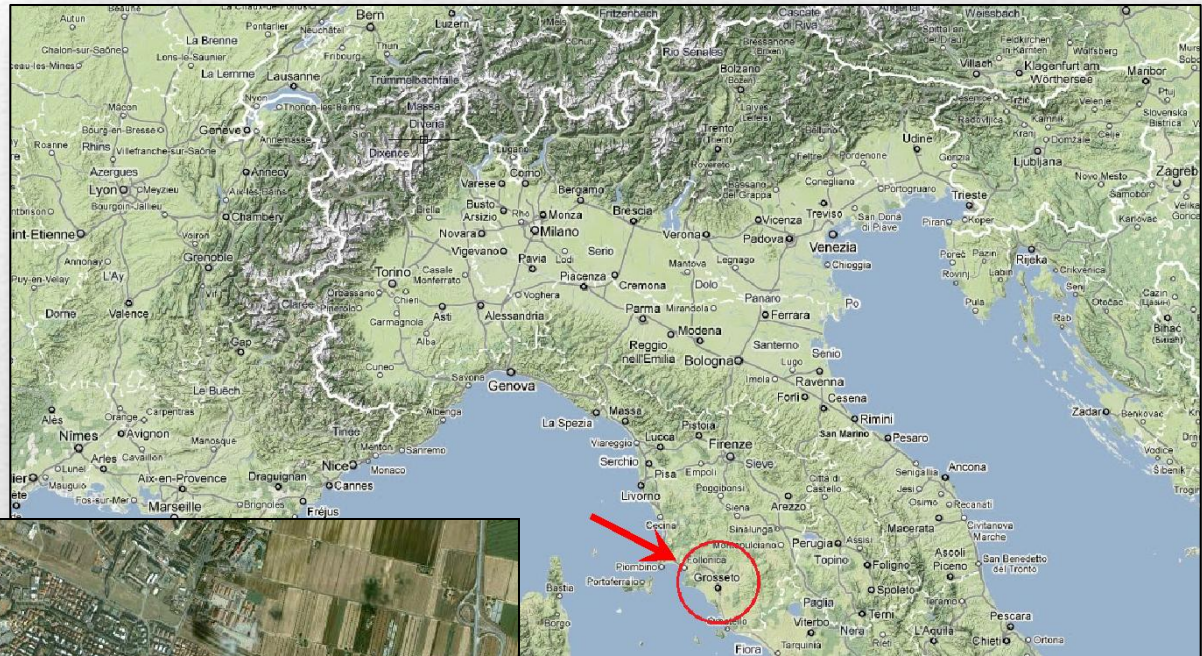


Risk Management and Road Safety

A HIGH RISK SITE IN GROSSETO (ITALY)

Bartolini Alessandra – Università degli Studi di Pisa



I propose to modify an old urban roundabout in my city, Grosseto

Let me show my high risk site through five points:

1. which is the context?

2. why is it dangerous?

3. which are priority risks?

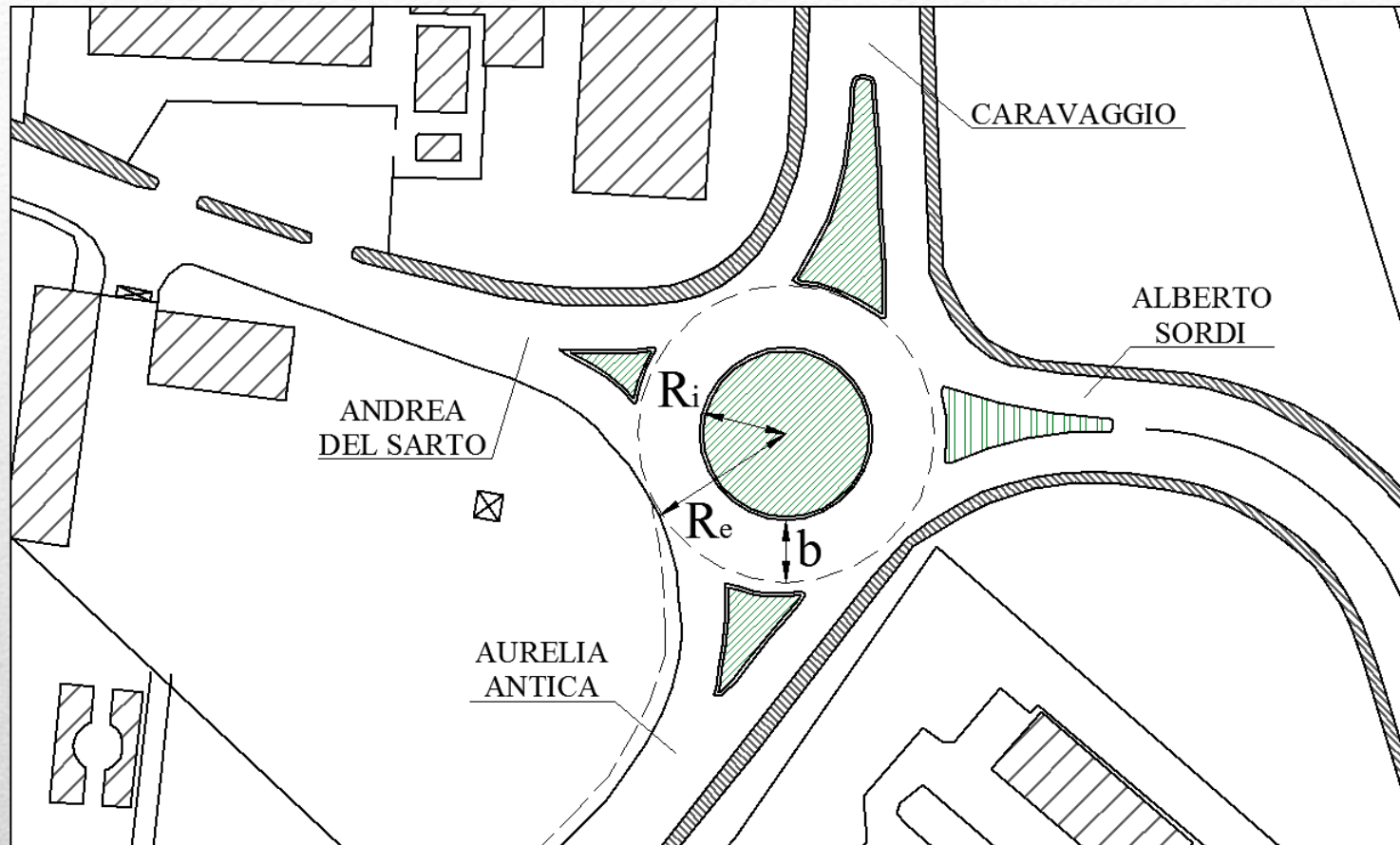
4. how can I treat the risks?

5. what kind of campaign I will intend to carry out?

WHICH IS THE CONTEXT?



The roundabout is located in a suburban area, in the intersection of four roads. It is near to the race-course, residential and industrial areas; moreover, a shopping center has just been built at the end of Via Aurelia.



inner radius

$$R_i = 12,50 \text{ m}$$

outer radius

$$R_e = 19,50 \text{ m}$$

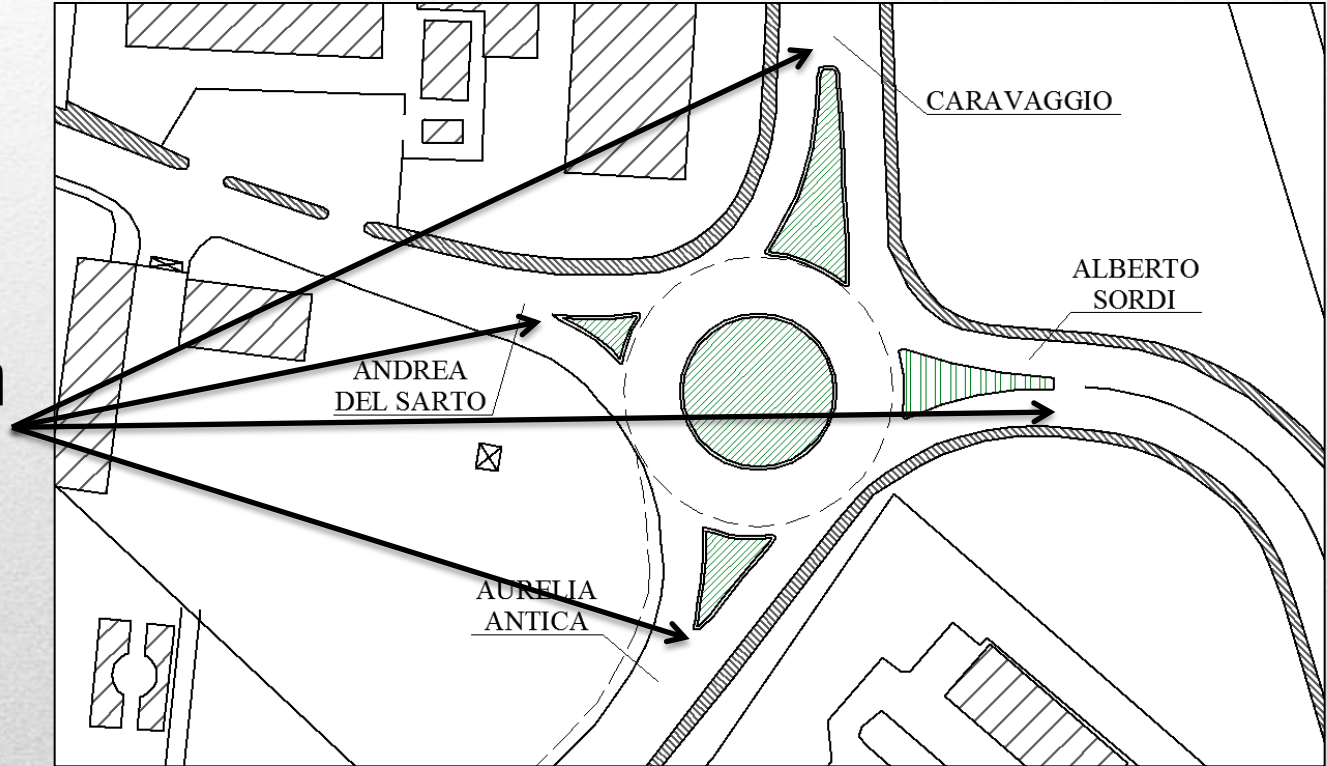
circulatory roadway width

$$b = 7,00 \text{ m}$$

**CURRENT GEOMETRICAL
CHARACTERISTICS**

WHY IS IT DANGEROUS?

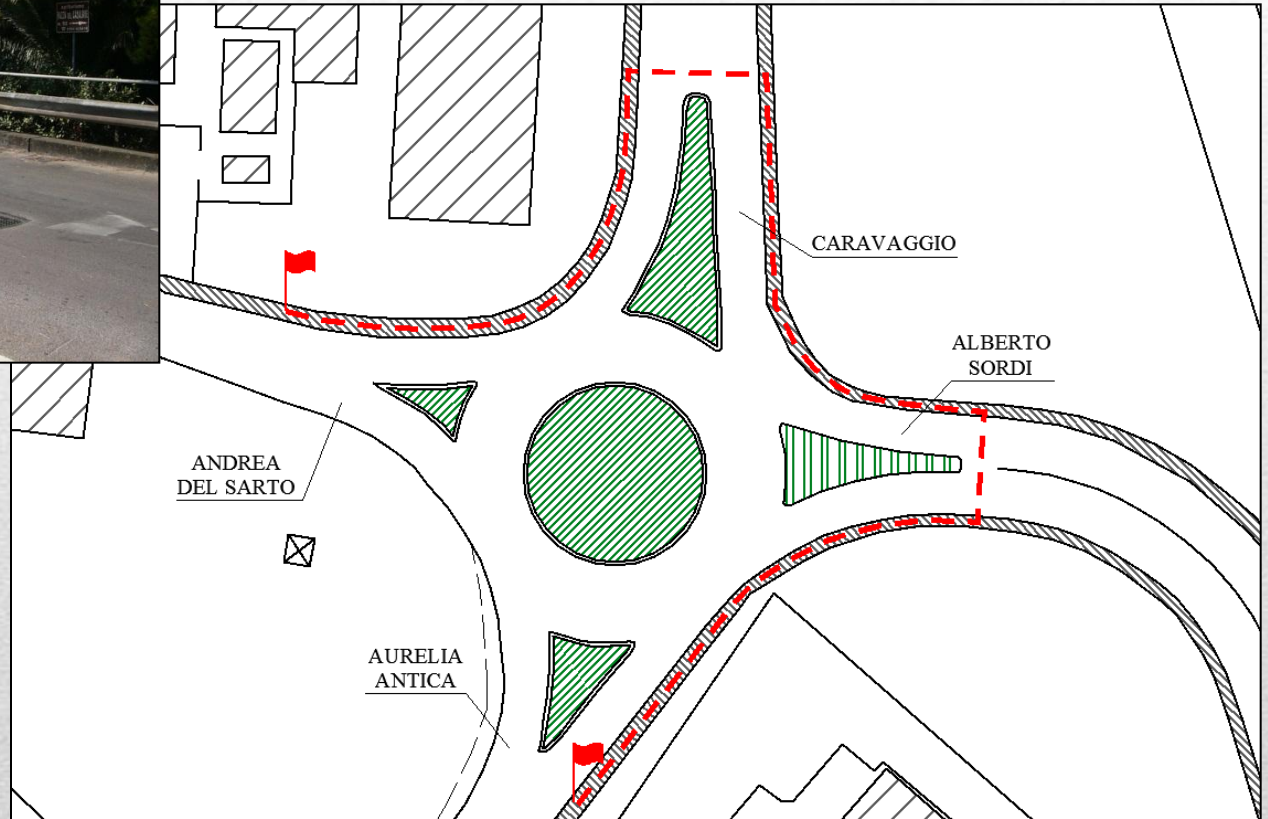
no pedestrian crossings



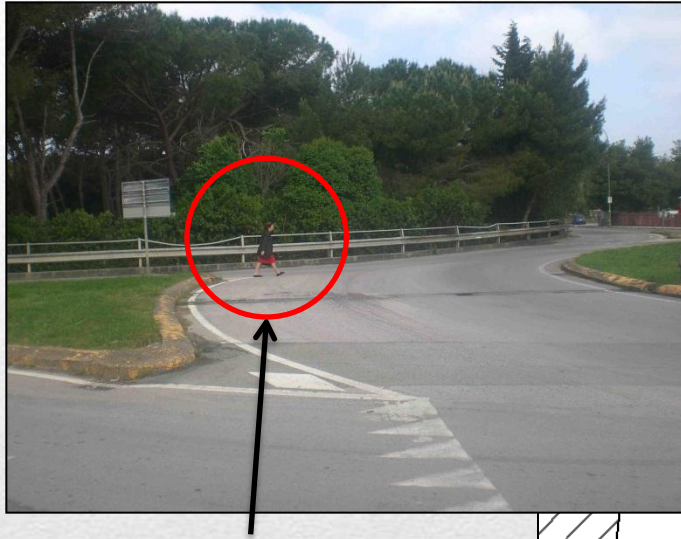
WHY IS IT DANGEROUS?



no sidewalk outside the circulatory roadway, between Via Del Sarto and Via Aurelia (where the postal office has been recently moved), so pedestrians who want to move between these roads would have to walk around the roundabout for 270° degrees

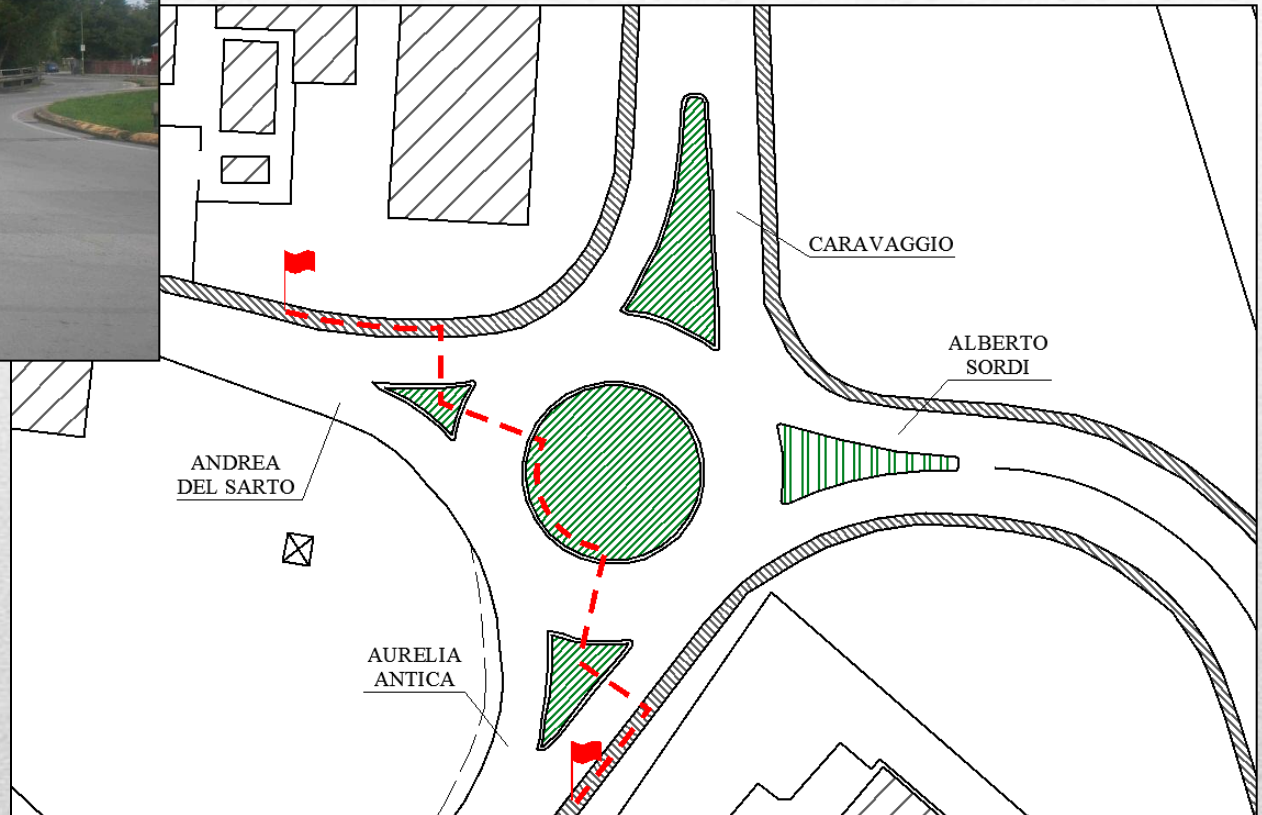


WHY IS IT DANGEROUS?



**she is crossing into the
circulatory roadway**

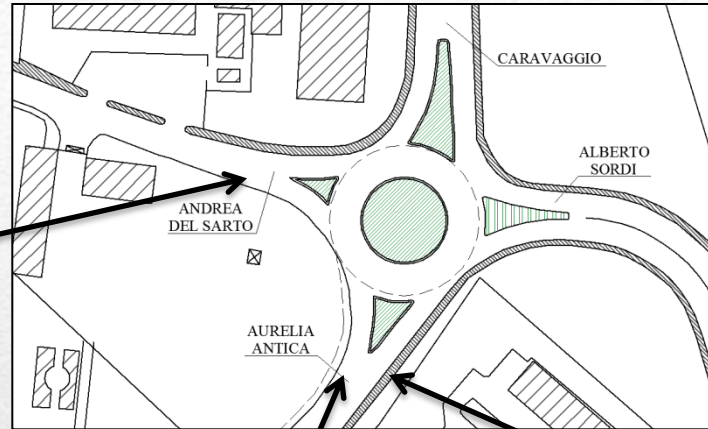
**nobody walk around the
roundabout , everybody cross
into the circulatory roadway
walking among cars**



WHY IS IT DANGEROUS?

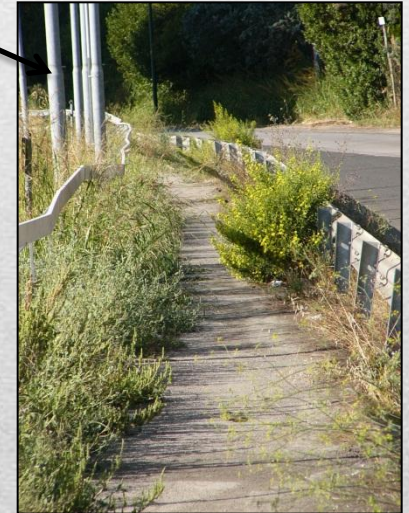


no sidewalk on the right side of Via Del Sarto



the sidewalk on the right side of Via Aurelia is neglected, rough and with wild grass

no sidewalk on the left side of Via Aurelia, so when there are horse-races there are a lot of people on the road, walking to the race-course; moreover, in the next few months will be open a shopping center

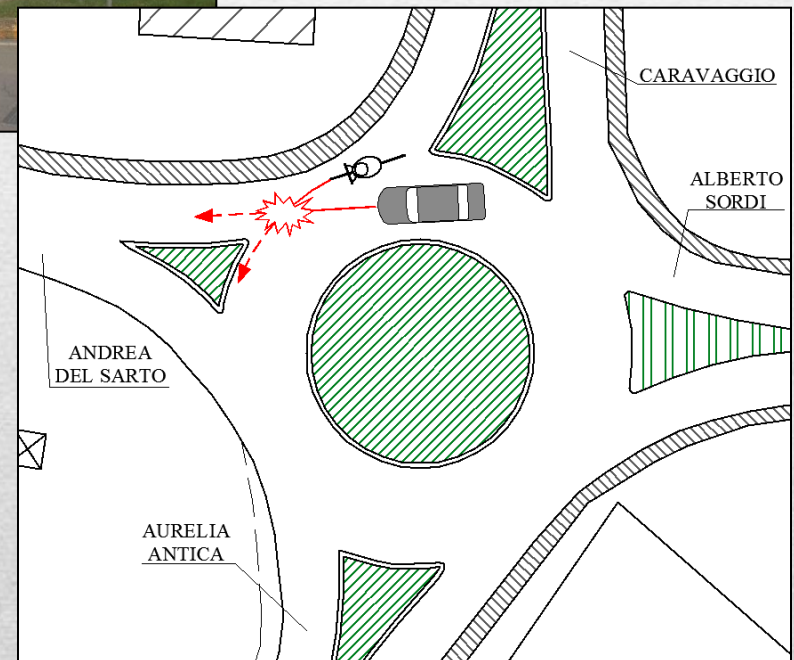
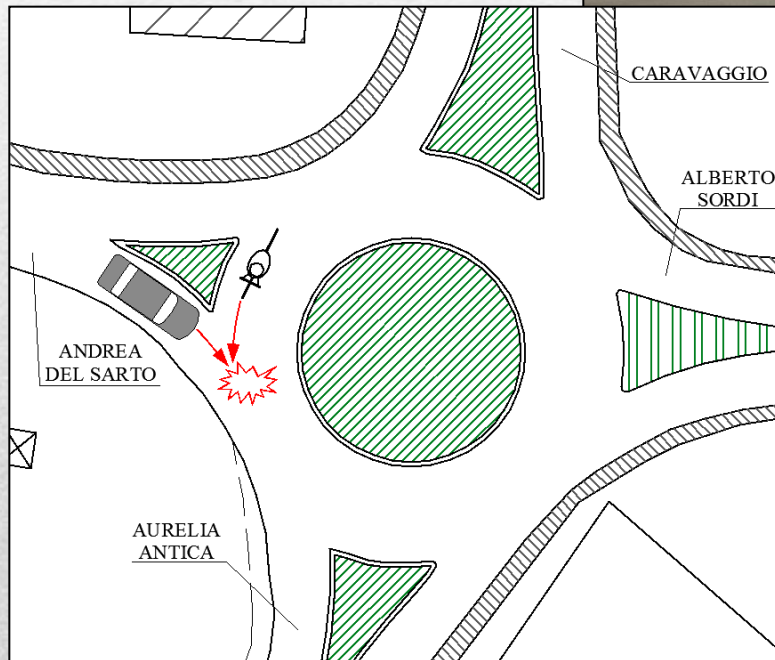


WHY IS IT DANGEROUS?

A driver entering the roundabout looks at other vehicles, but doesn't focus on cyclists on the outside part of circulatory roadway



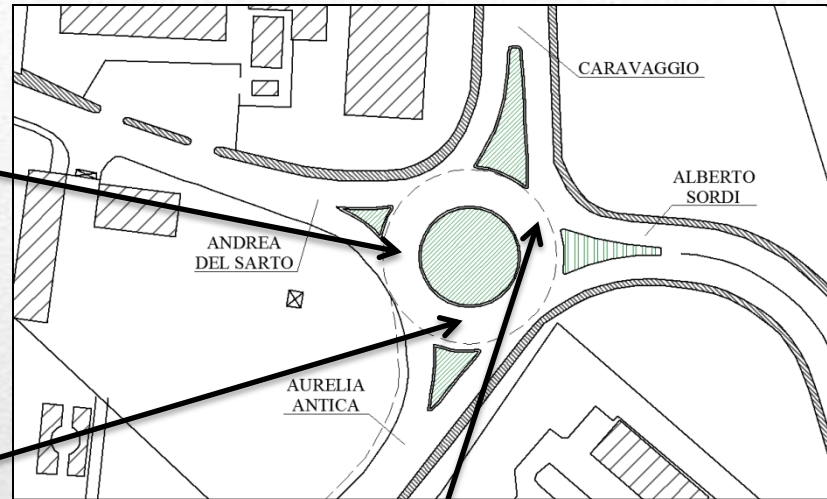
A driver exiting the roundabout doesn't look at cyclists on his/her right



no cycle path outside the roundabout

10

WHY IS IT DANGEROUS?



**the roadway
surface is quite
smooth**

WHICH ARE PRIORITY RISKS?

DATE	TIME	INVOLVED VEHICLES	LOCATION	REASON OF ACCIDENT	INJURED
1/8/2006	8:20 p.m.	1 car 1 motorcycle	Caravaggio – Del Sarto	failure to safety distance (the approaching car ran into the stopped motorcycle waiting for entrance into the roundabout)	motorcyclist (with 15 prognosis days)
3/7/2007	11:30 a.m.	1 car 1 bicycle	Caravaggio – Del Sarto	the car at the entrance didn't give way to bicycle in the roundabout	cyclist (with 10 prognosis days)
29/11/2008	7:50 a.m.	2 lorries	Caravaggio – Del Sarto	failure to safety distance at the entrance of the roundabout (because of a pedestrian in the middle of the road)	//
23/4/2009	8:30 p.m.	2 cars	Aurelia - Del Sarto	the car at the entrance didn't give way to car in the roundabout	driver (with 5 prognosis days) passenger (with 30 prognosis days)
30/6/2009	9:15 a.m.	1 lorry	Aurelia - Del Sarto	collision with a fixed obstacle (a tree branch on the road side)	//
13/1/2010	7:40 a.m.	1 lorry 1 bicycle	Caravaggio – Del Sarto	the lorry which was going out of the roundabout didn't look at bicycle on its right	cyclist: fatal injury
5/6/2010	4:15 p.m.	2 cars	Caravaggio – Del Sarto	the car at the entrance didn't give way to car in the roundabout	//

WHICH ARE PRIORITY RISKS?

CONCLUSIONS

This roundabout is dangerous for pedestrians and cyclists, because:

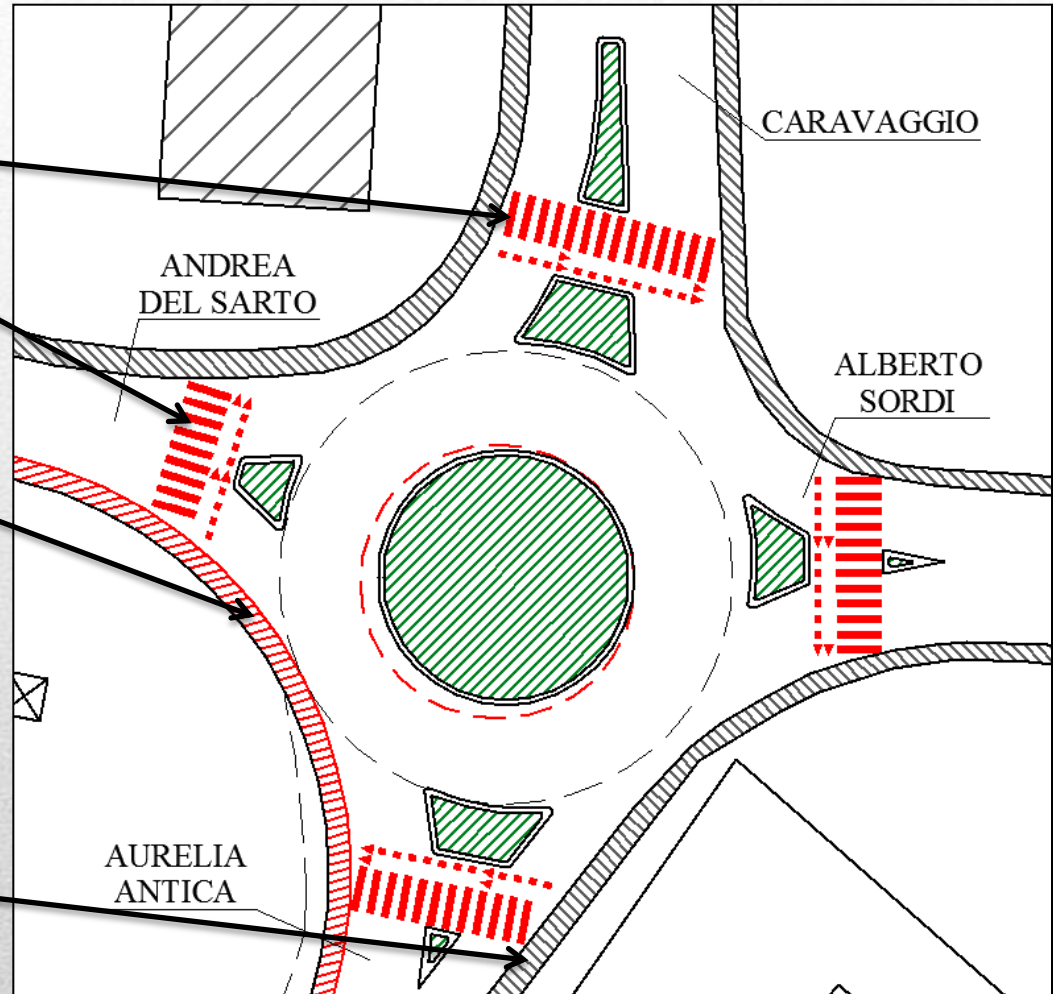
- **seriously injured are part of cyclist category; there was also one dead**
- **we mustn't analyze only accidents that are really happened in the past, but also potential risk situations that don't may result in an accident → *there is actually a high risk also for pedestrians, because they cross the circulatory roadway among vehicles; moreover, they are the cause of car accidents***

HOW CAN I TREAT THE RISKS?

pedestrian and cyclist crossings

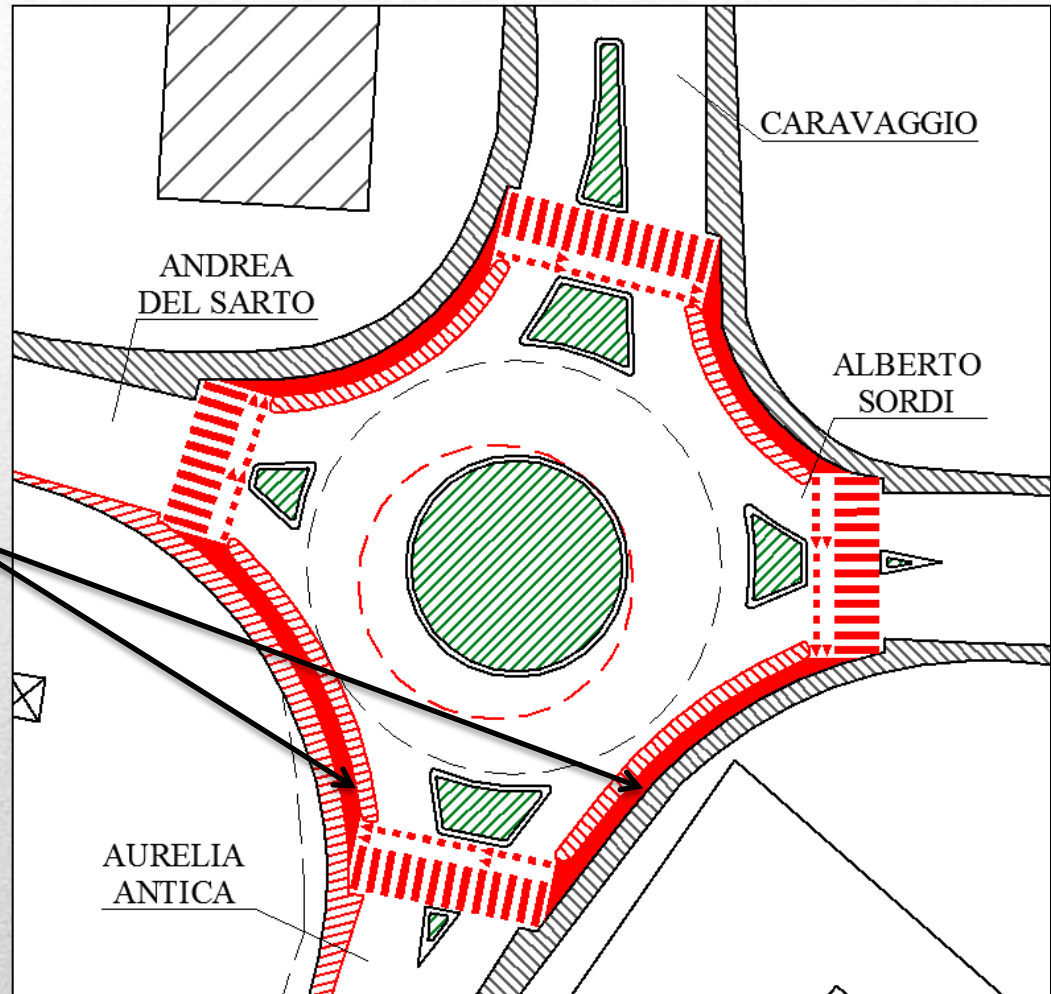
sidewalk: space can be obtained by reducing of few meters the actual roundabout diameter, with no expropriations

old sidewalk: it must be rebuild



HOW CAN I TREAT THE RISKS?

Moreover, I have to consider the possibility of introducing the cycle path outside all the roundabout. In that case the actual roundabout diameter must be reduced more



WHAT KIND OF CAMPAIGN I WILL INTEND TO CARRY OUT?

- **Analysis of accidents that are already happened**
- **Monitoring of accidents in the future**
- **Dealing with drivers and pedestrians: what do they think about this situation? and how many people were close to have an accidents?**
- **Try to involve the media**
- **Getting recommendation from my Faculty administration (University of Pisa)**
- **Getting recommendation from race-course administration and shopping centre administration**
- **Getting recommendation from Police Station**
- **New ideas during the next months!**

Thank you for your attention!

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