



## Action plan

### Part I – General information

**Project:**interreg europe 2014-20 - Cycle Walk - PGI02450

**Partner organisation:**\_Autonomous region of Sardinia

Other partner organisations involved (if relevant): \_\_\_\_\_

**Country:**\_\_\_\_\_ Italy \_\_\_\_\_

**NUTS2 : Region:** Sardinia\_\_

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### Part II – Policy context

The Action Plan aims to impact:

- Investment for Growth and Jobs programme
- European Territorial Cooperation programme
- Other regional development policy instrument

Name of the policy instrument addressed: **Program agreement for cycling, pedestrian and intermodal mobility**

Website of the Sardinia region, dedicated to the Agreement  
<http://www.sardegnamobilita.it/index.php?xsl=1032&s=33&v=9&c=10635&es=6603&nodesc=1>

The Program Agreement for cycling, pedestrian and commuter mobility, stipulated between Sardinian Region and local Administrations in 2012 remains the most important reference point for zero-emission mobility policies in urban areas of Sardinia.

The Agreement followed reprogramming, in 2011, of the Sardinian OP EFRD 2007-13, where for the first time European programs resources for cycling were inserted (line 5.1.1 b "Alternative modes of transport" € 9,800,000 )

The priority was assigned to heavily trafficked cities (65% by car): Cagliari and Sassari, but Olbia and other cities could now also be included in the planned "second phase" (Art 7 Agreement).

With the first actions ( financed also by Sardinia OP EFRD 2014-20, and PON Metro 2014-20 - national operational program for metropolitan cities in Italy) urban cycling routes were created into City center and towards city attractors (Molentargius Park, Poetto beach) with important results: daily use of the bike went from 0.4% (Istat 2011) to 4.4% in 2016 (CRP-CIREM survey - University of Cagliari).

But work on the city's cycle network was interrupted, following the bankruptcy of the commissioned company; and with them, the growth trend of sustainable mobility was interrupted, at

still low values: the promise of a widespread cycling network in the city center had brought a system of important, but unfinished, cycle paths that stopped ... in traffic !

And from the CRP-CIREM survey, alongside the important growth in cycling mobility, a very serious problem emerged, which if not resolved, could jeopardize the further growth of sustainable mobility: 78% of the sample considered DANGEROUS to ride a bicycle in the metropolitan city.

In the absence of an effective strengthening of the urban cycle network and an effective reduction of the cycling risk, the beautiful option of the new sustainable mobility risks being limited to a few niches of experts, cutting families, older age groups and children out, the whole weak user. All new road maintenance interventions should be checked and brought into line with this essential objective

This widespread cycling risk situation was then confirmed, during the study visits, in almost all the urban partners of the project (with the exception of the beautiful low-density area in Burgerland, with little traffic):

In Bungereland as in Vilnius, Oradea, Gorizia, Olbia, Cagliari the historical centers of the partner cities were, of course, enriched by cycle paths and important pedestrian islands. But in the suburbs the reality of a road infrastructure certainly inadequate to the objective of protecting and growing "weak" mobility was almost always confirmed, and the minimum shares of daily bicycle travel (not exceeding 7-8%) confirmed the correlation between inadequate provision of cycle paths, high perception of "cycling" risk, low propensity to use the bike. And also for most of the partners the question of the risk to which "vulnerable" mobility is exposed, and an active mobility option to be limited to a few expert cyclists emerged. While anyone who ventured into activities to promote cycling among the weakest users (inexperienced cyclists, families, schools, children) had to take into account the actual danger of bicycle mobility !!

In this regard, during the study visit to Vilnius, the possibility of safely restoring roads and urban intersections planned in the past in the vision "only cars and trucks" (few buses, few pedestrian rights, bicycles not considered) was studied.

And the possibility emerged of improving the situation of the consolidated urban center with actually quite simple interventions, within an urban traffic to be controlled through

- traffic calming interventions.
- cycle paths
- reorganization of the road space.

Major urban area adaptation actions, finally activated also in the urban center of Cagliari, which will improve the cycling of the town.

But unfortunately insufficient to solve a much more complex situation! And in particular, some Stakeholders from Romania, with extensive cycling experience throughout Europe, pointed out that in Italy, and specifically in Sardinia, the problem of road safety was extremely more serious than elsewhere.

In almost all Italian cities, such as Cagliari and Olbia, the recent urban expansion is in fact connected to the opportunities offered by a new, vast network of urban highways, built between the 70s and 80s, at the time of mass motorization

Urban highways without any attention whatsoever to the actual importance of other mobility, pedestrian and bicycle. Made with a "car only" vision.

A system of large fast road axes created to bring the countryside and the city closer together, which today represents a terrible obstacle to the growth of sustainable mobility: It is a divisive element of the city, dissected by barriers whose overcoming constitutes a risk factor, or a total impediment for weak mobility.

But compared to the low propensity to cycle found among the cycle walk partners, important indications emerged from the constant comparison with Amsterdam and other Dutch realities (Groningen, European SUMP conference, 60% of cycle mobility; Delft definition of the cyclewalk quality criteria):

Where the possibility of achieving a truly safe and attractive low-emission urban mobility for cyclists and pedestrians was evident, without major interventions, even in the presence of important vehicle flows.

Finally, this is a simple mobility model, where the strong propensity to cycle is favored, simply, by the vast network of dedicated cycle routes, by traffic lights for bikes and pedestrians, by neighborhood streets where precedence is for weak demand, by diffusion of intersections at staggered levels, which avoid the impact between the road system, and the flows of people, or bikes.

And immediately verifiable, through the specific indicator linked to the presence, along the city streets, of families with children on bikes; the perception of the "cycling risk" is close to zero, and the use of the helmet, for daily cycling, unknown for the majority of the population

In short, thanks to the Cycle walk project, the very close correlation between the growth of active mobility modes and the presence of infrastructures separated by the intrusiveness of vehicular traffic, capable of restoring the necessary feeling of relaxation and safety to bicycle rides were confirmed.

And the real possibility of an attractive urban mobility for cyclists and pedestrians, even in cities with a high rate of private motorization.

As for example Cagliari, with 450,000 inhabitants spread over 17 municipalities, where 78% of commuter journeys to the city center take place by car: 170,000 vehicles that pour into the city center from the vast hinterland every day.

Adding to the 100,000 vehicles residing in the city center, where car travel still remains, with 60-65% of the total, the majority, even if significant pedestrian (18%), and cycle (4%) mobility shares appear.

An estimate of the distances traveled every day by this river of cars has provided the figure of over 7 million km, for an emission of CO<sub>2</sub> in the order of 570,000 tons per year, and a global car cost (fuel, vehicle cost, taxes, maintenance) estimated for the 270,000 daily vehicles in over 1300 million euros per year (*calculated on the basis of the parameter of € 0.55 per car and per km, prudently estimated on the basis of the ACI tables for the mileage reimbursement of employees who use their own car for business purposes, published annually in Italy (<https://www.informazionefiscale.it/Tabella-ACI-2020-calcolo-rimborso-chilometrico-fringe-benefit-auto-aziendali>)*).

In this situation, the action plan aims to identify the most useful actions for the creation of a truly attractive network of active mobility for cyclists and pedestrians, promoting a radical change in the governance of the streets in the entire metropolitan city.

The following have been foreseen:

1. the completion of urban cycle network, which is still fragmented (*some important interventions are already underway, within the national metropolitan cities program (PON Metro 2014-20), others will be identified within the SUMP's being developed, and included in the second phase of implementation of the program agreement for cycle, pedestrian and intermodal mobility*).
2. a pilot action dedicated to the reduction of cycling and pedestrian risk, through the restoration of "sustainable" continuity between portions of the city and environmental attractions. Together with the completion of the network described in the previous point, the aim is to reduce a generalized feeling of dangerousness of the bicycle: feeling now extended to 78% of those who responded to the 2016 CRP-CIREM survey.  
Aiming to involve all the responsible parties in an essential reform dedicated to minimizing the divisive effect produced by the major roads that run through the city.  
Where for too many years the fast road culture has considered it "normal" that large municipalities in the hinterland (Quartu, Selargius, Elmas Assemini Capoterra, etc ..), important districts of the metropolitan city (Pirri, Mulinu Becciu, La Palma), important attractors (Monteclaro Park, Hospitals, Universities, Lagoon and Park System) were not reachable in a sustainable way.

3. A decisive and widespread policy to support bike-train-bike and bike-bus-bike intermodality, stimulating public transport carriers and primarily railways with the certainty of an action that leads to significant increases in users, linked precisely to the possibility of comfortably completing the journey, through the bicycle that awaits, faithful, at the station.

In this way, the actions to be inserted will be identified

- in the SUMP's being developed by the Metropolitan City and the Municipality of Cagliari, of other important municipal entities such as Quartu and Olbia)
- in the road maintenance plans
- in the planned "second phase" of the Program Agreement for the growth of cycling, pedestrian and commuter mobility between the Metropolitan City Region Municipalities and main entities (Molentargius Park Authority, Port Authority, Anas):  
the financial coverage will be identified in the next programming 2021-27, within the measures dedicated to the reduction of CO2 and urban Quality.  
Aiming for a modal shift in favor of walking and cycling in the order of 10%, with an expected environmental benefit on a reduction of CO2 in the order of 60,000 tons / year

### Part III – Details of the actions envisaged

**ACTION 1 Completion of the urban cycle route in the municipalities of the metropolitan city.**

**ACTION 2 Identification of pilot interventions for the restoration of sustainable continuity between the neighborhoods and city parks, the reduction of cycling and pedestrian risk, the metropolitan environmental cycle and pedestrian routes.**

**ACTION 3 - Intermodality**

**ACTION 1 Completion of the urban cycle route in the municipalities of the metropolitan city.**

**The background** (please describe the lessons learnt from the project that constitute the basis for the development of the present Action Plan)

As has been said during the Study visits of the Cycle Walk Project, a situation of urban cycling risk widespread among almost all the partners of the project was confirmed, (with the only exception of the beautiful low-density area of Burgerland, with little traffic) .

During the study visits, wonderful historical centers with cycle paths and important pedestrian islands were discovered (in Vilnius, Oradea, Gorizia, Olbia, Cagliari).

But in most of the suburbs, like in Cagliari, road infrastructures were certainly inadequate to the goal of protecting and growing "vulnerable" mobility: even across Europe, even among the urban Partners of the project, urban mobility systems unsuitable for cycle and pedestrian mobility were still widespread: even in these realities a condition of cities slave of the car emerged.

Despite optimal examples from many European cities were still common, also in cycle walk's partners, systems that are unsuitable for cycle and pedestrian mobility.

In particular stakeholders saw car enslaved cities and "only cars and parking lots" condition for the urban's road:

- with the cars "Master" of the road space
- modest rights to pedestrians, handicapped, people with walking difficulties (narrow pavements!)
- minimal attention for the transit by bike, sometimes not even taken in consideration by the planner and almost everywhere often forced into a dangerous promiscuity with cars, trucks and motorcycles.

Consistent with the quality criteria shared during the meetings in Delft there is an urgent need to increase safety standards in particular for the large road network, verifying that the objective of traffic fluidity does not affect the safety of pedestrians and bicycles, to which it must be in each case the safety of the transits as in the crossings is guaranteed .

In this regard, during the study visit to Vilnius, the possibility of safely restoring urban roads and intersections planned in the past in the vision "*cars and trucks only*" was specifically studied. (few buses, few pedestrian rights, bicycles not considered):

The possibility of improving the situation of the consolidated urban center with actually quite simple interventions emerged within an urban traffic to be controlled through

- traffic calming interventions.
- cycle paths
- reorganization of the roadway

### **1.2 Completion of the urban cycle route in the municipalities of the metropolitan city. Interventions**

It is an action of the City of Cagliari dedicated to the completion of the city's cycle network: by 2021 the city will be enriched by protected cycle paths along the most important streets of the city center, which lead to the station and the port (via della Pineta, Via Dante, via Sonnino, via Liguria, via Is mirrionis, via Sant'Avendrace, Viale trieste, Sant'Elia district, Molentargius park).

The following, without claiming to be exhaustive, are some of the actions included in the National Metropolitan Cities Program (PON METRO 2014-20):

- Cagliari - Viale Marconi cycle route - section of Cagliari sv. Pontis Paris - PON funds Metropolitan Cities Action CA 2.2.2b € 1.158.000
- Cagliari-Terramaini cycle route Via Newton-Via Vesalio-Via Flavio Gioia - PON funds Metropolitan Cities Action CA 2.2.2b € 1,124,000
- Cagliari- Montemixi cycle route - From Viale Poetto to Piazza Repubblica Fondi PON Metropolitan Cities Action CA 2.2.2b € 1,080,000
- Reunification of the existing cycle network: Via Liguria, Via Sonnino, via Roma, viale Trieste up to Piazza Sorcinelli Fondi PON Metropolitan Cities Action CA 2.2.2b € 338.000
- Extraordinary project for the regeneration of the Sant'Avendrace neighborhood - redevelopment of the urban axis € 2,500,000

### **1.3 Players involved** (indicate the organizations in the region that are involved in the development and implementation of the action and explain their role):

Responsible for Municipality of Cagliari. The associations of cycling and pedestrian users, have been informed of the projects being developed, and follow the implementation phase.

**Timeframe:** 2021 the new cycle paths are under construction, and completion is expected between 2020 and 2021. For that date an expected, important improvement of the city's cycle path is expected

**Costs** (if relevant) € 6.200.000 € - PON Metro 2014-20

## **Actions 2**

**Identification of pilot interventions for the restoration of sustainable continuity between the neighborhoods and city parks, the reduction of cycling and pedestrian risk, the metropolitan environmental cycle and pedestrian routes.**

**1 The background** (please describe the lessons learnt from the project that constitute the basis for the development of the present Action Plan)

During the Study visits Cycle Walk, together with the best practices of pedestrian traffic and cycling in historic centers, it was possible to appreciate numerous cycle connections separate from traffic:

For example the cycle routes of the Bungerland hidden in the hilly landscape, and those built on the tracks of the old railway, which connects Gorizia and Nova Gorica in comfortable sustainable mobility, or the cycle paths along the Isonzo-Soca river where the bicycle crosses the borders, as a connecting element between two different states.

And the cycle paths of Oradea and Vilnius, starting from the rivers that cross the cities to connect to the centers of the hinterland: it is also an economic element, with obvious advantages compared to the possibility of intercepting segments of the growing demand for cycling tourism.

In Sardinia, this strategy which has accompanied the policies aimed at enhancing the territories with the policies for enhancing sustainable mobility has long been a staple of sustainable mobility policies.

Since 2012, the program agreement for cycling, pedestrian and commuting mobility assumed the need for a second phase of interventions explicitly aimed at "increasing the competitive advantage represented by the natural, landscape and cultural attractants widespread in the metropolitan city"

This is what happens in Olbia, with an important itinerary under construction between the airport, the lagoon, the city and the beaches, where the components of urban mobility and tourist use coincide.

And so it happens in Cagliari, where the itinerary that from the Poetto beach reaches the city through the area of the Salt flats and the Molentargius Park represents one of the strengths of the new sustainable mobility:

Alternative compared to the need to access the large 100,000 beach tourist ... by car !

A "best practice" that must now be strengthened, becoming an effective component of the sustainable mobility offer on the connection between the cities of Cagliari and Quartu:

From the Molentargius area, through the rural roads with very low traffic between Quartu and Medau su Cramu finally it will be possible to reach the center of Cagliari, avoiding the transit by bike along the very dangerous Viale Marconi.

Furrowed by 32,000 cars / day, still without sidewalks, and protected cycle paths.

Within an area of exceptional landscape value, enriched by bird watching points, water intakes, fountains and urban gardens, with times comparable to those of the congested road axis !

The prudential hypothesis of a modal shift of not less than 10% leads to a forecast of at least 3200 bicycles per day

But other sections of the highest naturalistic and landscape value are present, widespread in the Metropolitan City, essential for the growth of sustainable mobility, unfortunately still unrelated to a valorization project.

For example:

- the connection with the Cagliari-Elmas airport which runs alongside the railway, parallel to the lagoon of Santa Gilla: a possible important alternative to the extremely dangerous transit on the SS130 state road, without dedicated cycle paths. ... Unfortunately at the moment almost impractical, due to the absence of a site enhancement project (SIC, situs of Community interest - Santa Gilla lagoon, ITB040023),
- the beautiful ITINERARY OF THE LAGUNA, from the village of Giorgino to Uta, which is also currently forbidden to bikes and people, as it is connected to the city by a long and dangerous highway bridge, where the pre-existing pedestrian passage has been unusable for long time.
- the easy connection, even pedestrian, between the town of Monserrato, the Polyclinic and the University structures: important alternative to the dangerous cable-stayed bridge that crosses the important state road SS554, which allows access to university facilities ... only to cars: at moment "vulnerable" mobility does not have access to its university and hospitals.

As has been said, it was in particular some Stakeholders from Romania, with extensive experience in cycling tourism throughout Europe, who strongly signaled that *in Sardinia (but also throughout Italy!) the problem of safety for bicycles was extremely more serious than somewhere else !.*

Because of that system of large road infrastructures and ring roads built in all Italian urban areas between the 70s and 90s, to bring the city and the countryside closer together, in the era of motorisation for everyone.

Unfortunately with a "car only" vision devoid of any attention to the actual importance of other mobility, on foot, by bike, let alone the disabled.

System that today represents a terrible obstacle to the growth of sustainable mobility, in the city and in the entire metropolitan area: an ugly divisive element of a city dissected by physical and vehicular barriers, the overcoming of which constitutes a risk factor, or a total impediment for mobility weaker.

Because of these barriers in Cagliari it is not possible to reach in a sustainable way the large peripheral neighborhoods that border the urban center (Pirri, Mulinu Becciu, Su Planu, La Palma), important metropolitan attractors such as the University and the Polyclinic of Cagliari, hospitals, the important urban center of Quartu, and almost all the hinterland centers.

And it is not possible to give continuity to routes with a very high environmental value, also separated from the city by this widespread network of large urban highways.

And in Olbia it is almost impossible to reach by bike, from the city center, the airport area, or the district of Poltu Cuadu, or the beaches of Pittulongu, despite the short distances: 15-20 minutes by bike between the city center and the airport of Olbia, as well as between Cagliari and Quartu, along Viale Marconi.

A non-exhaustive description of the sections at serious cycling (and pedestrian) risk shows, even to those unfamiliar with the city, the seriousness and spread of the problem:

- sustainable continuity interrupted between the area of the Pirri Hospitals, Monteclaro Park, Via Monteclaro and via Cadello: overcoming the busy "ex motel agip" roundabout is dangerous both by bike and on foot, and further complicated by the presence of the entry junctions of cars coming from the median axis, and from the high way SS131
- the urban highway SS554, free of traffic lights and impossible to cross on foot or by bicycle, divides an extensive territory into two, preventing sustainable accessibility both to the University and to the Polyclinic of Monserrato, and to numerous hinterland centers.
- on the large crossroads of Pontis Paris and the neighboring large attraction "le Vele" shopping center, the transit of bicycles is at very high risk, as well as the transit of pedestrians in particular at night (young people without cars heading to the Cinema area).
- on Viale Marconi, the historic road connecting Cagliari-Quartu (the first and third cities of Sardinia), there are no pedestrian crossings or cycle paths.
- on the long zero-kilometer bridge of the SS195, which crosses the large lagoon of Santa Gilla, reconnecting the industrial area of Macchiarreddu, the village of Giorgino, the Scientific Technology Park (CRS4), the route of Sant'Efisio from the city of Cagliari to Capoterra and Pula, and the cycle path of the Uta lagoon, Assemini, Elmas), only driving by car is allowed.  
Also the suitably foreseen action within the PON METRO - national metropolitan cities program Cagliari-Elmas Airport-(Cycle-pedestrian corridor and Cycle-pedestrian bridge) has not been followed, while the pre-existing pedestrian passage has been closed for years.

The studies on cycling and pedestrian risk launched within the cycle walk working group "*participatory construction of a cycle and sustainable network*" with the support of technicians and professionals (order of engineers, order of architects, network of professions, environmental and cycling user associations) have already allowed a first important recognition of the phenomenon.

And they have shown the effective possibility of solving such situations often with low-cost interventions, linked to the reuse of existing routes such as along the Via dell'Argine for access to the University Hospital, or with the restoration of cycle-pedestrian passages never used, such as those on the large viaduct that crosses the Santa Gilla lagoon.

Important solutions to complete the city cycle network and achieve the goal of modal rebalancing.

But also important solutions for the sustainable future of the city, based on the landscape and environmental use of the numerous metropolitan park areas: the environmental cycling and pedestrian routes

Itineraries of the new sustainable mobility which the Metropolitan City Strategic Plan, now under development, is also attentively looking at, where the tourist value is accompanied by the importance for the new sustainable urban mobility.

In the perspective of a city with new cycle infrastructures and a new walkability, welcoming also for tourists on foot or by bicycle, micromobility, disabled, elderly, families and children.

Alternatives to that network of motorway connections, prohibited to bicycles and mobility weakers, which interrupts the territorial continuity of the pedestrian and bicycle paths between the city center, neighborhoods, large municipalities and environmental attractants widespread in the metropolitan area.

A brief, non-exhaustive summary shows the importance of the actions useful for restoring sustainable continuity on the following environmental itineraries for pedestrians and bicycles :

- **Waterfront cycle path** - where the existing connections along the coast (from the port of Cagliari to Su Siccu), and the walk on the front of the Sant'Elia district will be joined in the short term (2020) by the bridge being built at the Nervi warehouse.
- **Environmental cycle-pedestrian corridor of Monte Urpinu and Molentargius-Cagliari-Quartu connection**, where a new bridge between the tracks now under construction on the Terramaini canal and the rural roads already present in the Molentargius park would optimize the link between park and city: defining the connection Quartu-Cagliari with a short route, an alternative to the busy and dangerous Viale Marconi.
- **Cagliari Quartucciu-Selargius-Quartu environmental itinerary**: a transition zone between the avifauna lagoon system and the Marconi avenue is assumed, with tall trees to intercept CO2 and particulate emissions from the road, cycle and pedestrian walkway, taken of water for firefighting and bird watching points. The intervention is still in the planning stage, but could be covered by sources from the Ministry of the Environment (INVITALIA action).
- **Environmental Itinerary of Monserrato, the University Hospital and the Astronomical Observatory**: the redevelopment with green furnishings and rest points of a long existing track in the municipality of Monserrato is expected, starting from the urban center, along the Terramaini Channel, with connection to via Caracalla and via dell'Argine, up to the University Hospital.  
To this end, the possibility emerged of optimizing an existing route on a driveway that underpasses the SS554 state road, allowing the separation of the cycle route from vehicular traffic.
- **Cycle route of the Santa Gilla lagoon East shore Cagliari-Elmas airport-municipalities of Elmas and Assemini-Decimo-Uta**

Starting from the recognition of the actions already started by different subjects, some with modest operational results, it will be necessary to verify the possibility of

- use the service roads owned by the Railways, along the entire Auchan-Airport section,
  - ringing the path along the banks to cycling and pedestrian usability,
  - starting from the historical elements such as the tower of the Fourth Regia and the restoration of the historic jetties and of the ancient mud huts, reeds and marsh grass.
  - restoring the territorial continuity now interrupted by the viaduct and the bridge at km zero of the SS195 stata road.
- **Cycle route of the Santa Gilla lagoon west shore- Cagliari- Giorgino- - CRS4- Municipalities of Pula, Capoterra and Uta - Sant'Efisio route**  
Starting from the recognition of the actions already started by different subjects, some with modest operational results, it is necessary to verify the possibility of

- restore the existing pedestrian walkway along the Sa scaffa bridge,
- restore the path along the banks to light traffic
- complete the itinerary of Sant'Efisio, towards Capoterra and Pula
- establish the connection between the two sides of the lagoon with a dedicated cycle and pedestrian walkway, according to the PON Metro 2014-20 forecast

## **2.2 - The intervention**

### **2.2.1. Environmental itineraries for naturalistic use and the growth of sustainable mobility by bicycle and on foot. Preliminary conference and actions already underway, which will be completed by 2021**

#### **2.2.2 Competition of ideas for the restoration of sustainable continuity between parks and neighborhoods in the city, the creation of metropolitan environmental cycling routes, the reduction of cycling and pedestrian risk**

### **2.2.1. Environmental itineraries for naturalistic use and the growth of sustainable mobility by bicycle and on foot. Actions already underway, which will be completed by 2021**



In a metropolitan area which is also a tourist city, full of natural and landscape attractions, the action to complete the city's cycle network must offer sustainable mobility routes that combine urban value with naturalistic, landscape and environmental use.

In line with the quality criteria developed together with the Cyclewalk partners, numerous subjects are working in this direction: planning on a regional scale is in fact engaged on part of these itineraries, with the "MEDITERRANEAN CYCLING" (Eurovelo Network-corridor8) which in the future it will cross the whole of Sardinia, with over 2000 km of cycle paths between the north, south, east and west of the island, starting from ports and airports, towards the cities, the coast, the mountain territories.

And the intervention on environmental itineraries is actually already present in the action and objectives of the administrations of the Cagliari metropolitan city.

It is the subject of debate within the framework of the Metropolitan City Strategic Plan, and the municipalities of the area has signed the *Lagoon Agreement*, aimed at the best enhancement / management of this vast environmental heritage.

On these itineraries of very high landscape and historical value, therefore, we intend to carry out, in agreement with the Superintendency for Historical and Environmental Heritage, a study aimed at the overall framework of intervention opportunities and the implementation planning of the intervention, to be presented within a "preliminary conference" (L 241 art 14 paragraph 3) specifically aimed at the reconstruction of the history of these itineraries and their actualization in the context of the sustainable development strategy of the Metropolitan Area.

But also some interventions, already in progress, which will be completed by 2021, should be noted as part of the Action Plan.

- Bicycle and walkable bridge over the San Bartolomeo channel - Urban development contract for the Sant'Elia district - Redevelopment of the Nervi pavilion € 394,520 Municipality of Cagliari-
- District Sant'Elia - park of the rings first lot urban enhancement contract Sant'Elia district € 1.993.793 € - Municipality of Cagliari
- New cycle path along the Terramaini channel, which allows the networking of existing paths in the urban center, and in the Molentargius park (*the restoration works of the track were carried out as part of a larger intervention dedicated to the reuse of waste water from the is Arenas treatment plant*. Total amount 5.400.000 € - Municipality of Cagliari
- Cycle and pedestrian itinerary on the Santa Gilla lagoon - Sant'Efisio itinerary, from Giorgino fisherman village to the junction of the Contivecchi salt road - - € 1,500,000 - Territorial Planning CRP-PT 46-2 Metropolitan City of Cagliari.

**2.3.1 Players involved** (indicate the organizations in the region that are involved in the development and implementation of the action and explain their role):

The Metropolitan City of Cagliari, with the support of the Regional Planning Center and the superintendence for cultural and environmental heritage, will have to organize the preliminary conference foreseen in accordance with L.241, with the involvement of

- the bodies responsible of the Regional Cycle Network,
- the Molentargius Park Authority,
- the other Bodies responsible for the compendium territorial concerned (SoGAER, RFI, Port Authority),
- the Municipalities involved in the "Lagoon Contract".

The contribution of the stakeholders of the Cyclewalk project, of the associations of cycling users and of sustainable development, of the University, of the Associations of technical culture (order of Engineers, order of architects, association of biological architecture) will be important

Together with these subjects, the framework of interventions to be taken within the next 2021-27 programming will be defined

The Municipality of Cagliari will complete the relevant interventions of competence already under construction by 2021.

The Metropolitan city of Cagliari will complete the interventions of competence, now in the start-up phase, by 2021.

**TIMEFRAME an cost**

**9.287.000 € Works is expected to be completed by 2021.**

**20.000 € Feasibility study and preliminary conference: 2020**

### 2.2.2 Competition of ideas for the restoration of sustainable continuity between parks and neighborhoods in the city, the creation of metropolitan environmental cycling routes, the reduction of cycling and pedestrian risk.

The first essential lesson learned during the Cycle Walk project is that relating to the actual possibility of a livable city, strong in safe mobility and attractive for cyclists and pedestrians, even if affected by important vehicle flows.

In particular during the Study visits carried out in Amsterdam and other Dutch cities (Delft- European SUMP Conference; Delft - definition of the criteria of cyclewalk quality criteria) the perception of "cycling risk" appeared close to zero: despite the presence of important vehicular flows people and bicycles passed the highways without difficulty, and it was frequent to see families on bicycles, with children and adolescents who from an early age discovered the possibility of autonomy linked to the bicycle.

A reality in which the strong propensity to cycling is favored

- from the vast network of cycle paths;
- the spread of traffic lights for bicycles and pedestrians,
- by the spread of intersections at staggered levels, which resolve, with modest infrastructural commitment, the impact between weak mobility, and the large road network.

On the contrary, where the zoom is directed towards the metropolitan city of Cagliari, we find an exactly opposite "vision", totally negative for the growth of sustainable mobility.

If even some simple solutions, widespread in the European experience, such as the construction of routes in the underpass on road sections in viaducts become... insurmountable hydrological risk problem !

Here for many years the "fast road" culture has considered "normal" that large municipalities in the hinterland (Quartu, Selargius, Elmas Assemini Capoterra, etc ..), important districts of the metropolitan city (Pirri, Mulinu Becciu, La Palma) important attractors (hospitals, universities, lagoon and park systems) were not reachable in a sustainable way.

And the constant maintenance and modernization of the road network is still based on an old-fashioned park of projects, still without specific guidelines for the safety of bicycle and pedestrian mobility

Born on the basis of the intuitions of the cycle walk working group - *participatory design of a cycle network*, and of the many requests received by the cycling users and environmental association the Competition of ideas for the reduction of cycling risk and the restoration of pedestrian and cycle continuity aims to formalize a series of simple solutions, sometimes already present in the debate on the sustainable growth of the city.

Solutions that can guarantee optimal accessibility conditions for attractors and inhabited areas which are still accessible only by car.

The formula for the competition of ideas was also chosen in order to involve technical culture as much as possible.

Who must reflect on the limits, for the urban life, of this "car only" vision, which finally came to deny the need to create protected cycle paths on the busiest roads (for example Viale Marconi) or to guarantee safe crossings also to pedestrians and bikes, on most roads !!!

And it also intends to determine an effective paradigm shift with regard to the governance of road infrastructures, in declared dissent with those who have hitherto been unable to prevent these major roads from interrupting the sustainable continuity of the city.

Realizing a serious impediment to the effective diffusion of bicycle and pedestrian mobility.

Municipalities and road owners will be involved in an essential reform of the governance of the road space, dedicated to minimizing the divisive effect produced by the major road axes, guaranteeing safety and accessibility to the protagonists of sustainable mobility (Citizens, and Tourists) throughout the metropolitan territory.

**2.3.2 Players involved** (indicate the organizations in the region that are involved in the development and implementation of the action and explain their role):

With the support of the Regional Road Safety Observatory, the road owners will be specifically involved in this change of governance, who will be invited to comment on the validity of the intervention proposals that emerged from the competition of ideas.

This will lead to an important system governance activity, aimed at verifying a right to territorial continuity hitherto denied to large portions of the territory, as well as equal dignity to be recognized for what concerns the use of the roadway, the weak mobility.

**Timeframe**

**Competition of ideas for Pilot Actions dedicated to the reduction of cycling and pedestrian risk.**

**Invitation to tender** - 3 months

**Drafting of project documents** - 5 months

**Realization – 2021**

**Costs (if relevant) 40.000 € - Regional Funds**

**ACTION 3 intermodality project - bike-train - bike**

**3.1 The background** (please describe the lessons learnt from the project that constitute the basis for the development of the present Action Plan)

In particular during the Study visits in Holland, and in Eisenstadt (Bungerland), the role that railways and public transport can play in the growth of public transport emerged clearly:

even small structures dedicated to the storage of bicycles allow the same an important completion of the transport offer, making it possible to reach the departure station, or the final destination with maximum comfort

In the case of the "Bike-Train-Bike" best practice presented during the study visit in Burgenland, small intermodal structures on the various small stations guaranteed a 14% increase in rail users

The Dutch experience also shows how the major stations where thousands of commuters converge, constitute a reserve of extreme interest for urban cycling, as the bike is an interesting opportunity for the last mile of the journey compared to a pedestrian route, or on bus

On the other hand, the chance of train-bike intermodality, did not emerge during the study visit to Oradea, or to Vilnius (which, however, launched a specific action within the action plan)

And also in the case of Sardinia, the railway company has historically underestimated the intermodal opportunity, such as the possibility of transporting bicycles by train.

And the best practices presented by the partners of Gorizia-Nova Gorica, relating to bicycle trains organized from Austria and Germany to the coasts of Dalmatia and Istria have not yet been reflected in Sardinia: here the groups of cyclists do not have the opportunity to discover different territories (moving with the bicycles by train for example from Olbia to Oristano or Cagliari) even by reservation.

And also the possibility of using the train to get away from the city and reach the thousand points of the "regional wilderness" collides with an offer of bike + train mobility still insufficient, with the risk of not being able to get back on a train that is already too busy by commuters.

However, the bicycle is becoming a convenient way to reach the station, at the beginning or end of the journey by train or bus.

But many commuters are forced to leave the bicycle tied to the first pole in the station, exposed to unfortunately widespread vandalism, in Olbia as in Sassari, in Oristano as in Iglesias, San Gavino, along the railway lines that converge on Cagliari

There is a substantial delay in the organization of the station spaces, and so also in the station in the city of Cagliari, where public transport by rail and road converges, with over 5000 commuters.

In this case, however, the construction of a small cycle station on the Dutch model was planned, which includes not only the rental / sharing of bicycles, but also the repair and safekeeping of the cycles.

According to a model to be replicated along the entire railway route, from Golfo Aranci to Olbia to Sassari to Oristano gradually associating the creation (urgent) of bike storage points with ebike rental points, which can simultaneously be the starting point for excursions in the territories.

A special mention deserves the opportunity to experience the train-bike intermodality along the Olbia - Golfo Aranci route, between tourist villages and beautiful beaches, where a frequent shuttle train could certainly support the possibility of using the bicycle, or ebike, to reach the tourist resorts or the many beaches, without a car!

And with the completion of the cycle network on the seafront of Olbia, from the airport to some beautiful beaches, the hypothesis of bicycle or e-bike rental points emerges, which could be experimented in the future in favor of the thousands of tourists arriving from summer (by car!) on the most important port of Sardinia.

Furthermore, specific surveys will allow to test the growth of sustainable mobility, both among civil servants and commuters: the persistence of a feeling of danger with respect to the use of the bicycle, and the interest in a future daily pedestrian or cycling mobility, completing the journey by train or bus with a bike at the station, will be specifically tested.,

**3.2 Intervention** (please list and describe the actions to be implemented)

- Cagliari cycle station (first phase 500 bicycles)
- Bike storage points in the departure stations along the Iglesias-Cagliari, Carbonia-Cagliari, Oristano Cagliari, Sassari, Portotorres Olbia lines
- 2 surveys on the growth of cycling, pedestrian and intermodal mobility

**3.3 Players involved** (please indicate the organisations in the region who are involved in the development and implementation of the action and explain their role) Ferrovie dello Stato ; Comune di Cagliari; Città Metropolitana, Associazioni dei Pendolari e dell' Utenza Ciclistica; altri comuni lungo linea., Bike sharing Cagliari (CABUBI), Rete delle Professioni per la Mobilità sostenibile.

The action is developed in collaboration with the Metropolitan City, the Municipality of Cagliari and the companies of the extra-urban public transport ARST, RFI, which in the context of the PON METRO 2014-20 will engage in the arrangement of the premises and equipment of the Cagliari cycle station and of the Metropolitan City.

The management of the asset will be assigned to operators of sustainable mobility, who will also be able to develop commuter services and commercial activities related to the world of bicycles (repair, sale, rental, custody)

Timeframe 18 mesi - Cost € 147.562,00

**Funding sources**

PON Metro Action :2.2.3 Realization of two cyclostations CUP: [G24E16001770006](#) € 117.562,00-

Bike storage points **€ 10.000 Regional funds**

2 surveys on the growth of cycling, pedestrian and intermodal mobility **€ 20.000 - Regional funds**