



PEDESTRIAN QUALITY NEEDS
www.walkeurope.org

COST Action 358

Pedestrian Quality Needs

Country Report Portugal

Portuguese Management Committee:

Manuel João Ramos – manuel.ramos@iscte.pt

Mário José Alves – mariojalves@gmail.com

Ana Rita Moreira

Rodolfo Soares

1. Facts and Figures

1.1. Key figures in Portugal

	1995 (abs)	2006 (abs)	Change (%)
National road network (km)	9.742	12.890	32,3%
Population	10.043.180	10.599.095	5,5%
Number of households	4.475.084	5.519.654	23,3%
Pedestrians killed in traffic	460	137	-70,2%
idem, per 1 mln inhabitants	45,8	12,9	-71,8%
Pedestrians seriously injured in traffic	2.525	617	-75,6%
idem, per 1 mln inhabitants	251,4	58,2	-76,8%

Source: INE - Instituto Nacional de Estatística (National Institute for Statistics)

Population Density (Inhab/ km₂) by place of residence (2006)

Place of Residence	N.º/ km ²
Portugal	115,1
Continent	113,6
Azores Autonomous Region	104,7
Madeira Autonomous Region	306,9

Source: INE - Instituto Nacional de Estatística (National Institute for Statistics)

Resident Population (N.º) by Place of Residence, Sex and Age Group (2007)

Sex	Age Group (by life cycles)	Place of Residence			
		Portugal	Continent	Azores	Madeira
MF (Male and Female)	Total	10.617.575	10.126.880	244.006	246.689
	0 to 14 years	1.628.852	1.538.369	46.437	44.046
	15 to 24 years	1.236.004	1.163.561	37.408	35.035
	25 to 64 years	5.902.888	5.637.606	129.933	135.349
	65 or + years	1.849.831	1.787.344	30.228	32.259
M (Male)	Total	5.138.807	4.901.357	120.957	116.493
	0 to 14 years	835.491	788.978	23.871	22.642
	15 to 24 years	630.723	593.504	19.222	17.997
	25 to 64 years	2.900.188	2.769.957	65.630	64.601

	65 or + years	772.405	748.918	12.234	11.253
F (Female)	Total	5.478.768	5.225.523	123.049	130.196
	0 to 14 years	793.361	749.391	22.566	21.404
	15 to 24 years	605.281	570.057	18.186	17.038
	25 to 64 years	3.002.700	2.867.649	64.303	70.748
	65 or + years	1.077.426	1.038.426	17.994	21.006

Source: INE - Instituto Nacional de Estatística (National Institute for Statistics)

Automobile use (%) by place of residence (2001)*

Place of residence	%
Portugal	49.09
Continent	49,27
Azores Autonomous Region	50.96
Madeira Autonomous Region	40,35

* Trips to work or school; Source: INE - Instituto Nacional de Estatística (National Institute for Statistics)

Victims, according to the type of user

	Killed		Seriously Injured		Minor Injuries		Total victims	
	2005	2006	2005	2006	2005	2006	2005	2006
Drivers	674	551	2.143	2.014	25.968	25.082	28.805	27.647
Passengers	232	162	905	852	393	1.960	5.068	13.974
Pedestrians	188	137	714	617	5.568	5.612	6.470	6.366

Source: Relatório Anual de Sinistralidade Rodoviária 2006, Observatório de Segurança Rodoviária

Killed and Seriously Injured for 100 victims in 2006

Killed	Seriously Injured
2,0	7,3
1,2	6,1
2,2	9,7

1.2 Available statistics

Demography

National demographic statistics are publicly available at <http://www.ine.pt> (INE, Statistics Portugal). Statistics Portugal gathers Portuguese demographic statistical information from:

Exhaustive surveys (censuses), in which every item from a given population is subject to observation: Population and Housing Censuses, and Agricultural Census. The last two census were in 1991 and 2001.

Sample surveys, in which data are collected from a sample representing the population under observation. The calculation process resorts to statistical methods in order to extrapolate data resulting from the sample survey of the population in study;

Administrative sources, in which data stemming from administrative procedures are used for statistical purposes.

Aggregated demographical information is available online from 1970 for some indicators. For earlier records, you can search The Digital Library of Official Statistics (<http://inenetw02.ine.pt:8080/biblioteca/>), which contains the images of all publications issued by Statistics Portugal since 1864.

Transport and travel data

INE, Statistics Portugal disseminates the main statistical findings on the activity of the Transport Sector. The data available is organized in four sectors: Railway transport, Road Transport, Sea and water inland transport, and Air transport. The main indicators are: railway network (km), number of railway stations, passengers transported by rail (suburban, long distance and international), goods carried by rail (full wagon and private empty wagon); road network (national and regional roads, main and secondary routes, and motor-ways), number of road accidents, number of victims (dead, injured, seriously and slightly injured), statistics related to the carriage of goods, number of vehicle sales (light passenger, light commercial and heavy), vehicle sales by country origin, number of commercial vessels entered the Portuguese mainland ports, total movement of goods in national ports, number of products by main groups of goods loaded in portuguese ports, movement of aircrafts (passengers, cargo, mail), and number of passengers carried on aircrafts.

Data is collected from the following sources:

- Railway transport: the data presented are the result of the surveys conducted by Statistics Portugal, namely in the areas of railway infrastructure, railway traffic and underground statistics.
- Road transport: statistics from administrative sources, namely "Estradas de Portugal, E.P.E.", regarding road networks, and the former "Direcção-Geral de Viação" (now ANSR - Autoridade Nacional de Segurança Rodoviária), for road accidents and registration of vehicles; from the "Survey on the Carriage of Goods by Road (ITRM)", produced by Statistics Portugal; as well as data on sales of vehicles, produced by "ACAP - Associação Automóvel de Portugal". The data on road accidents gathered by ANSR (<http://www.ansr.pt>) is based on statistical forms filled by the police (BEAV, Boletins Estatísticos de Acidentes de Viação).
- Sea and water inland transport: statistical findings are presented from surveys to entities responsible for river transport, as well as administrations of commercial ports.
- Air transport: data are the result of statistics from air traffic control, airport and air transport operators' activities provided by "Instituto Nacional de Aviação Civil" and "ANA - Aeroportos de Portugal S.A.".

Aggregated transport and travel information is available online from 1970 for some indicators.

(Urban) Land Use:

Land use statistics are available online and on annual publications issued by Statistics Portugal and the Directorate General for Spatial Planning and Urban Development (DGOTDU). Municipal (PMOT), Special (PEOT) and Regional (PROT) spatial and land-use plans are used as sources for aggregate national statistics. Only 2005 and 2006 data are available.

Definitions in use on transport related data

Definitions in use on transport related data are defined by the Glossário de Estatísticas dos Transportes (CEE/NU, CEMT e Eurostat), 1994. Among them are:

Road Accident: A random, sudden and abnormal accident in a public road as a consequence of motor vehicle circulation, resulting in victims or material damage, regardless of the vehicle moving or not (including

when entering or exiting the vehicle and/or when it is being repaired).

Accident With Victims: All road accidents with at least 1 injured or 1 killed person.

Killed In Road Accident: All persons who die at the scene of the road accident or on the way to the hospital as a consequence of the road accident.

Fatal Accident: All road accidents with at least 1 person killed.

Injured: All persons who have suffered injuries (severe or slight) as a consequence of a road accident and are not considered 'dead'.

Slightly Injured: All persons who have suffered secondary injuries only and do not require hospitalization in consequence of a road accident.

Pedestrian: a person using the public roadway, other than a driver or a passenger. Are considered pedestrians, persons transported on prams, wheelchairs without motor, and so on, or that maneuver those modes of transport. Are equally considered pedestrian persons that use skates, that are occupied by a vehicle like repairing it or changing a tire, and so on...

Road Safety:

An annual report on road with road safety related data is published by the ANSR – A Autoridade Nacional de Segurança Rodoviária (National Authority of Road Safety; <http://www.ansr.pt>)

1.3 Pedestrian Statistics

According to the Relatório Anual de Sinistralidade Rodoviária 2006 (Annual report on road injuries 2006) in the year of 2006, 137 pedestrians were killed, 617 severely injured and 5612 got minor injuries as a consequence of car crashes. Comparing this numbers with those of 2005, these values reflect a reduction in the number of deaths (-27,1%) and severe injuries (-13,6%) and a slight increase in the number of minor injuries (+0,8%).

Localisation and road type

Almost all of the pedestrians affected by car crashes result from accidents occurred in urban environment (94,2%). Nonetheless, the number of killed pedestrians in those areas is proportional smaller than the number injured pedestrians - 64,2% of the deaths, 88,8% of the severe injuries and 95,5% of minor injuries -, which is seen as an indication of slower speeds of these crashes, in comparison to those which occur outside the cities.

Accordingly, the probability of the death of a pedestrian victimized by a car crash was nine times higher outside urban areas: 13,2 deaths for each 100 victims outside the city areas versus 1,5 inside the city areas.

In respect to the road type, the accidents in streets caused 41,6% of the total number of killed pedestrians, 72,6% of the severe injuries and 84,7% of the minor injuries. Although most of the crashes involving pedestrians have occurred in urban streets, in these type of road the probability of death of a pedestrian victimized by a car crash was of 1,1%, increasing to 4,2% in the case of other urban road types (national roads, municipal roads, highways), and 13,2% in the non urban roads.

Age and sex

An analysis on the age of the pedestrians shows that it was among the users with 60 or more years, with particular highlight to the group of 75 or more years, that the number of victims was higher, mainly deadly victims: 54,0% of the deaths, 36,6% of the severe injuries and 31,6% of the minor injuries. These values are statistically very high if we bear in mind that these age groups account for only 22% of the Portuguese population.

No differences were noted among male or female victims (48,2% and 51,5%, respectively) although, in the case of the killed pedestrians and severe injuries, exists a slight male predominance: 59,9% and 51,0%, respectively.

Months and week days

The winter months denote a higher number of victimized pedestrians, mainly deadly victims, in and outside the city areas. The period from October to December accounted for 28,7% and 37,5% of the deaths in urban areas. The number of severe injuries was higher in the months of February, June and November. Outside the city areas, 34,3% of the victims and 44,9% of the deaths took place between November and January, while the severe injuries registered its higher values in the period from October to December (47,8%).

In respect to the week days, no noticeable differences were noted, although its worth note that the number of casualties decreased significantly during the weekends, mainly in urban areas.

In reference to the deadly victims registered inside the city areas, Mondays and Saturdays were the worse days (18,2% and 17,% of the killed pedestrians, respectively), while outside the city areas Thursdays accounted for the highest percentage (18,4%).

Day periods

Most of the casualties registered in urban areas were due to crashes occurred in daylight: 53,4% of the deaths, 65,9% of the severe injuries and 74,3% of the minor injuries. Outside these areas, the number of severe and minor injuries was higher during daylight (52,2% and 60,7%, accordingly), but 61,2% of the deadly victims originated from night car crashes.

Pedestrian actions

In reference to the actions performed by pedestrians, the higher number of killed pedestrians was registered by pedestrians walking the traffic lane, in and outside the city areas: 22,7% and 46,9%, respectively. In relation to the number of injuries as a consequence of crashes in urban areas, 26,5% of the severe injuries and 32,6% of minor injuries were crossing the lane in a signalized passage. Outside these areas, the highest values were observed among pedestrians walking in the traffic lane (26,1%, for the severe injuries) and to those walking in the sidewalks (20,2%, for the minor injuries).

2. (Recent) publications on pedestrian issues

Kind of Publication: Thesis

Author: Almeida, M. V. F. d.

Year: 1994

Title: O peão como modo de transporte nas deslocações de curta distância: o caso da baixa de Lisboa [*The pedestrian as mode of transportation in short distance travels: the case of Lisbon's Baixa*]

Citation: Almeida, M. V. F. de (1994), *O peão como modo de transporte nas deslocações de curta distância: o caso da baixa de Lisboa*, Master Thesis in Transport, Univ. Técnica de Lisboa, Lisboa.

Year: 1998

Title: O desempenho e potencial para integração de atravessamentos pedonais e sistemas de controlo de velocidade em vias estruturantes [*Performance and Potential in the integration of pedestrian crossings and speed control on main arteries*]

Citation: Faulhaber, M. de C. M. P. de A. (1998), *O desempenho e potencial para integração de atravessamentos pedonais e sistemas de controlo de velocidade em vias estruturantes*, Master Thesis on Civil Engineering, Univ. de Coimbra, Coimbra.

Kind of Publication: Edited Book

Author: Canelas, V.

Year: 2003

Title: Transportes colectivos, ciclovias, percursos pedonais [*Public Transport, Bicycle Paths, Pedestrian Routes*]

Citation: Canelas, V. (org.) (2003), "Transportes colectivos, ciclovias, percursos pedonais", *Mobilidade e ambiente*, Palmela, Câmara Municipal.

Kind of Publication: Journal Article

Author: Fernandes, J. A. V. R.

Year: 1989

Title: Circulação, peões e "baixa": o caso do Porto [*Circulation, pedestrians and the "downtown": the case of Porto*]

Abstract: It is a recognised fact that the circulation of traffic is now one of the greatest problems facing Oporto; this is particularly true of the town centre. There is no integrated policy in regard to traffic circulation which takes pedestrians into account; indeed, this type of circulation, although of evident

importance, is frequently forgotten. With reference to data provided by counts and questionnaires carried out in the city centre, this article attempts to emphasize the importance of the pedestrian in the city centre and in traffic circulation in general.

Citation: Fernandes, J. A. V. R. (1989), "Circulação, peões e "baixa": o caso do Porto", *Revista da Faculdade de Letras: Geografia*, 5 (I Série), pp. 33-43.

Kind of Publication: Thesis

Author: Ferreira, J. M. A. I.

Year: 2007

Title: Pavimentos em espaços públicos urbanos. Contribuição para a análise e concepção de soluções [*Pavements in urban public spaces: contribution to the analysis and the conception of solutions*]

Citation: Ferreira, J. M. A. I. (2007), *Pavimentos em espaços públicos urbanos. Contribuição para a análise e concepção de soluções*, Master Thesis on Territory Engineering, Instituto Superior Técnico, Lisboa.

Kind of Publication: Book Section

Author: Fontes, A. C., et. al

Year: 2005

Title: Qualidade pedonal urbana: o caso de Braga [*Urban Pedestrian Quality: the case of Braga*]

Citation: Fontes, A. C., et. al (2005), "Qualidade pedonal urbana: o caso de Braga", in Silva, A.; Souza, L.; Mendes, J. *Congresso Luso-Brasileiro para o Planeamento Urbano, Regional, Integrado e Sustentável (PLURIS 2005), 1, São Carlos, 2005*, São Carlos, USP.

URL: <http://hdl.handle.net/1822/4989>

Kind of Publication: Book Section

Author: Fontes, A. C., et. al

Year: 2005

Title: Segurança pedonal urbana: o caso de Braga [*Urban Pedestrian Safety: the case of Braga*]

Citation: Fontes, A. C., et. al (2005), "Segurança pedonal urbana: o caso de Braga", in Silva, A.; Souza, L.; Mendes, J. *Congresso Luso-Brasileiro para o Planeamento Urbano, Regional, Integrado e Sustentável (PLURIS 2005), 1, São Carlos, 2005*, São Carlos, USP.

URL: <http://hdl.handle.net/1822/7228>

Kind of Publication: Thesis

Author: Fontes, A. de M. L. C.

Year: 2003

Title: Ambiente pedonal nas cidades [*Pedestrian Environment in Cities*]

Citation: Fontes, A. de M. L. C. (2003), *Ambiente pedonal nas cidades*, Master Thesis in Municipal Engineering, Univ. do Minho, Braga.

Kind of Publication: Book

Author: Fretigné, H., and M. J. Ramos

Year: 2006

Title: Uma Praça Adiada: Estudo de Fluxos Pedonais na Praça do Duque de Saldanha [*A postponed city square: a study on the pedestrian flows at Praça do Duque de Saldanha*]

Citation: Fretigné, H., and M. J. Ramos (2006), "Uma Praça Adiada: Estudo de Fluxos Pedonais na Praça do Duque de Saldanha", Assírio & Alvim, Lisboa.

Kind of Publication: Thesis

Author: Hortas, M. J. B.

Year: 1995

Title: Devolver a cidade ao peão: uma via para a revitalização e promoção das áreas centrais das cidades [*Returning the city to the pedestrian: a path to the revitalization and the promotion of cities central areas*]

Citation: Hortas, M. J. B. (1995), *Devolver a cidade ao peão: uma via para a revitalização e promoção das áreas centrais das cidades*, Master Thesis in Human Geography and Local and Regional Planning, Universidade de Lisboa, Lisboa.

Kind of Publication: Book

Author: Meneses, J. T. d., and J. M. Farinha

Year: 1983

Title: O papel das áreas pedonais na renovação urbana [*The role of pedestrian areas on urban renovation*]

Citation: Meneses, J. T. d., and J. M. Farinha (1983), "O papel das áreas pedonais na renovação urbana", pp. 35.

Kind of Publication: Thesis

Author: Monteiro, J. P. R. S. L.

Year: 1994

Title: A qualidade nos percursos pedonais em interfaces de transportes [*The quality of pedestrian paths in transport interfaces*]

Citation: Monteiro, J. P. R. S. L. (1994), *A qualidade nos percursos pedonais em interfaces de transportes*, Tese mestr. Transportes, Univ. Técnica de Lisboa, Lisboa.

Kind of Publication: Thesis

Author: Moutinho, C. M. R.

Year: 1998

Title: Controlo passivo e activo de vibrações em pontes de peões [*Passive and Active Control of Vibrations on Pedestrian Bridges*]

Citation: Moutinho, C. M. R. (1998), *Controlo passivo e activo de vibrações em pontes de peões*, Tese de mestr. em Estruturas de Engenharia Civil, Universidade do Porto, Porto.

Kind of Publication: Thesis

Author: Pita, F. J. S. C. V.
Year: 2003
Title: Estratégias e planeamento da mobilidade e segurança de peões [*Strategies and Planning of Pedestrians Mobility and Security*]
Citation: Pita, F. J. S. C. V. (2003), *Estratégias e planeamento da mobilidade e segurança de peões*, Tese maestr. Transportes, Univ. Técnica de Lisboa, Lisboa.

Kind of Publication: Book
Author: Portugal. Ministério da Habitação e Obras Públicas
Year: 1979
Title: Rede de tráfego nas cidades suecas: o peão [*The traffic network on swedish cities: the pedestrian*]
Citation: Portugal. Ministério da Habitação e Obras Públicas (1979), "Rede de tráfego nas cidades suecas: o peão", pp. 113.

Kind of Publication: Thesis
Author: Ribeiro, A. S. N.
Year: 1996
Title: As medidas de acalmia de tráfego na promoção da segurança e na melhoria do ambiente urbano [*Traffic calming measures in the promotion of safety and in the improvement of the urban environment*]
Citation: Ribeiro, A. S. N. (1996), *As medidas de acalmia de tráfego na promoção da segurança e na melhoria do ambiente urbano*, Tese mestrado Engenharia Civil (Espec. Engenharia Urbana), Univ. de Coimbra, Coimbra.

Kind of Publication: Book Section
Author: Rodrigues, de S., et. al
Year: 2005
Title: Modelo de avaliação da qualidade de vida aplicado a campi universitários [*Evaluation model for quality of life applied to university camp*]
Citation: Rodrigues, de S., et. al (2005), "Modelo de avaliação da qualidade de vida aplicado a campi universitários", in Silva, A.; Souza, L.; Mendes, J. *Congresso Luso-Brasileiro para o Planeamento Urbano, Regional, Integrado e Sustentável (PLURIS 2005), 1, São Carlos, 2005*, São Carlos, USP.
URL: <http://hdl.handle.net/1822/4498>

Kind of Publication: Thesis
Author: Santos, J. C. V. N. de
Year: 1989
Title: Análise dinâmica de pontes para peões [*Dynamic Analysis of Pedestrian Bridges*]

Abstract: This work deals with the problem of pedestrian induced vibrations in footbridges. As the level of vibration is liable to be significant and capable of creating an unsafe, feeling in the user, there is a need of being able to predict, in the design, the maximum amplitude of the structural response to the action. A formulation is presented and a computer program built to evaluate the dynamic response of footbridges subjected to pedestrian action is described. A simplified method for the maximum acceleration calculation is described as well as the simplistic hypothesis in which it is based and the limits to its application. m e differences noticed between the two calculation procedures are analysed.

Citation: Santos, J. C. V. N. de (1989), *Análise dinâmica de pontes para peões*, Tese de mestrado em Engenharia Civil, Universidade Técnica de Lisboa, Lisboa.

Kind of Publication: Journal Article
Author: Serdoura, F. M., and F. N. da Silva
Year: 2006
Title: Espaço Público. Lugar de Vida Urbana [*Public Space. Place of Urban Life*]
Citation: Serdoura, F. M., and F. N. da Silva (2006), "Espaço Público. Lugar de Vida Urbana", *Engenharia Civil*, 27, pp. 5-16.

Kind of Publication: Thesis
Author: Silva, J. P. C. da
Year: 2001
Title: Novas soluções na optimização de atravessamentos pedonais regulados por sinalização luminosa [*New solutions for the optimization of pedestrian crossings regulated by traffic lights*]
Citation: Silva, J. P. C. da (2001), *Novas soluções na optimização de atravessamentos pedonais regulados por sinalização luminosa*, Master Thesis in Civil Engineering, Univ. de Coimbra, Coimbra.

Kind of Publication: Journal Article
Author: Soares, M. E. S., and A. F. Monteiro
Year: 2006
Title: Definição de Percursos Pedonais Turísticos – Aplicação ao Centro Histórico da Cidade da Guarda [*The Definition of Pedestrian Touristic Paths. Application to Guarda's Historical Center*]
Citation: Soares, M. E. S., and A. F. Monteiro (2006), "Definição de Percursos Pedonais Turísticos – Aplicação ao Centro Histórico da Cidade da Guarda", *Engenharia Civil*, 27, pp. 99-110.

3. Current research projects

Research projects focused on pedestrians was not found currently ongoing in Portugal. A questionnaire to Portuguese Transport Specialists will be made to update this section.

4. Policy statements

The "Resposta Portuguesa ao livro verde - para uma nova cultura da mobilidade urbana" (Portuguese answer to the green book – “For a new culture of urban mobility”¹) suggests the adoption and the promotion of measures in order to promote the rights and duties of each of the urban circulation agents - automobile, pedestrian, motorcyclist, cyclist -with special regard to the more vulnerable ones - pedestrian and two-tire vehicles. Still according to this report this purpose can be achieved by introducing tools (previously discussed with the communities) that define the role of each one of the elements in the urban circulation, re-centering the priority, not in the automobile vehicle, but in alternative ways, namely in the pedestrian. These tools, can include the Code of Pedestrian Rights, new and innovative Road Law Codes or even Street codes.

There are currently underway the “Orientações Estratégicas para o Sector Rodoviário” (Strategic Policies for the Road Sector)².

5. Legal position of pedestrians

Rules regarding behaviour towards the disabled:

The ‘Decreto Lei 123/97’ didn’t show the necessary or the desirable efficacy, and that was why it was nothing but a certificate of ‘mere intentions’.

The State never obliged the local governments to implement and accomplish the technical norms of accessibility; so, in practice it allowed a row of infraction and relapses to happen.

The new accessibility law, number 163/2006 – from 8th of August is considered better than the last one, especially in which concerns the right to information, to advertising, to civil responsibility (of private or public entities, whose performance violate the law), and, last but not least, the fact that the control relies on three entities, such as:

- _ The National Monuments and Buildings Main Board;
- _ The General Inspection of Territory Administration;
- _ The City Halls

However, this new law and its main points of action is very much the same as the old one. It increases the fines of the previous law and postpones the deadline for its gradual implementation until 2014.

Rules regarding behaviour towards the Pedestrians:

The Portuguese Road law code consigns a whole chapter to pedestrian circulation issues. This chapter focuses mainly on the duties and rights of the pedestrians.

¹ <http://livroverde.imtt.pt>

² <http://www.imtt.pt/sites/IMTT/Portugues/Planeamento/EstudosProjectosCurso/OrientacoesSectorRodoviario/Paginas/OrientacoesEstrategicasparaSectorRodoviario.aspx>

On pedestrian circulation

Article 99°

Places where circulation is allowed

1 - Pedestrians must circulate on the sidewalks, paths or passages destined to the, or, in the lack of any of these, by the side of the traffic lane.

2 - Pedestrians can, nevertheless, circulate on the traffic lane, prudently and in order not to disturb the traffic, in the following cases:

- a) When crossing the road;
- b) In the lack of places referred to in n.º 1 or in the impossibility of using them;
- c) When carrying objects that, by its dimensions or nature, could represent a danger for the circulation of pedestrians;
- d) In the public ways where vehicle circulation is forbidden;
- e) When circulating in organized formation under the orientation of a monitor or marching.

3 - In the cases predicted in b), c) and e) of the previous number, pedestrians can circulate by the paths referred to by article 78.º, whenever the traffic intensity allows it and in order not to disturb vehicle and animal traffic;

4 - Whenever circulating on the traffic lane, from dusk to dawn and when the visibility conditions or traffic intensity make it advisable, pedestrians must circulate in one single line, unless they're circulating in an organized formation or marching, as predicted in the article 102.º.

5 - Those who break the disposed in the previous numbers will be fined from € 10 to € 50.

6 - Those who, violating the duty of care and protection, do not prevent children under 16 assigned to his responsibility of playing in the traffic lane of the public ways, is sanctioned with a fine from €30 till €150.

Article 100.º

Position to occupy in the road

1 - Pedestrians must circulate by the right of the places destined to their circulation, except on the cases previewed on d) of n.º 2 of the previous article.

2 - On the cases predicted in b) and c) of the n.º 2 of the former article, pedestrians must circulate by the left of the traffic lane, unless that compromises their security.

3 - On the cases b), c) and e) of the n.º 2 of the former article, pedestrians shall circulate as close as possible to the traffic lane.

Artigo 101.º

Crossing the traffic lane

1 - Pedestrians cannot cross the traffic lane without previously making sure that, the distance separating him from the vehicles there circulating and the speed they circulate allows him to cross without any danger.

2 - The crossing of the traffic lane must be done as quickly as possible.

3 - Pedestrians can only cross the traffic lane in the passages specially marked for that effect, or when none exists in a distance of 50 m, perpendicularly to the axis of the crossing lane.

4 - Pedestrians shall not stop in the crossing lane or use the sidewalks in a way that disturbs the traffic.

5 - Those who break the disposed in the previous numbers is fined from € 10 to € 50.

Article 102.º

Lighting of marches or organized formations

1 - When ever, from dusk till dawn, they circulate on the traffic lane, and when the visibility conditions advise it, marches and organized formations shall signal their presence with, at least, one white light directed forward and one red light direct backwards, both on the left side of the march or formation; as well as the use of two retroflex vests, one at the beginning and one at the end of the formation.

2 - Those who break the disposed in the previous numbers is fined from € 30 to € 150.

Artigo 103.º

Care to be taken by drivers

1 - When approaching a marked pedestrian passage, where vehicle circulation is regulated by traffic lights, the driver, even if the lights allows him to advance, shall let pass the pedestrian that have already started the crossing of the lane.

2 - When approaching a pedestrian passage, in which the vehicle circulation is not regulated by traffic lights nor by any law officer, the driver must reduce his speed and, if necessary, stop, in order to let pass the pedestrians that have already started the crossing of the lane.

3 - When changing direction, even if there is no marked pedestrian passage, the driver must reduce his speed and, if necessary, stop, in order to let pass the pedestrians that have already started the crossing of the lane in which he is entering.

4 - Those who break the disposed in the previous numbers is fined from € 120 to € 600.

Enforcement practice:

In spite of the fines mentioned on the Road Code above, they are hardly enforced considering the behavior of drivers towards the pedestrians.

6. Innovations

Education and communication

A Road Safety NGO, ACA-M, did a campaign in which names of pedestrians victims of road violence were painted on zebra crossings: ACA-M: Zebra Crossing Memorial³.

'Traditional' technical innovations

Hardly any homegrown innovation but real-life cardboard children cutouts were used in Madeira Islands to improve road safety.

Intelligent technical innovations

Portugal uses more then most countries in Europe traffic lights with radar controlled devices - turn red above the speed limit on many national roads cutting thru villages with intense pedestrian crossings.

³ <http://www.youtube.com/user/automobilizados>

7. General Atmosphere

There was a dramatic increase on car ownership and use in the last two decades. Since then the conditions for pedestrians have started to degrade quickly. Heavy investments on road infrastructures also did not help cutting urban neighborhoods with heavy and fast traffic. In general the road hierarchy is not well defined and is common the presence of sensitive facilities like schools, hospitals next to very busy roads. Many road infrastructures and even urban streets lack pavements or when they exist they are too narrow. In general, pedestrian crossings are not very safe - not well lit or marked. However, some remark and there is anecdotic evidence that this apparent chaos might help more informal communication between drivers and pedestrians - many foreigners comment that the Portuguese drive fast but tend to stop on pedestrian crossings. Planning for pedestrians is largely ignored and most urban planning has cars as the first priority. In city centers in the last 5 to 10 years there is a increase at least some political will to reduce car traffic, but usual with very little practical results.

There are several NGOs dealing with road safety but none deals exclusively with pedestrian issues:

- _ APSI - Associação para a Promoção da Segurança Infantil
- _ ACA-M - Associação de Cidadãos Auto-Mobilizados
- _ GARE - Associação para a Promoção de uma Cultura de Segurança Rodoviária
- _ A Nossa Âncora - Associação de Apoio a Pais em Luto