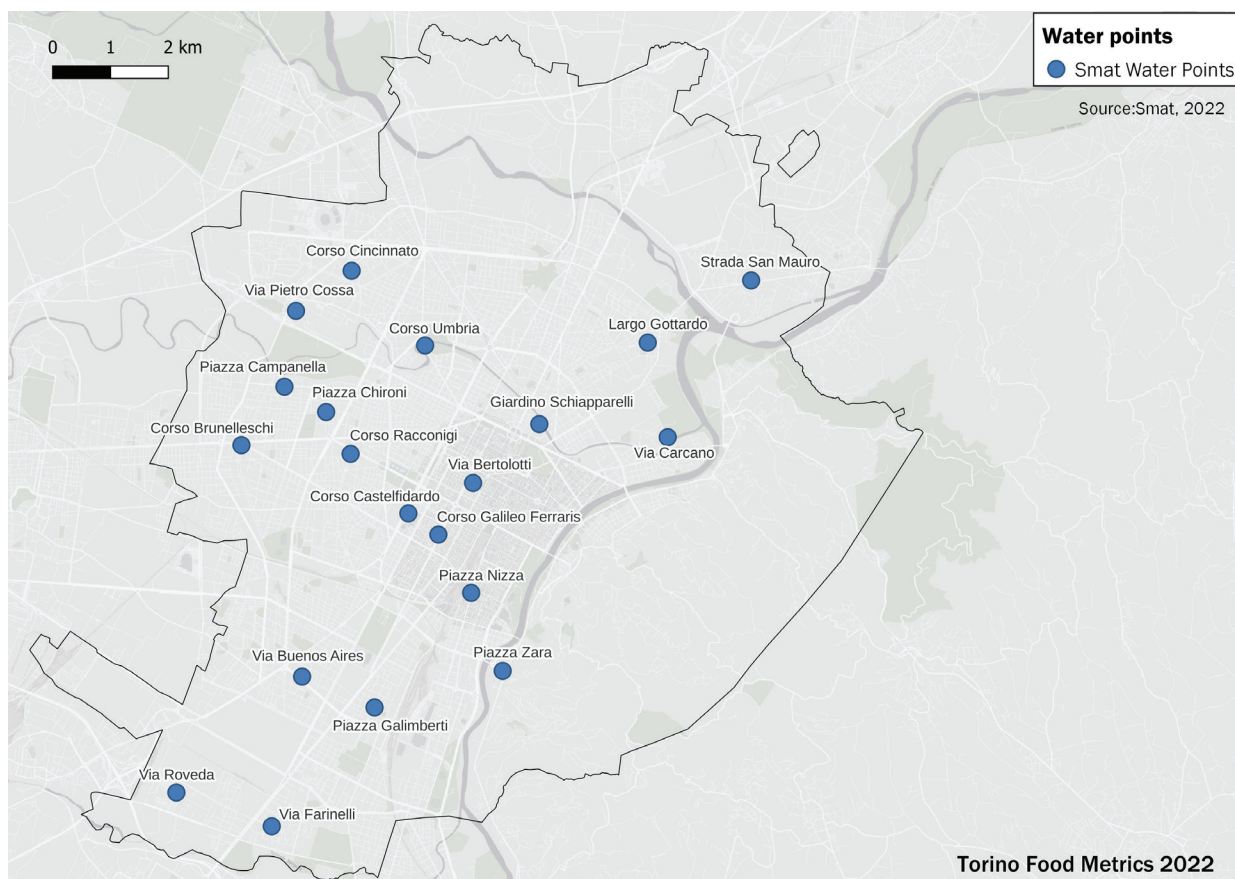


Figure 26. Map of SMAT kiosks (Source: SMAT, 2022)

TURIN'S TORÈT

Designed during the Italian Risorgimento (1859), the torèt are bottle-green cast-iron fountains with a dispensing spout in the shape of a bull's head. Today, torèt are a distinctive feature of Turin's street furniture.

Apart from their historical-architectural value, torèt are particularly valuable for their efficient water supply and recovery system. Thanks to a continuous water flow, they guarantee a constant water exchange, preventing stagnation and consequent bacterial proliferation. Furthermore, unconsumed water is collected, filtered, and sanitised in the groundwater, then brought back to the surface and reintroduced into the public distribution system.

According to data provided by SMAT (2021), there are 795 torèt scattered across the city in all 8 administrative districts (figure 27).

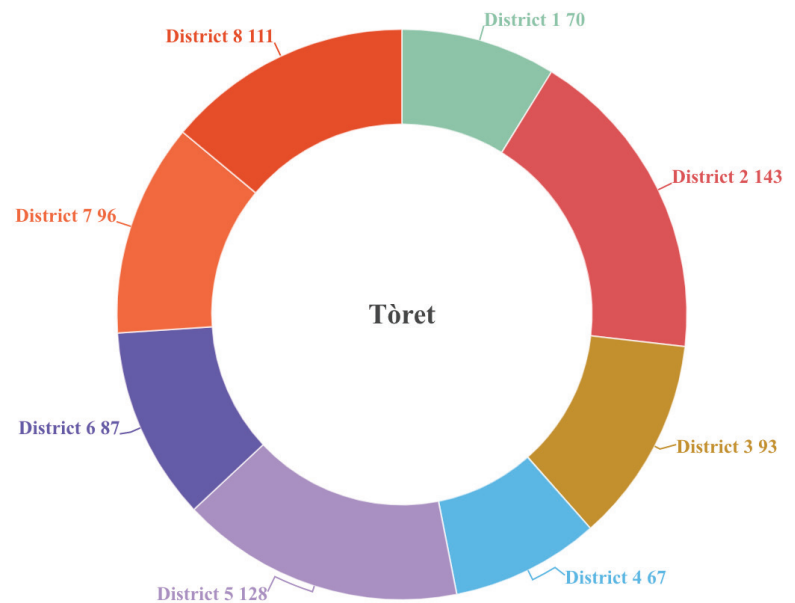


Figure 27. Distribution of torèt in the districts (Source: Smat, 2021).

Here follows the distribution of the torèts for each district per square kilometre.

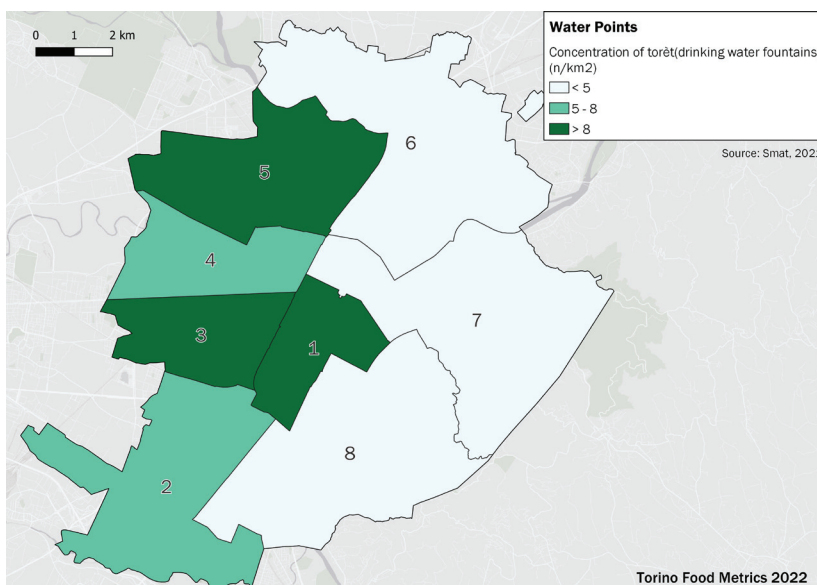


Figure 28. Distribution of torèts by district (Source: Smat, 2022)

8

TRAINING & RESEARCH

FOOD & TRAINING PATHS: TRAINING INSTITUTIONS

The City of Turin is home to a growing number of training organisations and educational institutions related to food and food production chains. Together, they ensure a valuable educational offer thanks to rich training contents and experiences. Notably, no less than 3 professional institutes and 13 training agencies are present in the Turin area with numerous branches located in different city districts.

Vocational high school¹¹ curricula encompass typical higher education subject along with numerous specific competences for working in various sectors, including catering and food production chains. Students graduating from these institutes thus possess the technical skills needed to design, organize, and handle food and wine related experiences that enhance the territory and its products. These topics are also the hallmark of courses offered by training agencies. With an eye on placing their participants in the world of work, the courses equip them with the necessary tools to operate in the various stages of food and wine production chains.

By choosing shorter yet markedly work-oriented educational pathways, trainees acquire extremely practical and immediately marketable skills.

The training offered by vocational high schools and training agencies is particularly attractive to young people in Turin area. Indeed, the schools offering courses connected to food and wine and agrifood subjects attract more than 2,500 students, while more than 1,000 trainees, both young and adults, are enrolled in vocational courses at training agencies. Altogether, in 2021/2022 school year as many as 2,769 individuals out of more than 180,000 secondary school students attended food-related educational courses.

According to the graph below, this is a particularly significant figure as it shows how much interest is being generated by food and wine and agri-food training, despite the diverse range of training offer in Turin area. Still, because of the relevance this topic is bound to acquire in the years to come, it will be vital to further expand the range of training course and, consequently, the number of attendees. As a result, improved production and more widespread distribution of high quality and special food will be possible in the future years.

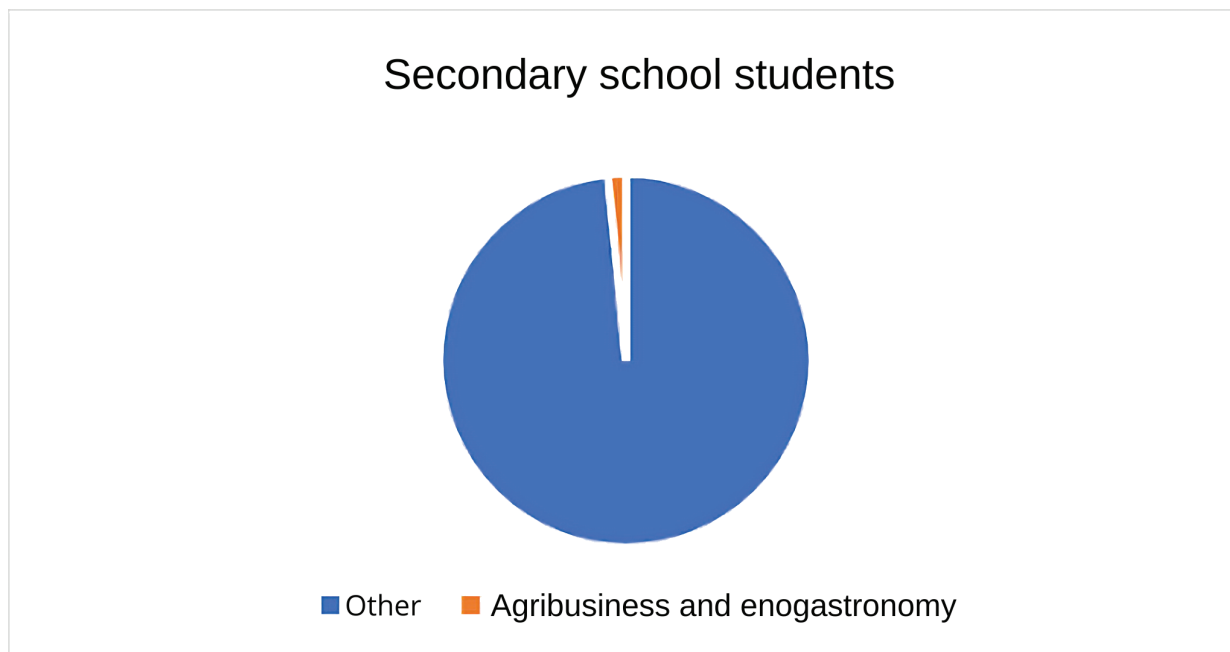


Figure 29. Percentage share of secondary school students involved in agri-food related educational paths.

¹¹ Vocational high school courses have a duration of five years. Their aim is to provide students with the skills they need to fill technical operational roles in the production and service sectors, in accordance with the needs of the territory and the world of work. All paths are characterised by a core of general culture subject for all courses combined with a professional training specific to the sector chosen, T'sN

FOOD & TRAINING PATHS: UNIVERSITY TRAINING

The major universities in the City of Turin offer excellent food-related training opportunities at all levels of university education. Both the University of Turin and Politecnico di Torino (Engineering University) run degree courses related to food issues - 14 and 1, respectively.

Namely, the latter is a three-year degree course in “Sustainable Design for Food”, developed in collaboration with the University of Parma with a view to providing graphic and design tools in the field of sustainable food production.

The University of Turin has a similar educational offer, namely in the form of first- and second-level Master’s degree courses, which aim to provide its students with the technical skills needed to work in highly innovative and sustainable food-related contexts. In addition, numerous bachelor’s and Master’s degree courses with a special focus on basic and advanced training in the agri-food sector are held in strategic locations throughout the Metropolitan City of Turin and the whole Piedmont region. Examples include the bachelor’s degree Course in ‘Food Technology’ in Grugliasco and the Master’s Degree Courses in “Food Science and Technology” and “Viticulture and Oenology” run in Cuneo and Asti, respectively.

The courses centred around food and wine are particularly popular; in the 2021/2022 academic year, they were chosen by approximately 2,785 male and female students. Out of a total of 80,000 students enrolled at the University of Turin and given its wide range of activities and subjects on offer, it is worth emphasising that almost 4% of the student population specifically studies food production, distribution, and management at various levels.

The ratio of the number of agri-food and wine courses students to the total number of university students is strikingly like the ratio of students pursuing the same studies to the total number of students at secondary school level. Hence, a trend of common interest in both educational experiences is evident. Similarly to the above, it will be equally relevant to extend the university educational offer related to food, since it is plausible to imagine that the number of individuals who are interested in such topic and its various facets will increase over time.

Students of university courses

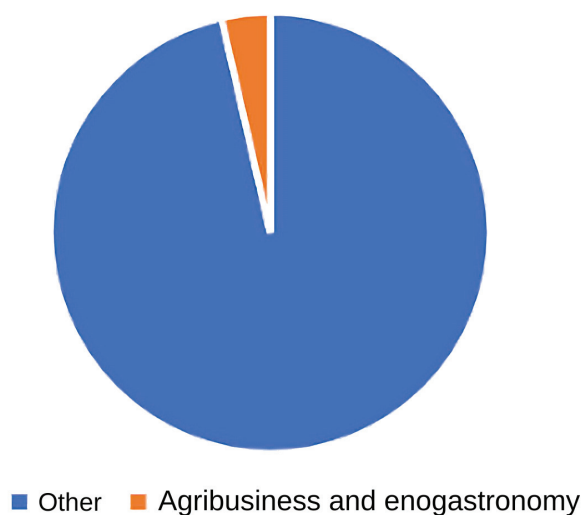


Figure 30. Ratio of university students in agribusiness and others to total

FOOD AND INNOVATION – THE STARTUPS’ EXPERIENCE

The City of Turin is also a centre of innovation and experience for numerous enterprises and start-ups both related to the academic world, such as several university-derived incubators (2i3t and i3p) and completely detached from it, such as the initiative named SocialFare. These are spaces providing room for individual and group development as they bring ideas to a successful stage. Through technical know-how and economic resources, the incubators support the establishment of numerous start-ups, which then leads them to become well-known players with a leading role among the best-known companies in the sector. Turin maintains a Startup and SME Register detailing the number of companies in the sector. With reference to 2021 updates, they number 543, of which 461 are startups and 82 are innovative SMEs. It should be noted that the agritech& food sector is worth about 5.4% of them, i.e., more than 29 start-ups and SMEs are now up and running in the food and wine sector.

Over the past two years, Incubator 2i3t has been instrumental in creating 20 innovative start-ups in the agrifood sector, out of a total of 108 start-ups. Incubator 2i3t was to serve as a “bridge” to connect academic research and local industrial partners. In particular, the Knowledge Transfer Office and the Industrial Liason Office of Unito interface in order to exploit research findings and external growth opportunities in the area.

At the same time, incubator i3p has come across numerous agritech& food-related initiatives; currently, it has 1 start-up inside the incubation path and 2 start-ups outside the path related to such topics. A mention also goes to 3 ‘pre-incubated’ start-ups that are about to start their journey at i3p.

TRAINING INSTITUTIONS

Number of training institutions in the agri-food /food and wine sector: 16

Training institutions

- 1) AccademiaFoodLab 32 - Via Tirreno 95/A
- 2) CNOS-FAP Turin Valdocco 141 - Via Maria Ausiliatrice, 36, 10152 Turin TO
- 3) Agenzia Orionis richiamare - Via Luigi Palma di Cesnola, 22, 10135 Turin TO
- 4) ANFA – Agenzia Nazionale Formazione 34 - Via Principessa Clotilde, 3, 10144 Turin TO
- 5) Fondazione Casa di Carità Arti e Mestieri Onlus 59 - Corso Benedetto Brin, 26, 10149 Turin TO
- 6) CIOFS 136 - P.zza Maria Ausiliatrice, 27, 10152, Turin TO
- 7) CONSAF – Consorzio Servizi Addestramento e Formazione 30 - Via Pinerolo, 12/16, 10152 Turin TO
- 8) ENGIM Turin 154 - Corso Palestro, 14, 10122 Turin TO
- 9) ENGIM San Luca 62 - Via Torrazza Piemonte, 12, 10127 Turin TO
- 10) forITTurin - C.so Galileo Ferraris, 2/Piano 1, Scala C, 10121 Turin TO
- 11) Forter Piemonte 175 - via Massena 20. 10128 Turin TO
- 12) Immaginazione e Lavoro piazza mestieri - Via Carlo Alberto, 22/A, 10123 Turin TO
- 13) InforcoopEcpa Piemonte 280 - Corso Svizzera, 161, 10149 Turin TO

Schools

- 1) Istituto Beccari 980 - Via Niccolò Paganini, 22, 10154 Turin TO
- 2) Istituto Colombatto succursale 1180 - Via Gorizia, 7, 10136 Turin TO
- 3) Istituto Giolitti 599 - Via Alassio, 20, 10126 Turin TO

Universities

- 1) Politecnico di Torino
- 2) University of Turin

9

TOURISM & FOOD AND WINE TRADITIONS

TOURISM & FOOD AND WINE TRADITIONS

For several decades, the discovery and consumption of food and wine produce has been one of the main factors of attraction for international tourist flows (Miani, 2015). Accordingly, cities and regions have been increasingly positioning the quality of their food and wine offerings and their cultural heritage linked to typical products at the centre of their urban branding and territorial marketing strategies. Turin is no exception; for at least fifteen years, local cuisine and food culture have played a key role in building strategies to construct a new image for Turin and wipe away the dusty look of post-industrial city (Vanolo, 2015), as well as in promoting urban competition and constructing local food policies (Dansero et al., 2019).

The previous sections have largely dealt with the commercial value of Turin's food and wine scene, through the massive presence of restaurants and bars, especially in certain areas of the city centre.

This section is dedicated to the enhancement of food and wine heritage through cultural and tourist attractions in Turin as well as to the formal recognition of the quality of local products through the introduction of brands and their acknowledgement by national and international specialised guides.

Specifically, the Metropolitan City of Turin has 6 museums dedicated to food / wine topics, 3 of which are located within the city boundaries (Table 28)

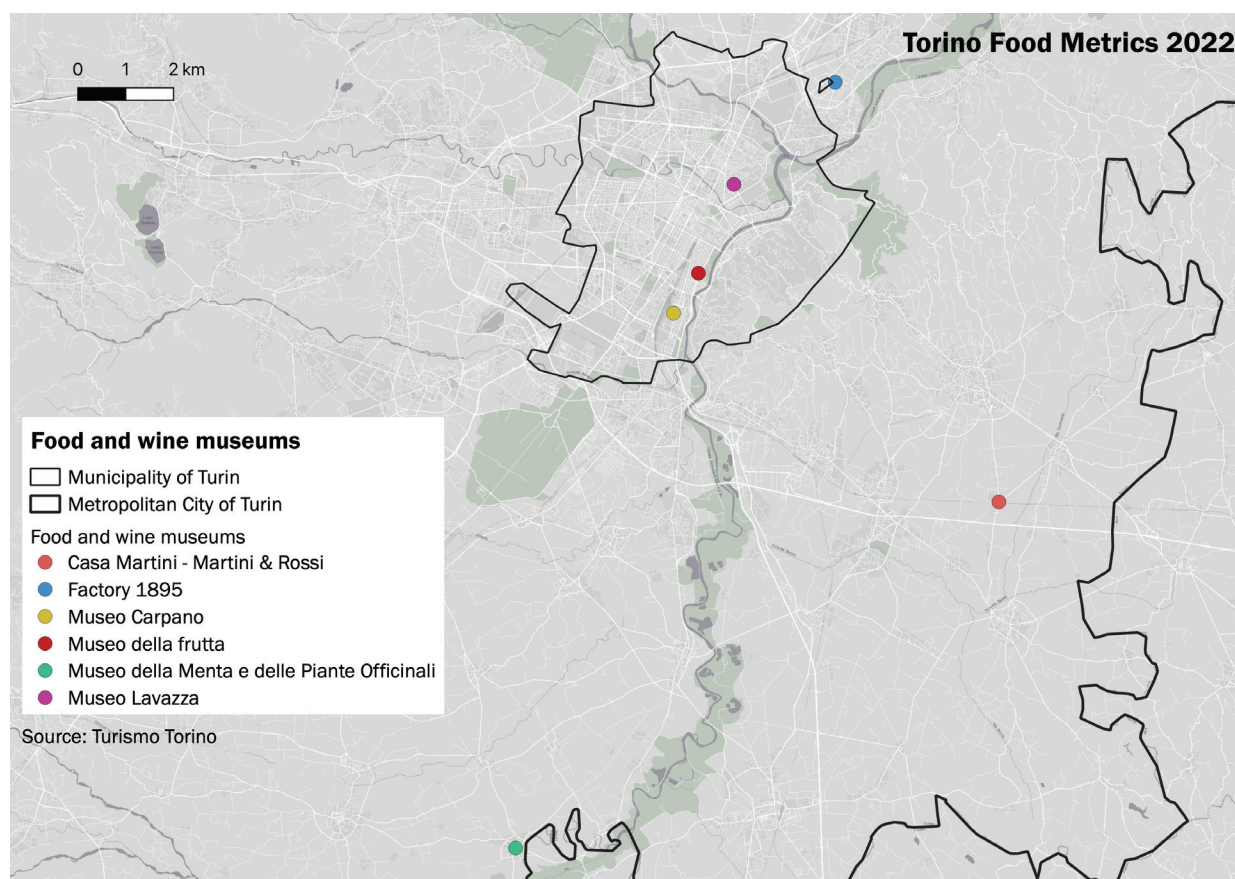


Figure 31. Location of food and wine museums(Source: Turismo Torino)

NAME	ADDRESS	MAIN TOPIC
Factory 1895	Via S. Daniele 16, 10036 Settimo Torinese	Coffee
Museo Lavazza	Via Bologna 32A, 10152 Torino	Coffee
Casa Martini - Martini & Rossi	Piazza Luigi Rossi, 2 - Frazione Pessione, 10023 Chieri	Vermouth
Museo Carpano	Via Nizza, 230 int. 14, 10126 Torino	Vermouth
Museo Della Frutta	Via Pietro Giuria, 15, 10126 Torino	Agricultural biodiversity
Museo della Menta e delle Piante Officinali	Via S. Nicolao, 18, 10060 Pancalieri	Mint And Medicinal Herbs

Table 28. Food-themed museums in the Metropolitan Area(Source: Turismo Torino e provincia)

Turin food and wine cultural heritage is also an integral part of the articulated offer of packages and experiences organised by various players and promoted by Turismo Torino e provincia. A total of 22 packages focusing on food or wine and gastronomic themes are organised or promoted by Turismo Torino across the Metropolitan area (Table 29).

Package name	Organizer(s)
Merenda reale	Turismo Torino.in collaboration with Castello di Rivoli - Museo d'arte contemporanea; The Tea - Torrefazione moderna; Pepino 1884; Caffetteria Orangerie Gerla 1927; Caffè Reale Turin; Caffè Platti 1875; Caffè Elena; Caffè Fiorio.
Extra Vermouth	Turismo Torino. In collaboration with 25 bars and restaurants
Made in Torino - Tour the excellent	Turismo Torino.
Aperitour	Guida Turistica Torino (touristguides' network)
Arte e tè in Oriente	Museo di Arte Orientale
Eatintour	Guida Turistica Torino (touristguides' network)
Esperienza Giandujotto	Esperienza (tourist operator)
Esperienza Gin	Esperienza (tourist operator)
Esperienza Vermouth	Esperienza (tourist operator)
I caffè storici di Torino	CulturalWay (tourist operator)
L'arte dell'aperitivo a Torino	CulturalWay (tourist operator)
Turin Secret Food Tour	Esperienza (tourist operator)
Scopri il cioccolato di Torino Tour Accessibile	City Friend (tourist operator)
Tour Accessibile Vermouth	City Friend (tourist operator)
Il gusto di Torino	Linea Verde Viaggi (tourist operator)
Taste a bike	Anemos (tourist operator)
I sapori dell'Erbaluce	Lab travel (tourist operator)
Un giorno in e-bike sulle colline dell'Erbaluce	Giroola (tourist operator)
Birrificio Soralamà Experience	Birrificio Soralamà
Casa Martini Experience	Martini & Rossi
Eataly Experience	Eataly
Torino Golosa	Somewhere

Table 29. Number of food-themed tourist packages (Source Turismo Torino e provincia, 2022)

The great quality of Turin's food and wine offer is also widely recognised by national and international food and wine guidebooks. The number of Turin restaurants listed in three of the most important guides are 42 (Gambero Rosso); 29 (Michelin Guide) and 12 (Osterie d'Italia Slow Food), respectively. Finally, 11 restaurants have been awarded at least 1 Michelin star.

One of the main awards for the quality of artisanal food and wine production in the Piedmont region is "Maestri del Gusto" label, awarded by the Turin Chamber of Commerce, Industry, Agriculture and Craftsmanship. A total of 73 activities based within the city have been awarded this recognition.

With regard to the formal identification of the relationship between agrifood production and Turin city/province, 24 products have been recognised as having a PDO (Protected Designation of Origin), a PGI (Protected Geographical Indication) or as being a TSG (Traditional Speciality Guaranteed). They concern four wines and one foodstuff produced entirely within the Turin Metropolitan City borders, while the rest has at least a partial connection with its territory.



Merenda Reale, Vermouth, Torino Golosa. Source: Turismo Torino e Provincia / Partner Incoming

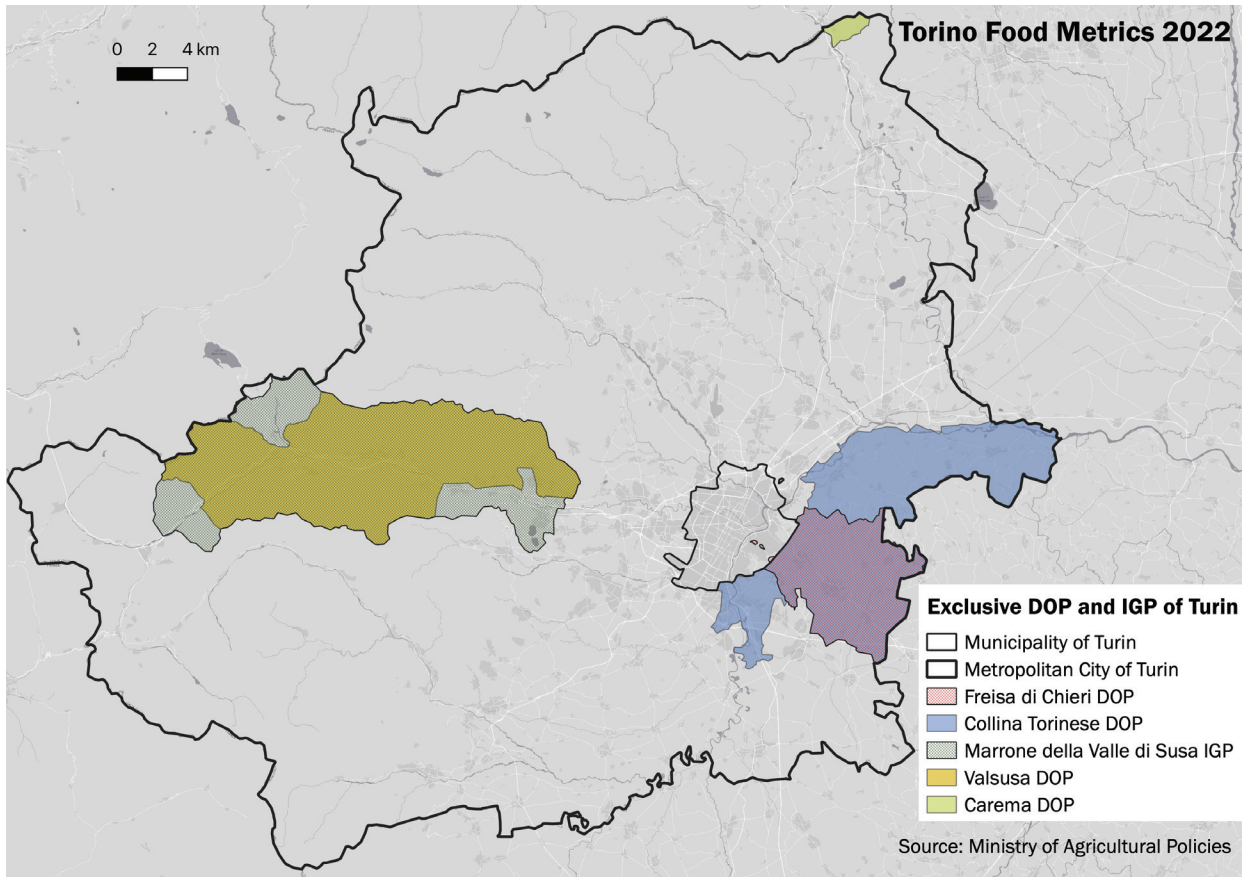


Figure 32. Exclusive PDO and PGI areas within the Metropolitan City (Source: Ministry of Agricultural Policies)

Specifically it is worth mentioning PDO wines such as Canavese, Caluso, Freisa di Chieri, Pinerolese, Valsusa, Collina Torinese and Piemonte; and foodstuffssuchas Tinca Gobba Dorata del Pianalto di Poirino, Toma Piemontese, Bra, Crudo Di Cuneo, Salamini italiani alla cacciatora, Salame Brianza and Grana Padano. PGIs include Marrone Della Valle Di Susa, Salame Piemonte, Vitelloni Piemontesi della coscia, Nocciola Del Piemonte or Nocciola Piemonte, Mela Rossa Cuneo, Mortadella Bologna and Salame Cremona. Finally TSGs are Pizza Napoletana and Mozzarella.

BIBLIOGRAPHY

- Bourlessas, P., Cenere, S., & Vanolo, A. (2021). The work of foodification: an analysis of food gentrification in Turin, Italy. *Urban Geography*, 1-22.
- Dansero E., Pettenati G., Toldo A. (2014), “La città e le filiere del cibo: verso politiche alimentari urbane”, in Faccioli M. (a cura di), *Quali filiere per un territorio metropolitano?*, Franco Angeli, Milano, pp. 186-208.
- Dansero E., Pettenati G., Toldo A., Bonavero P. (2019), “Verso politiche locali del cibo a Torino: attori, progetti, processi”, in Dansero E., Marino D., Mazzocchi G., Nicolarea Y., *Lo spazio delle politiche locali del cibo: temi, esperienze e prospettive*, Torino, Celid.
- Dansero E., Pettenati G., Toldo A. (2021), “Fragilità e resilienze in tempo di pandemia. Spunti dal sistema locale del cibo”, in Cuono M., Barbera F., Ceretta M. (a cura di), *L'emergenza Covid-19. Un laboratorio per le scienze sociali*. Roma, Carocci, pp. 141-147.
- Dansero E. e Pettenati G. (2018), *Reterritorialization, Proximity, and Urban Food Planning: Research Perspectives on AFNs*, in Corsi A., Barbera F., Dansero E., Peano C., *Alternative Food Networks. An Interdisciplinary Assessment*, London, Palgrave Mc Millan, pp. 273-301.
- Glanz, K., Sallis, J. F., Saelens, B. E., & Frank, L. D. (2005). Healthy nutrition environments: concepts and measures. *American journal of health promotion*, 19(5), 330-333.
- Goodman, M. K. (2016). Food geographies I: Relational foodscapes and the busy-ness of being more-than-food. *Progress in Human Geography*, 40(2), 257-266.
- Grasseni, C. (2013). *Beyond alternative food networks: Italy's solidarity purchase groups*. Londra, Bloomsbury Publishing.
- Lake, A. A., Burgoine, T., Greenhalgh, F., Stamp, E., & Tyrrell, R. (2010). The foodscape: classification and field validation of secondary data sources. *Health & Place*, 16(4), 666-673.
- Loda, M., Bonati, S., & Puttilli, M. (2020). History to eat. The foodification of the historic centre of Florence. *Cities*, 103, 102746.
- Miani, F. (2015). Il cibo da eredità delle culture locali ad attrattore del turismo gastronomico. *Annali del Turismo - Geoprogress*, IV, 11-24.
- O'Connell R. e Brannen J. (2021). *Families and food in hard times: European comparative research*, UCL Press.
- Pettenati G, Toldo A (2018). *Il cibo tra azione locale e sistemi globali, Spunti per una geografia dello sviluppo*. Milano, FrancoAngeli, ISBN 978-88-917-7060-8
- Roe, M., Sarlöv Herlin, I., & Speak, S. (2016). Identity, food and landscape character in the urban context. *Landscape Research*, 41(7), 757-772.
- Vanolo, A. (2015). The image of the creative city, eight years later: Turin, urban branding and the economic crisis taboo. *Cities*, 46, 1-7.

ATTACHMENT INDICATORS

FOOD OFFER

ITEM	FIGURE	INDICATOR	UNIT OF MEASUREMENT	SOURCE	YEAR	SCALE
Markets	32	No. average of open-air markets during weekdays	No.	City of Turin	2022	city
Markets	34	No. maximum number of open-air markets on weekdays (Wednesday)	No.	City of Turin	2022	city
Markets	30	No. minimum number of open-air markets on weekdays (Monday)	No.	City of Turin	2022	city
Markets	1,748	Stalls assigned for food items on a daily basis	No.	City of Turin	2022	city
Markets	491	Stalls assigned for general food items on a daily basis	No.	City of Turin	2022	city
Markets	880	Stalls assigned on a daily basis for fruits & vegetables	No.	City of Turin	2022	city
Markets	73	Stalls assigned on a daily basis for fish produce	No.	City of Turin	2022	city
Markets	304	Stalls assigned to for direct sales counters by producers on a daily basis	No.	City of Turin	2022	city
Markets	547	Number of food stalls licensed/day (open-air markets –fruits & veg)	No.	City of Turin	2022	city
Markets	321	no. of free food stalls/day (open-air markets –fruits & veg)	No.			
Markets	51	Number of food stalls licensed/day (open-air markets –fish produce)	No.	City of Turin	2022	city
Markets	20	no. of free food stalls/day (open-air markets –fish produce)	No.			
Markets	311	Number of food stalls licensed/day (open-air markets –general food items)	No.	City of Turin	2022	city
Markets	163	no. of free food stalls/day (open-air markets –general food items)	No.			
Markets	184	No. of licensed pitches for farmers' direct sales at municipal markets (weekday average)	No.	City of Turin	2022	city
Markets	115	no. free spaces available in rotation for direct sale by farmers at city markets	No.	City of Turin	2022	city
Markets	127	no. food stalls in covered markets	No.	City of Turin	2022	city
Markets	15	Number of markets dedicated exclusively to direct sales by farmers and organised by private entities	No.	City of Turin	2022	city

ITEM	FIGURE	INDICATOR	UNIT OF MEASUREMENT	SOURCE	YEAR	SCALE
Retail	4,727	No. of food retail businesses	No.	CCIAA	2022	city
Retail	269	No. of large scale retail stores	No.	City of Turin	2022	city
Food service	8,599	No. of food service businesses (café, restaurants)	No.	CCIAA	2022	city
GAS	42	Registered GAS in the Metropolitan Area of Turin	No.	Economia Solidale web portal	2022	Metropolitan Area
GAS	26	Registered GAS within the city of Turin	No.	Economia Solidale web portal	2022	city

FOOD PROCESSING

ITEM	FIGURE	INDICATOR	UNIT OF MEASUREMENT	SOURCE	YEAR	SCALE	SCALA
Industry	Processing	801	No. of food processing companies	No.	CCIAA*	2022	city

*Chamber of Commerce, Industry, Agriculture and Craftsmanship, T'sN

URBAN FARMING

ITEM	FIGURE	INDICATOR	UNIT OF MEASUREMENT	SOURCE	YEAR	SCALE
Farming	22	no. community gardens areas	No.	City of Turin/ ORME		city
Farming	7	garden areas managed by the districts	No.	City of Turin/ ORME		city
Farming	1,967,321	City-owned cultivated land	sqm	City of Turin	2019	city
Farming	4,124,516	Third-party owned cultivated land	sqm	City of Turin	2019	city
Farming	42,421	City-owned surface identified as non-cultivated land	sqm	City of Turin	2019	city
Farming	256,111	Third party-owned surface identified as non-cultivated land	sqm	City of Turin	2019	city
Farming	307	Farms in the municipality of Turin	No.	Anagrafe Agricola Unica	2022	city
Farming	36	Organic farms in the municipality of Turin	No.	Anagrafe Agricola Unica	2022	city
Farming	5,200	Utilised agricultural area	ha	Anagrafe Agricola Unica	2022	city
Farming	36	Livestock farms	No.	Anagrafe Agricola Unica	2022	city
Farming	9,092	No. cattle	No.	Anagrafe Agricola Unica	2022	city
Farming	138,594	City and project-based gardens	sqm	City of Turin	2019	city
Farming	1,033	No. plots allocated to City and project-based gardens	No.	City of Turin	2019	city
Farming	77	community gardens / crates	No.	City of Turin/ ORME		city
Farming	61,049	project-based gardens surface	sqm	City of Turin/ ORME		city
Farming	77,545	district gardens surface	sqm	City of Turin/ ORME		city
Farming	31 (update coming)	No. of schools with field gardens	No.	City of Turin/ schools	2022	city
Farming	27 (update coming)	n. schools with school gardens in the box	No.	City of Turin/ schools	2022	city
Farming	801	No. of urban apiaries	No.	ASL City of Turin	2021	city
Farming	380	arable surface	sqm	Anagrafe Agricola Unica	2022	city
Farming	110	meadows and pastures surface	sqm	Anagrafe Agricola Unica	2022	city
Farming	77.50	forest area	sqm	Anagrafe Agricola Unica	2022	city

FOOD SECURITY

ITEM	FIGURE	INDICATOR	UNIT OF MEASUREMENT	SOURCE	YEAR	SCALE
Food support	187	No. of charities recognised by Banco Alimentare del Piemonte	No.	Banco Alimentare del Piemonte	2021	District
Food support	39,670	No. recipients from Banco alimentare	No.	Banco Alimentare del Piemonte	2021	District
Food support	3,212,118	kg of food distributed by Banco alimentare	kg	Banco Alimentare del Piemonte	2021	District
Food support	81	Kg per head	kg		2021	city
Food support	17	No. of structures Torino Solidale network	No.	Torino Solidale	2022	city
Food support	11,000	No. of people assisted by Torino Solidale network	No.	Torino Solidale	2022	city
Grocery coupons	413,087	No. of grocery coupons issued since the pandemic outbreak	No.	City of Turin	2021	city
Grocery coupons	9,027,948.60	Expenditure on grocery coupons issued since pandemic outbreak	Euro	City of Turin	2021	city

PUBLIC PROCUREMENT

ITEM	FIGURE	INDICATOR	UNIT OF MEASUREMENT	SOURCE	YEAR	SCALE
Catering	100	No.city offices with vending machines	No.	City of Turin	2021	city
Catering	270,000.00	Estimated value per vending machine	Euro	City of Turin	2021	city
Catering	250	No. of vending machine	No.	City of Turin	2021	city
Collective catering	17,995	No. of meals served by collective catering services of the City of Turin (Day-care centres)	No.	City of Turin	2021	city
Collective catering	31,793	No. of meals served by collective catering services of the City of Turin (home catering)	No.	City of Turin	2021	city
Collective catering	186,206	No. of meals served by collective catering services of the City of Turin (charity canteens)	No.	City of Turin	2021	city
Collective catering	85,380	No. of meals served by collective catering services of the City of Turin (Bricca)	No.	City of Turin	2021	city
Collective catering	321,374	No. of meals served by collective catering services of the City of Turin (total number)	No.	City of Turin	2021	city
Collective catering	86,719	Expenditure for meals served by collective catering services of the City of Turin (Day-care centres)	Euro	City of Turin	2021	city
Collective catering	291,341	Expenditure for meals served by collective catering services of the City of Turin (home catering)	Euro	City of Turin	2021	city
Collective catering	567,478	Expenditure for meals served by collective catering services of the City of Turin (charity canteens)	Euro	City of Turin	2021	city
Collective catering	265,491	Expenditure for meals served by collective catering services of the City of Turin (Bricca)	Euro	City of Turin	2021	city

ITEM	FIGURE	INDICATOR	UNIT OF MEASUREMENT	SOURCE	YEAR	SCALE
Collective catering	1,211,029	Expenditure for meals served by collective catering services of the City of Turin (total expenditure)	Euro	City of Turin	2021	city
School catering	5,936,210	Number of meals served per year in school catering	No.	City of Turin	2021	city
School catering	33,169,032	Expenditure on school catering	Euro	City of Turin	2021	city
School catering	100	Reusable tableware %	%	City of Turin	2021	city
School catering	2,087,456	Quantity of organic products in school menus	kg	City of Turin	2021	city
School catering	562,868	Amount of short chain products in school menus	kg	City of Turin	2021	city
School catering	71.52	% of organic products in school menus (by weight)	%	City of Turin	2021	city
School catering	24.26	% of short chain products in school menus (by weight)	%	City of Turin	2021	city
School catering	95.77	% of short chain and organic products in school menus (by weight)	%	City of Turin	2021	city
School catering	43,000	number of daily meals distributed in school canteens (approximate figure)	No.	City of Turin		city
School catering	25,000	number of standard meals (approximate figure)	No.	City of Turin		city
School catering	140	number of special diets for health reasons	No.	City of Turin		
School catering	2,381	number of meatless diets	No.	City of Turin		
School catering	1,412	number of diets without pork	No.	City of Turin		
School catering	72	number of vegetarian meals	No.	City of Turin		
School catering	21	number of vegan meals	No.	City of Turin	2022	city
Meal vouchers	7,413	No. of municipal employees eligible for meal vouchers	No.	City of Turin	2021	city
Meal vouchers	1,130,828	no. of meal vouchers disbursed in a year	No.	City of Turin	2021	city
Meal vouchers	6,938,760	total annual value of meal vouchers provided	euro	City of Turin	2021	city
Meal vouchers	2,546	No. of contracted administration rooms for meal vouchers/municipal employees	No.	City of Turin	2021	city

FOOD & CIRCULAR ECONOMY

ITEM	FIGURE	INDICATOR	UNIT OF MEASUREMENT	SOURCE	YEAR	SCALE
Waste	14%	% of compost produced by organic collection	%	City of Turin	2021	city
Waste	80%	% of resident population served door-to-door or eco-islands (approximate figure)	%	City of Turin	2022	city
Waste	57%	Separate waste collection through smart recycling points and door-to-door collection	%	City of Turin	2022	city
Waste	39%	Separate collection by traditional street collection	%	City of Turin	2022	city
Waste	56,000	Tonnes of sorted waste	tonnes	City of Turin	2022	city
Water	18	No of SMAT water points	No.	SMAT	2021	city
Water	795	No of turet	No.	SMAT	2021	city

TRAINING & RESEARCH

ITEM	FIGURE	INDICATOR	UNIT OF MEASUREMENT	SOURCE	YEAR	SCALE
Awarding a diploma	3	No. of training institutions in the agri-food and food and wine sector	No.	City of Turin	2021	
Not awarding a diploma	13	No. of training institutions in the agri-food and food and wine sector	No.	City of Turin	2021	
Institutions	16	No. of training institutions in the agri-food and food and wine sector	No.		2021	city
Students	2.785	No. of students enrolled in food-related university courses	No.	Unito, Polito	2021	
Students	2.500	No. of students enrolled at food and wine-related institutions	No.		2021	
Students	1000	No. of students enrolled in food-related training courses (approximate figure)	No.		2021	city
StartUp	30	no. of start-ups and innovative SMEs active in the agri-food sector	No.	Registro delle StartUp e delle PMI	2021	city

TOURISM & FOOD AND WINE TRADITION

OGGETTO	DATO	INDICATORE	U Misura	FONTE	ANNO	SCALA
Tourism	6	No. of museums dedicated to food or wine themes	No.	Turismo Torino	2022	Metropolitan Area
Tourism	22	No. of packages focusing on food or wine themes	No.	Turismo Torino	2022	city
Restaurants	42	No. of restaurants in the municipality of Turin listed in food and wine guidebooks	No.	Gambero Rosso	2022	city
Restaurants	29	No. of restaurants in the municipality of Turin listed in food and wine guidebooks	No.	Michelin guide	2022	city
Restaurants	12	No. of restaurants in the municipality of Turin listed in food and wine guidebooks	No.	Osterie Slow Food	2022	city
Restaurants	11	No. starred restaurants (at least 1 star)	No.	Michelin Guide	2022	city
Artisanal food and wine production	73	No. Maestri del Gusto awards	No.	Chamber of Commerce	2022	city
Prouce	24	No. of PDO, PGI and TSG products	No.	Ministry of Agricultural Policies	2022	Metropolitan Area

**Contribution to research activities by the University of Turin,
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