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Security and Mobility for Elderly People at public space and transit

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Abstract:

The chapter deal with the importance of tourism offer o fit the market and the real and potential demand of elderly people in relation to accessibility and security in public spaces. It brings a case study on security at tourist destination of Balneário Camboriú, with Security and Urban Mobility Integrated System, through a monitoring central composed of traffic, intelligent traffic lights, parking, security, civil defense, urban planning, administrative management, telephony and internet.

Keywords: Tourist offer, accessibility, security, elderly.

Goal: To analyze the importance of tourism offer, develop elderly accessibility and security in tourist destinations.

Introduction

The tourism movement of people above 60 years old, has brought impact on tourist destinations, both increase in demand for products and services, and structure readjustment to meet requirements and desires for this market segment.

The public politics, both at national, state and municipal level, should be directed to suit public spaces structures for this tourist movement allowing them to known the tourist equipments and easily move around by streets and sidewalks.

Through a case study in the city of Balneário Camboriú, in the state of Santa Catarina, one of the 65 inductor tourism destiny of Brazil, leads us to understand the dimension of a tourist destination structure.

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1.TOURIST OFFER FOR THE ELDERLY PEOPLE

The tourist facilities are composed of structural elements, capable of develop activities that consider actual and potential target audiences, for instance, concentration of elderly people with financial means to actually consume goods and services.

The tourism market structure is defined as that portion of the economy that studies and analyzes the economic reality of tourism, based on a market where converges the offer and the demand for tourist products and services, that is interested and motivated in consume them. (BENI, 1997, p.149)

Therefore, it is essential undertake studies and market researches to identify key elements from the point of view of offer and demand, through local analysis of strategic aspects.

The National Research for Domicile Sample - PNAD, annually realized by Brazilian Institute of Geography and Statistics - IBGE, allows the identification of an extensive socioeconomic profile and the living conditions of elderly people, e.g. race, color, sex, level of income (personal and family related), schooling, possession of durable goods, domiciles features, family arrangements among other things. It is recognized the importance of this kind of information in the planning process of offer of products and services for elderly people. For Veras (2009) the raise in life expectancy plus the decline in mortality and infertility rates, have brought in a relentless process, the progressive ageing of the population and increased population above 60 years old. Given these circumstances, along with active ageing awareness, the emerging businesses opportunity are countless. It is worth pointing out that, in the future, the elderly people market tends to be even promising, since the next generations of elderly, the adults of today, will be compound by people with higher schooling level and, consequently, higher income level. According to Caldas (2012) the ageing in a demographic level should expand the number of years lived, and chronologically to social and psychological factors that are relevant in the way that the age is noticed in every individual.

Therefore, there will be a marked ageing of the population, with outcomes that will require effective public policies and competent strategies from public sector and private companies that aim this market segment. They are demands related to sports practice, cultural programs, removal of architectural barriers in hotels, restaurants, theatres, movie theatres and malls, or

actions that enable the right to come and go, mainly moving from one destination to another, as tourists without restrictions and the fear of the link between old age and pleasure-seeking. According to Silva (2002) “Is this potential demand that we will meet in the next years, but we know little about its need. Is this knowledge that will offer conditions so that be possible to match supply to demand.” (SILVA, 2002, p.12).

Other important data for the knowledge of this population refers to needs and wishes questions. Meets the better form of segmentation, no segregation, for what we always see are programming directed at the general public that are adjusted to people over 60 years old, as the only way of travel. Beni (1997) defines the basic tourism offer as the complex of equipments, goods, tourist accomodation, food services, recreation and leisure, of cultural, social or artistic nature, capable to attract and retain in a particular area, over a given period of time, visitors.

The age group composition could be of great value as the elderly people may form a group of individuals available to travel. (BENI, 1997, p. 208).

Within this context, Trigo (2005, p. 306), relates that the existing programs today are adapted to this age group. There are a restrained demand, represented by people with this age who wish to travel following proper routes and previously selected for their time availability, that are normally within the off-season.

According to quantitative and qualitative researches conducted by Liz (2009) this public prefers travel at off-season and during the week, decreasing the seasonality faced by tourist destinations. The tourism for elderly person forms, both domestic and international level, an expressive factor of development for the tourism movement in a wide range of travel destinations.

The large hotel chains are discovering the big deal that means attract the so-called “old age” tourists, offering substantial savings for tourists of this age group, that travel at off-season period. The new hotels already have apartments adapted, with nonskid mat in the shower, grab bars, access ramp and skilled workforce with staff trained to offer greater attention for this public. (TRIGO, 2005, p. 308).

Trigo (2005) also says that an important matter about tourism development for the “old age” is the possibility of business expansion for travel agencies, transportation companies, hotel chains and food services. He emphasizes that the different economic sectors, that in Brazil are 52, based on the Input-Output Table of the Brazilian Geography and Statistics Institute (IBGE), will benefit from tourism and, as a consequence, will generate both qualified and less

qualified labour. The environmental accessibility is a necessity for a social inclusion of the elderly in the tourism and leisure. It means to say that, if the city is the scene of life, personal encounter and activities, the presence of elderly in different scenes and acts of the everyday life, is dependent on the elimination of architectural barriers in urban areas. The observation of environmental accessibility characteristics, does not mean creating a architecture or plan just for elderly, but rather ensure their inclusion. The city of Balneário Camboriú in accord with Ruschmann e Liz (2012) has twenty-four elderly groups, reflecting that the city is does not only works with receptive tourism, but also emissive, which their needs in elderly accessibility can be met.

2. ACCESSIBILITY

In Brazil the concern about accessibility is translated in the minimum Standards established by Brazilian Association of Technical Standards - ABNT, through the NBR 9050/1994, on the subjects of accessibility to buildings, furniture, spaces and urban equipments. The goal is ensure the right to come and go and give autonomy for people with disabilities.

The NBR 9050/1994 has the following definitions:

Accessibility: Possibility to achieve, awareness and understanding to use safely and autonomously buildings, space, furniture, urban equipments and elements.

Accessible: Space, building, furniture, urban equipment or elements that can be utilized, achieved and experienced by any person, including those with reduced mobility. The term implies both physical Access and communication access.

Adaptable: Space, building, furniture, urban equipment or elements whose characteristics can be changed to become accessible.

Adapted: Space, building, furniture, urban equipment or elements whose original characteristics were subsequently amended to be accessible.

Appropriate: Space, buildings, furniture, urban equipment or elements whose characteristics were originally planned to be accessible.

SANTOS (2010) refers to specific legislation of accessibility as a right guaranteed by Decree nº 5.296/2004, which regulates the Law nº 10.048/2000 and nº 10.098/2000. The first refers to preferential treatment to people with disabilities or reduced mobility in public service organizations, as bank branches, and the second setting Standards and basic criteria for the promotion of accessibility, by eliminating barriers, of disabled or reduced mobility people in

spaces, furniture and urban equipments, in buildings, in means of transport and communication (MINISTRY OF JUSTICE, 2004).

In his work, Santos highlights the Manual published by Ministry of Tourism in 1999, titled: Manual of reception and accessibility of disabled people in tourism developments and equipments. It is based on the rules established by ABNT relating to public-private spaces Access and means of transport; the use of lifts and emergency exits; and to an appropriate position of furniture and urban equipments.

For Schichii (2000), almost all of the accessibility and security requirements for elderly people creates comfort for everyone.

The urban transportation means must offer suitable facilities for people with disabilities, in which elderly are included, so that they are not excluded of social life and activities as leisure, study, work and shopping.

For Cancela e Aragão (1993), it is not just citizen rights but is a economic aspect too. Without guarantee of their access in various places, it is impracticable, for the elderly, any touristic activity and consequently economic, force them to confine themselves at home. Still within this context, Cancela e Aragão (1993) illustrates in their work, groups and their unfitness with the use of means of urban transports, facilities of extra-vehicular accessibility, embarking and disembarking facilities, circulation and permanence in vehicles, as displayed in Frames 1,2 and 3.

Frame 01 – Social groups with disabilities in the use of urban means of transport.

Locomotor disabilities	Sensory disabilities
<ul style="list-style-type: none"> • People in the use of canes • People in the use of crutches • People in the use of wheelchair • People with orthopedic supports, including temporary. • Other groups with mobility issues. 	<ul style="list-style-type: none"> • People with visual impairments, whether they are blind or have low sight. • People with clinical sight problems, e.g. high-grade cataracts. • People with partial or complete loss of hearing. • People with clinical hearing problems, e.g. bandages. • People with partial or total speech impairment.

Physical disabilities	Intellectual/ Cultural disabilities
<ul style="list-style-type: none"> • Elderly people. • People that due to health issues cannot move with agility, e.g. rheumatic and heart diseases. • Pregnant after the sixth month of pregnancy. • Obese. • People with extremely tall or short stature. • People with injured upper limbs. 	<ul style="list-style-type: none"> • People with various degrees of mental illness. • Illiterates and half-illiterates. • People without local language proficiency.

Source: CANCELA e ARAGÃO, 1993.

Frame 02 – Facilities of extra vehicular accessibility.

<p>Access and circulation in buildings</p> <ul style="list-style-type: none"> • Details of buildings adaptations. • Reserved parkings. • Minimum widths of corridors and passages. • Obligation and ramps with maximum declivity. • Floor coverings. • Dimensioning of corridors, halls, counters, public telephones and toilets. • Obligation and dimensioning of lifts. <p>Drawings of public roads</p> <ul style="list-style-type: none"> • Dimensioning of public roads and sidewalks. • Minimum height and width. • Lowering of curbs. • Sidewalks inclination. • Removal of architectural obstacles. • Pedestrian crossings.

- Areas of reassurance of traffic.

Source: CANCELA e ARAGÃO, 1993.

Frame 03 – Facilities of embarking/ disembarking, circulation and stay in vehicles.

Embarking and disembarking in vehicles

- Lift of embarking platform
- Ramps in vehicles standing
- Measurement of doors and stairs
- Height restriction of vehicles platform

Circulation and standing on vehicles

- Supports and hangers in several heights and arrangements
- Special seats

Special services

- Minibusses
- Adapted cab

Source: CANCELA e ARAGÃO, 1993.

The ease of movement for elderly and disabled people groups has a decisive role in their lives and considerable economic value, once through enabling their displacement, they can be integrated into the production process.

Peixoto (1995), says that investigate the elderly sociability brings as contribution to urban planning, finding the key role played by public spaces in open-air. The beaches and squares are the spaces that allow the establishment of social relations with younger people and also enable found a favorite place, a territory which they belong. In Brazil, the contingent of elderly exceeds 14 millions, that is, 8,7% of the population. It is the age group that grows the most proportionally. However, there are serious issues, that need be solved for that this ageing process occurs in a healthy way. The necessary resources to answer this contingent demands are thus somewhat precarious, including the tourism sector.

The tourism sector must always seek to offer quality in products and services. In attendance to the “old age” segment, the actions to promote quality take on a particularly significant relevance, while several destinations don’t realize these factors. Trigo (2005, p. 308) lists some basic factors, which emphasizes must be placed to elderly tourists support:

- Security: the reduction of exposure to risky situations favours the “old age” tourist, psychological well being, reassuring them to better enjoy the trip.

- Cleaning: aside from being indispensable to the preservation of the health, food and places in a good state of repair and cleanliness are interpreted as respect to the elderly.
- Environment: the nature and culture appreciation are aspects of great value for elderly people. Similarly, the promotion of outdoor activities, given their limitations, and activities that allows their involvement in the life of the visited community, raises the quality of the journey undertaken.
- Accessibility: removing architectural barriers, ergonomic pieces of furniture, sufficient illumination in hotels and public areas, brochures, tourist guides, menus, signals and symbols easy to read and understand, understandable oral communication are some facilities that must be offered to “old age” tourist.
- Consumer Protection: informations should be actual and completes, in not to jeopardize the travel enjoyment.
- Education and training: people who provide any type of service to “old age” tourist must have some qualities, among them hospitality (manifest that the tourist are being well accepted not only because they are paying), kindness (treat them with civility and respect); intellectuality (understand their needs and expectations), patience (hear and understand their problems, as well as accept their limitations) and effective communications (in non-technical language).

The reduced mobility for elderly people, according to Fernandes (2000), can be aggravated by issues as sidewalks with holes, steps or barriers, lack of pavement, steps at public buildings and public transport access, lack of traffic lights and pedestrian crossings, are some of the difficulties faced by elderly in urban circulation that keep them segregated at home.

To this scenario must be added the conflict of pace. And the higher and more global is the city, the more speed is the rhythm and hostile the environment. The elderly, with the slow pace due to their physical conditions, exposes them to risks of falls and accidents, and misses the gracefulness at public spaces.

[...] most of the society is formed by elderly, children, excessively tall or short people, obese, pregnant, people with physical disability permanently or temporarily. In this sense, to promote accessibility on the physical environment, the proposal is the use of Universal Design, that takes into account the users’ needs with extreme physical conditions, unusual or in function of vital cycle (FERNANDES, 2000, p. 37).

The tourism planning has a big challenge ahead: tailor and adapt the products and services offer that meet the needs of population with disabilities or limitations. The data given at the Table 1 shows the percentage related to four kinds of disabilities surveyed in IBGE of 2010 Census, which are visual, hearing, mental and cognitive.

Table 1 – Number of people with disabilities in Brazil in millions and as percentage of general population. (*) Percentage of the total amount of people with some disability that are working.

Valores aproximados expressos em:	Milhões	Porcentagem	
	Total	Homens	Mulheres
Pessoas com pelo menos uma das deficiências investigadas.	45,6	21,2	26,5
Prevalência da deficiência visual	35,8	16,0	21,4
Prevalência da deficiência motora	13,3	5,3	8,5
Prevalência da deficiência auditiva	9,7	5,3	4,9
Prevalência da deficiência mental	2,6	1,5	1,2
População economicamente ativa com uma ou mais das deficiências	20,4	60,3 (*)	41,7 (*)

Source: IBGE Census of 2010

It is clear from these figures, that the importance of provide attention to a wide public, with significant percentage of people with disabilities. Proportions that become great when the data are restricted to elderly people. For instance, more than 67% of them have some of those disabilities identified in the Census.

Another interesting aspect is the differences associated of gender. Thus, men presents higher percentages in hearing and mental impairment, while women presents higher percentage in visual and motor impairment. These data become relevant when planning tourist activities, with the emphasis in cities with tourist vocation.

For a quality performance of tourist activity is essential that the accessibility has connection with the security that each tourist destination should provide, as we will see in a study of the city of Balneário Camboriú.

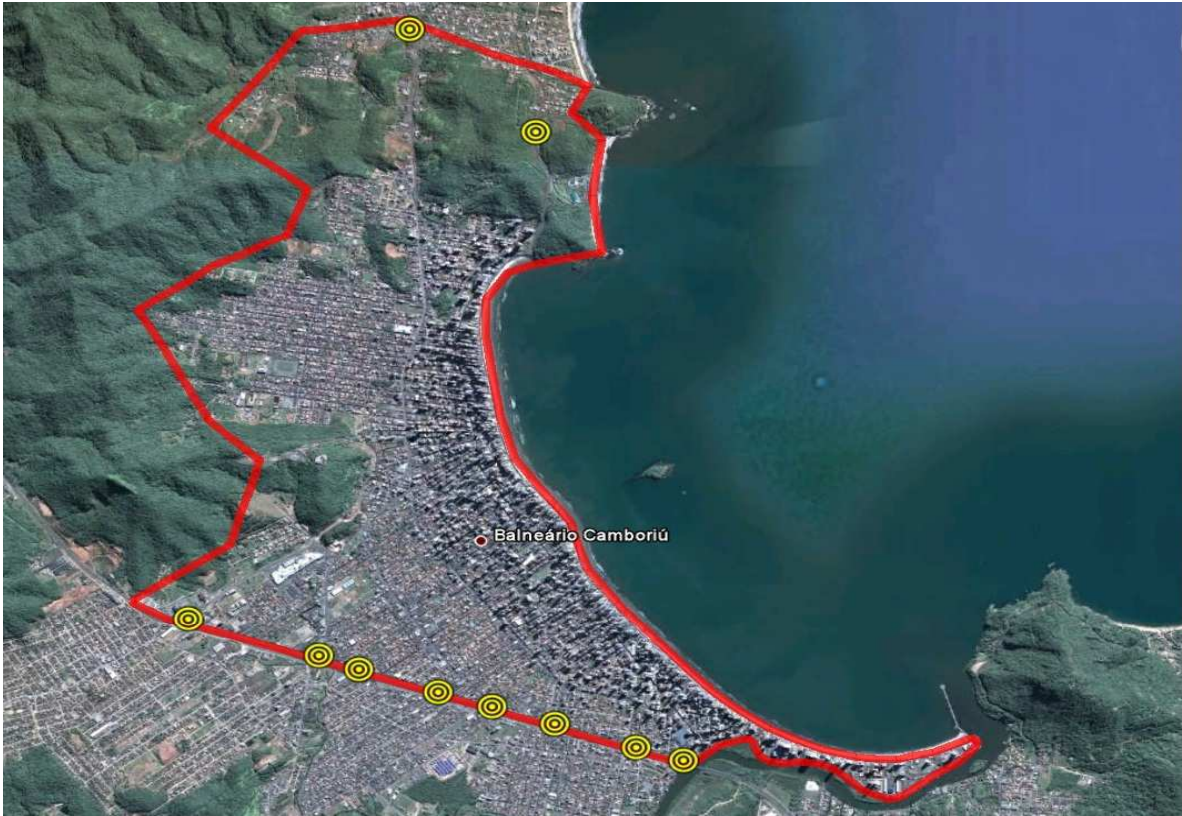
3. SECURITY ON PUBLIC SPACE AND TRAFFIC OF BALNEÁRIO CAMBORIÚ

The city adopted a Integrated System of Security and Mobility on Traffic and Public Space, through safety devices interconnected in a central source of operations and information at

Secretary of Security Management and Public Safety, technologically managed by a engineering company and administered by the municipality.

This central provides information, softwares and urban equipments connected with the web, which enables the remote management, to get a real diagnosis. The system is compound by eight tools that are arranged in accordance with the needs of public authority, identified as a priority, as shown in Figure 1.

Figure 1: Balneário Camboriú, identification points.



In recent years the infraction notices were constants according to data provided by Secretary of Security Management and Public Safety as follows bellow:

Autuação Manual			Autuação Eletrônica		
Ano	Total	Média	Ano	Total	Média
2010	36.394	3.025	2010	109.316	9.110
2011	27.428	2.286	2011	67.300	5.608
2012	31.852	2.654	2012	94.159	7.847
2013 (*)	22.215	2.468	2013 (*)	36.523	4.058
(*) desde 01 de janeiro até 30 de setembro					

The frequency and the insistent inspection increased the infraction notices, which configures the commitment and the use of tools that are explained bellow.

1. Traffic

They are Transit Control Systems with monitors and speed sensors, integrated to cameras and electronic radar.

Among the monitoring tools are fiber optic cable interconnected with photographic cameras in traffic lights of higher flow, that supervise violations of speed limit; as well as forbidden signal crossing.

The elderly mobility is assured with a control system that prevents infractions that could lead to a trampling.

2. Intelligent Traffic Lights

Traffic lights that open and close in accordance to the traffic demand, aiming at fluidity and security.

The reduced mobility of elderly people is recognized with the application of a device like this one, that allows the crossing in accord to the individual's locomotion capacity.

3. Parking

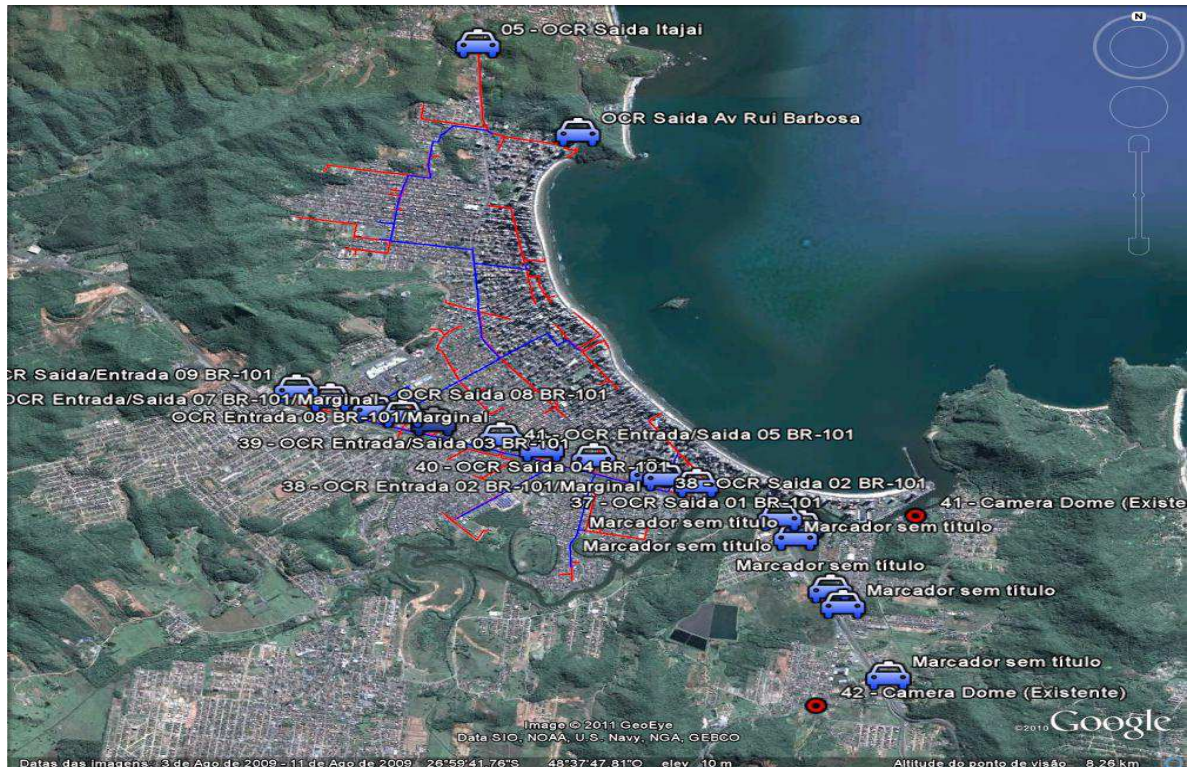
Developed through a intelligent system of rotative parking that can control the time, managing the number of parking spaces and indicating available places.

The 10 % of total parking spaces are intended for elderly, provided by law and effectively monitored.

4. Security

The system enables supervision over traffic and public space through monitoring cameras of main roads and traffic lights. It is also used the OCR system, that makes character recognition to read car plates, that allows identify irregular vehicles, infractions and stolen vehicles.

Figure 2: Points of OCR



Applications for handling information of car plates are used and can find, through electronic libraries specially developed and trained to this reads, a optimization above 95%, independent of size, vehicle type and car plates from other countries.

The information speed, enable the authority take immediate action as in case of stolen vehicle.

The use of reading car plates allows implement a “electronic fence” through a blitz;

The electronic blitz is used for:

- Security in stolen vehicles approach, whereas the high sensitivity involved in this situation.
- Recovery of the taxes with the identification, and to stop vehicles in situation of administrative irregularity.

The intelligence services in favor of public security allow searches the database in accordance with the following criteria:

- by car plates characters;
- by coincidence of Five (5) or six (6) characters, in identical positions;
- by sequence of characters of a plate car;
- by exact characters;

- by phrases and words, or part of it, written in vehicles;
- Driving directions;
- Speed (with optional fine).

This same system can be utilized as identification tool in approaching cars in accord with intelligence schedules or of the system itself.

- Suspect of theft;
- Suspect of cloned car;
- Suspect of narcotics trade;
- Suspect of trafficking of weapons;
- Suspect of involvement with assault gang;
- Suspect of involvement in kidnapping;
- Suspect of kidnapping running;
- Suspect of involvement with smuggling;
- Suspect of human trafficking involvement;
- Suspect of involvement with sexual exploitation of children;
- Suspect of animals trafficking;
- Suspect of illegal trafficking of wood;
- Suspect of involvement in accidents (in case of hit-and-run).

The security applications are enjoyed by all age groups, but in the specific case of elderly people brings value-added, because many times this public become an easy target to criminals.

5. Civil Defense

The monitoring cameras are integrated with fire department, police and civil protection officials. In public calamities the central information can be utilized to identify flooding points and fires.

6. Urban Planning

The planning is essential for the tourist destination development, through information that monitors vehicular data as counting, classification and weighing.

This tool can be utilized by public authorities and private initiative to make tourism planning and public and private readjust, as well as accessibility.

7. Administrative Management

The access control of public spaces as schools and health centers can be made. The administrative information center can inform about public works, health and education among others.

8. Telephony and Internet

The telephone system and internet are integrated through data transmission system with fiber optic networks and wireless.

The integration of all these tools, being used by public officials, enables effective security for inhabitants and tourists. In a global scenario where the populations pursuit distancing of violence and insecurity, the tourist have the option to choosing a destination which has monitoring and control systems, that add competitive advantages in front of others that do not use security measures.

FINAL CONSIDERATIONS

The touristic offer should seek adapt its public spaces, although it is the responsibility of the private sector, suit all the *trade*, *i.e.*, the equipments to total accessibility. This differential increases competitiveness in front of other destinations that are suited to public needs.

The security infrastructure of tourist destination of Balneário Camboriú particularly gives applicability conditions in all security subjects for the citizen and for the tourist.

With respect to elderly public, the aspects involving intelligent traffic lights, for the pedestrian crossings, the speed control that allows locomotion from one side to the other of the street are facilitators in public spaces and transit.

In the following decades we will have a modification in private and public spaces, justified by the demand of products and services, it is the responsibility of all social actors to contribute in a proactive way to this transformation.

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