

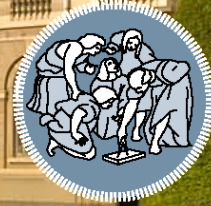
ETSC

European Transport Safety Council

25

YEARS

1993-2018



POLITECNICO
MILANO 1863

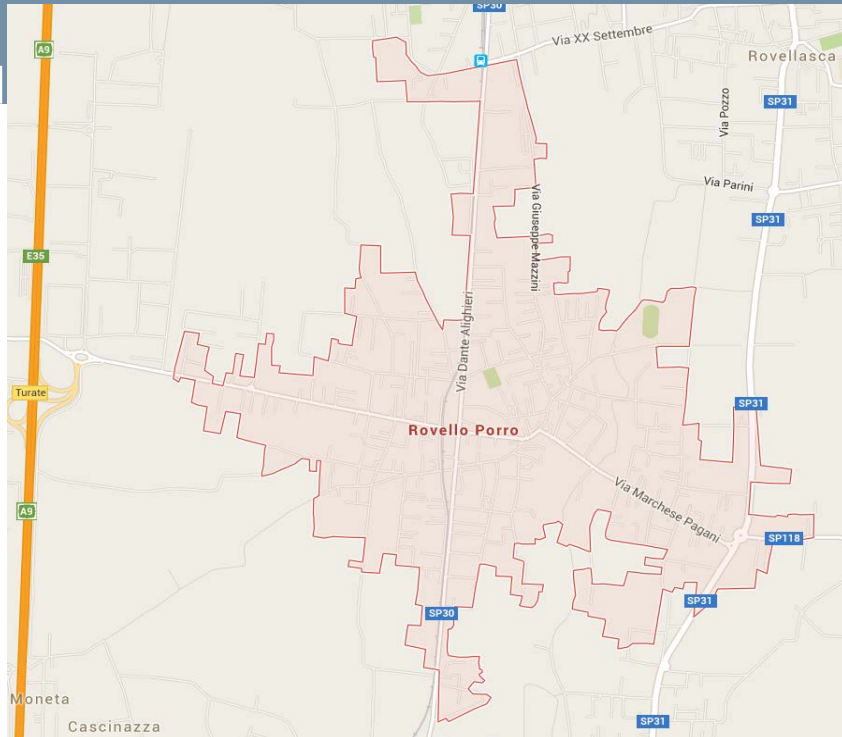
IMPROVING SAFETY ON AN ITALIAN URBAN INTERSECTION



Students: Martina Baj

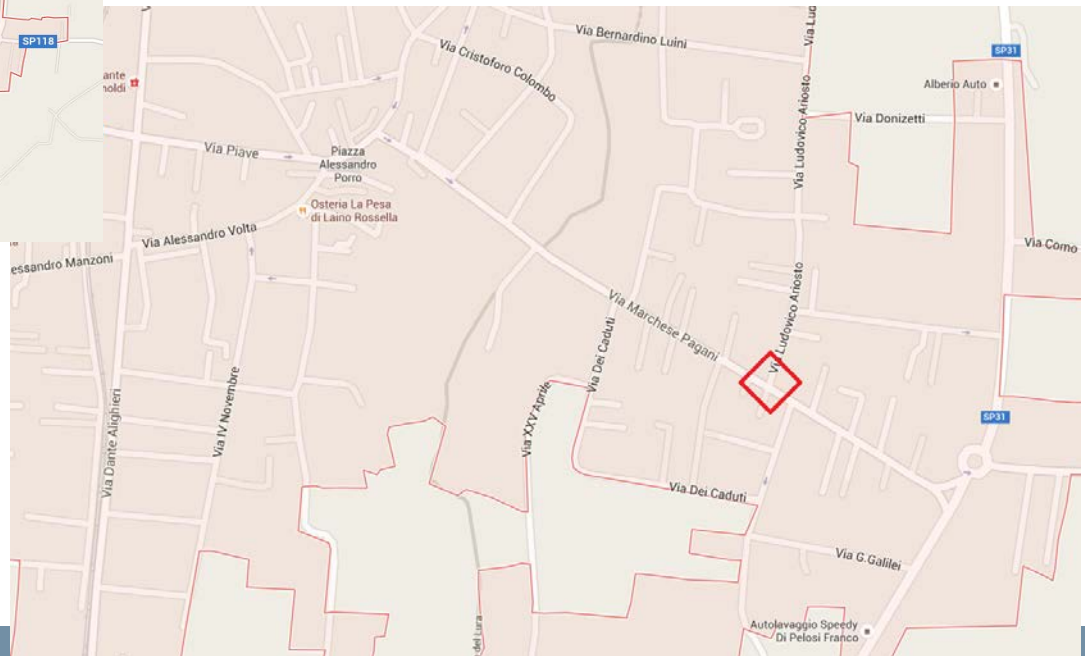
Lorenzo Pedron

WHERE



Rovello Porro (CO) - 22070
Lombardy
Italy
Inhabitants: 6115 (ISTAT)

Urban road intersection
between:
Via Marchese Pagani
Via Ludovico Ariosto
45°38'54.6"N 9°02'53.4"E



INITIAL STATE



The cycle path runs in front of the «Stop» sign located on Via Ludovico Ariosto, specifically at the intersection between Via Marchese Pagani and Via Ludovico Ariosto.

- The road signs were ineffective.
- Cyclists on Via Marchese Pagani have priority with respect to oncoming vehicles from Via Ludovico Ariosto.
- Any vehicle from Via Marchese Pagani must respect cyclists on the cycle path.

ISSUES



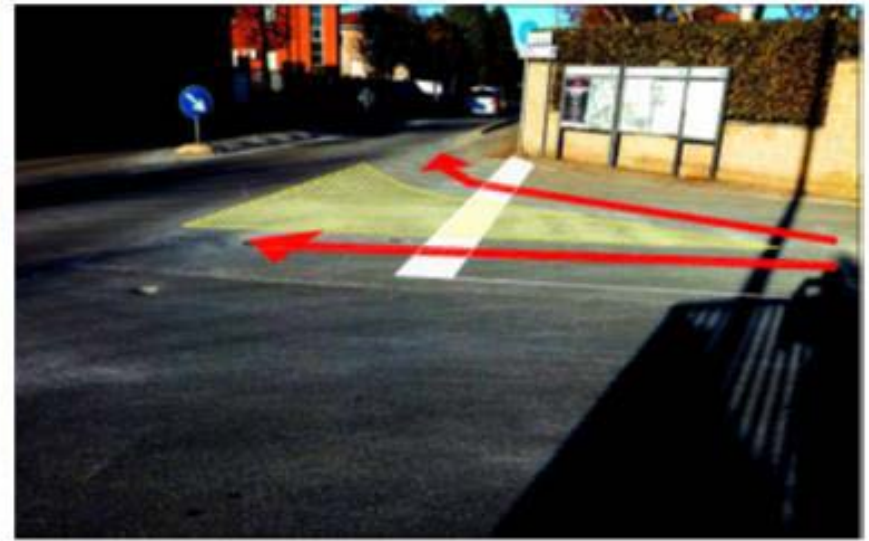
Vehicles on Via Ariosto effectively did not stop at the stop sign, but on Via Pagani on the cycle path.

This was very dangerous for the cyclists arriving

from the centre of the town.

Cyclists are convinced to have priority over vehicles, whose visibility is low because of the wall (marked in red) which creates a blind spot for both the vehicles and cyclists.

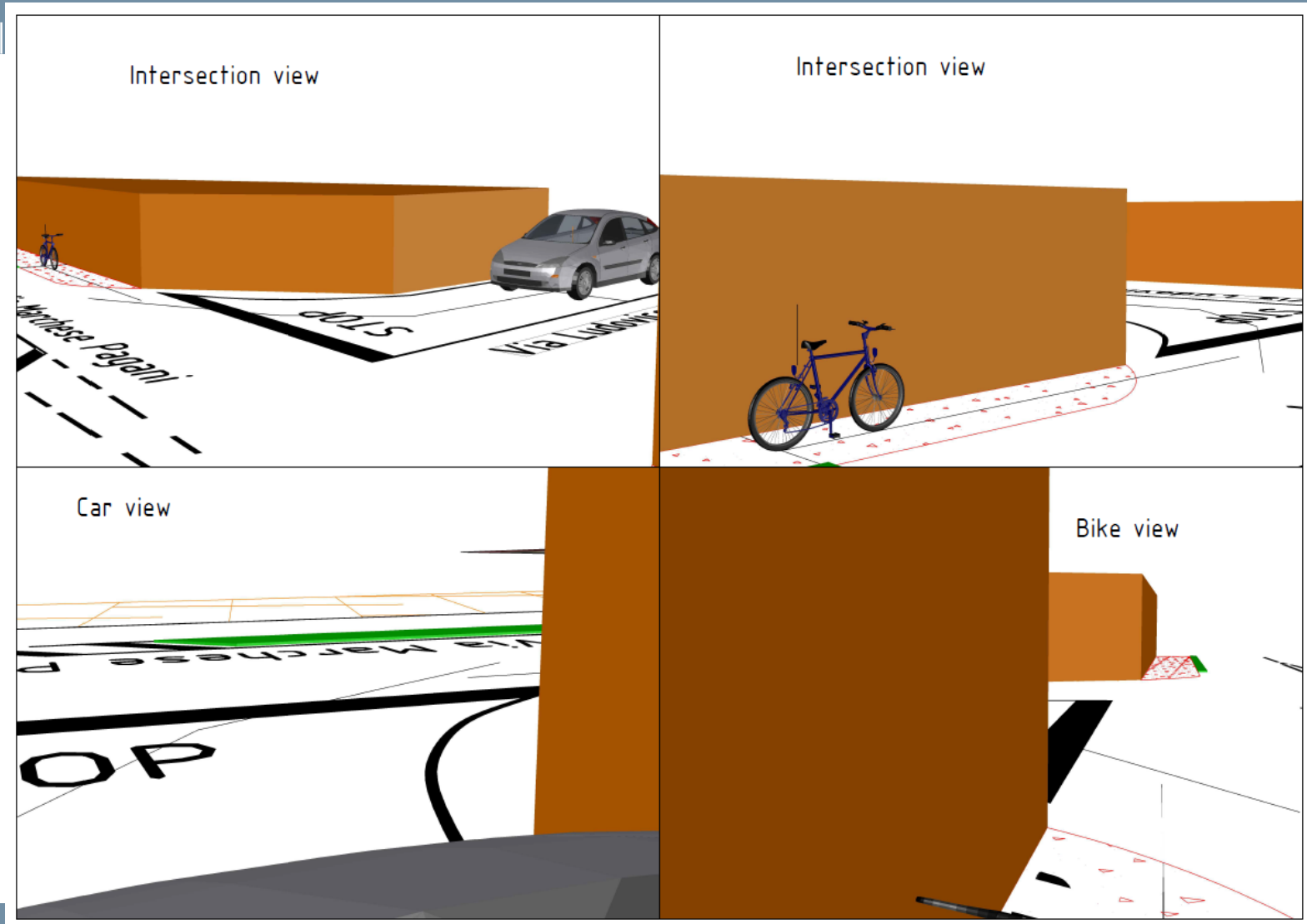
BAD BEHAVIOUR



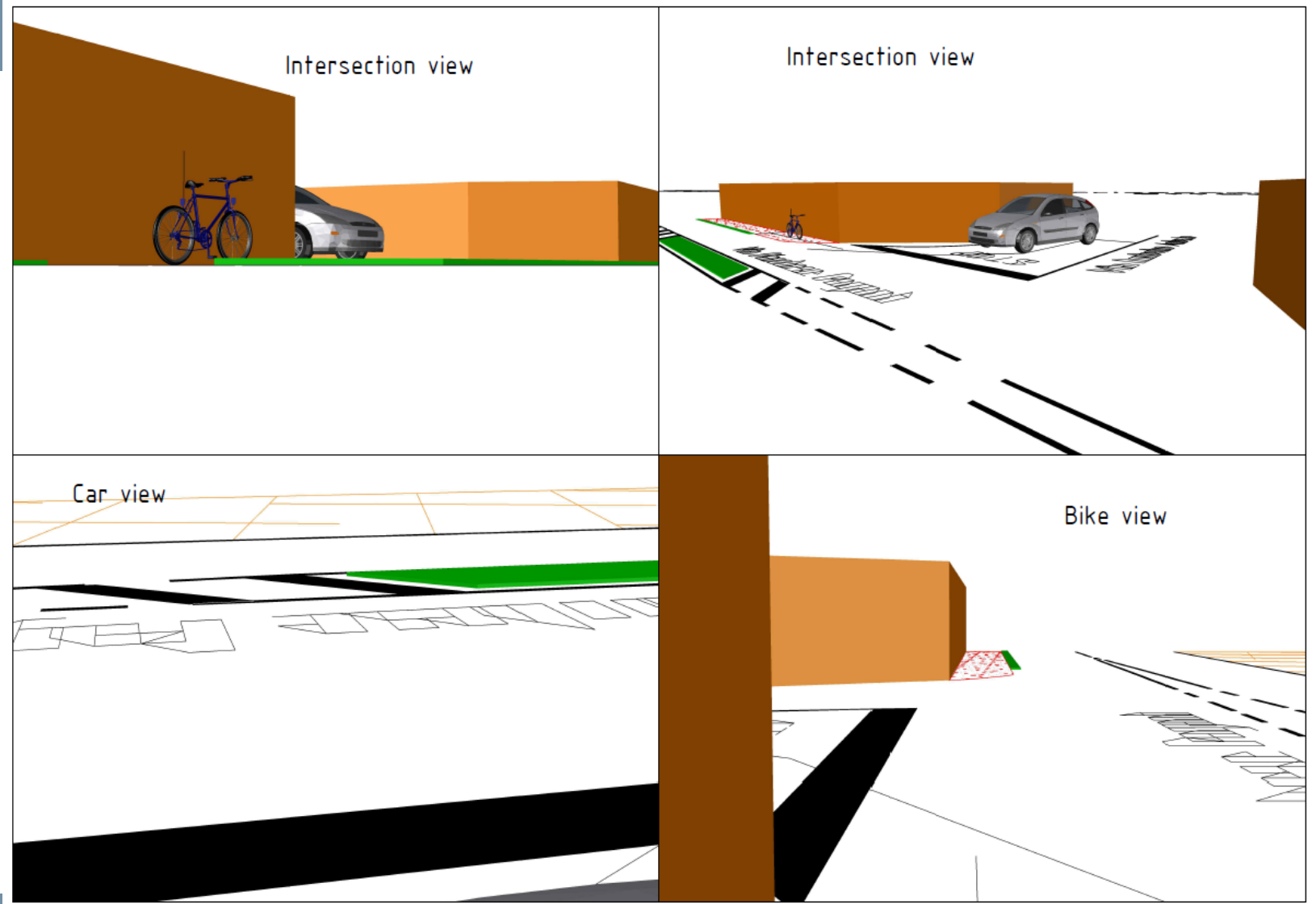
The photos show that vehicles coming from Ariosto street stop on the bike path way after the stop line.

Moreover, it is easy to identify the trajectories used while passing the intersection in order to perform the right turning manoeuvres.

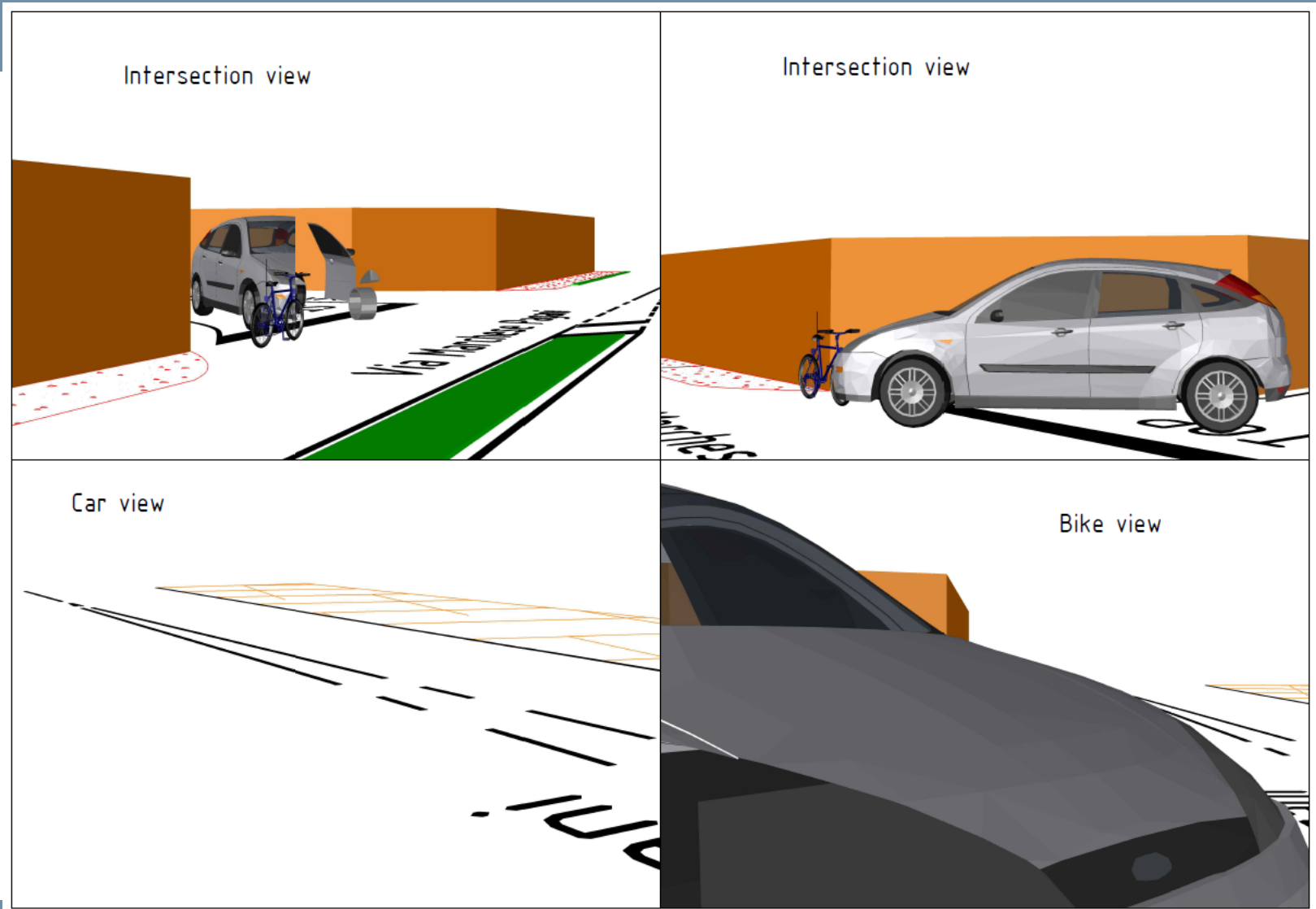
PROBLEM RENDERING



PROBLEM RENDERING



PROBLEM RENDERING - CRASH

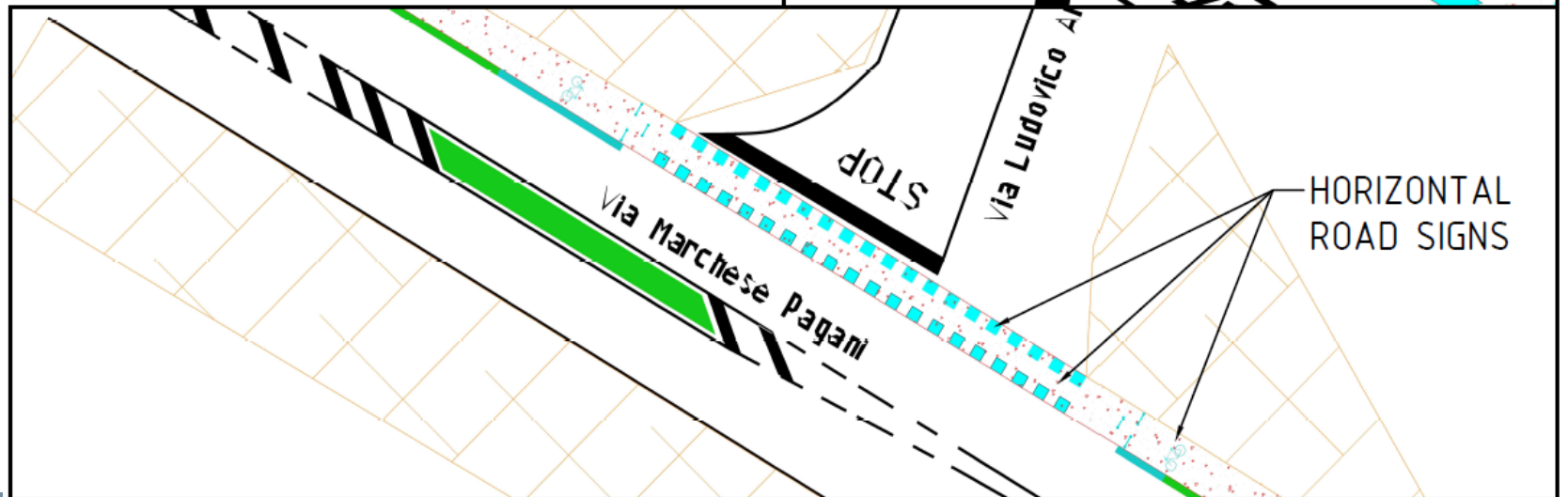
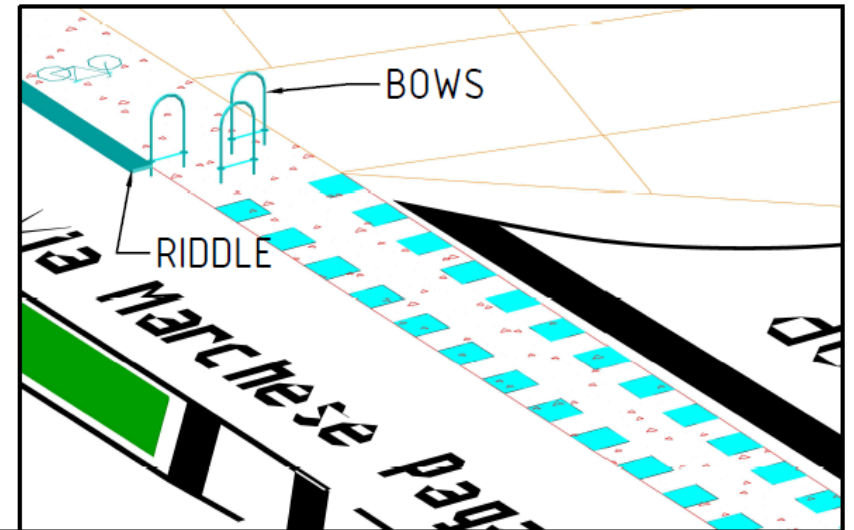


TARGETS

- Improve horizontal road signs with the aim of stopping the vehicles approaching the junction before the cycle path and enable them to easily recognize it from a distance.
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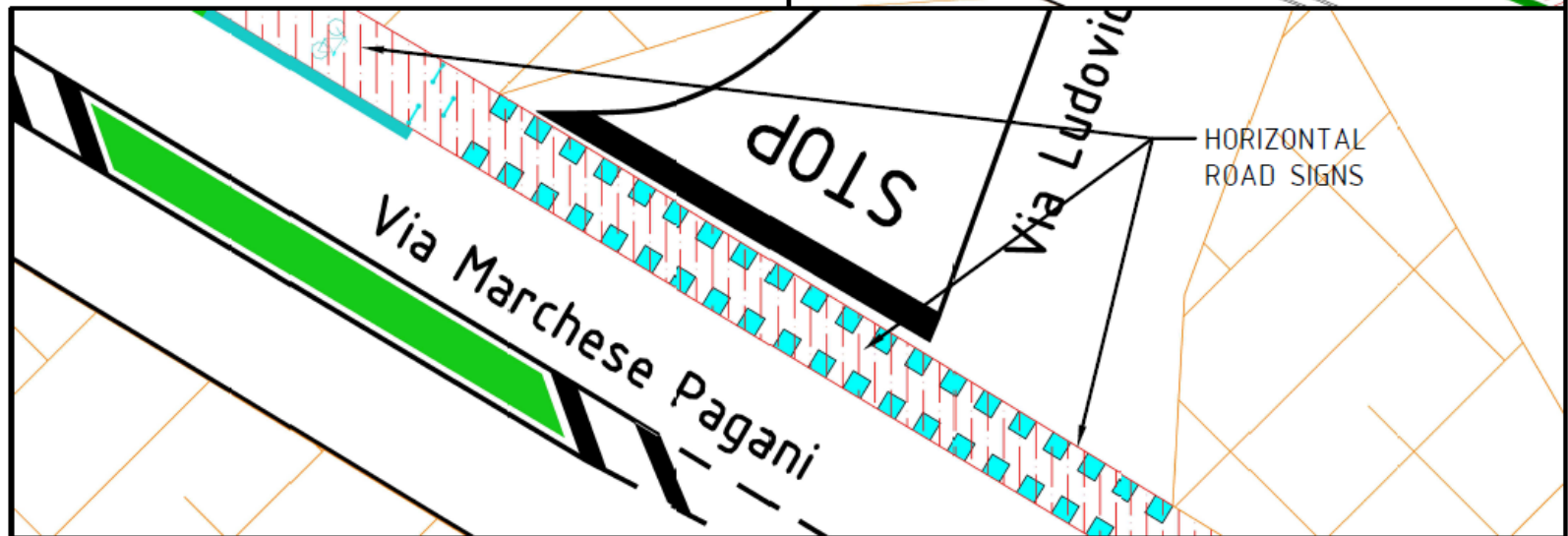
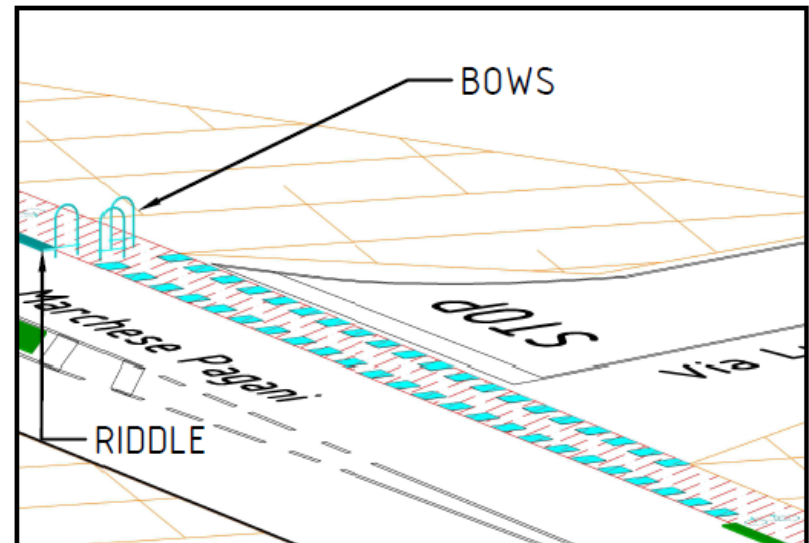
INTERVENTION A

- Affix bows;
- Red asphalt on the cycle path;
- Extend the riddles beside the cycle path;
- Restore horizontal road signs.
- Esteemed cost: 3,300.00 €



INTERVENTION B

- Affix bows only on right side;
- Red paint on the cycle path;
- Extend the riddles beside the cycle path;
- Restore horizontal road signs.
- Esteemed cost: 1,900.00€



APPROACH TO PUBLIC AUTHORITIES

On the 17th of May 2016, we met the Mayor and the Public Works Commissioner of Rovello Porro.

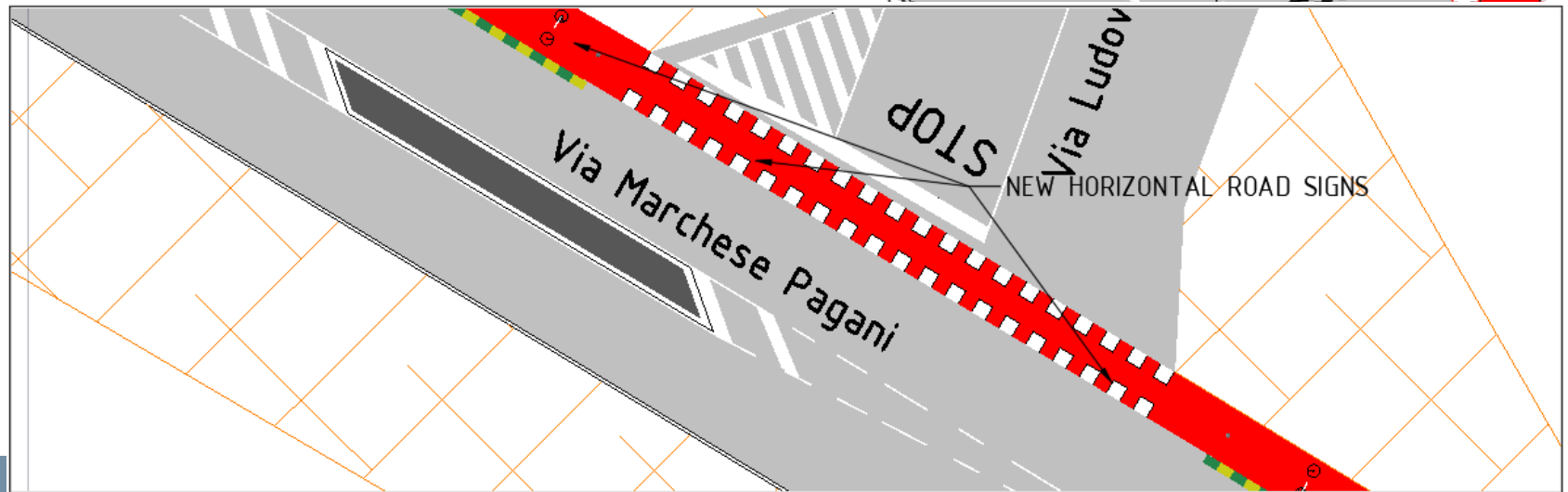
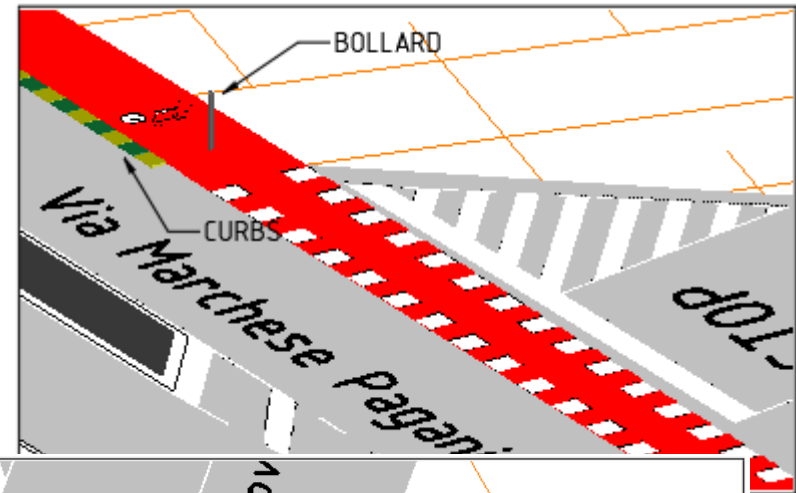
They initially approved the preliminary draft we had presented, and considered our project as a good solution to the problem.

Later on, on July, Mayor Cattaneo resigned his position and the project stopped.

NEW PROPOSAL

During and after the YEARS camp we had the chance to review and improve our project. So, before presenting it to the new administration, we had the time to re-designed it with some consistent changes.

Total cost: 2,275.00 €



A SMALL IMPROVEMENT

We then started to deal with the special Commissioner who was taking care of the town.

We met her on the 21st of November 2016, but she explained that they cannot allocate funds because they have other urgent maintenance works, which were considered most important by the citizenry.

After our meeting, the Commissioner decided to invest in the



arrangement of the main horizontal sign of the country; in particular, the signs related to the stop and the squares that delimit the cyclecrossing.

APPROACH TO PUBLIC AUTHORITIES

Then we decided to wait for the new upcoming elections during spring. We planned to propose our project in a political promotional campaign so that we can achieve our result.

On the 2nd of September 2017, we had a meeting with the new Mayor who was enthusiastic about the proposal.

The municipality made itself available for the realization of the intervention within the agreed terms and eager to support a project presented by young university students.

SUCCESS!

The second meeting was held with the Administration which was also attended by the ETSC commissioner, other members of the City Council and a journalist, bearing witness that the support of the project was in the interest of many.

Progettano un incrocio salva ciclisti L'Europa premia due universitari

Rovello. Per loro uno stage a Bruxelles e la selezione anche per una borsa di studio
L'intervento riguarda la messa in sicurezza di via Marchese Pagani angolo via Ariosto

ROVELLO PORRO

GIANLUIGI SAIBENE

La ciclabile è pericolosa, due studenti in ingegneria progettano la messa in sicurezza ottenendo anche un riconoscimento a livello europeo. E ora il Comune vuole concretizzare le soluzioni prospettate per risolvere il nodo viabilistico tra via Marchese Pagani e Ariosto.

Giovani esperti in sicurezza

Ora è prevista un'altra selezione, che vedrebbe i due giovani in buona posizione, per potersi aggiudicare una borsa di studio.

L'intervento ipotizzato riguarda in particolare la messa in sicurezza della pista ciclo-pedonale tra le vie Marchese Pagani e Ariosto, dove vi sono stati già problemi per quanto riguarda la sicurezza viaria.

«Abbiamo studiato un fun-

prevenire gli incidenti stradali. Una iniziativa che avevamo avviato con l'ex-sindaco **Gabriele Cattaneo** e alla quale si è detto interessato ora il sindaco Paolo Pavan, che ha continuato a sostenere il nostro progetto».

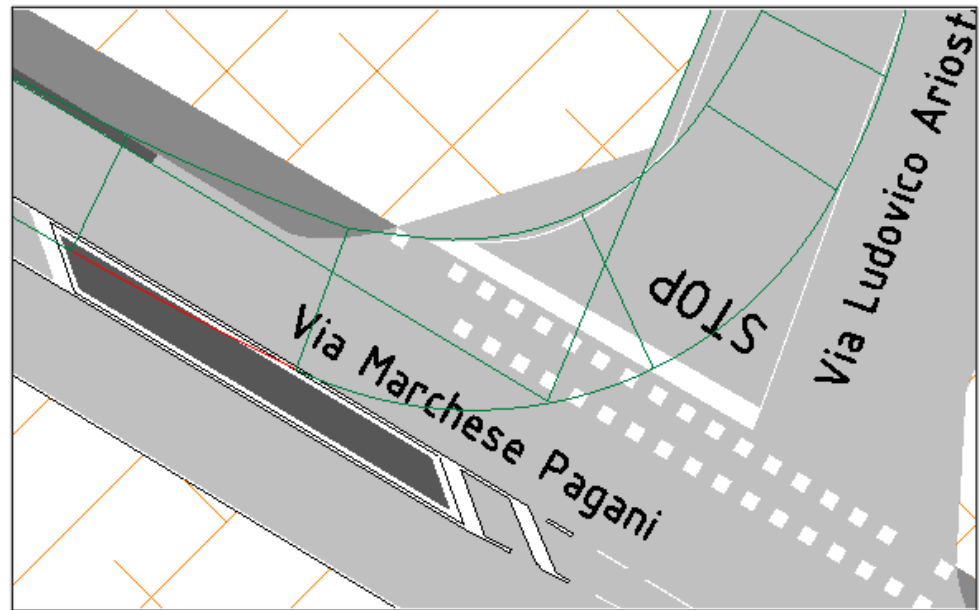
«Siamo contentissimi che dei giovani abbiano dimostrato tanta intraprendenza e impegno, vogliamo concretizzare questo progetto entro il gennaio 2018



DESIGN AND CONSTRUCTION ISSUES

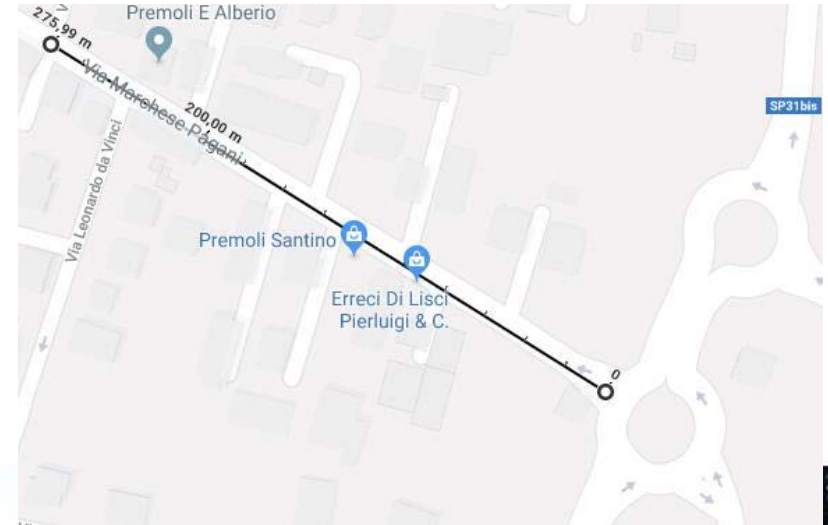
Following an observation received by the Local Police of Rovello Porro regarding the turning manoeuvres of heavy vehicles, we had analytically assessed the overall dimensions. In particular, we set the focus on the most difficult manoeuvre: the right turn from via Ariosto in via Marchese Pagani.

From this schematic representation, it is clear that the possible obstacle for the manoeuvre of heavy vehicles was the central flowerbed and not the new interventions.



SOLUTION!

To avoid a priori unpleasant situations for drivers of heavy vehicles, in agreement with the Local Police, it was decided to install a vertical signal with obligation to turn left for heavy vehicles as a few meters to the east there is a large roundabout that allows to easily change direction.



WORK IN PROGRESS

On the 9th of November 2017 works began!!



WORK DONE!

For the paintwork, we had to wait for good weather because it is necessary that the surface is dry.



On the 13th of December 2017, the construction was completed with the painting of the curbs, the arrangement of the horizontal signs and the laying of the poles.

IS IT SUCCESSFUL?

Following an inspection, carried out on the 23rd of December 2017, it was possible to take some pictures of the realized junction from above. Thus, better highlighting the new behaviour

of the vehicles approaching the intersection.



For us, this is a great
SUCCESS!

ACHIEVEMENTS OF THE PROJECT

After the technical and economical analyses, the objectives of the project for the safety improvement of the intersection were thus achieved:

- ***Moderation of vehicle speed***: creation of two red paint bands below the white squares that delimit the cycle lane, rectification of the stop with the creation of a zebra triangle on the right and the obligation to turn left for heavy vehicles coming from via Ariosto;
- ***Slow down the cycle of cyclists***: extension of the curbs of separation with alternating black and yellow paints, installing a bollard for side and precedence horizontal signage.

FINAL EVALUATIONS

The total esteemed cost of construction resulted less than we expected:

- Pallets (supply and installation)	165.50 €
- Curbs (supply, installation and painting)	320.00 €
- Horizontal signage (zebra stripes and red stripes)	670.00 €
- Vertical signage (obligatory sign to the left)	95.00 €
- Unforeseen events and rounding off (5%)	62.50 €

TOTAL	1,312.50 €
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The actual investment made by the Municipality is unavailable since other critical points of the town and of the cycle path had been fixed for the occasion.



CONCLUSIONS



From the construction of the project no other crash between cars or trucks and bicycles happened.

Of course, few time passed from the end of the works until today, but this is still a good result.

CONCLUSIONS

This was a great experience.

Dealing with the authorities, searching for funds, communicating with people using media to raise the awareness on road safety, trying to solve issues related to both the project design and the authorities was surely educational.

This opportunity helped us to grow both under the technical aspect as engineers and as individuals.

THANK YOU

FOR YOUR ATTENTION