

European Pedestrian Crossings Assessment Programme

Results: 31 major European cities put to the test

Pedestrian crossings in Europe need significant improvements. European citizens should be ready to face with situations where drivers and pedestrians often live a problematic road sharing at crossings. This is the result of the EuroTest "pedestrian crossings assessment programme". For the second year, ACI and its partner clubs tested pedestrian crossings within the scope of EuroTest, the international test programme involving 17 automobile clubs within the framework of the FIA (Fédération Internationale de l'Automobile). Even more than last year, a wide range of design solutions were found: from traffic lights schemes to road markings, pedestrian crossings design and organization are definitively based on national – where not local – regulations and practices. Zebra crossings, for instance, while helpful for the crossing visibility from the driver perspective, are nevertheless banned in some tested cities (Berlin, Munich and Frankfurt), at crossings equipped with traffic lights. Pedestrian countdown devices which would significantly help pedestrians to safely cross the roads, are still not allowed in several European Countries.

Each year in Europe more than 8.000 pedestrians are killed in road accidents. Almost one in four happens on a pedestrian crossing, a place theoretically deputed to allow a safe crossing. In many European Countries pedestrian fatalities have showed an increasing trend, in spite of an improving overall road safety figures. This is why the commitment of the EuroTEST partners on pedestrian safety was for the second year focussed on the assessment of this critical intersections between pedestrians and vehicles.

The test results enable to compare different solutions adopted throughout Europe, thus fostering improvement of the worst situations encountered. The same functionalities are indeed managed in a very variable way in the different cities. Markings, traffic light times, traffic signs, on pedestrian crossings have been met in so many different solutions, that a claim for minimum standardisation is urgently needed.

The test was performed in the following 31 major pan-European cities, belonging to 22 different Countries, including Eastern European capitals: Barcelona, Belgrade, Berlin, Bratislava, Brussels, Bucharest, Budapest, Copenhagen, Dubrovnik, Frankfurt, Geneva, Helsinki, Istanbul, Linz, London, Ljubljana, Luxembourg, Madrid, Milan, Munich, Naples, Oslo, Paris, Prague, Rome, Rotterdam, Seville, Stockholm, Strasbourg, Vienna, Zagreb.

For each city 10 crossings have been submitted to the inspections, trying to cover all the possible kinds of crossings belonging to well defined areas. The inspections were performed directly by the ACI technical experts. Each crossing was tested both in the daylight and in the night time. The safety of each pedestrian crossing was assessed and evaluated, taking into account their peculiarities in terms of crossing system, daylight visibility, night-time visibility, accessibility for all the road users. A complex indicator was built in order to assess the safety level of each crossing.

The results

This year, the overall results showed that 53 crossings out of 310 (one in 6) failed the test, achieving a "poor" or "very poor" rating, which occurred in 2 cases. On the other side of the ranking, the 60% of all the tested crossings were rated positively, with 14 "very good" crossings on the top of the list and 170 rated as "good". In the middle, 73 crossings (almost one in four)

achieved the “acceptable” rating. It is rather surprising that this second year more crossings were rated negatively compared to last year when only 1 crossing out of 8 failed the test.

The worst crossing was found in Milan, crossing n. 9, at the exit of a very popular city park near Via Palestro. It completely failed the test, achieving a negative rating in all the safety categories, with particular criticisms in the Visibility DAYTIME, Visibility NIGHT-TIME and Accessibility indicators. Its poor rating was due to the presence of parked vehicles behind and over the crossing, to the residual steps of 12 cm on both the access sides of the sidewalks. During the inspection, the inspectors had to live a curious situation of a driver parking his car exactly over the crossing, thanks to the very helpful support received by an illegal park assistant.

The rating of best tested crossing was awarded to a crossing tested in Bratislava at the intersection between Klemensova intersection Dostojevského rad (crossing n. 2). This crossing achieved the full rating in all the categories: a very well designed layout and perfect maintenance conditions gave a very good rating in the crossing system category. The excellent road marking conditions together with good traffic sign visibility and very good lighting conditions were the reason for a very good result also in the visibility both in the daytime and in the night-time. Accessibility for all the road users was optimal, for the presence of ground-level curbs, tactile paths even along the crossing. The special care adopted in the general design as well as in each single detail, give the crossing “Bratislava 02” the flag of “Very best practice” of the year, which should be considered as a reference for the future activities of safety improvements all over Europe.

As all the 310 crossings were clustered into 5 rating classes, ranging from Very Poor to Very Good, it was very interesting to evaluate and compare 31 cities, depending on the number of crossings belonging to each rating class. This year Rotterdam has been the best city as for the number of crossings rated positively, with 10 crossings out of 10 rated as “good”. The Austrian city of Linz revealed to be the second in this special ranking with 9 crossings in the positive field of “good” and only one rated as “acceptable”. Just behind, after the top performance of last year test results, London confirmed also this year to be a reference point among the European cities, with 9 crossings rated positively. One of them, at Charing Cross Road (crossing n. 6), was rated as “very good” and ranked as the second safest crossing.

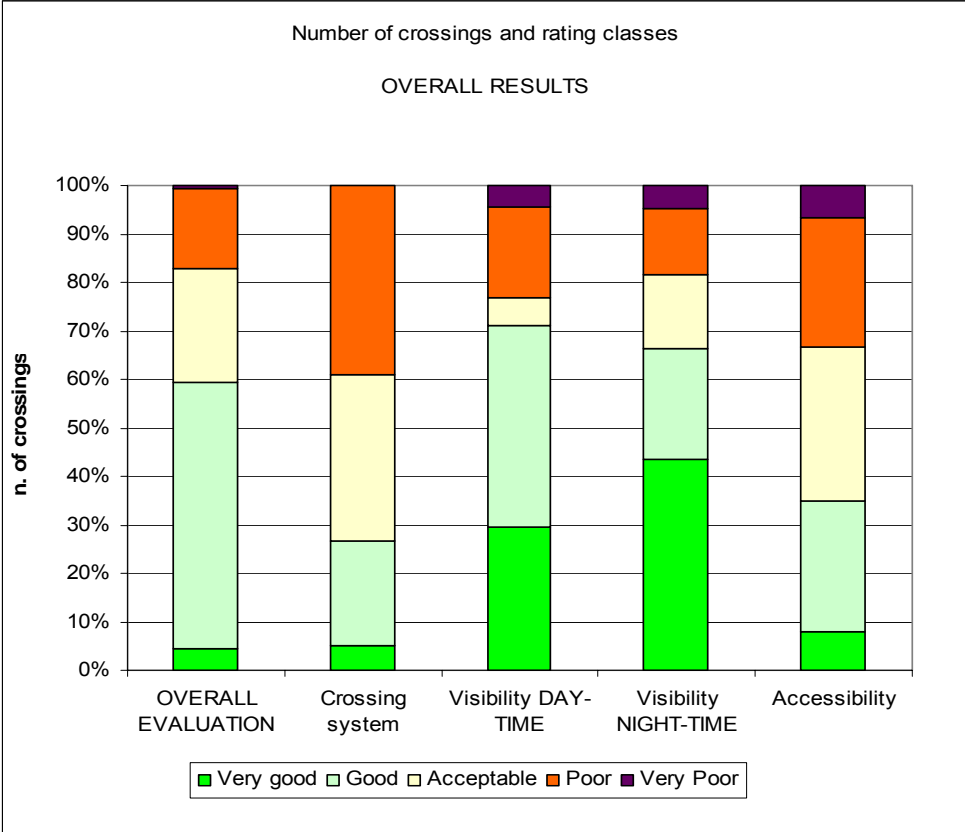
In this year top list the presence of 2 non-positive crossings (rated as “acceptable”) didn’t allow the cities of Oslo and Copenhagen to be ranked better than at the fourth place. The French city of Strasbourg showed the highest number of “very good” crossing (4 out of 10), and deserved the fifth higher position, in spite of one negative crossing.

At the opposite side of the ranking the Italian city of Naples resulted the only European city with no positive crossings, half crossings having failed the test, with 4 crossings rated “poor” and 1 found “very poor”. The second and third least crossings belonging to Naples confirm the negative result repeated also for the categories Visibility Daytime and Visibility Night-time, where the Italian city was ranked again at the last position. Rome, the Italian capital city, was found for the second year again as the second least city with only two crossings rated “good”.

The great variability of the results is also to underline. In all the cities, the assessment methodology allowed to find very heterogeneous ratings, more or less evident in the 31 cities. In this regard, the highest variability was found in Milan were 5 “good” crossings live together with 4 negative ones (including the worst of the 2009 test). At the opposite, Rotterdam showed

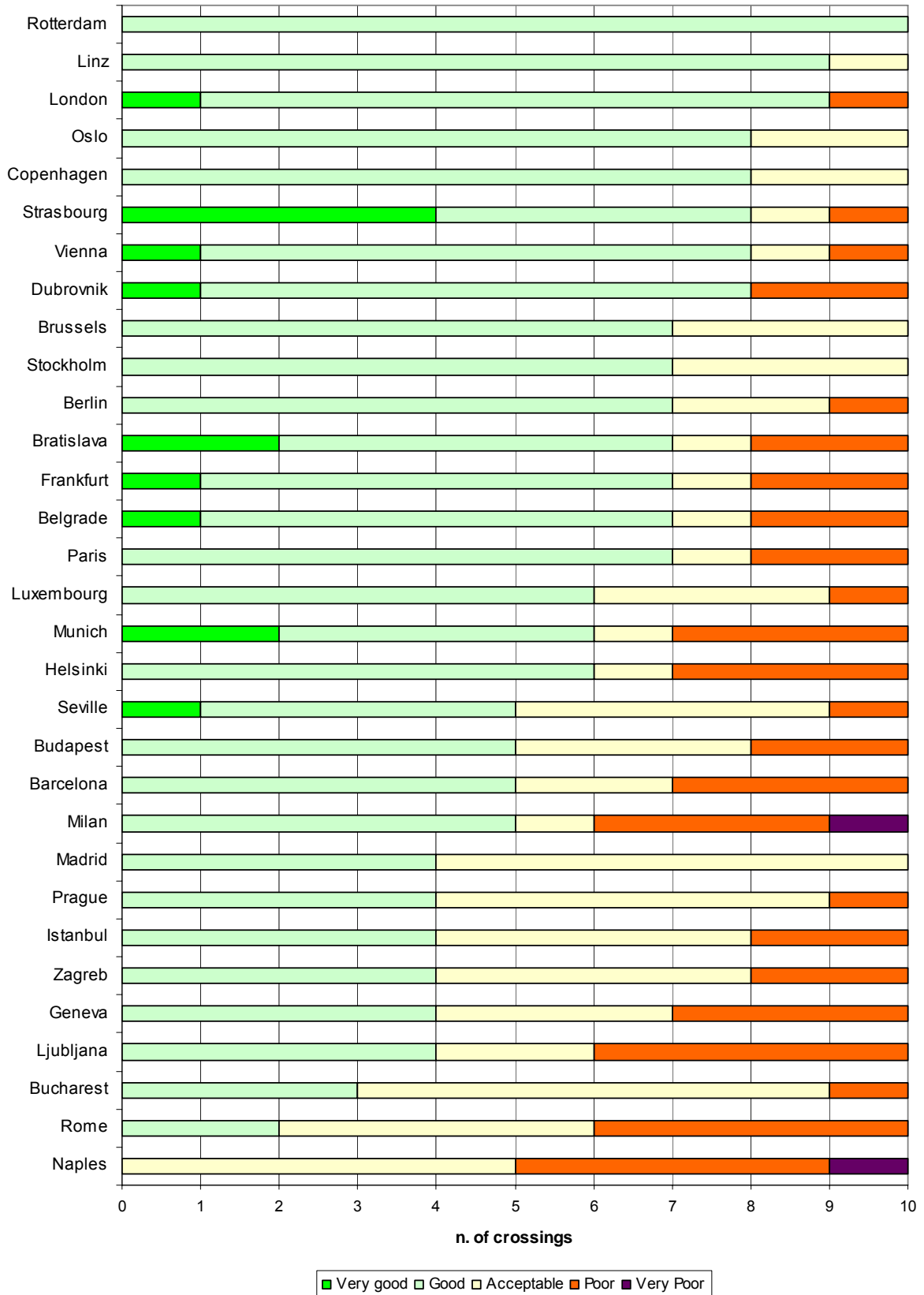
the most concentrated scorings, thus giving its overall best rating a higher validation. Madrid, Stockholm and Oslo scores also presented low variability, although around different average city results (better for Stockholm and Oslo than for Madrid).

The test also showed the limited adoption of technological solutions which could avoid accidents between vehicles and pedestrians. Special additional markings like those found in Rotterdam, automatically detecting the presence of pedestrian approaching the crossing and providing oncoming drivers with advanced visual warning, should be encouraged. Countdown device like those found in a few cities this year (Belgrade, Istanbul, Ljubljana, Rotterdam and Seville) would clearly help users to take their own decision related to the safe crossing, consistently with their own physical performances (walking speed).

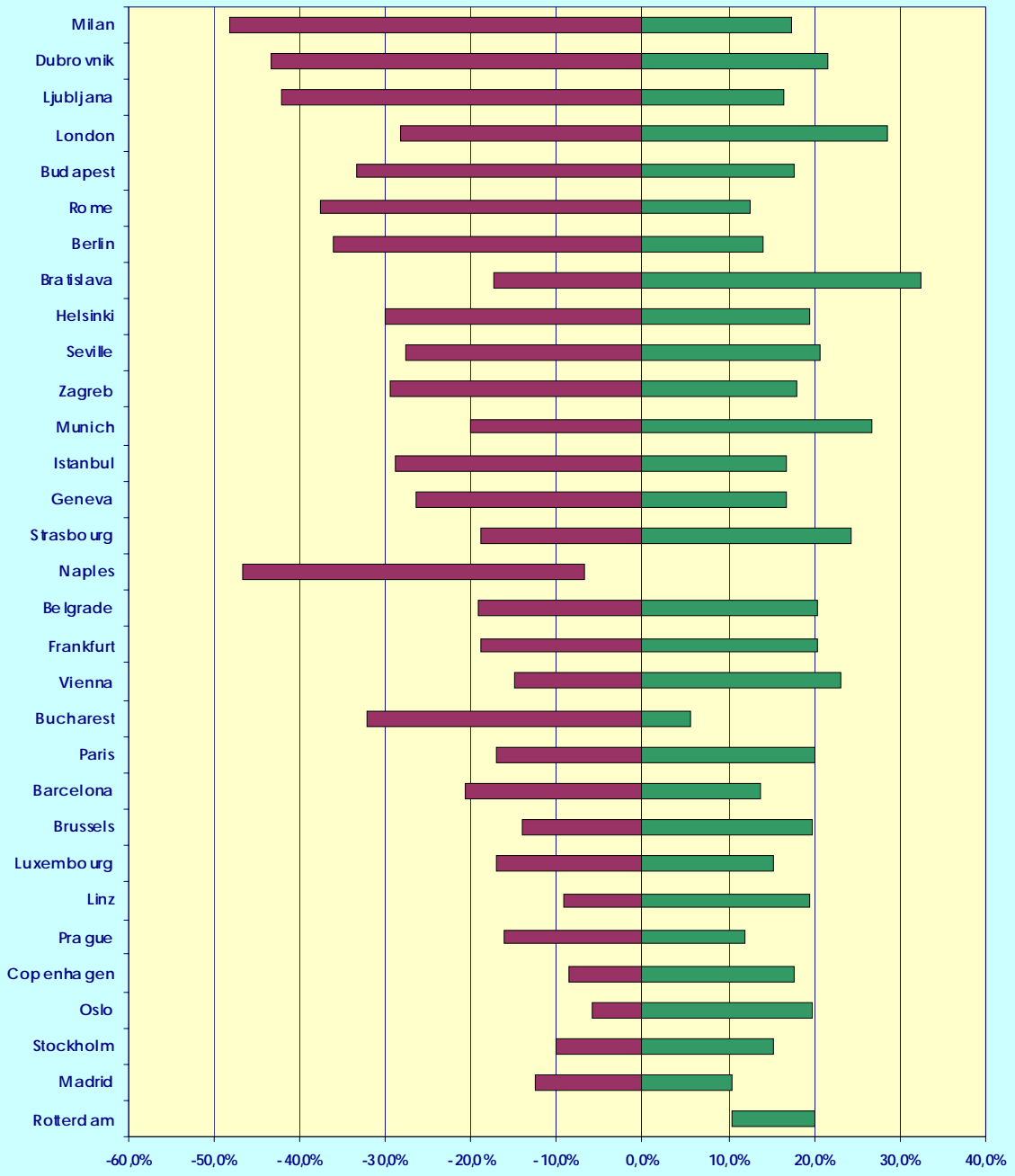


Number of crossings and rating groups

OVERALL EVALUATION



Variability of the best and worst results around the average rating
(0,647247)



Crossing system: can I make it?

When dealing with the safety category including all the features related to the spatial and temporal design, the results often raised some criticisms: almost 40% of the tested crossings failed to achieve a sufficient rating in this category, due to several weaknesses in terms of traffic lights efficiency (too long red times, too short green or transition phase), lack of pedestrian refuge islands in long crossings, pedestrian green phases which were not exclusive, number of conflict points between pedestrians and vehicles, etc. In this field the best crossings were found in Belgrade (crossing n. 6), Bratislava (crossing n. 2), Linz (crossing n. 3), Munich (crossing n. 10) and Vienna (crossing n. 9). The worst situations were met in Prague (crossing n. 2), followed by Linz (n. 6) and Luxembourg (crossing n. 1).

Daylight visibility: did they notice me?

As regards visibility in daytime, once again London excels with its best crossing n. 6 due to a very good traffic signs and road markings visibility ensuring adequate visibility between drivers and pedestrians. The presence of special road marking indicating the directions of oncoming traffic (Look right, look left), empowered the London score in this category. At the opposite side of this ranking, Naples, Rome, Madrid and Milan show the worst results due to the presence of parked vehicles obstructing the sight distance between drivers and pedestrians.

Night-time visibility: did they see me?

Visibility at night is one of the most important requirements for the safety of pedestrian crossings. This was the heaviest category in the evaluation process (weighting by 32%). Unfortunately, almost one in five crossings were negatively rated in this field, with 42 "poor" and 15 rated as "very poor". This year, the ACI inspectors found the most visible solutions during the night test, in Rotterdam, Brussels, London and Seville, where the very good street lighting and the excellent conditions of road markings and traffic signs allowed to achieve a positive rating in 9 crossings out of 10. Best practices in this field were also found in Copenhagen, where lighting systems at zebra crossings showed to be very efficiently focussed on the crossing areas, making them clearly visible well in advance to approaching drivers. At the bottom of this list, the highest number of "very poor" crossings were found in Naples (5 crossings out of 10), while in Ljubljana 4 crossings were rated "very poor" in this special ranking. All these crossings were found to have an insufficient street lighting, and a poor visibility of road markings and traffic signs.

As a general finding, traffic lights based on the LED technology showed better performances as to visibility at night.

Accessibility: can all users go through it?

All the users should be able to go through a pedestrian crossing without putting their life at serious risk. This was one of the most sensitive criteria for the building of the assessment methodology. Therefore in this safety category, the inspectors checked the presence of the most common devices and measures for allowing all the users to access and safely cross the street (dropped or ground level kerbs, tactile paving and acoustic devices for visually impaired people, presence of obstacles like parked vehicles, utility poles, signs, holes, that could be a hazard for approaching pedestrians or pushing them to cross outside the crossings, availability of wide side walk). Much more than last year, the 33% of the tested crossings this year couldn't achieve an acceptable rating in the accessibility assessment: 82 crossing were rated as "poor" and 21 as "very poor". 10 crossings were fully scored in this special list: three of them belong to Berlin (n. 4, n. 5, and n. 11) and two to Bratislava (n. 2 and 3). On the opposite side, 4 crossings were ranked at the last positions: 2 in Dubrovnik (crossing n. 4 and n. 8), one in Bucharest (crossing n. 8) and one in Istanbul (crossing n. 7). Cars parked over the crossings, the absence of

any devices for visually impaired people nor for disabled people (wheelchairs, etc.), the presence of hard obstacles obstructing the access to the cross walk are sadly features common to all those crossings. Especially in Bucharest crossing n. 6, a car was parked exactly over the refuge island.



Bucharest - Crossing n. 8

Conclusion: safer crossings for safer behaviours

The result of this second year's test of pedestrian crossings leaves a large room for concern. Outcomes show that a higher number of crossings failed the test compared to last year's results (1 in 6, against 1 in 8), although keeping the test stages within the "good living" areas of the city centres. A refurbishment programme must be urgently established for those 53 crossings, in order to raise the safety performance of the most critical situations up to the levels provided by the safest solutions.

Very often, even well equipped crossings, were indeed penalized by the presence (legal or not legal) of parked vehicles just behind them. Accessibility to all the users need to be empowered, as too many poor situations were found in this field especially with regards to the disabled people. This may create very dangerous situations as poor accessibility could suggest unsafe behaviours.

European travellers should also be informed of the wide variability of design solutions (road markings, colours, traffic light rules), in order to be better prepared to face a crosswalk when being abroad.

Top Ten Crossings

Top 10 Ranking	City	Number and Pedestrian Crossing		Crossing system	Visibility DAYTIME	Visibility NIGHTTIME	Accessibility	OVERALL EVALUATION
1	Bratislava	2	Klemensova intersection Dostojevského rad	++	++	++	++	++
2	London	6	Charing Cross Road intersection Charing Cross Road	+	++	++	++	++
3	Munich	8	Brunnstraße intersection Kreuzstraße	++	++	++	+	++
4	Munich	10	Ledererstraße intersection Orlandostraße	++	++	++	-	++
5	Strasbourg	10	Rue du Noyer intersection Rue du Vieux Marché aux Vins	+	++	++	++	++
6	Vienna	8	Mariahilfer Straße intersection Neubaugasse	+	++	++	++	++
7	Dubrovnik	10	Andrije Hebranga intersection Čilipska	++	+	++	-	++
8	Strasbourg	7	Rue de Sébastopol intersection Quai Kléber	+	++	++	+	++
9	Strasbourg	9	Quai Kellermann intersection Pont de Paris	++	+	++	-	++
10	Bratislava	10	Štúrova intersection Dunajská	+	++	++	++	++

Worst Ten Crossings

Worst 10 Ranking	City	Number and Pedestrian Crossing		Crossing system	Visibility DAYTIME	Visibility NIGHTTIME	Accessibility	OVERALL EVALUATION
301	Ljubljana	10	Gregorčičeva Ulica intersection Igriška Ulica	-	-	--	+	-
302	Budapest	7	Andrássy út intersection Oktogon	-	-	--	0	-
303	Ljubljana	3	Kongresni Trg intersection Wolfova Ulica	0	--	--	0	-
304	Berlin	11	Dirkenstrasse	-	--	--	++	-
305	Rome	1	viale Giulio Cesare intersection via Fabio Massimo	-	-	--	-	-
306	Ljubljana	4	Vegova Ulica intersection Trg Francoske Revolucije	-	--	--	0	-
307	Dubrovnik	4	Obala Stjepana Radića intersection Od Škara	-	--	-	--	-
308	Naples	11	piazza Carolina intersection piazza Plebiscito	-	--	-	--	-
309	Naples	8	via San Carlo intersection piazza Trieste e Trento	-	--	--	-	--
310	Milan	9	Via Palestro near park entry	-	--	--	--	--

Legend

++	very good
+	good
0	acceptable
-	poor
--	very poor