

ROAD SAFETY INSPECTION OF A ROUNDBABOUT IN CATANIA



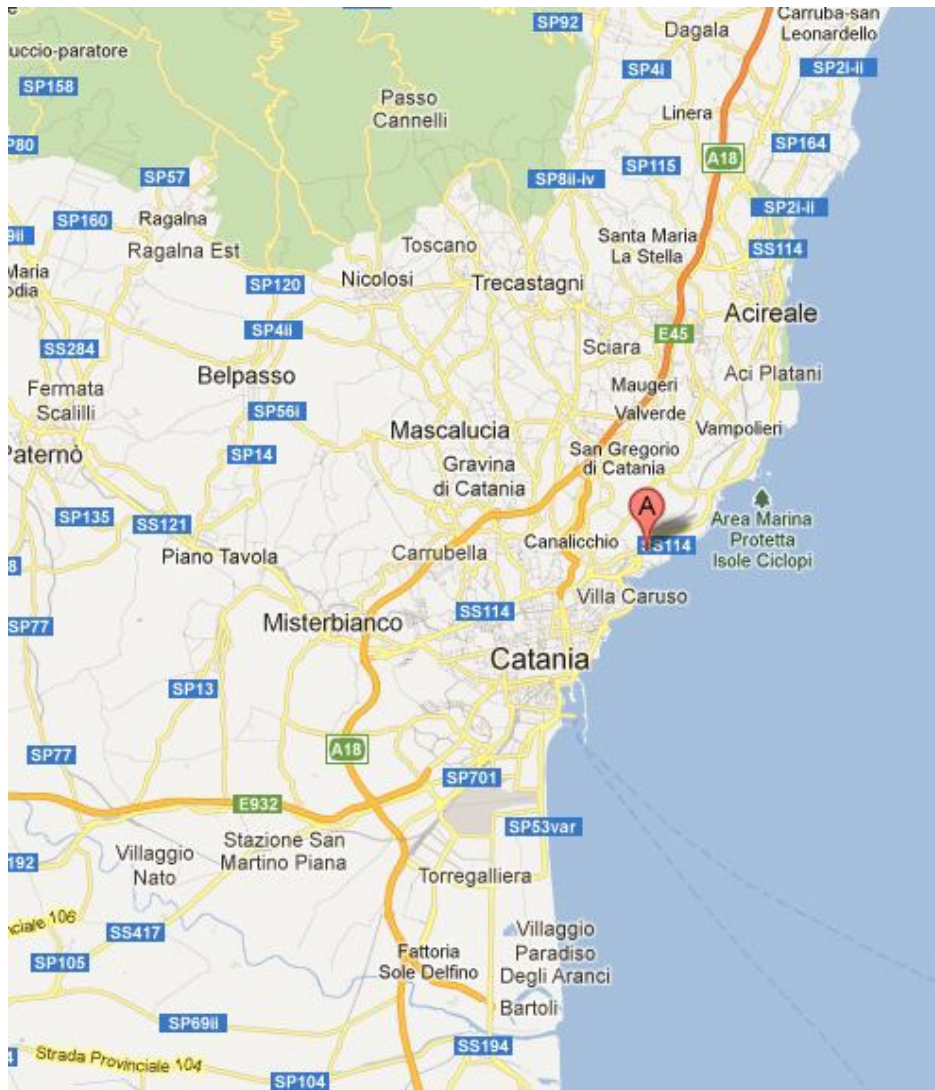
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Location of the roundabout

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Layout of the roundabout

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Method used

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- Problem
- Origin
- Goal
- Solution

Problems, conflicts

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Problem

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- Vehicles pass through the junction at a high speed
- Irregular lane changes in the roundabout
- Insufficient priority rules
- Possible rear-end collisions on leg „C“ with vehicles turning to service road
- Conflicts with pedestrians

Origin

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- ❑ Not enough deflection
- ❑ Two lanes in the roundabout
- ❑ Two wide entry zone
- ❑ Outer lane cannot work as a bypass
- ❑ Not homogeneous leg design
- ❑ Service road junction too close
- ❑ Insufficient pedestrian facilities

Goal

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- To ensure clear priority rules (simplify the junction)
- To reduce the speed to 30 km/h
- To avoid irregular lane changes
- To increase the safety of pedestrians
- To avoid rear-end collisions on leg „C“

Solution

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- One-lane roundabout with one-lane entries, with a by-pass (physical separation) on leg „C”
- Relocate the junction of the service road

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Layout	Site	A) Critical aspects of the context in which it is B) Inadequate spacing with respect to the singular points of the track	The roundabout connect the main rural two lane road to the hospital and to a secondary road to Cannizzaro.
	Road conformity interfering	Inadequacy of the road type interfering	The presence of other intersection of different type close to the intersection object of study preclude a good functionality in term of safety.
	Context	A) Inadequacy with respect to the context B) Inadequacy with respect to the type of road	The dimension of intersection are not the same to the dimensions of the roads confluent to the edge The roundabout is adequate to the contest
	Visibility	A) Insufficient visibility from one or more input branches B) Insufficient visibility in some lighting conditions presence of factors that hinder the visibility range C) Relevance and / or compliance	From the leg B is impossible to see the leg C for the deflection of the latter. Artificial illumination is not working in the night. Marking are not visible in the night.
	Readability and understanding	A) Difficulty of understanding on the part of one or more category of users B) Insufficiency of the notice C) Difficulty of readability by one or more branches of the balanced input	The driver from leg B to leg A and users from leg A to leg B have difficulty to understand the regulation of intersection at the exit. Marking and road sign are not coordinate.

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Geometry	Lanes of acceleration and deceleration	<ul style="list-style-type: none"> A) Insufficient lengths B) Inadequacy shaped wedges of the lanes of inlet and outlet C) Insufficient width D) Interference with emergency lane 	<p>The entry lane is too short from leg C, and not allow an adequate storage of vehicle in the lane.</p> <p>the exit lane of leg C is near an intersection with a service lane for heavy vehicle (connection with the railways)</p> <p>The lengths of the islands is enough.</p>
	Ramps	<ul style="list-style-type: none"> A) Insufficient lane width B) Insufficient width docks C) Inadequacy planimetric radiua D) Inadequacy side slopes E) Excessive slopes grade lines F) Inadequate vertical curves 	

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Signal System	Marks	A) Inadequate delineation lanes B) Incorrect positioning of the arrows indicating C) Inadequacy boundary areas not passable D) Inadequate maintenance	The marks is not adequate. It doesn't allow a good reading of intersection. It is old and during the night time is invisible. It is mixed with the temporary marks (yellow marks). It doesn't fit with the marks of the road. The shoullder has no mark
	Vertical signs	A) Localization is not correct B) Deficiency or redundancy C) Inadequate maintenance	The intersection is signalized with the right distance on the leg. There are not speed limits. The signs are old and are invisible in the night. It is not coordinate with the marks.
	Traffic lights	A) Inadequacy timing in reference to the flows B) Inadequate for current timing vehicular conflict	

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Other issues	Lighting	A) Inadequate lighting in transition zones B) Insufficient level lighting	The lighting was not present during the inspection. The structure are present but not in service.
	Interference	A) Presence of underground B) Presence of airlines	A) Inadequate delineation lanes B) Incorrect positioning of the arrows indicating C) Inadequacy boundary areas not passable D) Inadequate maintenance

Conclusions

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- Simply running through the checklist is not enough
- Yet, it helps the inspector not to forget about all aspects
- Combination of site visit and checklist
- Fresh eyes are crucial



THANK YOU FOR YOUR
ATTENTION!

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