Research Paper

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Limited Traffic Zones and Local Economy Development: What's the Impact?

Economics

KEYWORDS : Transport investments, Limited Traffic Zone, Local economy impact

Francesca Pagliara — Department of Civil, Architectural and Environmental Engineerinmg , University fo Naples Federico II, via Claudio 21, Napoli 80125, Italy

Luigi Biggiero — Department of Civil, Architectural and Environmental Engineerinmg , University fo Naples Federico II, via Claudio 21, Napoli 80125, Italy

ABSTRACT

Transport is an important component of the economy impacting on the development and the welfare of population. Efficient transport systems provide economic and social opportunities and benefits; less capable or reliable systems have economic costs. Sometimes the impacts of transportation are unforeseen or unintended determining congestion and/or losses on the local. This is the case of Limited Traffic Zones, i.e. areas where cars are not allowed in them.
In this paper the impact of these measures on the local economy is analysed, considering as case study the town of Napoli in the south of Italy, where two Limited Traffic Zones, in two different boroughs and years, have been introduced.

Introduction
An approach for viewing the economic impacts of investments in public transportation today and in the future is described in the report of Weisbrod and Reno (2009).

Longer-term travel benefits are a fundamental justification for public transportation investment that can ultimately lead to greater and more lasting impacts on an area's economy. Direct benefits for all the travelers fall into cost and time savings and into reliability and safety improvement. (Cambridge Systematics, 1996).

In general, the main objective of these investments is that of attracting the transport modes of ecomobility giving restrictions on the indivual car-use. Among the measures with push effects, there are car limited zones.

Limited traffic areas have been introduced in most of the historical centers of towns all around the world with the aim of increasing pedestrian areas, commercial activities, and reducing pollution to preserve historical sites. Many access restriction schemes are already in operation throughout Europe and in some cases the differences among them can represent an obstacle to travelers for moving around.

In these areas, only specific vehicles are allowed to drive, such as buses, police cars, ambulances and, of course, residents have access as well.

In Italy these limited zones have been often put in place in order to reduce congestion and pollution, thus making city centers more pleasant for residents and visitors alike. In Italy these areas are better known as ZTL (Zona a Traffico Limitato – Limited Traffic Zone).

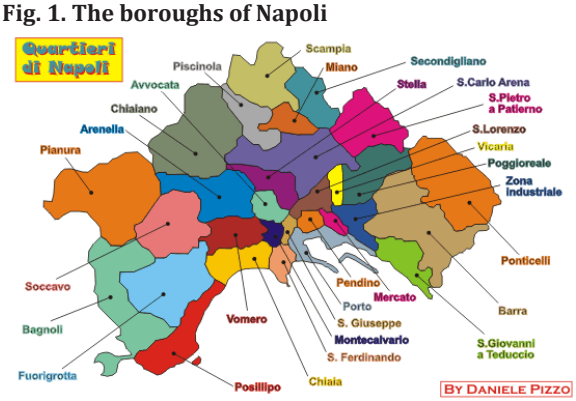
Following the trend of many Italian towns like Milano, Roma, Firenze, also Napoli, in the south of Italy, has recently experienced this measure. Some car limited zones were introduced in different periods of time. The first was in the historical centre; the second in the borough of Vomero and in the last years in the boroughs of Chiaia and Soccavo. In this study two car limited zones have been considered to understand success and failure factors analysing economic impacts on retailers. The first one is in the Vomero borough, while the other one in the Chiaia borough. The result was very different in the two cases. The one in Vomero was the first car restricted shopping area, now well accepted, defined in Naples. In the second case the LTZ decreased traffic flows within it, increasing them dramatically on the border, and retailers and restaurateurs registered a drop of consumers and sales. The reason of this different "behaviour" probably lies in the different size of the restricted area and the typology of shops. Investigations on this will be supported by proper surveys carried out in the two areas, taking also into account changes of market segments in the first area stressing the relationship among restricted access areas and the activity system.

Limited Traffic Zones in the city of Napoli in Italy: the boroughs of Vomero and Chiaia

Napoli is in the south of Italy and its historical city centre is one of the largest in Europe, covering 1,700 hectares. It is listed by UNESCO as a World Heritage Site. It is s made up of 32 boroughs, among them Vomero and Chiaia (see Fig. 1). Vomero is a hilly and heavily urbanized residential area in the center of Napoli. The new underground rail system has contributed to speed up the public transport system and to reduce traffic congestion in the last few years.

Chiaia is placed along the seaside in Napoli and it is considered one of the "posh". The most prominent landmark in the area is the large public park known as the Villa Comunale.

Fig. 1. The boroughs of Napoli



Source: http://www.danpiz.net/napoli/quartieri/index.htm

The LTZ in Chiaia
Napoli hosted the America's Cup competition from the 7th till the 15th of April 2012, and the local authority decided to introduce a new LTZ in the city centre called "exceptional" starting from the 26th of March till the 25th of April.

Caracciolo and Dohrn streets were restricted to cars and partially to pedestrians to allow the preparation of the technical area to support sailors. The first street represents the promenade of the town from where citizens could see the competition and the beautiful view of the Gulf of Napoli. Along Riviera di Chiaia street, parallel to Caracciolo street on the opposite site of the local parks, transit was allowed to residents, special ve-

hicles such as police and ambulance, vehicles to load and unload freight. Bus lines frequency was improved together with the frequency of metro lines operating in the same area. When the competition ended, the LTZ was extended till the end of May 2012 but with a more restricted area and a less effective public transport service.

So a new measure was introduced: a more restricted LTZ starting from the 14th of May till the end of November 2012 (see Fig. 2).

Fig. 2. The Limited Traffic Zone in Chiaia

Source: www.comune. napoli.it

The ZTL in Vomero

In the mid nineties of the last century Alessandro Scarlatti Street was closed to cars and allowed only to pedestrians, becoming very busy thanks to the closeness to the Vanvitelli metro station of Line 1 and to the three funiculars of Chiaia, Centrale and Montesanto. The pedestrian area was extended in 2008 also to part of the close Luca Giordano street and the actual situation is the one reported in Fig. 4 since the Limited Traffic Zone was expanded in October 2010 (see Fig. 3).

Fig. 3. The Limited Traffic Zone in Vomero (from Google maps)

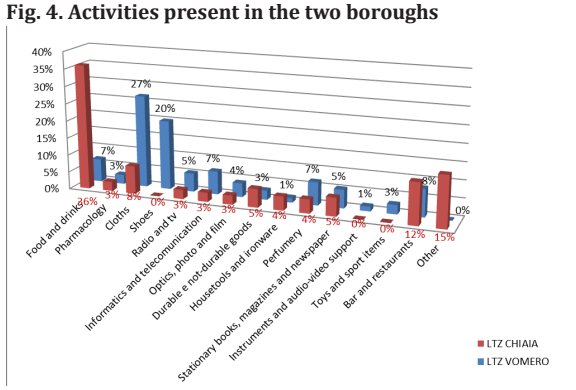
The survey

The number of activities, classified according to the Census, is 193 for Chiaia LTZ and 225 for Vomero LTZ. The sample is made up of 150 activities half in Chiaia and half in Vomero corresponding to sample rates of 39% and 33% respectively.

Evaluating the sample rate of the survey, unique case is represented by Partenope street in Chaia, since 94% of the activities interviewed is represented by restaurants; therefore, this area deserves a separate analysis reported at the end of this section.

In Chiaia 40% of the activities is represented by food and drinks activities while in Vomero the main activities are clothes and shoes which represent the 55% of the total (see Fig. 4).

Fig. 4. Activities present in the two boroughs



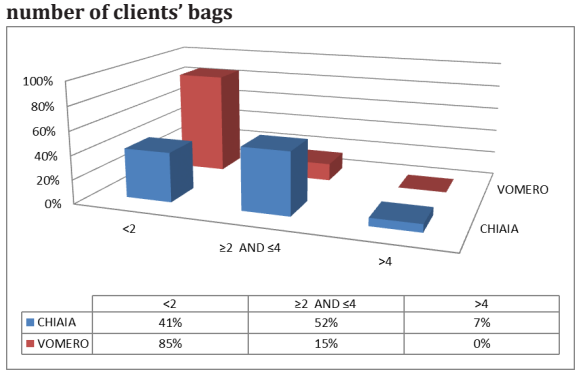
From Fig. 5 it is clear the difference between the two boroughs concerning the sold goods. Indeed the number of bags with which consumers leave shops in Vomero is less compared to Chiaia (2 vs 4). This result highlight another difference between the two boroughs. 76% of the interviewed activities (retailers) of Chiaia have considered indispensable the use of car for their clients; in Vomero the percentage is lower: 52%.

The different perception is justified by:

The different "nature of the borough". Indeed Vomero is mainly residential. Distances that clients have to cover are shorter thus clients spend less but increase the number of times they use to reach shops.

The different accessibility to public transport. Chiaia is served by one funicular and four bus lines; Vomero is served by three funiculars, one metro line and eight buses (Cascetta et al., 2007; Cascetta and Pagliara, 2008). Thus 100% of the retailers interviewed in Chaia declared that public transport is inefficient and only 55% in Vomero.

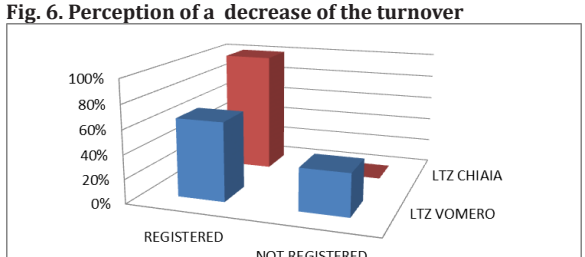
Fig. 5. Difference between the two boroughs in the average number of clients' bags



	<2	≥2 AND ≤4	>4
CHIAIA	41%	52%	7%
VOMERO	85%	15%	0%

In Chiaia it is very serious the damage brought by the introduction of the LTZ, since 100% of the retailers interviewed have perceived a decrease of the turnover. An estimate is reported in Fig. 6.

Fig. 6. Perception of a decrease of the turnover



	REGISTERED	NOT REGISTERED
LTZ VOMERO	65%	35%
LTZ CHIAIA	100%	0%

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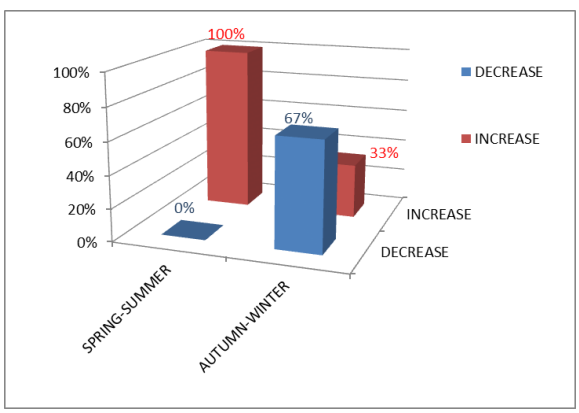
57% of the retailers in Vomero have declared a decrease between 10% and 30%; while in Chiaia 50% declared a decrease of 30-60% and 24% have quantified the decrease between 60-100%. It is very clear the difference of the economic impacts brought by the introduction of the LTZ in the two boroughs.

All the restaurants placed in Partenope Street were already present before the LTZ introduction. Most of them declared an increase in delivering times (high 54%; low 33%; unchanged 13%).

Concerning the use of car, 60% of them have sustained the need of car: car is indispensable!

The impact of the LTZ on Partenope street economy can be analysed during two different periods, i.e. spring-summer and the autumn-winter. During the first period all the interviewed activities increase their turnover while in the second period 67% have complained a decrease (see Fig. 7).

Fig. 7. Perception of the trend of turnover in Partenope Street



Finally, the need of parking areas is a key issue emerged by the interviews. Chiaia LTZ has a dedicated parking area on Dohrn street close to Caracciolo street. This area is too far from the shopping areas of Chiaia LTZ and all the interviewed retailers declared Dohrn parking completely unused by the consumers. Thus, car is considered a need since public transport is not efficient, but no car parking is perceived useful for the shopping area of the LTZ.

Conclusions and further perspectives

The basic theory is compelling: investments in big transport schemes will cut travel times and improve reliability, increase accessibility, and as a result industry will become more efficient, labour markets will become bigger, and the economy will grow. But this is not always true! The case study of town of Napoli is interesting in this respect since the same intervention, i.e. the introduction of a LTZ, in two very different boroughs has brought to different impacts on the local economy. In case of Chiaia there has been a decrease of the turnover; single is the case of Partenope street which has deserved a separate analysis. On the other hand, an increase of the turnover has been registered in the Vomero borough. The main motivation of this different impact can be explained on the basis of the different nature of the boroughs and the accessibility to public transport.

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