

PROJETO: BiciMobi / CiMTB Experience

Bicycle for All

the activity of riding a bicycle:

Bicycling has become more popular in the city.

Bicycling should be for everyone, not just the young, fit, and physically daring.

INTRODUCTION

Araxá is about to realize a dream that began in the transition from the 1980s to the 90s, when a group of people began to discover the practice of Mountain Biking more intensely around the municipality. Almost immediately specialized bike services, number of cyclists and MTB sporting events intensified, taking advantage of the existing perfect arena for athletes from all over the world to fight and have fun riding their bikes: Barreiro.

The next page of this story was masterfully written by CIMTB (International Mountain Bike Cup), which over the last 20 years, revolutionized and positioned Araxá, Triângulo Mineiro, Minas Gerais and Brazil, in the select group of the main international tracks, including herein the MTB track of Barreiro as a temple of the national MTB. In the last 20 years CIMTB received delegations from more than 30 countries, as well as world champion athletes and, along those years, Araxá has been the stage for the Olympic Game trials since Beijing 2008, London 2012, Rio de Janeiro 2016, Tokyo 2020 and, of course, in order to celebrate CIMTB's 21st anniversary, the city will also host the Paris 2024 Games.

Therefore, for those and many other reasons, Araxá was presented with the confirmation of two major events in 2021: the hosting of the Mountain Bike World Cup, between 18 and 21 April 2024, and the 21st edition of CIMTB - International Cup, at the *Grande Hotel Termas de Araxá*, between 26 and 28 April.

OBJECTIVE

Nowadays, demographically speaking, there is an increasing movement of people worldwide, mostly in urban settings, thus generating problems associated to traffic, pollution, safety, to mention just a few, and justifying the importance and need for bicycling, so that citizens are allowed sustainable mobility. This has become an issue of public and private interest in developing societies.

Therefore, having the Mountain Bike World Cup, together with the CIMTB both staged in Araxá, is an excellent opportunity to promote the practice of leisure and routine life bicycling in the municipality.

In order to ensure the carrying out of the event with excellence, and bring the population closer to the competitions, ensuring their accessibility, this document aims to present the Mobility Commission in charge of managing the demands inherent to the moving around of people during CIMTB sporting events in Araxá.

The project of the Araxá Mobility Commission, BiciMobi/CIMTB, for the World Cup of Mountain Bike and CIMTB, not only ensures that everyone can actively participate in the event, but also establishes a standard of unprecedented and inclusive accessibility services to the population, thus setting an example for future events, whether related to sports activities or not, in Barreiro.

This project has the potential to significantly reduce the emission of carbon dioxide CO₂, associated to the circulation of automotive modes, encouraging athletes, spectators and volunteers to adopt means of collective automotive transport and bicycle.

TEAM BiciMobi CiMTB Experience

- ALEMÃO SILVA: A professional sports photographer. A native of São Paulo with a “mineiro” accent, has been following the national Mountain Bike circuit for 14 years, and is an expert on the MTB community.

- GABRIEL RAMOS: Holds a Master’s degree in Geography, Territory Planning and Urbanism. Born in Araxá, he was part of the class that originated the MTB in the city. He specialized himself in sustainable bicycle mobility policies during his four years of research at the Sorbonne University, Paris (FR).



- PATRÍCIA MOÇO: A Business Administrator and founder of *Espaço Ecosense*. Born in Araxá, where she practices outdoor sports. She's a specialist in Sports Management, Innovation and Sustainability.

- ROGÉRIO BERNARDES: Has represented the CIMTB team, and has been developing the MTB in the country for the past 27 years, thus contributing towards the qualification of sporting events, technical aspects of the MTB tracks, such as the development of the Olympic Games track in Rio de Janeiro, in 2016, improving municipal relations with sports, and fostering the practice of local bicycling, sport and leisure, as well as encouraging urban interventions with the inclusion of bike paths and bike lanes in the city's Master Plans.

DEDICATED MOBILITY SYSTEM - MTB AND CIMTB WORLD CUP

The BiciMobi CIMTB Mobility Commission recognizes how crucial the mobility system dedicated to the World Cup and CIMTB sporting events is. Historically, the difficulties related to the mobility of people during such events indicate the challenges that will be part of the traffic management related exclusively to the sporting events to be held in Barreiro, Araxá, during the second half of April 2024.

For this reason the Mobility Commission proposed a special mobility format dedicated to the World Cup and CIMTB. The proposed system should work specifically during the days 17, 18, 19, 20 and 21 April and 26, 27 and 28 April, coinciding with the dates when the bicycling events of the various categories are held.

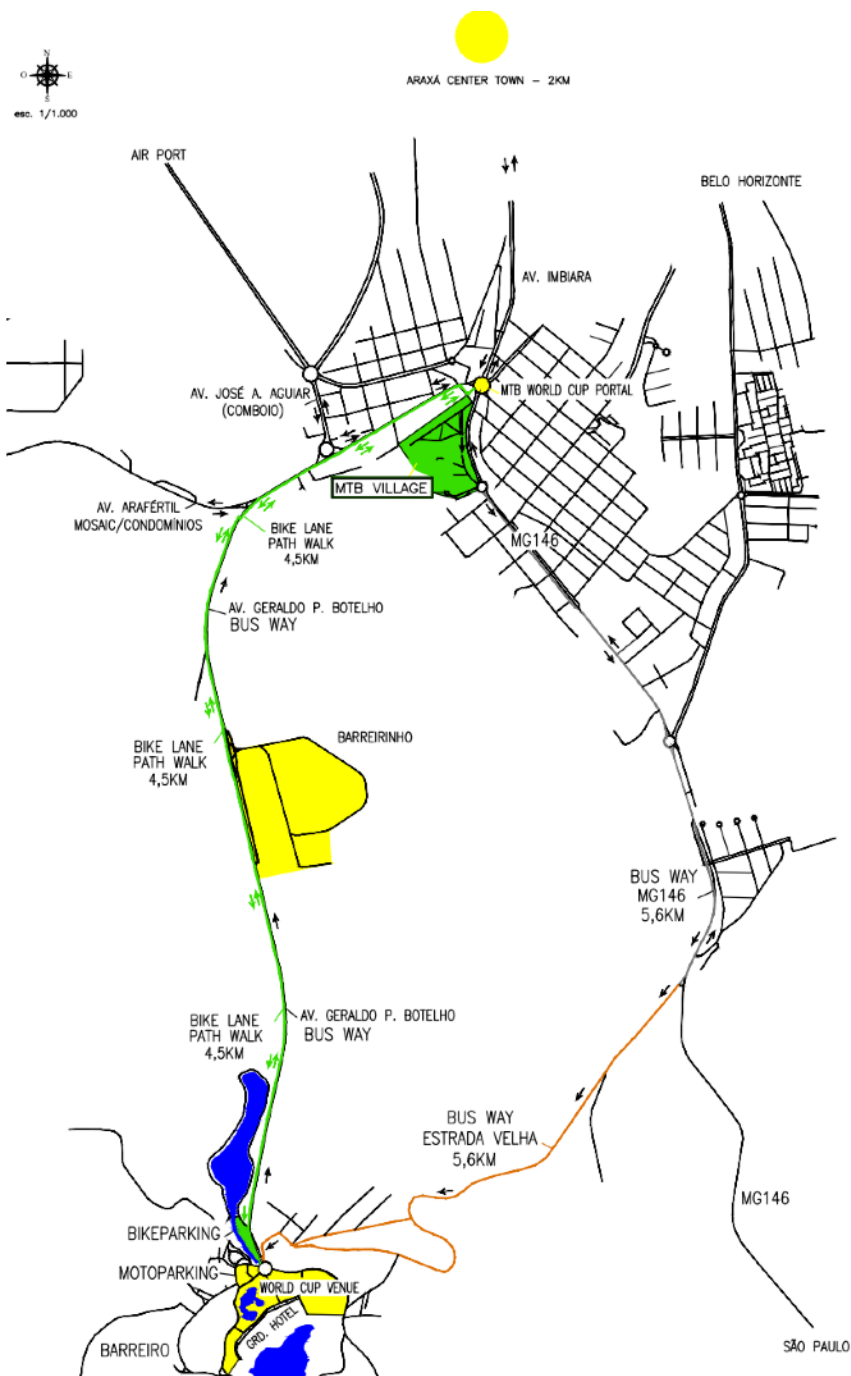
The main objective of this specialized system is to ensure access to the venue of the events in Araxá, in the Barreiro Complex.

Attentive to the most current demands regarding specialized mobility to the PcD public and environmental issues, the mobility system dedicated to sporting events of the World Cup and CIMTB is based on motorized public transport, the use of bicycles, scooters and similar modes of transportation, as well as walking as the main means of transportation between the entire city of Araxá and Barreiro.

Associated to this main line of mobility is the individual automotive transportation, i.e., cars of the various authorities, the official teams of athletes, the residents of areas of influence of sports events, employees who work in the Barreiro complex, and motorcyclists.

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Concerning the complexity and magnitude of both sports events, and in order to ensure access to Barreiro for an estimated number of 20,000 people daily, the Mobility Commission also proposes an exclusive control capable of ensuring accessibility of the local population inserted in the area of coverage of the events with safety and quality.



AREA OF INFLUENCE MTB WORLD CUP

Organization of the Mobility System Dedicated to the World Cup and CiMTB

Local population

The main objective is to ensure the accessibility of the local population within the area of coverage of sporting events. This action shall be possible by ensuring the maintenance of the current condition of circulation of the main routes, namely:

Highways

- MG 146 (access to BR 282)
- Estrada Velha do Barreiro (the Barreiro Older Road)

Avenues

- Imbiara
- Prefeito Aracely de Paula
- Geraldo Porfírio Botelho
- Arafértil
- José Ananias de Aguiar

Locations

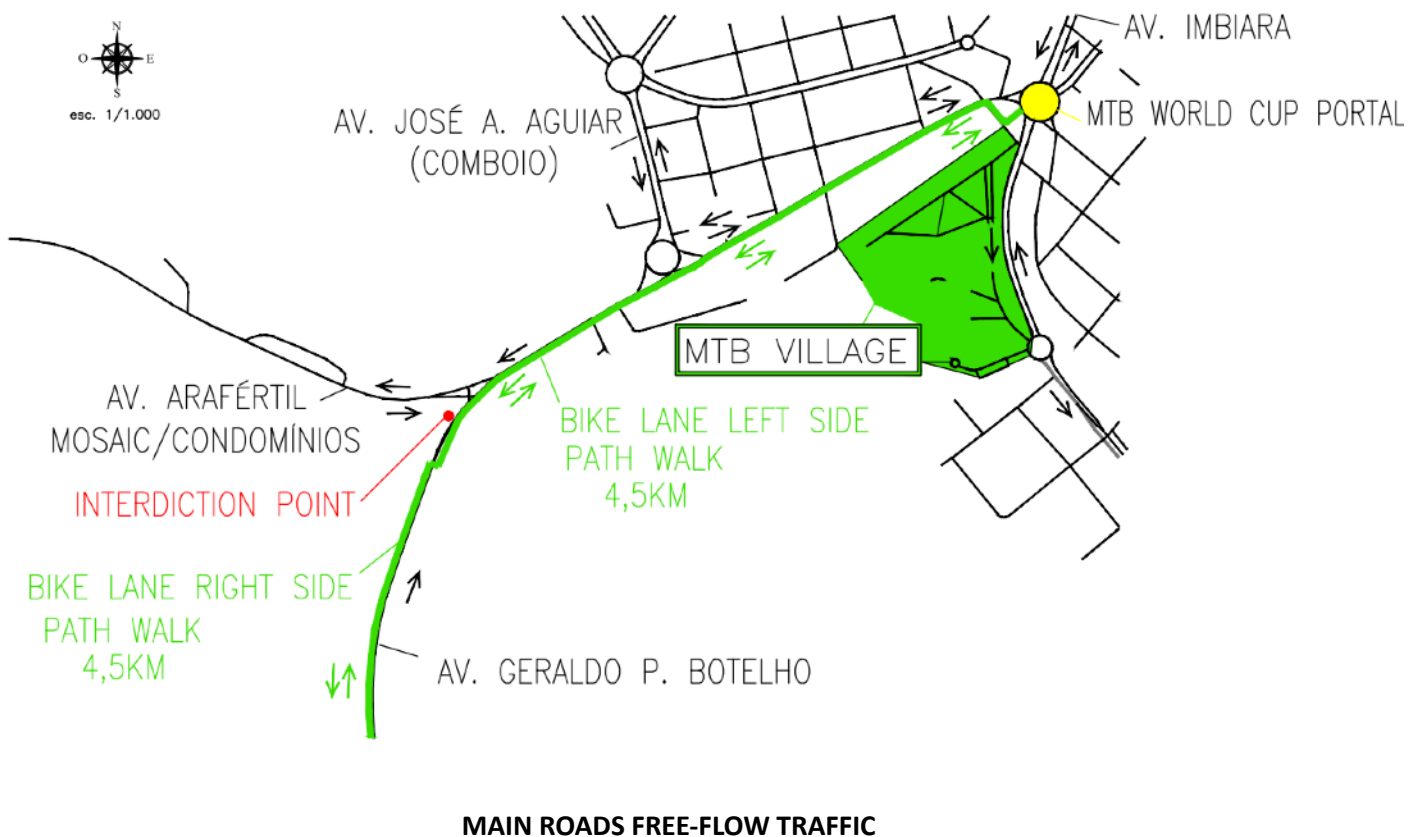
- Neighbourhoods and places adjacent to the above-mentioned roads
- Expominas Araxá
- Mosaic Fertilizers
- Condominiums of houses
- Barreirinho
- Paroquia Sagrada Família (the Sacred Family Parish)
- Hotels within the Barreiro area

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In order to make this plan possible, a provisional signaling system will be implemented, with the support of the various transit authorities directly or indirectly involved in the support and organization of the event.

For more specific cases, a system of sticker identification will be developed, in order to allow access to temporarily restricted areas of circulation.

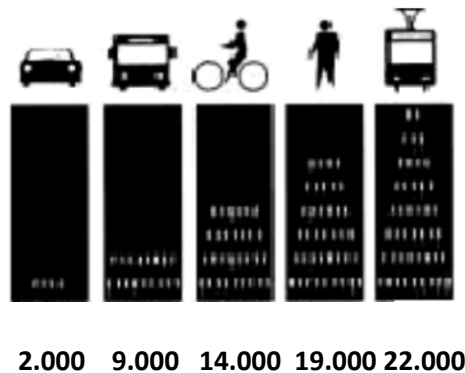
In addition, an official release on the event is to be distributed in the area covered by the event, in order to inform about the temporary organization dedicated to the World Cups and CIMTB.



MAIN ROADS FREE-FLOW TRAFFIC

Public transportation - bus

It is known that in a range of 3.50 meters wide, within a time span of 1 hour, the number of people who are able to circulate varies significantly depending on the chosen means of transportation. The figure and figures below illustrate that difference very well. For that reason, the Mobility Commission defined, as the main means of transportation to the site of the World Cup of Mountain Bike, an exclusive bus system between the MTB Village and Barreiro, capable of ensuring public transportation for approximately 20 thousand people daily along the event.

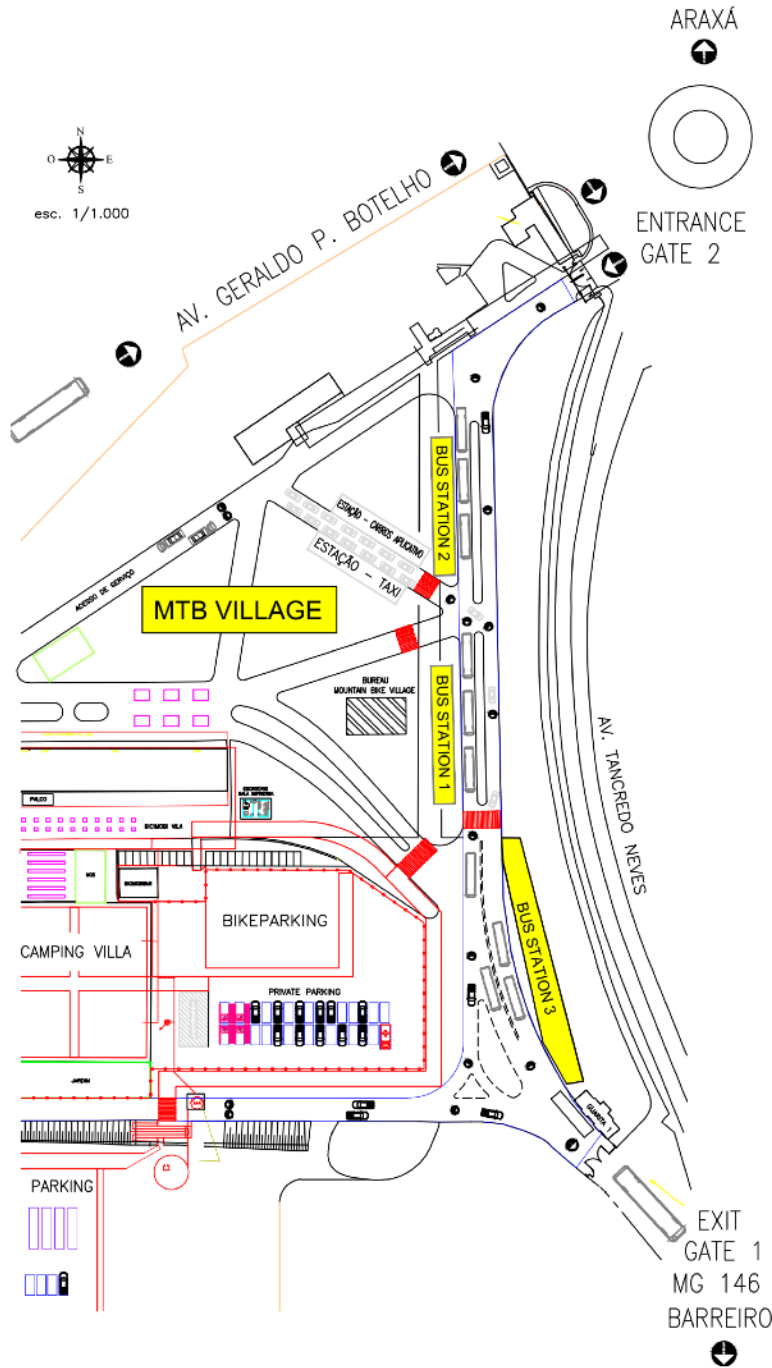


Fonte: Botma & Papendrecht, Traffic Operation of Bicycle Traffic, TU-Delft, 1991.

The rationale defined for the event will contemplate the following circuit:

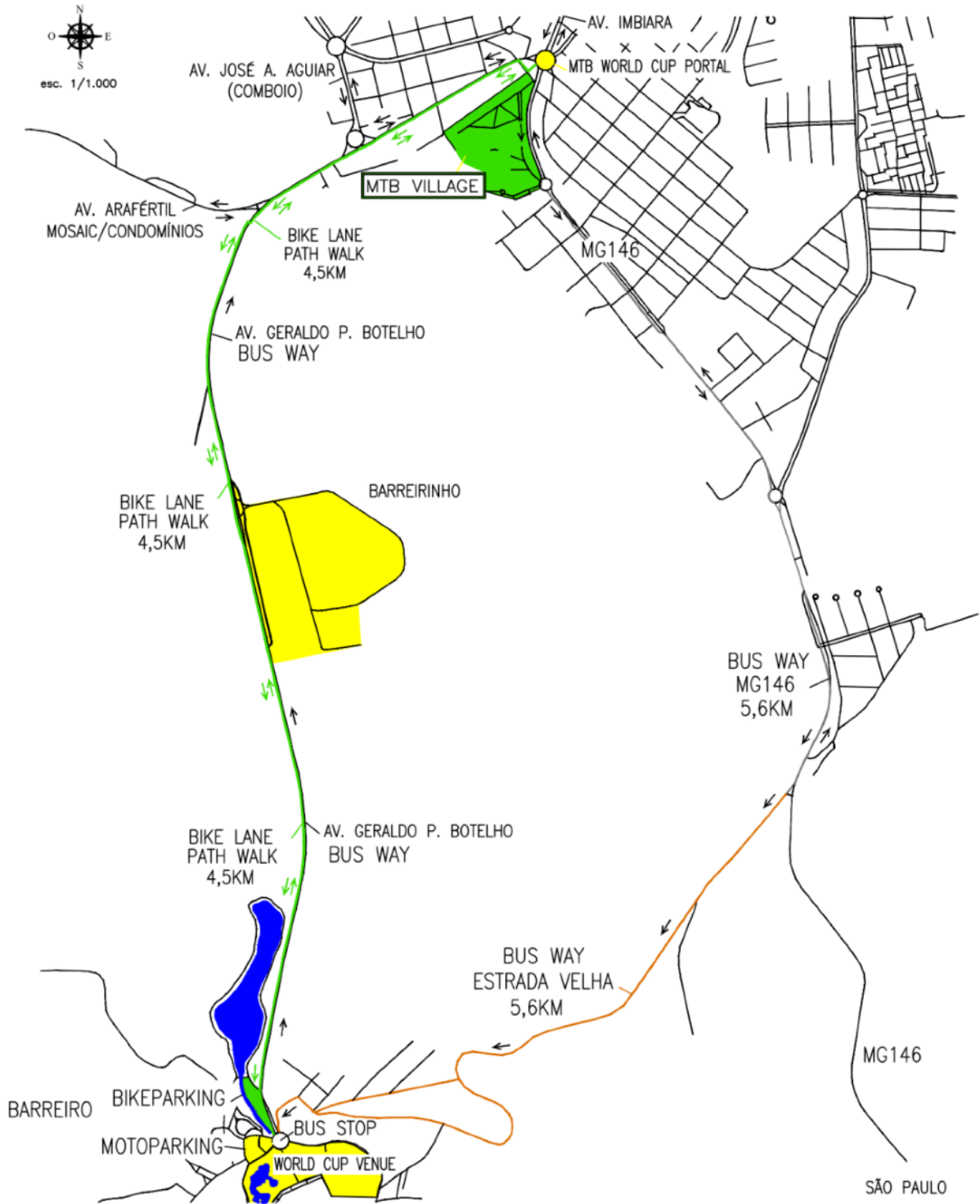
- Pick-up and drop-off station at the MTB Village, with availability for simultaneous boarding of 6 buses (60 persons per bus), with the possibility of expanding to a third station for additional boarding and disembarking of 3 vehicles, totaling 180 persons per cycle (two-way trips);
- Exit through Gate 1 of Expominas, at the roundabout on MG 146, following the highway until the bifurcation with the *Estrada Velha do Barreiro* road, from where the vehicles will go down that road to Barreiro, for approximately 5.6 kilometers.
- Return by the roundabout of Barreiro with boarding and disembarking on the roundabout and on avenue Geraldo Porfírio Botelho;
- The return will be by avenue Geraldo Porfírio Botelho (new road), through a one way lane exclusively for the circulation of other buses, to the MTB Village station for boarding and disembarking.
- Opening hours: from 06:00 to 20:00

MTB VILLAGE BUS STATION (EXPOMINAS)



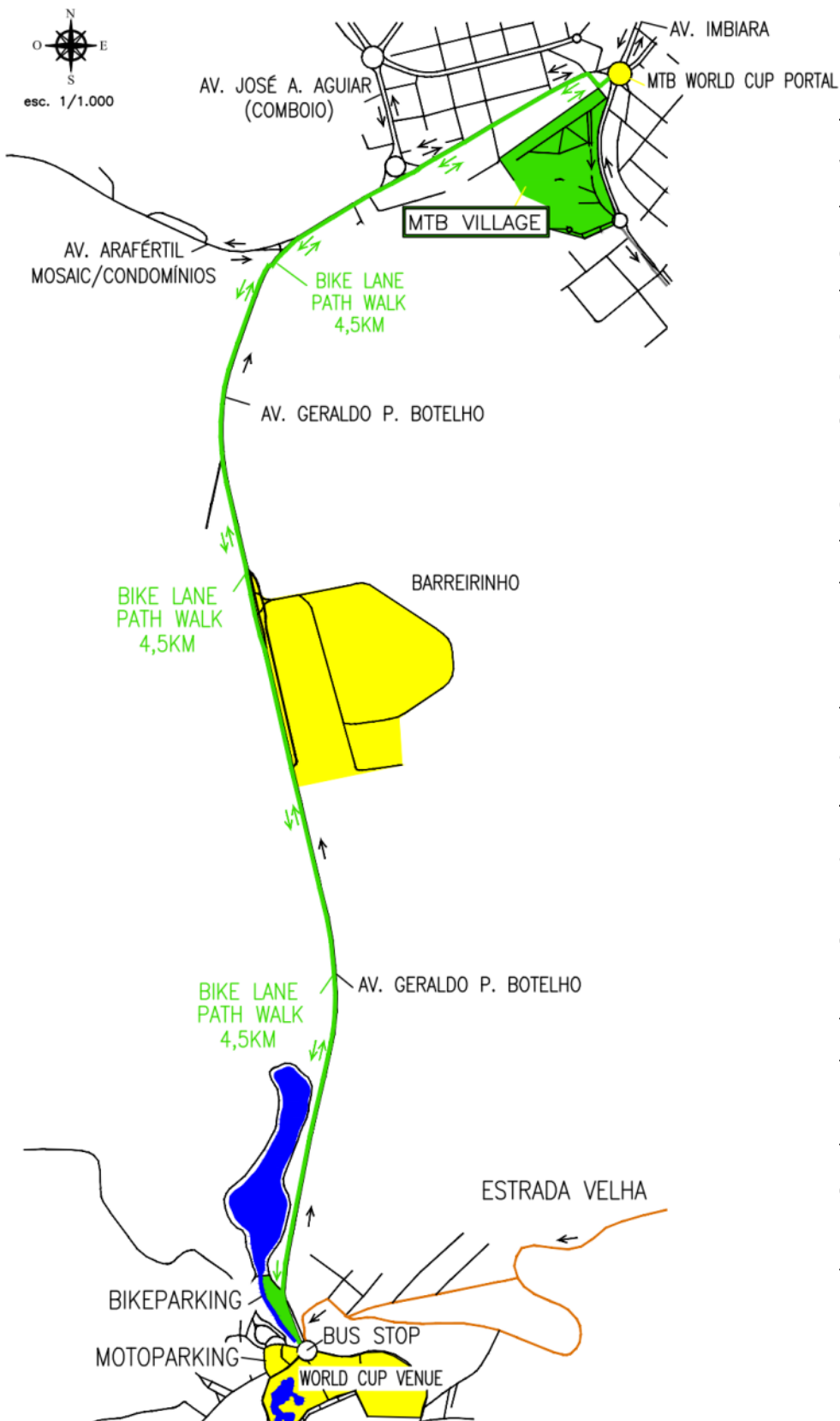
It is important to note that private vehicles it will not be allowed to circulate to Barreiro, except for accredited teams of athletes, organization cars, emergency vehicles, residents of Barreiro and Barreirinho, as well as Grande Hotel and the Hotel Nacional Inn guests, who must access these sites exclusively through the Old Road of Barreiro, throughout both events.

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MTB WORLD CUP BUS ROUTE

BiciMobi / CiMTB Way



The BiciMobi / CiMTB Way represents one of the secondary objectives of this project - a transport concept developed by the Mobility Commission to mitigate, on the one hand, the problems related to mass displacement planned for the event days and, on the other hand, to promote the use of bicycles as a means of transportation in cities and particularly in Araxá.

The figures in the table above are significant and indicate the great capacity of bicycles to integrate an urban transport system and, therefore, proposes if the implantation of a temporary cycle lane connecting MTB Village to Barreiro through the following route illustrated in the next map.

Route:

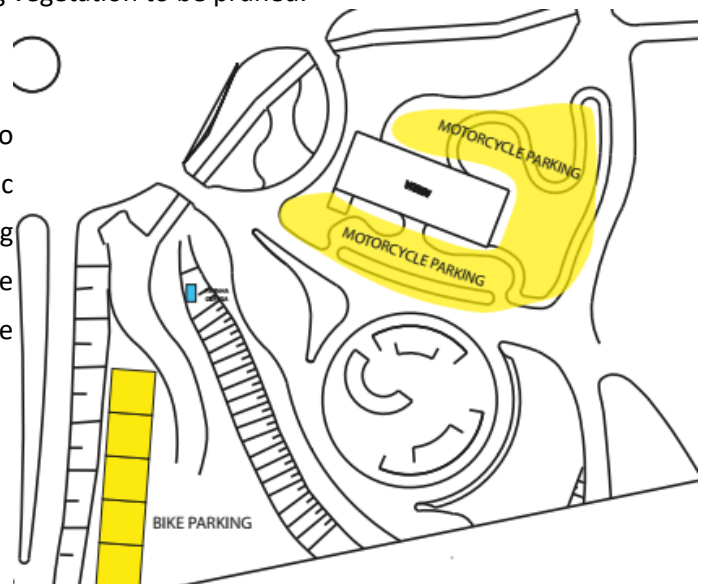
- Start: MTB Village
- Section 1: 3,5m wide bi-directional bike lane on Av. Geraldo P. Botelho (opposite side to the way towards Araxá - Barreiro), defined by cones. It avoids interference with Comboio and Mosaic roundabouts;
- The interdiction of stops and/or parking on the roadside between the roundabouts of Av. Imbiara/Geraldo P. Botelho until the PT of the curve after the intersection with Av. Arafertil (Mosaic and Condominiums);
- Section 2: 6,0m wide bidirectional bike lane taking the roadside and 3,0m more from the main track of Av. Geraldo P. Botelho, on the right side of the track, towards Araxá - Barreiro.
- Provision is made for the complete interdiction of the right lane of Avenida Geraldo Porfirio Botelho for the circulation of motor vehicles, for the implementation of stretch 2 of the temporary cycle lane.
- End - Bike racks: both in the MTB Village, and at the end of the bike lane there will be free bike racks to serve cyclists. The most important bike rack, with a capacity for 2,000 bikes, will be set upon arrival at Barreiro, in the garden to the right of the road, where the final stop of BiciMobi / CIMTB Way is located. The reservations to guarantee a spot in the bike rack must be made through the link on the official website of the event mtbwc.com.br

The implementation of this temporary bicycle lane will require a dedicated horizontal and vertical signaling system to ensure the efficiency of the mobility and the safety of users. The maintenance of support routes will be essential for the safety and comfort, being essential for the roads to be kept clean and the surrounding vegetation to be pruned.

Motorcycles

Motorcyclists will be reserved the right to follow the same route planned for public transportation and official vehicles, following the Old Road of Barreiro and parking in the exclusive spots located in the square of the Chapel Our Lady of Grace.

Motorcycle parking – MTB World Cup site



Taxis and App cars

Due to the prohibition of circulation of individual motor vehicles, between the city and Barreiro, except for those previously described, a boarding and disembarking station was created for taxis and app cars in MTB Village. This space will allow the simultaneous boarding and disembarking of up to 14 vehicles.

This mobility arrangement will allow for the integration of individual motorized transportation with public services, bicycle and/or walking, from the MTB Village.

It is important to point out that the number of taxi and accredited app vehicles, will be limited so that the Estrada Velha do Barreiro is not overloaded, impairing the access of collective buses and vehicles of the teams and athletes. In this sense, we will also develop a study to define the amount of taxi and app vehicles that will have this access to the event site.

Pedestrians

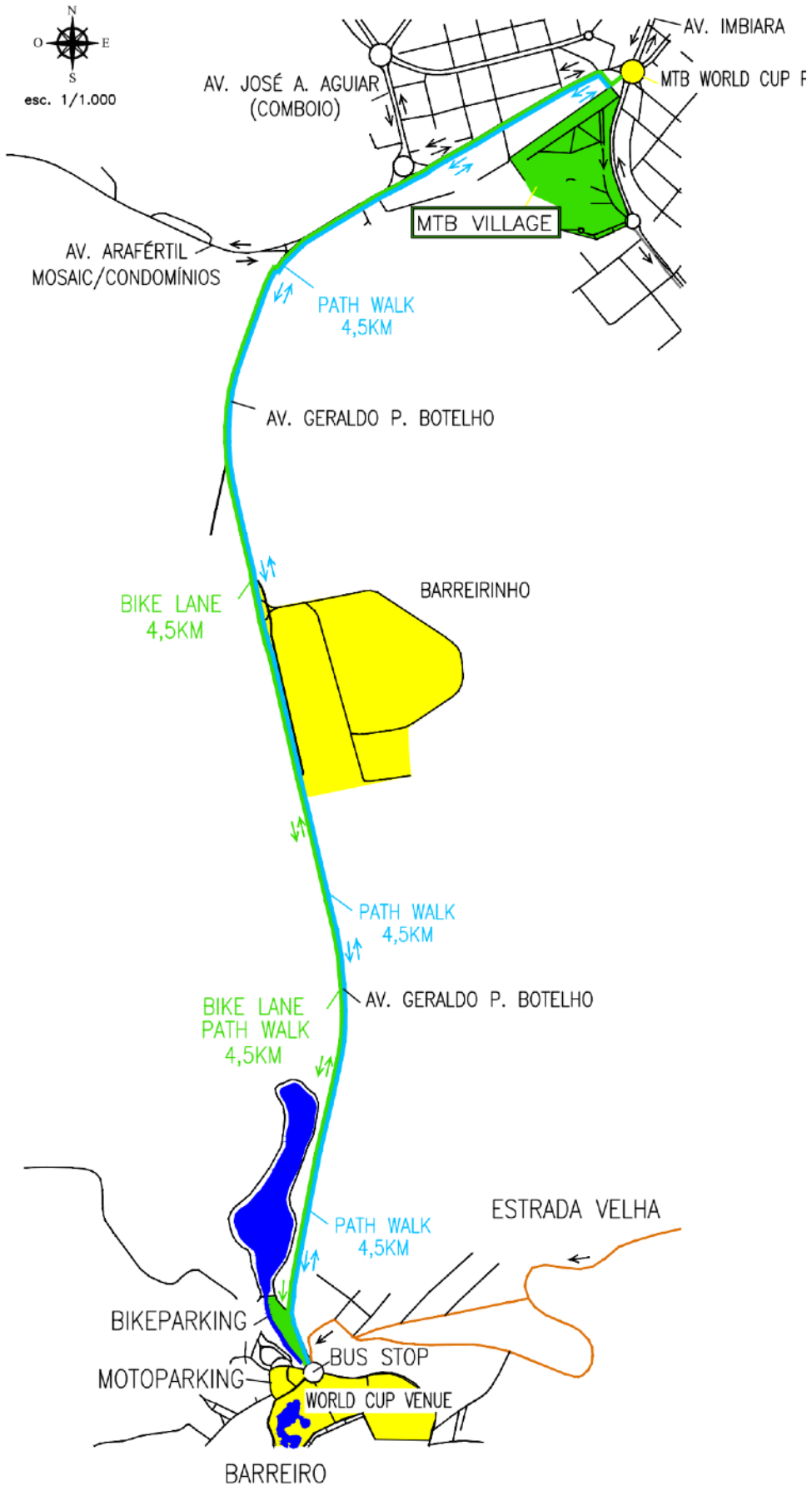
Following the same scale for the potential of the various transportation modes, of urban transport systems, pedestrians are granted even more urban mobility when compared to public transportation and even bicycles. See table above.

Even recognizing the limitations related to the mobility distances covered on foot, the Mobility Commission recognizes the history of this municipal pedestrian route, which connects the city center to Barreiro.

For this reason, the implementation of an exclusive route for pedestrians is suggested connecting the Mountain Bike Village to Barreiro.

This route should go next to the sidewalk of Geraldo Porfírio Botelho Avenue, on the left side of the road that will be used for the implementation of Stretch 1 of the Temporary Bicycle Lane. This cyclist/pedestrian corridor will follow in parallel until the end of Stretch 1 of the cycle lane, where cyclists will take the right, starting Stretch 2, exclusive for bicycles, while pedestrians will remain on the roadside of Avenida Geraldo Porfírio Botelho until Barreiro..

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SECONDARY OBJECTIVES

The secondary objectives of the Mobility Commission can be translated by the specific actions to be carried out, in order to support CIMTB and WBD - Warner Bros. Discovery in the organization of the sports event in Araxá.

These actions aim, in a generic way, to mobilize the local population, spectators, volunteer, amateur and professional athletes to participate in the event, facilitate their mobility and accessibility during the various activities that encompass the entire itinerary of a World Cup and CIMTB site, whether in relation to accommodation, food or mobility.

First, the Mobility Commission will create Araxá Cycling, Sport, and Leisure Week, during the weeks of the cycling events of the World Cup and CIMTB in the city.

A pamphlet will be developed addressing the theme: "The bicycle in the city as an instrument for a sustainable urban mobility policy". This document, to be prepared by the Commission, will address the relevance of holding such an event in the municipality, as a key point in mobilizing the population in relation to the adoption of sustainable transportation modes, such as the bicycle itself or even the public motor transportation.

This material should be distributed in schools, associations, companies, among other places, in order to raise awareness on the importance of the subject.

As a complement of that mobility action, the traditional CBMM WRITING CONTEST, which has been held for the past 15 years, will be integrated. This project counts on the direct support of the Education Department of the City of Araxá, and involves more than 14 thousand students from the municipal school system. The winning students of the two competitions won one bike each, and they will be awarded on Sunday, April 28, on the podium of CIMTB.

Another action planned to involve the local population and visitors in light of the whole context of the event, highlighting the importance of the use of bicycles in the city, will be the *Alemão* Night Bike, an evening bike ride through the city with the participation of invited athletes, on a route from the MTB Village, at Expominas Araxá, and a walk along Avenida Imbiara, on April 17.

Secondly, the Mobility Commission will implement the Mountain Bike Village - BiciMobi CIMTB, in the Expominas Complex, as a point of support for the sports event, providing athletes, visitors and volunteers with a lodging option: an area for camping tents or for motor homes,

food court, parking for vehicles, vans and excursion buses, station/workshop for bicycles, bike rack, wellness station, a booth for tourist information, space for exhibitors and cultural events.

Third, a temporary bidirectional bicycling lane will be implemented linking the Avenues Roundabout: Imbiara, Geraldo Porfirio Botelho, Tancredo Neves to Barreiro. This route will serve for the exclusive circulation of cyclists during the days of World Cup and CIMTB competitions.

Fourth, in addition to the entire structure dedicated to the sports event, an experimental space will be developed right at the main entrance of Barreiro, providing the general public with an experience with the various concepts of sustainable mobility related to the use of bicycles in the city.

1. Mountain Bike Village - BiciMobi / CiMTB

The Mountain Bike Village will be one of the support points for the World Cup and CIMTB during the bicycling events that will take place in Araxá, between 18 and 21 April 2024, and the following week, between 26 and 28 April, respectively.

The space will occupy the area of Expominas Araxá and will act as a connecting point between the city and the competition sites in Barreiro. The complex will feature pick-up and drop-off stations for buses, vans, taxis and app vehicles so that people can use the existing exclusive lines.

This path will comprise the Mountain Bike Village, through the Old Road of Barreiro, and returning on the main road. Only official cars, teams and athletes vehicles, authority cars, motorcyclists, residents and employees of the Grande Hotel and Nacional Inn will be allowed to circulate between the city and Barreiro, using the Old Road.

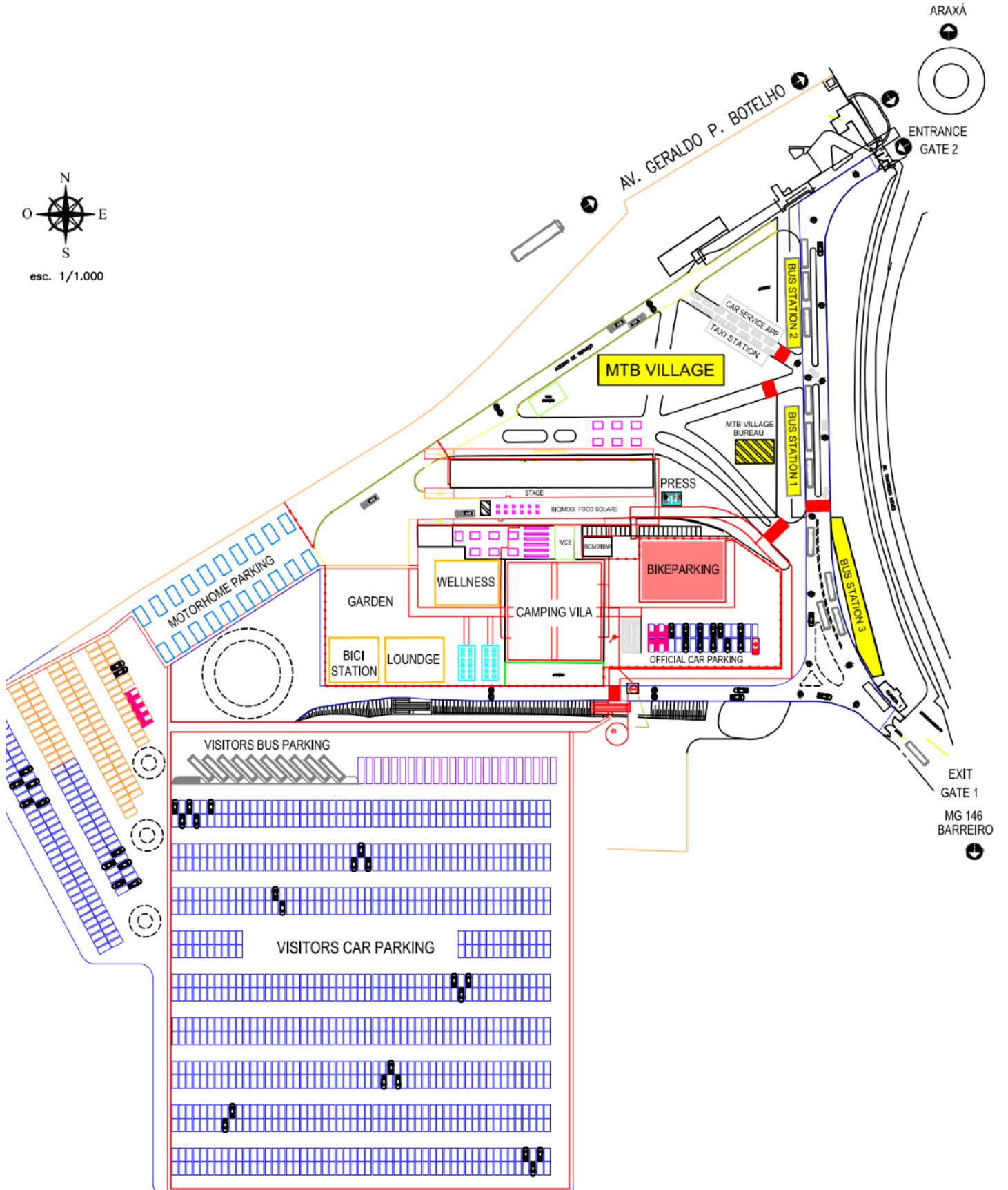
The entire urban mobility system of the area should be signposted, including the roundabouts of the Comboio and Avenida Imbiara, with indications for the old road as a route to be followed to access Barreiro. Orientation blitzes are suggested on both the two roundabouts, in order to provide assistance for the coordination of traffic, and information on the adapted provisional circulation system in the region, during the events of the World Cup and CIMTB.

The entire space will be adapted to the sustainable propositions for waste management, as well as to the special mobility and accessibility needs of PCD.

The Mountain Bike Village planned structure:

- Parking for cars, buses and excursion vans, motorhomes and trailers with approximately 1,500 spots;
- Boarding and disembarking stations for buses, vans, taxis and app vehicles;
- Bureau BiciMobi / CIMTB visitor support;
- Support food court for boarding and disembarking stations - curated by *Cozinha Vitrine* (Chef Felipe Le Roy);
- Ecomodular infrastructure for basic support services and tent grounds with a capacity for 160 beds (80 tents);
- Bike rack with 160 slots, 42 of which are for electric bicycles, with 24-hour security;
- lounge/hammock with DJ, sound, media and cultural presentations;
- Media station and Internet access;
- Bicycle workshop with a sustainable cleaning station;
- Exclusive food court, Mountain Bike Village, with capacity to serve 500 meals daily - curated by *Cozinha Vitrine* (Chef Felipe Le Roy);
- BiciMobi theme bar;
- Wellness room with physiotherapy, massage, yoga;
- BiciMobi / CIMTB exhibition space for dissemination of the project and partners;

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Master Plan – Mountain Bike Village BiciMobi – CiMTB

2. Bicycle Lane BiciMobi / CiMTB Way

This is a temporary urban intervention that aims to implementing a bidirectional bicycling lane between the Avenues Roundabout: Imbiara, Geraldo Porfírio Botelho, Tancredo Neves, and Barreiro. The bike lane, duly signaled, will make up an exclusive utility corridor for the moving of bicycles during the bicycling events scheduled for the month of April.

Geraldo Porfírio Avenue will be closed from the intersection with Arafértil Avenue (Mosaic) so that one of the lanes of the Main road will be reserved to house the temporary bicycle lane. The opposite direction will be released so that the exclusive line buses and other vehicles can return to the Mountain Bike Village and downtown Araxá.

The bidirectional bicycle lane will be implemented in two distinct segments: the first stretch of approximately 1,200 meters, between the roundabout of Avenida Imbiara and the intersection with Avenida Arafértil.

This 3.50 meter wide stretch, will occupy the strip of the side road of the avenue Geraldo Porfírio Botelho, on the opposite side of the road Araxá - Barreiro. Thus parking will not be allowed on the roadside of this Stretch 1.

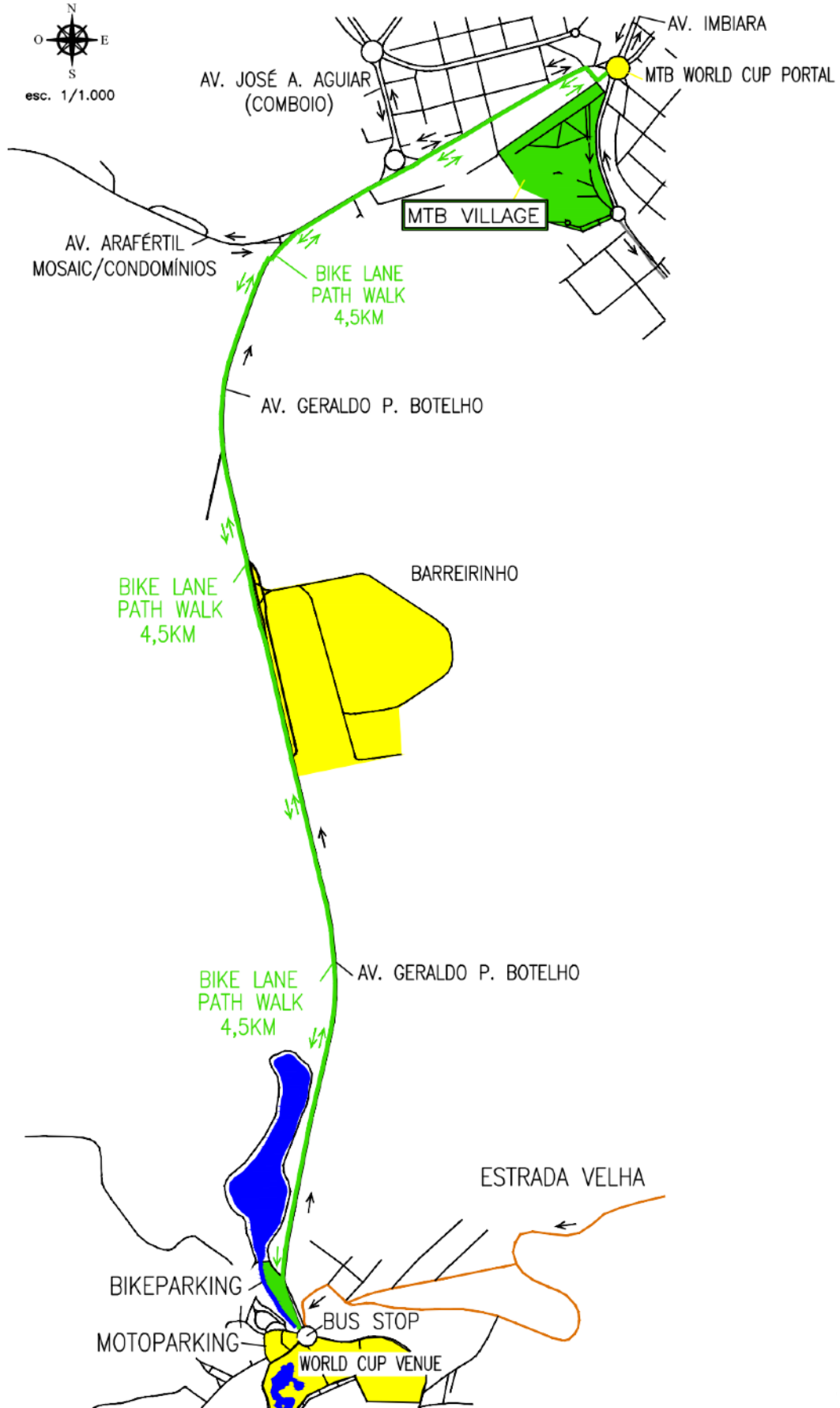
The second stretch, between the intersection with Arafértil Avenue and Barreiro, will have be approximately 3,400 meters long and 6.00 meters wide. After the intersection with Arafértil Avenue, the bidirectional bicycle lane will cross

to the opposite side of the road, duly signaled, occupying the stretch of the side road dedicated to cyclists who descend, using the lane that delimits the roadside as a divider of the lanes of the bike lane, and adding another 3.00-meter lane for cyclists who will be going up, returning to the city.

The Imbiara Avenue Roundabout is intended to be transformed in the great portal of bicycling, during the events, with specific signs of welcome to the city, the World Cup and CIMTB, encouraging the participation and adoption of events by the local population.

In addition to using the existing road structure of the city, it will be necessary to implement a project of temporary road signaling, both horizontally and vertically, with the objective of delimiting the exclusive spaces to the circulation of cyclists during the period of implementation of the project.

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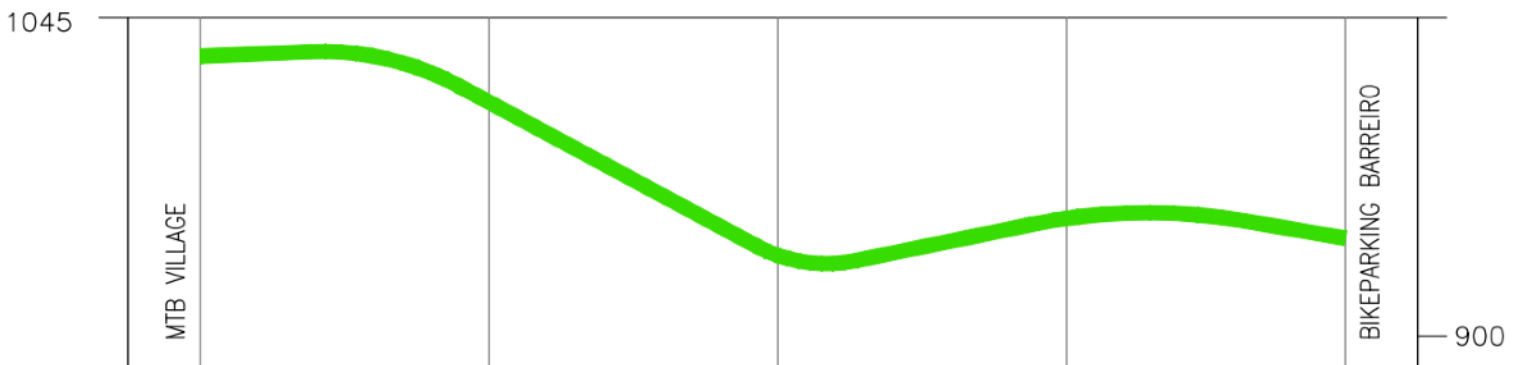


Because it is an urban intervention, with an impact on road circulation, the participation of the competent municipal bodies responsible for services is of paramount importance for the project.

The implementation of the temporary bidirectional bike lane is one of the most important elements of this project, because it aims to sensitizing citizens about the possibility of the use of bicycles in urban commuting and the circulation of bicycles during the World Cup and CIMTB.

Associated with the creation of this bicycling corridor, during the event, we envision the development of a partnership with the companies responsible for the city public transportation service, proposing the temporary adaptation of a number of vehicles to enable the shared use of bicycles and buses. This experimental partnership aims to facilitating the use of bicycles in urban moves during the event.

VERTICAL PROFILE BICIMOBIL CIMTB WAY
 WORLD CUP & CIMTB BIKE LANE – PATH WALK



GROUND ELEVATION	DISTANCE
1040,000	0
1010,000	1KM
950,000	2KM
975,000	3KM
955,000	4,6KM

BiciMobi Way – Bike Lane – extension 4,6km

TECHNICAL ASPECTS BiciMobi / CiMTB WAY:

- A Portal located at the Imbiara/Expominas Avenue Roundabout to serve as the Bicycling Portal, a rest, shelter area, and transition between the conventional road system and the temporary cycle path;
- Operating days: April 17-21 for the World Cup (Wednesday-Sunday)
- 26 to 28 April for the MTB International Cup (Friday to Sunday)
- Suggested opening hours: from 06:00 to 20:00
- Itinerary: Roundabout of Avenida / Avenida Geraldo Porfirio Botelho / Barreiro
- Length: approximately 4,600 meters;
- Section 1 Bi-directional: 1,200 meters long, 3,50 meters wide including a minimum overwidth for the temporary signaling system;
- Bidirectional stretch 2: 3,400 metres long, 6,00 metres wide including a minimum overwidth for the temporary signaling system;
- Temporary horizontal/vertical signaling: PVC cones (50 and 75cm), safety barrier (100cm), signaling tape, mandatory stop signs, speed limit signs, and thematic signs

3. Experimental Space BiciMobi / CIMTB - bike for all (Reception)

The Experimental Space BiciMobi Experience will be dedicated to present, in an interactive way, concepts about the use of bicycles in cities, as an instrument of economically sustainable urban policies.

- Key topThe revolution in the way you learn to ride a bike: the world of balance bikes;
- Use and occupation of urban spaces: the efficiency of the use of space in transport;
- Economy, energy costs and transport modes: the case of the car and the bicycle;
- Geometries for a cycling street;
- The advent of electric bicycles;
- Health and Bicycling Utility: A Pathway to Diverse Outcomes

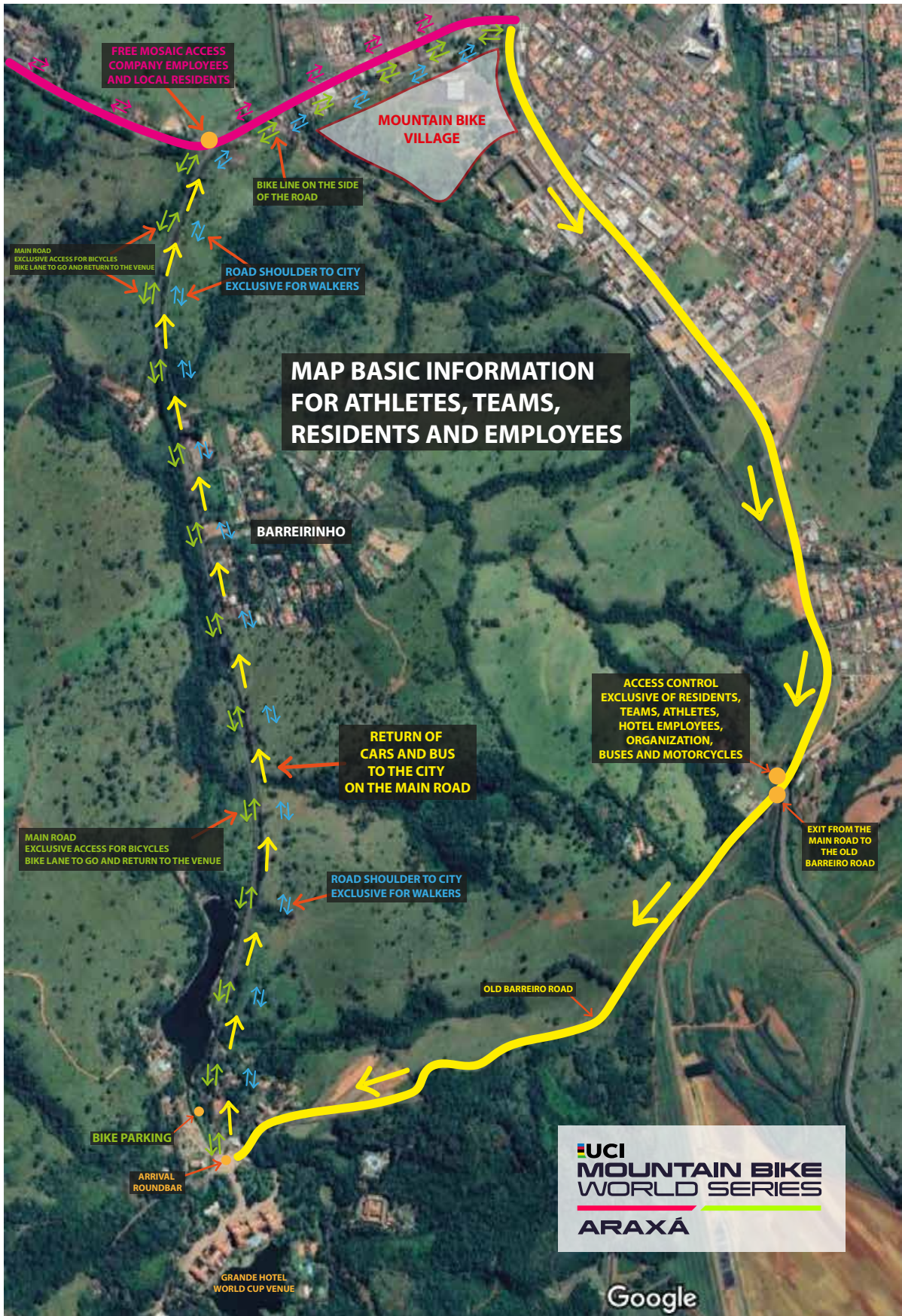
This space will also be endowed with a lounge environment for relaxation and a break between events, so that people can rest while enjoying the events.

As a work philosophy, the temporary spaces that will be created will be adapted to receive any visitors with disabilities, following the guidelines of ONU-HABITAT Brazil.

Next to the reception area, the project foresees the installation of a modern and safe bike rack with a capacity for 2 thousand bicycles, during the venues of the World and International Cups. That will allow for a complete connection by bicycle between the city and Barreiro, with the route starting in the Portal of the Bicycling in the Roundabout of the Avenida Imbiara, passing by the BiciMobi / CIMTB Way, until arriving in the bike rack at the site of the Mountain Bike competition.



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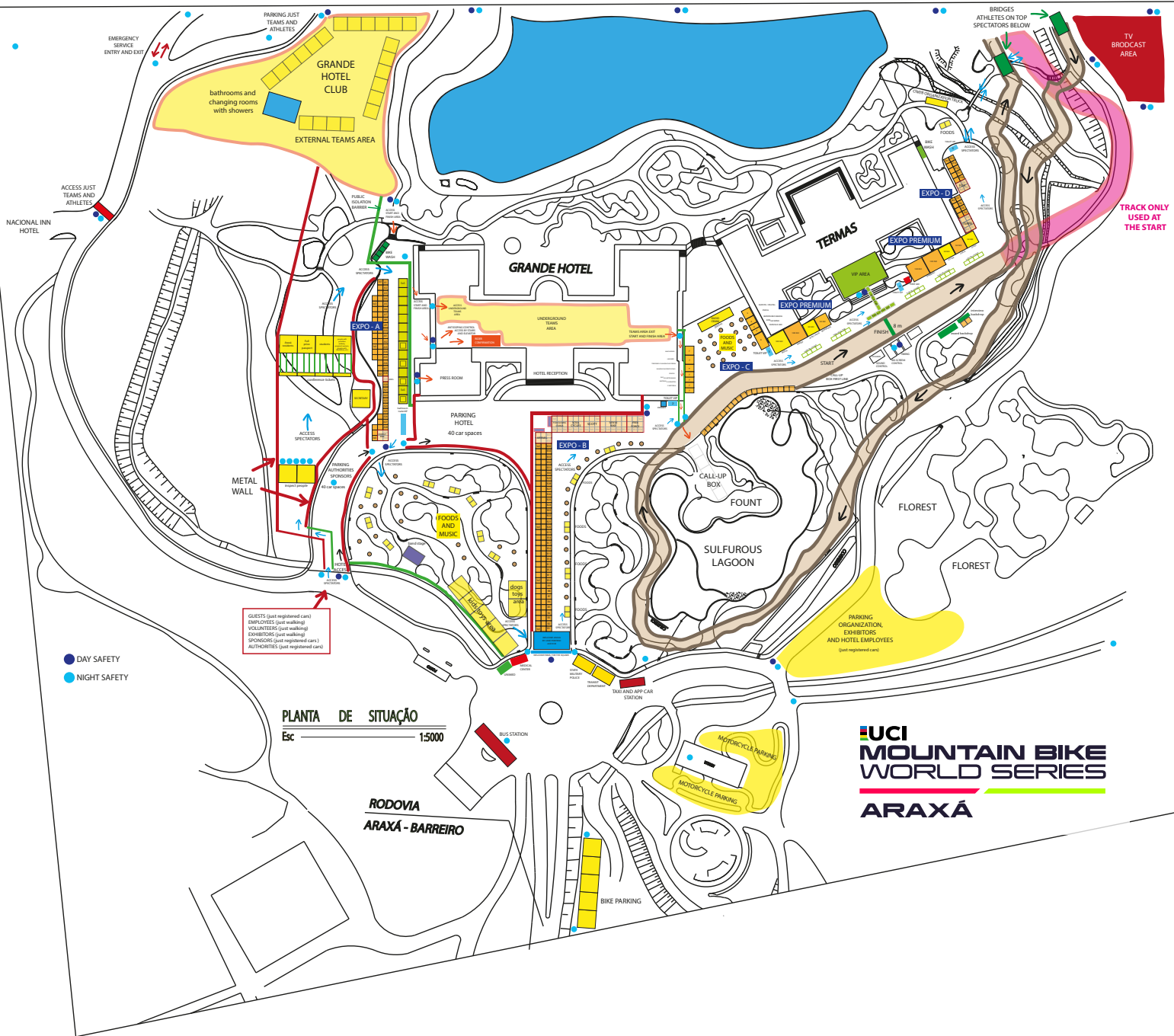


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