

PORT FOLIO

AGNĖ DUDONYTĖ

CON TENT

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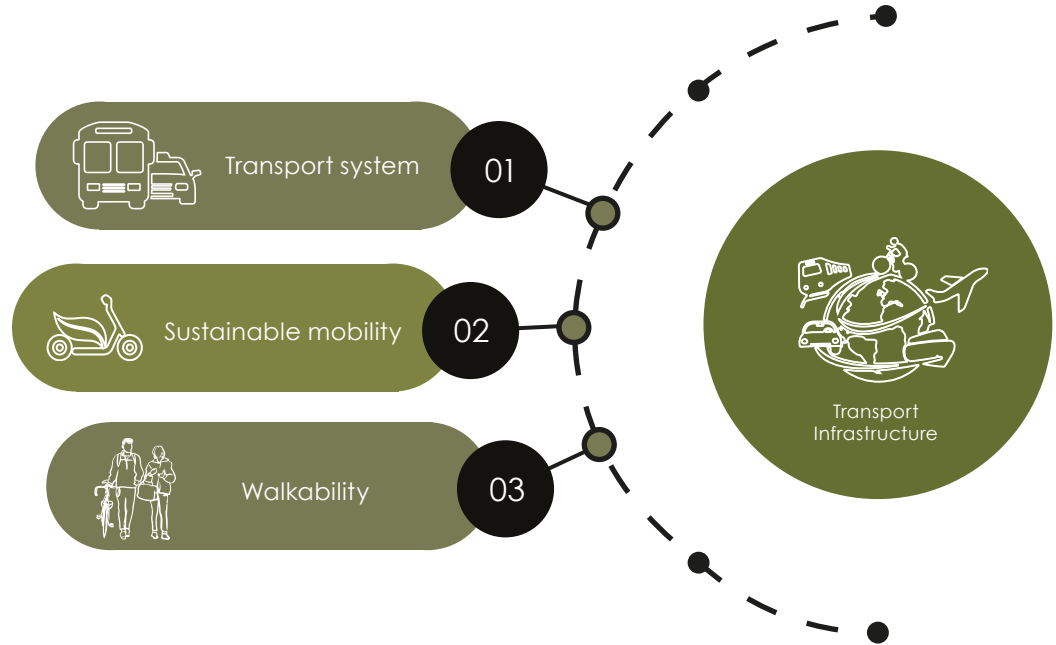
01 — ANALYSIS AND MANIFESTO

TRANSPORT INFRASTRUCTURE

WHAT TRANSPORT INFRASTRUCTURE INCLUDES?

The primary function of a transport system is to facilitate the efficient, safe, and reliable movement of passengers and freight within and between regions, cities, and countries. A well-designed and well-maintained transport system is essential for economic development, social connectivity, and accessibility to resources and opportunities.

A transport system includes infrastructure, facilities, and services. The greatest attention during the analysis is paid to automobile movement in the city, pedestrian accessibility, and sustainable mobility, encompassing bicycle lanes and electric vehicle charging stations.



BIRŠTONAS CONNECTIVITY WITH OTHER LITHUANIAN CITIES

Legend:

- A16 road Vilnius - Marijampolė through Birštonas
- - -** Connections to the other Lithuanian cities

Birštonas is a popular tourist and health tourism center, therefore, a continuous flow of travel to the city is important for its economic development. Well-developed transportation and tourism infrastructure help strengthen Birštonas' connectivity with other Lithuanian cities, creating various opportunities and promoting regional cooperation. Birštonas is connected to the national road network, facilitating transportation links with Vilnius, Kaunas, and other major locations in Lithuania.



BIRŠTONAS CITY CENTER CONNECTIVITY TO OTHER CITY PARTS

City center ---> Left bank of Nemunas
20 min by car

Birštono vienkiemis ---> City center
5 min by car (30 mins by foot)

The town of Birštonas is divided into three parts: the city center, the left bank of the Nemunas River, and "Birštono vienkiemis" (Birštonas suburbs). However, the city center has very clear boundaries - it is bordered by the Nemunas River and the A16 highway. The lack of good transportation infrastructure creates problems such as the long distance that needs to be overcome by car when passing through Prienai.



BIRŠTONAS STREET SPEED ZONE

Legend:

- Zone 40 km/h
- Residential area
- Permitted speed 90 km/h
- Permitted speed 50 km/h
- Permitted speed 40 km/h
- Permitted speed 30 km/h

In the city of Birštonas, speed is heavily restricted. In the central part of the city, the speed cannot exceed 20 km/h. This is influenced by the fact that it is a resort town with many pedestrians, cyclists, children, and seniors. Speed restrictions are aimed at creating not only safety but also tranquility in the city center. This can attract more tourists because people enjoy visiting places where they can walk and relax safely. Slower speeds also contribute to lower levels of noise and air pollution in the city, which can improve residents' quality of life.



SOUND PRESSURE IN BIRŠTONAS CITY

Sound pressure

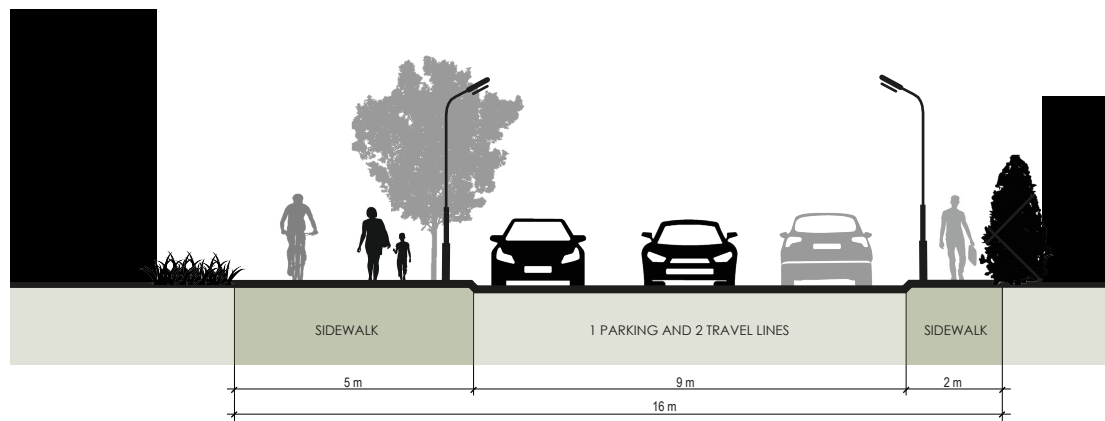


Sound pressure is important in areas like Birštonas for several reasons:

1. **Tourism and Health Tourism:** Birštonas is known as a center for tourism and health tourism, so it is important to ensure a favorable and tranquil sound environment, which contributes to relaxation and leisure.
2. **Resident Comfort:** High sound pressure can have a negative impact on residents' well-being and health. Therefore, it is important to regulate noise to ensure residents' comfort.
3. **Environmental Impact:** Sound pressure can also have negative effects on nature and animal populations, especially in areas close to natural habitats or residential areas.



SECTION OF JAUNIMO STREET



Jaunimo Street and Dariaus and Girėno Street are the main roads leading to the center of Birštonas city. They are sufficiently wide - 9 meters in width, offering a parking lane. However, these streets lack developed bicycle transport and smooth pedestrian infrastructure - one sidewalk has plenty of space, while the other is very narrow.



PARKING AREAS IN CITY CENTER

Public parking spaces in Birštonas - 433
Parking spaces in the center of Birštonas - 230,
which is 53%.

Considering that Birštonas is a resort, more parking spaces may be needed during the tourist season than in the colder period. Proper parking management and infrastructure can contribute to the quality of life and attractiveness of the city. However, Birštonas stands out as a wellness resort where cars seem more like a disturbance than a means of accessibility, as everything can be reached within a 20-minute walk.



ANALYSIS OF PEDESTRIAN AND CYCLING PATH CONDITIONS

Legend:

-  Bicycle and pedestrian path
-  Expansion of the bicycle and pedestrian path
-  Areas with well-maintained bicycle and pedestrian infrastructure

In the city of Birštonas, the pedestrian and cycling infrastructure in part of the city is in good condition, especially in the city center. However, in the current situation, in certain parts of the city, this infrastructure does not provide sufficient conditions to choose alternative modes of transportation for individual cars.

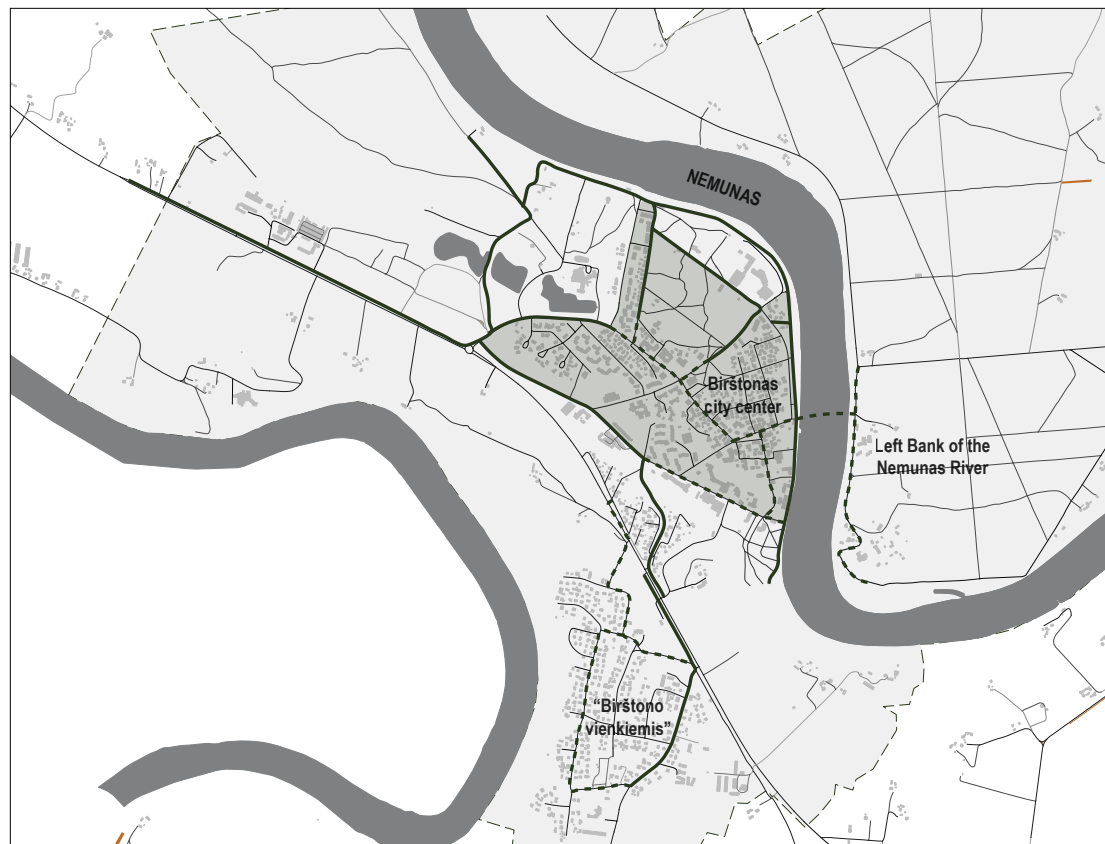
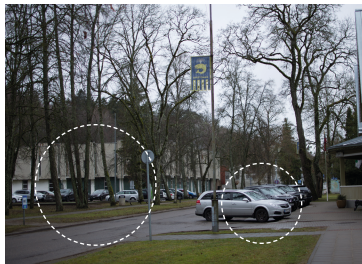


FOTO ANALYSIS



1. Even off-season, the city center parking lot is full of residents' cars. During the warmer months, when tourists increase, there aren't enough parking spaces for cars.



4. The main city square does not prioritize pedestrians exclusively. Half of it is designated for transportation.



2. The road surface material is chosen in a way that driving causes discomfort, automatically reducing the driver's speed in residential areas.



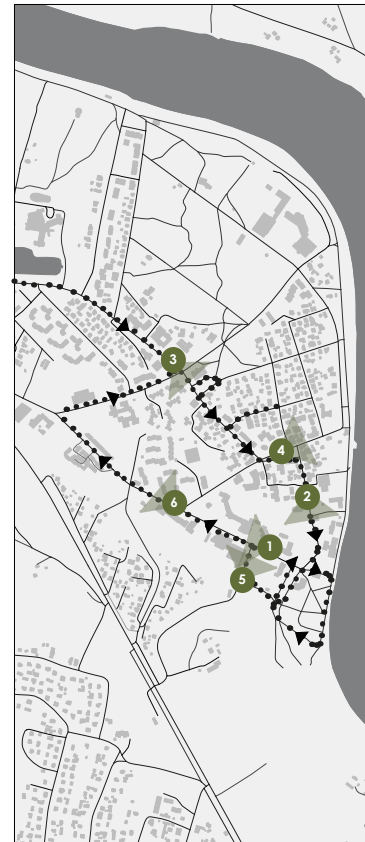
5. A well-developed system of pedestrian pathways includes resting stations, which raise many questions. In this case, instead of being able to sit on a bench and enjoy nature, a person is faced with a view directly onto a plaque about the use of European funds.



3. On the main city street, where there are many cafes, a bus station, and limited parking space, pedestrian infrastructure is poorly developed. The sidewalk on the left is wide but not divided into pedestrian and bicycle zones, while the sidewalk on the right is so narrow that passing by is difficult.

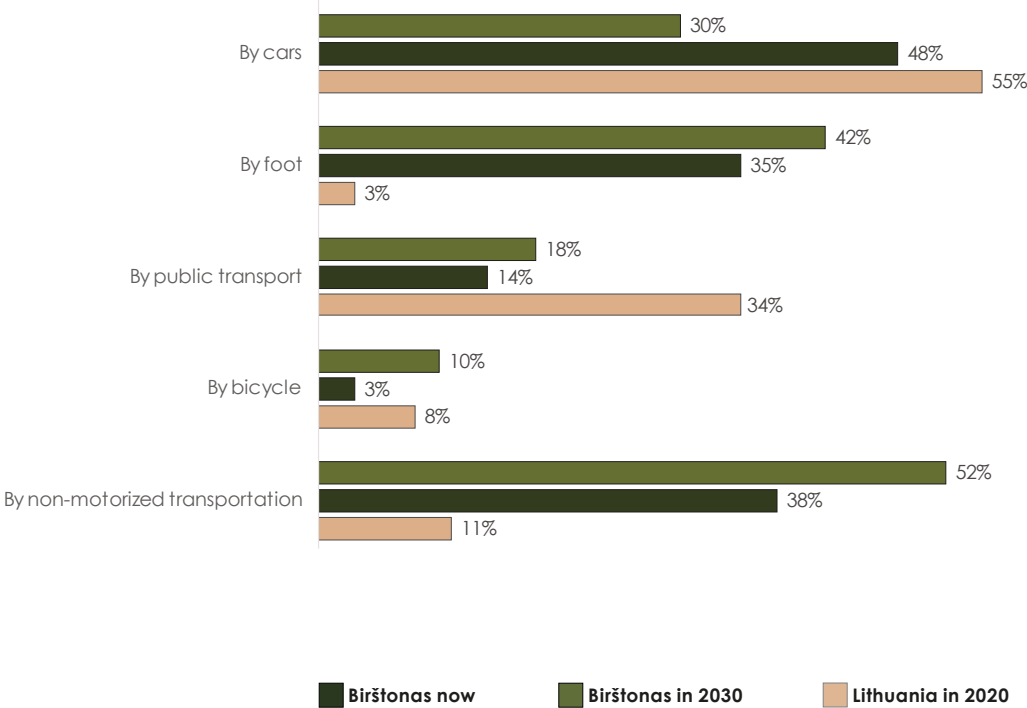


6. Speed limit reminders are constantly signaled by signs, which is good, but it detracts from the visual appeal of the town.

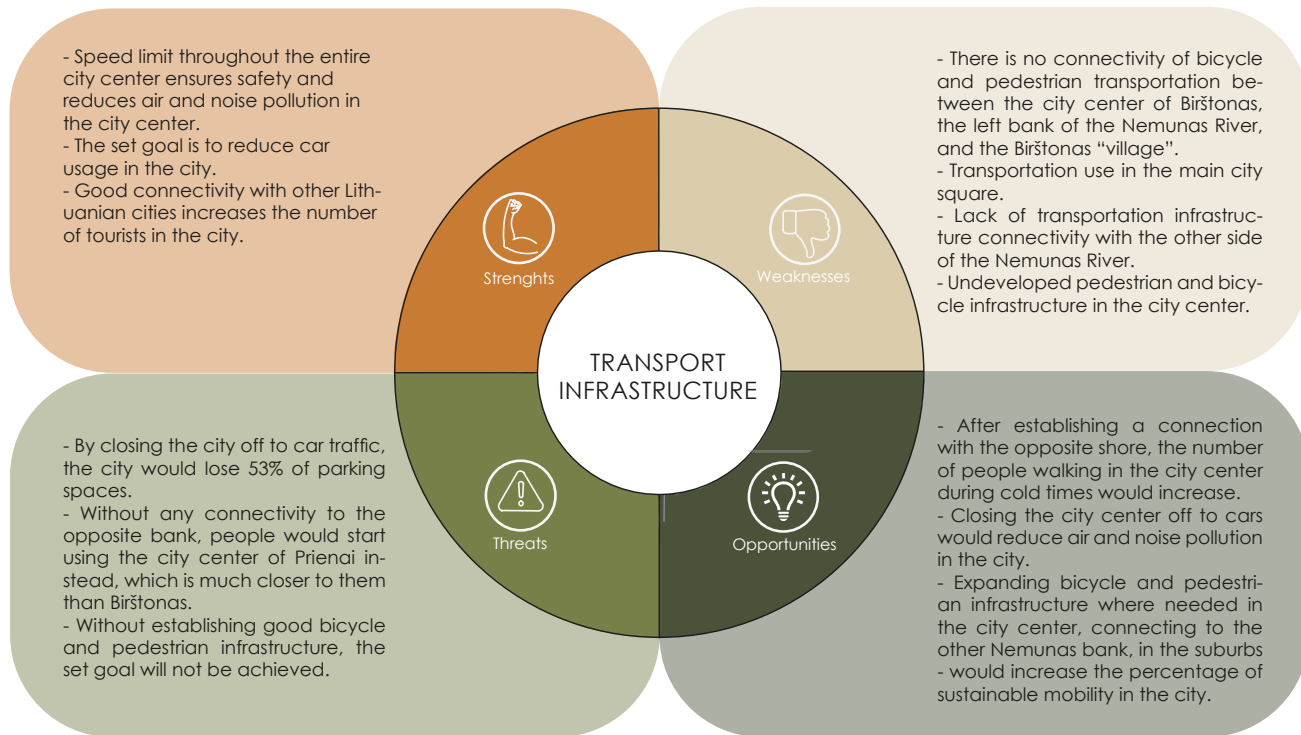


TRANSPORTATION OPTIONS FOR DAILY JOURNEYS

Birštonas, like other Lithuanian cities, has set its own goals. One of them is to reduce car usage every day and increase the use of non-motorized transportation. With 6 years remaining until the set time limit, the results should be promising, especially compared to Lithuania's overall results.



SWOT ANALYSIS



MANIFESTO



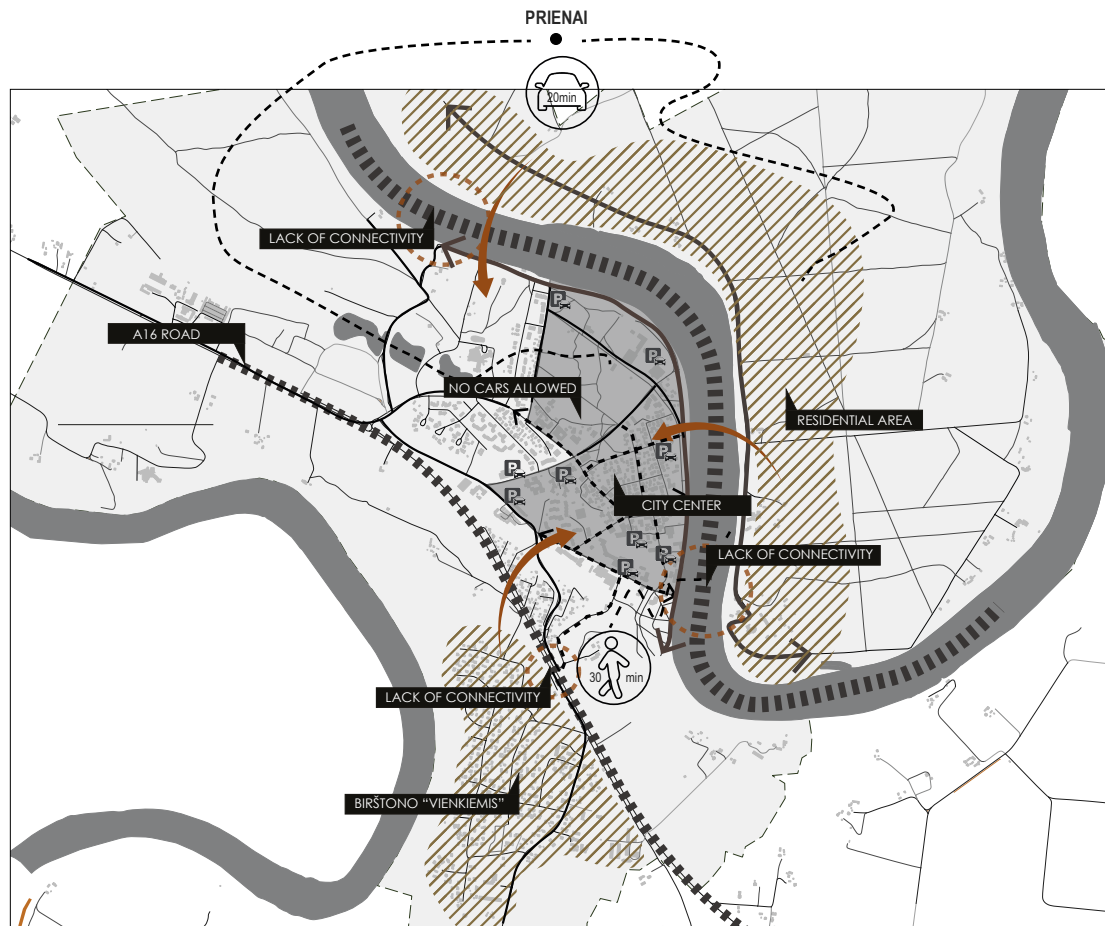
02 — DEVELOPMENT STRATEGIES

OPPORTUNITIES AND CONSTRAINTS

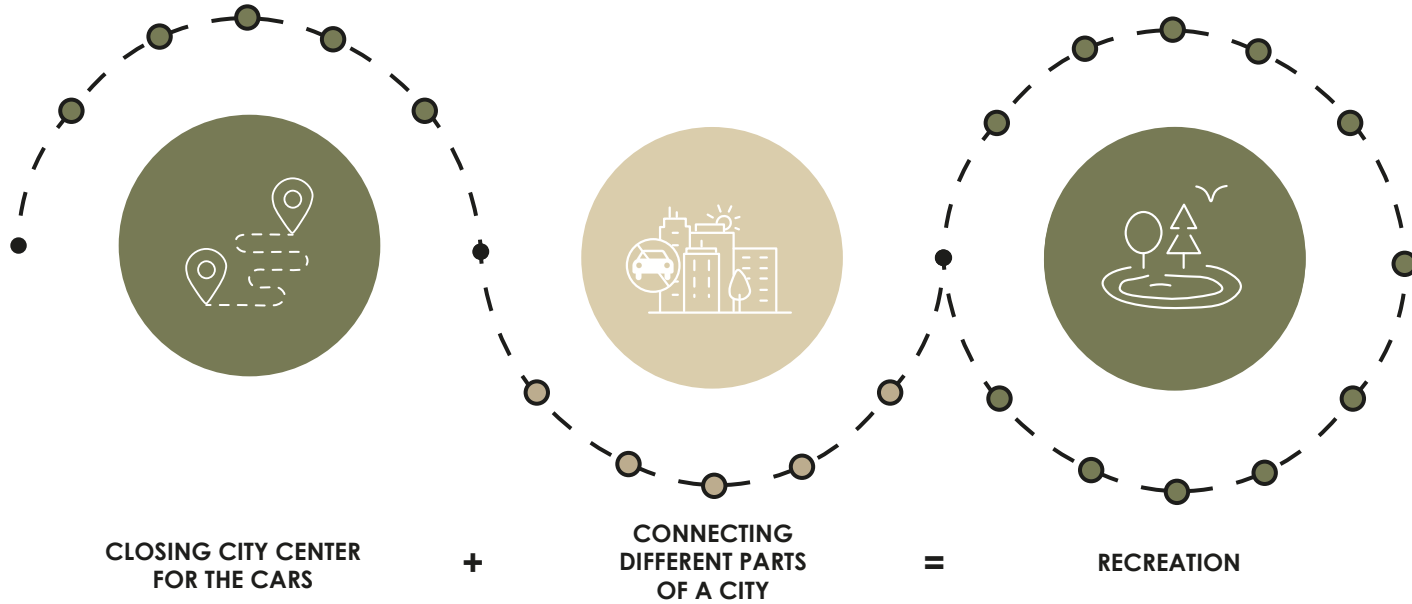
Legend:

- Bicycle and pedestrian path
- - - Expansion of the bicycle and pedestrian path
- ||||| Barriers between different parts of Birštonas

Connecting different parts of Birštonas while restricting car access to the central area has the potential to transform the town into a more vibrant, sustainable, and attractive destination for recreation and leisure activities.

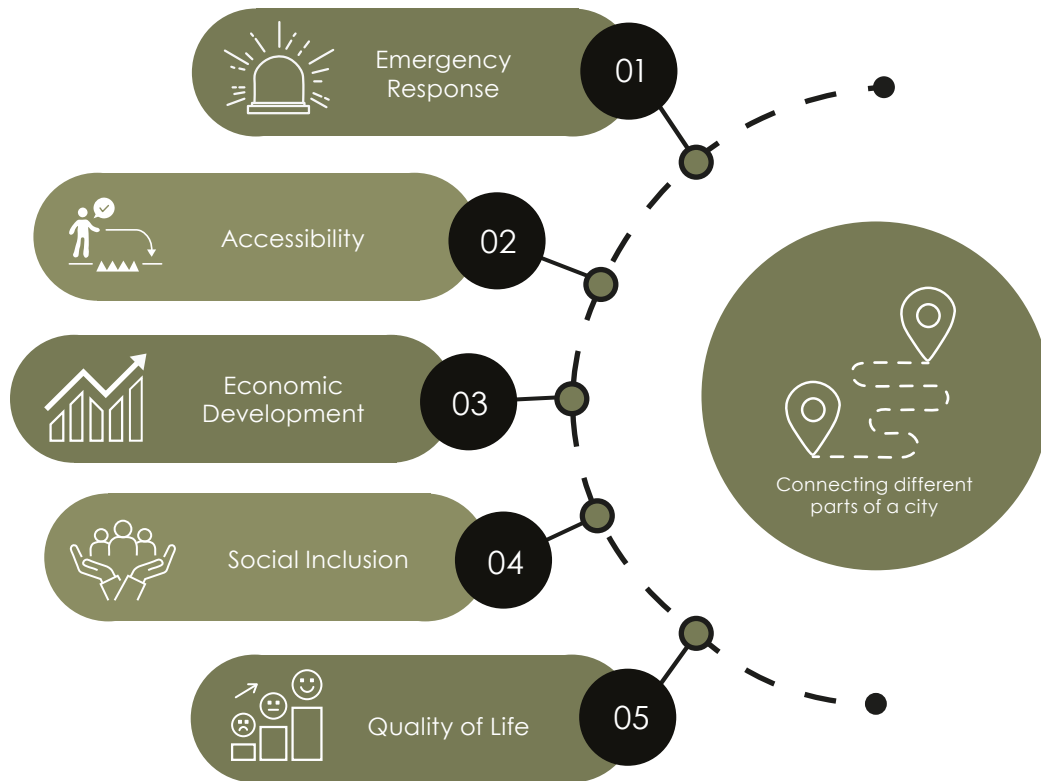


HYPOTHESIS:
CONNECTING DIFFERENT PARTS OF BIRŠTONAS AND
CLOSING THE TOWN CENTRAL PART TO THE CARS WOULD
INCREASE RECREATIONAL POTENTIAL OF THE AREA.



WHY IT IS IMPORTANT?

CONNECTING DIFFERENT PARTS OF A CITY

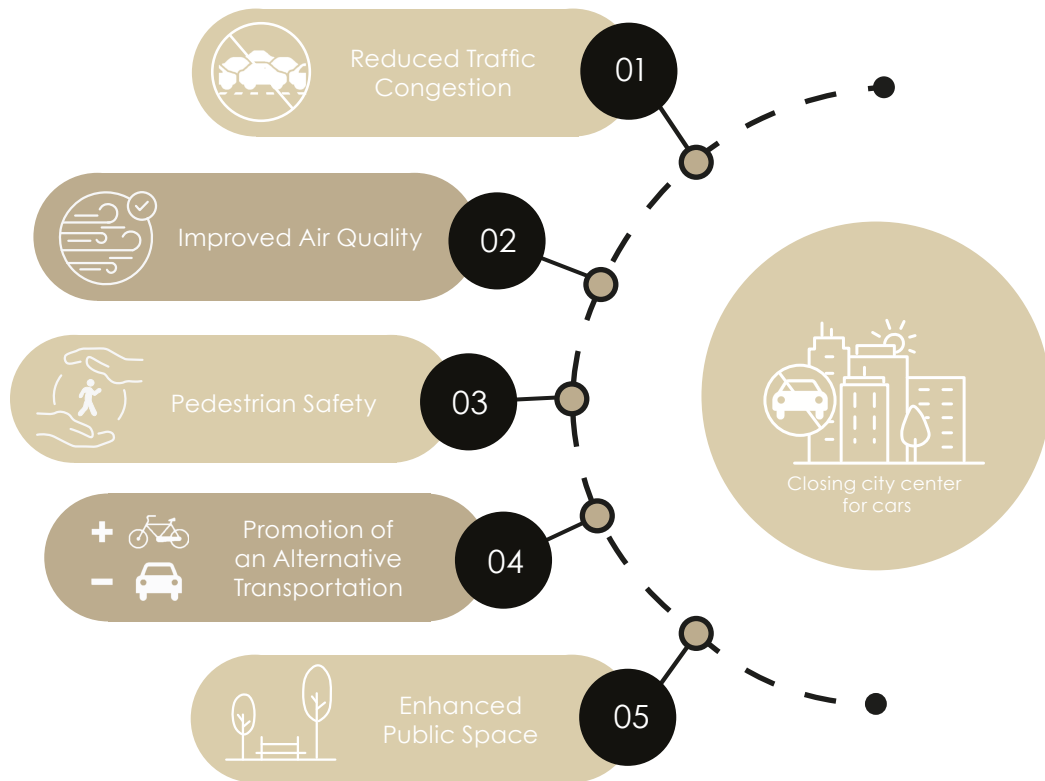


This concept involves improving the connectivity within the town, likely through infrastructure development such as pedestrian pathways, bridges, or cycling lanes. It's important because it facilitates easier movement between different areas of the town, promoting exploration and access to various recreational amenities.

WHY IT IS IMPORTANT?

CLOSING CITY CENTER FOR CARS

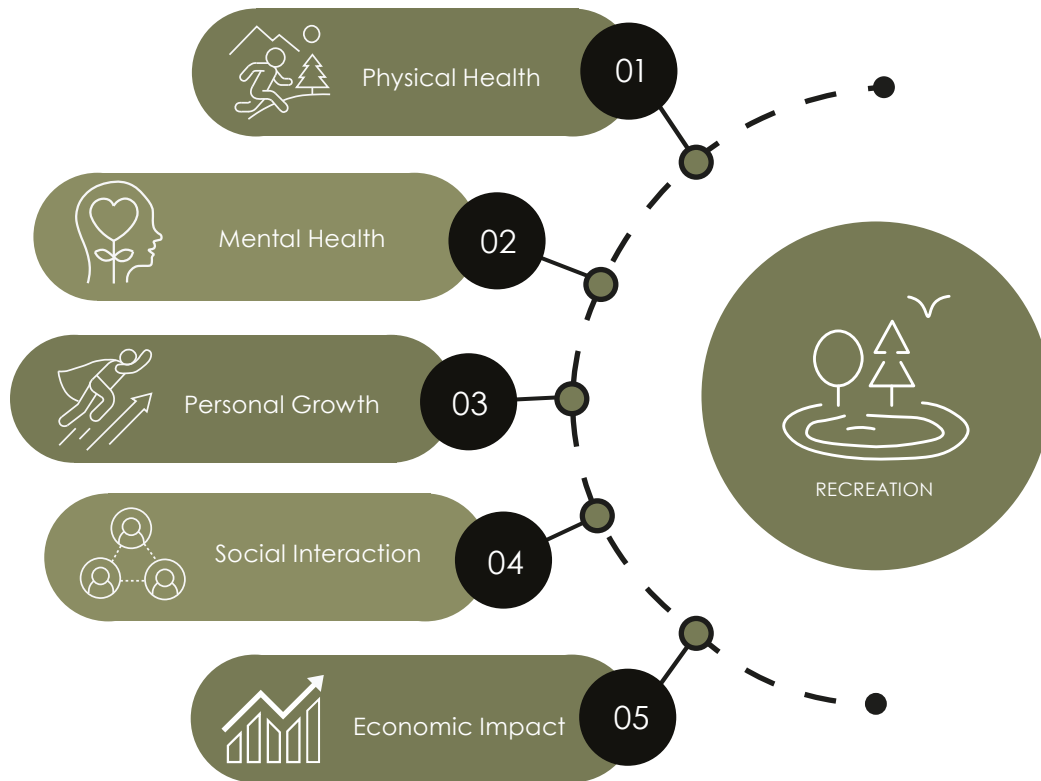
Closing the city center to cars can lead to numerous benefits, including improved safety, better air quality, reduced congestion, enhanced public space, support for local businesses, and cultural enrichment, contributing to a more livable and sustainable urban environment.



WHY IT IS IMPORTANT?

RECREATION

Recreational needs in cities play a vital role in shaping the quality of life for urban residents. As cities continue to grow and evolve, the importance of recreational spaces and activities becomes increasingly apparent. These areas provide essential outlets for physical activity, social interaction, and relaxation, contributing to the overall health, well-being, and happiness of city dwellers. In this introduction, we will explore the significance of recreational needs in cities, highlighting their multifaceted benefits and the challenges associated with meeting these needs in urban environments.



ANALOGUE

CONNECTING DIFFERENT PARTS OF A CITY;
CITY CENTER AND LEFT SIDE OF NEMUNAS RIVERBANK



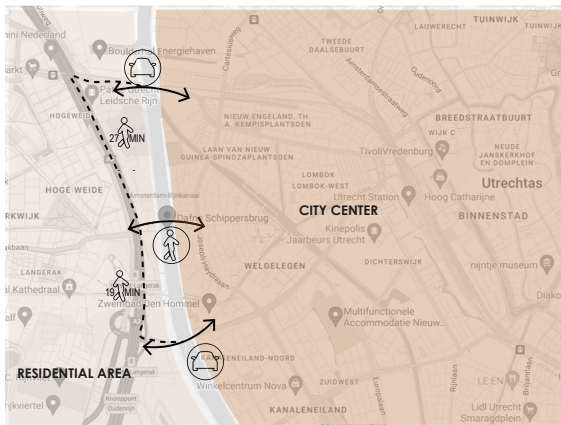
UTRECHT, NETHERLANDS
DAFNE SCHIPPERS BRIDGE:

Pedestrian and Cyclist
Bridge.

A bridge connecting the
park with the residential area
and the city center.

Before the construction of
this bridge, about 40-50%
of all daily trips in the city
of Utrecht were made by
bicycles, not cars. After the
construction of this bridge,
these numbers changed,
and rose to 60-65%.

Utrecht is often cited as
one of the best examples
of cities worldwide that pro-
mote bicycle use, develop
infrastructure, and improve
overall pedestrian and
cyclist safety.



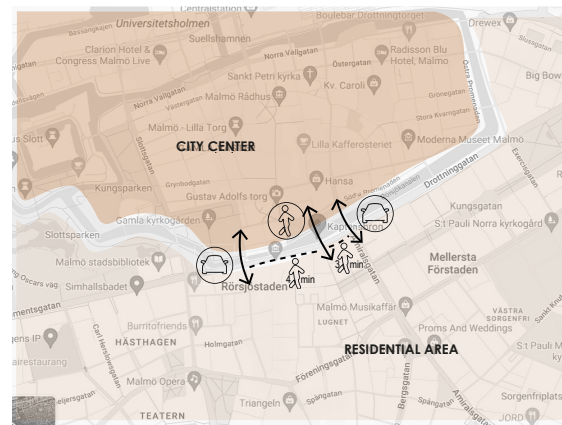
MALMO, SWEDEN
KAPTENSBRON BRIDGE:

Pedestrian and Cyclist
Bridge.

The bridge connects Malmö
city center with the Gamla
Väster district and other
parts of the city. This mobility
is essential for the vitality and
economic development of
the city.

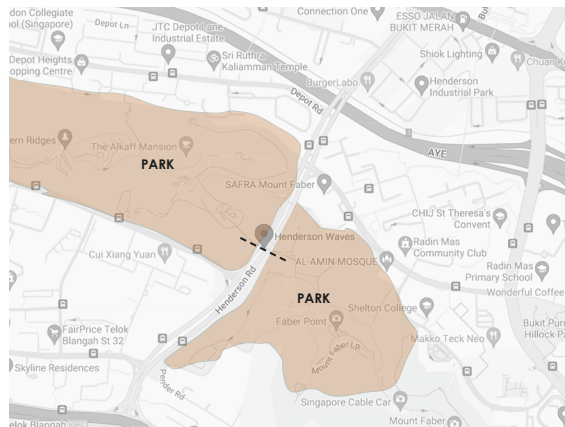
About 45-50% of all daily trips
in Malmö city are made by
bicycles.

Swedish cities, including
Malmö, have high usage of
non-automobile transpor-
tation modes, including
bicycles and pedestrians.



ANALOGUE

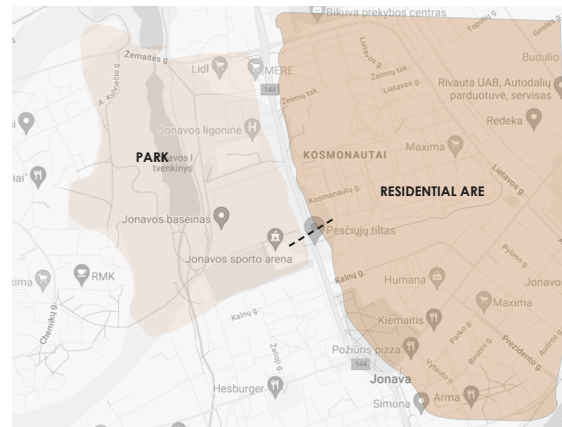
CONNECTING DIFFERENT PARTS OF A CITY;
CITY CENTER AND BIRŠTONAS "VIEŅKIEMIS"



**SINGAPORE,
HENDERSON WAVES:**
The bridge is located over the road connecting the city and the coast.

This bridge is part of a network of pedestrian paths, connecting several parks and green areas in the city.

The bridge stands out in the midst of nothing, yet it is not only an important pedestrian infrastructure but also a tourist attraction in Singapore, attracting both locals and tourists eager to see this architectural marvel.



**PEDESTRIAN BRIDGE
JONAVA, LITHUANIA:**

The pedestrian bridge becomes a colorful delight for the residents of Jonava on gloomy autumn evenings - locals can change the bridge's lighting color themselves.

PRINCIPLES TO FOLLOW

CONNECTING DIFFERENT PARTS OF A CITY



Create
accessibility
for everyone



Promote
an alternative
transportation



Ensure safety
during dark
hours



Create
opportunities to
increase physical
health



Create
opportunities for
social interaction



Increase
quality of life

FORMING STRATEGY

CONNECTING DIFFERENT PARTS OF A CITY

Legend:

-  Bicycle and pedestrian path
-  Expansion of the bicycle and pedestrian path
-  Center of attraction

 Residential areas which are not connected to the city center right now

1. STRATEGY OF CONNECTION BETWEEN THE CITY CENTER AND THE LEFT BANK OF THE NEMUNAS RIVER:

Create two bridges further apart from each other. They would be dedicated solely to pedestrians and cyclists, therefore the bridges should only appear where such infrastructure is developed and serve not only the city center of Birštonas. This would establish not only a connection between different parts of the city but also create a new public space for locals and city guests to enjoy the unfolding landscape. Creating two connecting axes would indeed encourage many residents on the other side to switch to alternative transportation such as bicycles, as reaching the city center would be both simpler and more convenient. Indeed, it would not only establish connectivity but also help Birštonas continue to pursue its goals related to reducing car usage in the resort.

2. STRATEGY OF CONNECTING THE CITY CENTER WITH THE "VIENKIEMIS" OF BIRŠTONAS:

The physical connection between the parts of the city has already been established, however, it is not an attractive feature for the community, as many residents do not choose to use this bridge simply because it and the surrounding environment do not appear safe. By transforming the bridge into a public space and creating safe access points to it, while expanding bicycle and pedestrian paths both in the city center and in the "suburb", many residents of this area would switch to alternative modes of transportation. Additionally, having an attractive common space between the two parts of the city would create a connection. The use of this bridge would not only serve its primary function as a transit point but also create a different environment around it.



ANALOGUE

CLOSING CITY CENTER FOR THE CARS

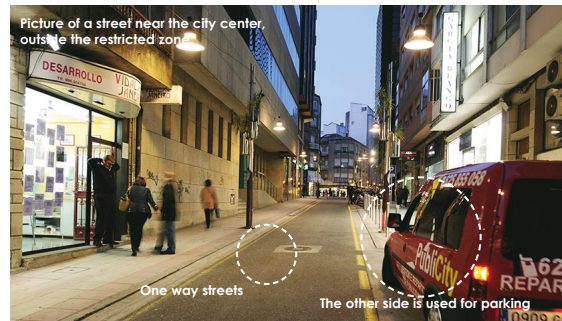


GRONINGEN, NETHERLANDS:

Groningen is renowned as one of the most bicycle-friendly cities in the world, where bicycles are the most popular mode of transportation.

No entry is allowed to a part of the city center of Groningen from 12:00 to 05:00 for cars, vans, and lorries. The area affected for delivery vehicles is larger than the one for cars.

Each entry into the restricted area costs from 4 euros. It affects all motorized vehicles.



PONTEVEDRA, SPAIN:

By prioritizing pedestrians and cyclists over cars, Pontevedra has transformed its urban landscape into a vibrant and welcoming environment. With extensive pedestrianized zones, cycling infrastructure, and traffic-calming measures.

The city has successfully reduced congestion, improved air quality, and fostered a sense of community engagement within its historic streets and public spaces.

They reduce cars numbers in the streets near city center to by creating one way streets and designed them with wider sidewalks



PRINCIPLES TO FOLLOW

CLOSING CITY CENTER FOR THE CARS



Improving air
quality in city
center



Promote
an alternative
transportation



To create safe
space for
public events



Create
opportunities to
increase physical
health



Encourage
greater
community
interaction



Increase
quality of life

FORMING STRATEGY

CLOSING CITY CENTER FOR THE CARS

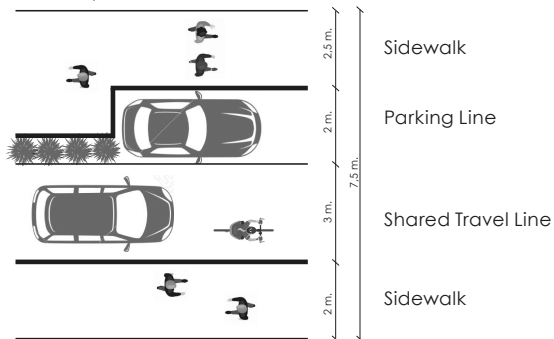
Legend:

-  Bicycle and pedestrian path
-  Expansion of the bicycle and pedestrian path
-  One way streets
-  Central area closed for cars

3. STRATEGY OF CLOSING CITY CENTER FOR CARS:

By closing the city center to cars, or allowing them only during certain hours for service vehicles, not only would there be a lot of new public space in the city, but also the quality of life would improve - streets would become safer and quieter, the pace of life would slow down, and air and noise pollution would decrease. Considering that by closing the city center we would lose 56% of parking spaces, a one-way street system is created. The chosen streets are wide enough to ensure the movement of cars, the necessary number of parking spaces, and undisturbed pedestrian traffic. The total length of one-way streets is 3.25 km. Such a territory would fully compensate for the lost number of parking spaces.

One way street from above:



STRATEGY

Legend:

- Bicycle and pedestrian path
- Expansion of the bicycle and pedestrian path
- One way streets
- Center of attraction
- Residential area
- Central area closed for cars



COMMUNITY ENGAGEMENT



THE GAME INSTRUCTIONS AND RULES WILL DESCRIBE
THE OBJECTIVES AND PROGRESSION OF THE GAME

BIRŠTONAS CITY CENTER MAP WILL
TURN INTO A GAME BOARD



PLAYING CARDS IN DIFFERENT SIZES TO SHOW VARIATIONS
IN THE PLANNING PROCESS

GAME NUMBERS FROM 1-8, AIMING TO SHOW PRIORITY LO-
CATIONS FOR POTENTIAL PLANNING PROCESSES



DICES

GAME CONTEN



GAME INSTRUCTIONS:

1. Identifying the type of game being played (public involvement (map will be created by team), professional (map created by one person)).

2. The main aim of the game is to identify areas in the city center that require a specific changes and evaluate them on a scale from 1-8 in order of priority.

3. Cards are distributed equally to 8 topics: lack of infrastructure; unattractive area; lack of connectivity; too much action; too busy area; need to be developed more; lack of greenery; abandoned place.

4. At the end of the game each different size of card has to have a number to show the line number of priorities and topic card.

5. Compare the results obtained with the map created by another person or team and create 3 maps that would meet both your and the other party's requirements, expectations, and desires. Discussion is part of the process.

6. There is no right or wrong answer. The game is used according to context and situation. The player rolls the dice and moves as many squares as the dice land. Stepping on a certain color answers the question of the card of the same color. There are discussions and debates. There is no right or wrong answer. The game is used according to context and situation. Discussions and debates are just as important as the game itself. The game acts as a dialogue catalyst to quickly summarize ideas.

EXAMPLE OF POSSIBLE SITUATIONS



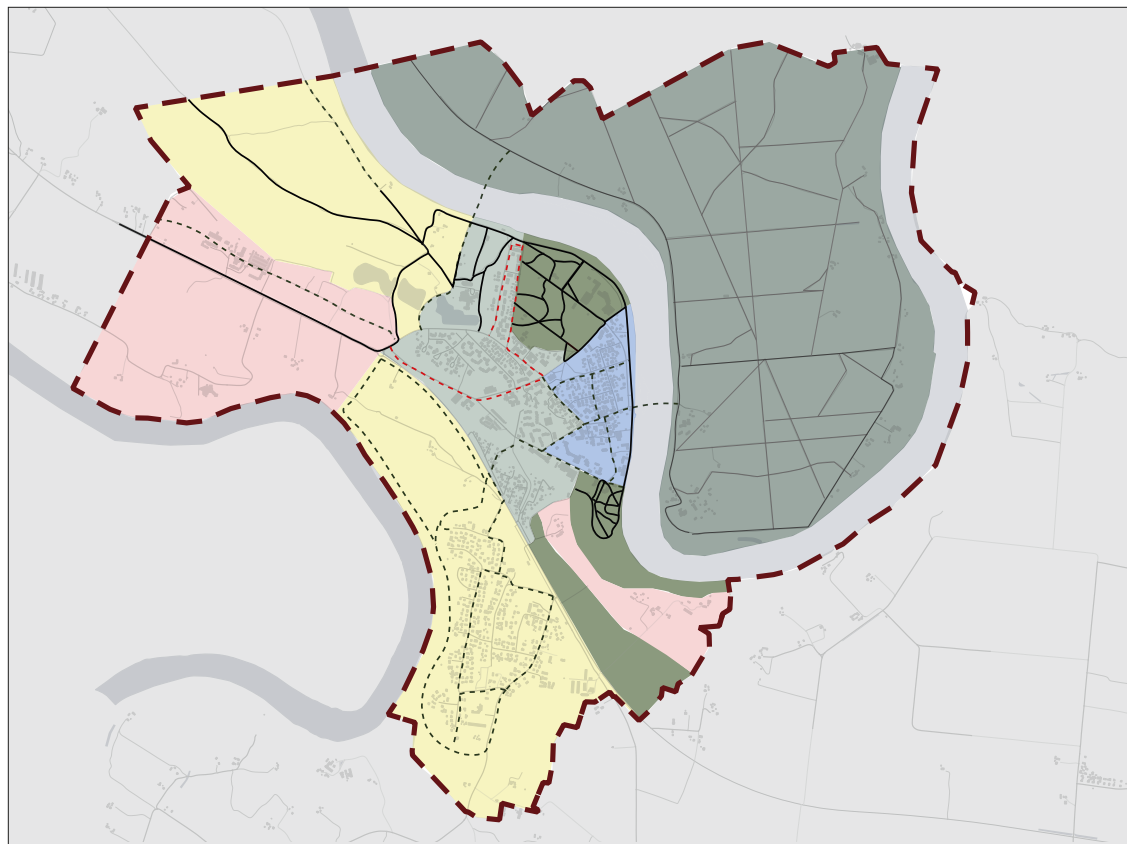
03 — DESIGN

SPECIAL PLAN FOR BIRŠTONAS CITY

Legend:

- Developing residential area, simultaneously expanding bicycle path infrastructure
- Expansion of bicycle and pedestrian paths needed
- Residential zone
- Areas where only pedestrian and bicycle traffic is allowed
- City center closed to cars
- "Wildness" area
- New bicycle and pedestrian paths
- Existing bicycle and pedestrian paths
- Shared street (forest roads)
- One-ways street

The chosen topic is "sustainable mobility in Birštonas city," and thus, the spatial plan is being developed based on the current road situation in Birštonas and the expressed desires of the residents. For example, the central part of the city is being closed off to automobile traffic.



ANALYSIS OF ZOOM IN AREA

1. NEMUNAS RIVERSIDE:

The section in this area is not attractive. Although there are plenty of parking spaces, the Nemunas riverside is not a focal point in this location. A pedestrian/bicycle path runs along the shoreline.

2. NEW RESIDENTIAL COMPLEX:

This is a large empty area planned for the construction of medical buildings and residential apartments, along with a designed park and accessibility routes between the planned space, the Nemunas riverside, and Vytautas Mineral Spa.

3. RESIDENTIAL AREA:

This is a large space between two streets filled with private residential houses with inner courtyards. The area covers 5.5 hectares. The streets surrounding the area lack good infrastructure for pedestrians, cyclists, or people with disabilities.

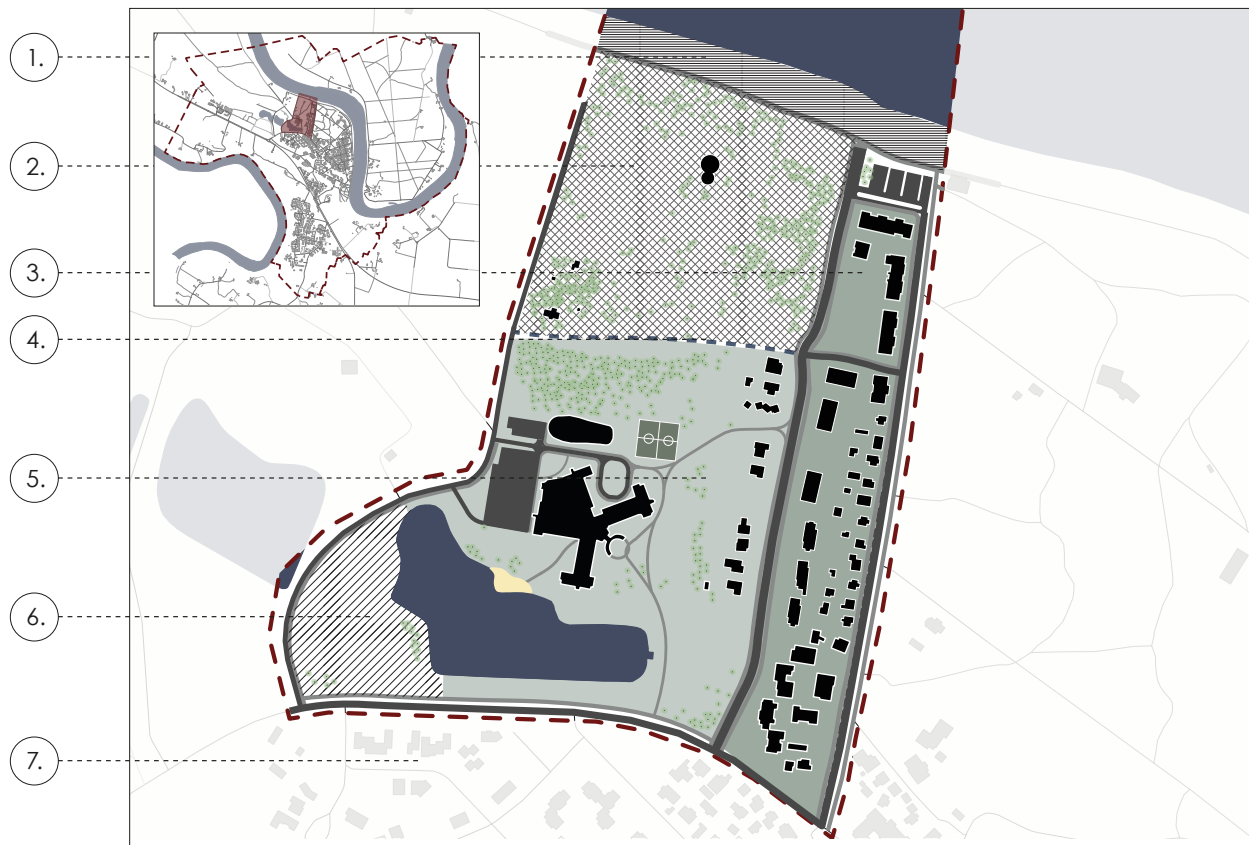
4. NEWLY DESIGNED STREET NEXT TO THE NEW RESIDENTIAL AREA INTENDED TO SERVE IT.

5. **VYTAUTAS MINERAL SPA:** The purpose of this area is peace and relaxation, but the pedestrian infrastructure is not developed enough to allow guests to reach the newly designed park and Nemunas riverside.

6. EMPTY AREA:

An underutilized area with only green grass and no infrastructure.

7. NEW RESIDENTIAL AREA.



MASTER PLAN ZOOM-IN AREA

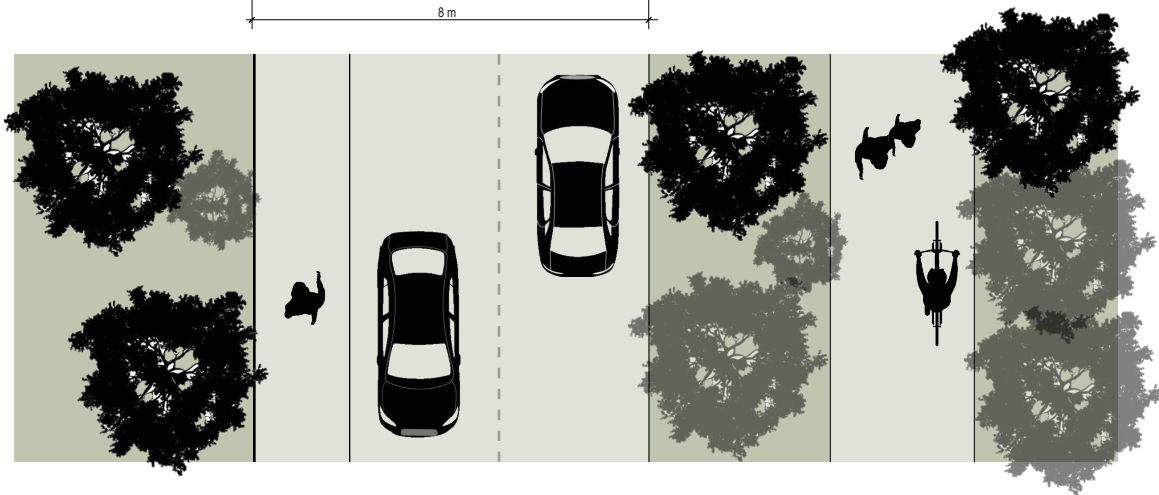
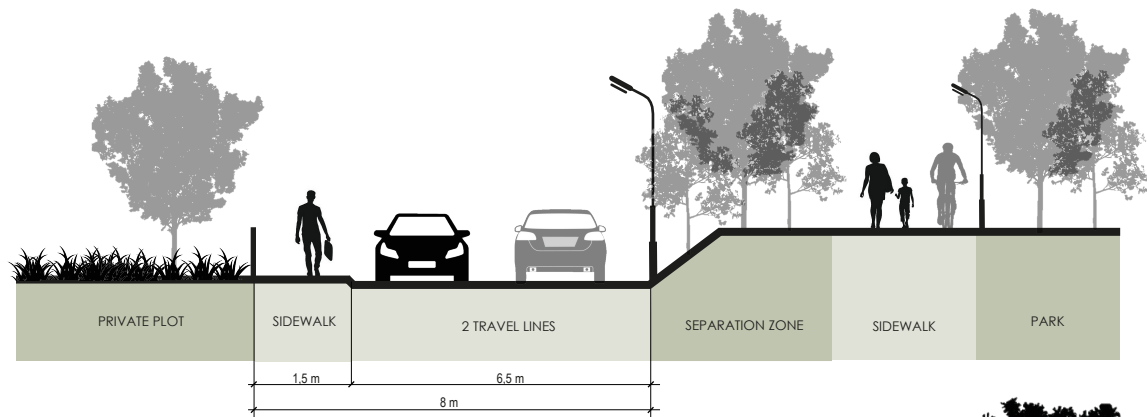
Legend:

1. AMPHITHEATER WITH A CAFÉ AND BICYCLE RENTAL POINT
2. NEWLY DESIGNED PARK
3. NEWLY CONSTRUCTED DESIGNED NEIGHBORHOOD OF MEDICAL FACILITIES AND RESIDENTIAL BUILDINGS
4. PUŠYNO STREET - ONE-WAY STREET
5. VYTAUTAS MINERAL SPA
6. ŽVĖRINČIAUS STREET - ONE-WAY STREET
7. PLAYGROUND AREA
8. JAUNIMO STREET

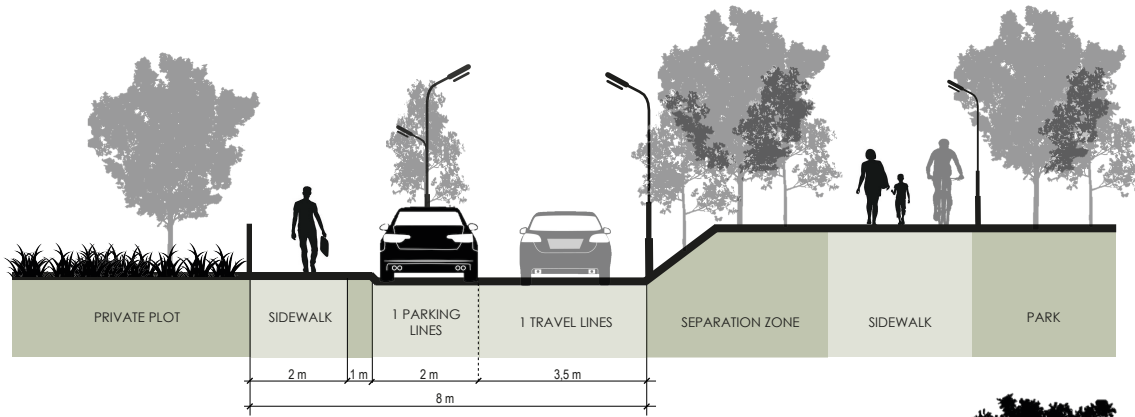
New spaces are being created along the Nemunas River to utilize the shoreline and enhance its infrastructure development. The pedestrian path infrastructure is being expanded so that the newly designed park can be accessed not only from the residential area on Žvėrinčius Street but also conveniently from Vytautas Spa. New communal spaces are being created along the main street, Jaunimo Street, to encourage youth activity and improve accessibility to this location through sustainable mobility. No additional parking spaces are being developed in the area; instead, the wide streets are utilized, and a one-way traffic system is implemented



PUŠYNO STREET SECTION BEFORE

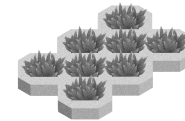


PUŠYNO STREET SECTION AFTER



Parking spaces will be divided into groups of 2–3 spaces, separated by a greenery island.

These areas will normally be covered by grass planting cement for parking



Parking spaces on streets must not prevent pedestrians from crossing the street, so they will be separated not only by greenery, but also by an appropriate number of passages and crossings.

PUŠYNO STREET AXO

Park

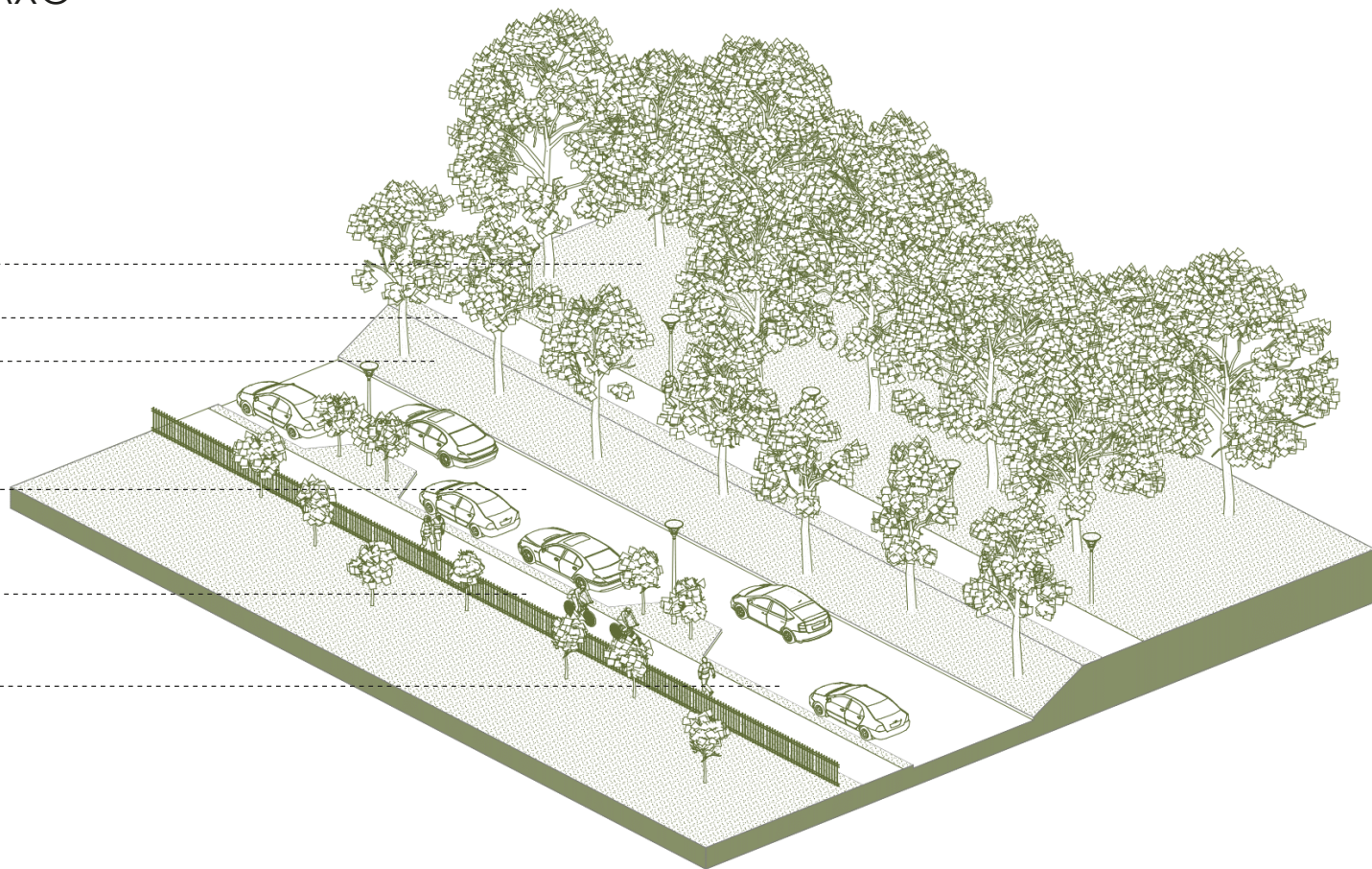
Pedestrian path

Slope

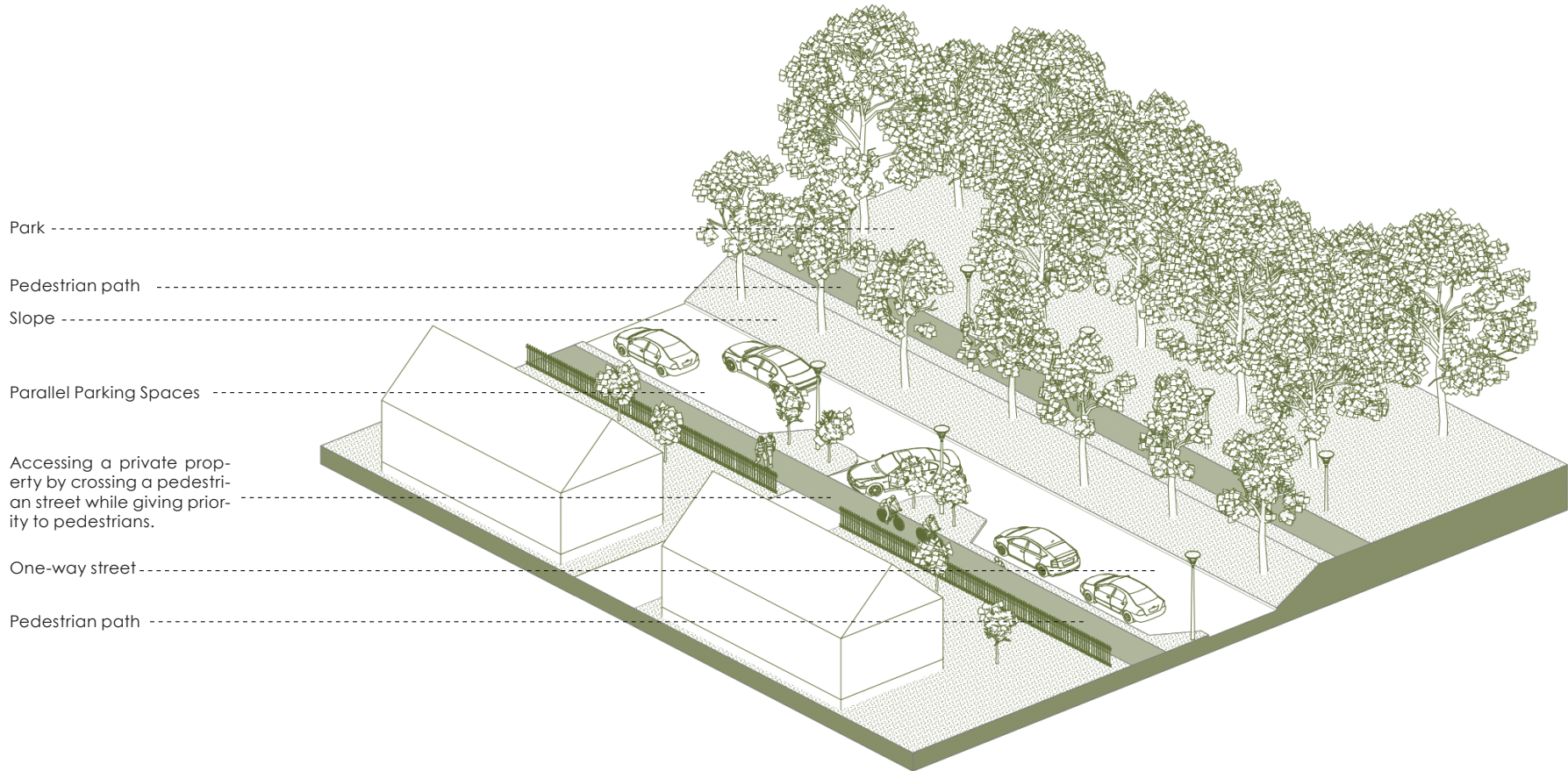
One-way street

Pedestrian path

Parallel Parking Spaces



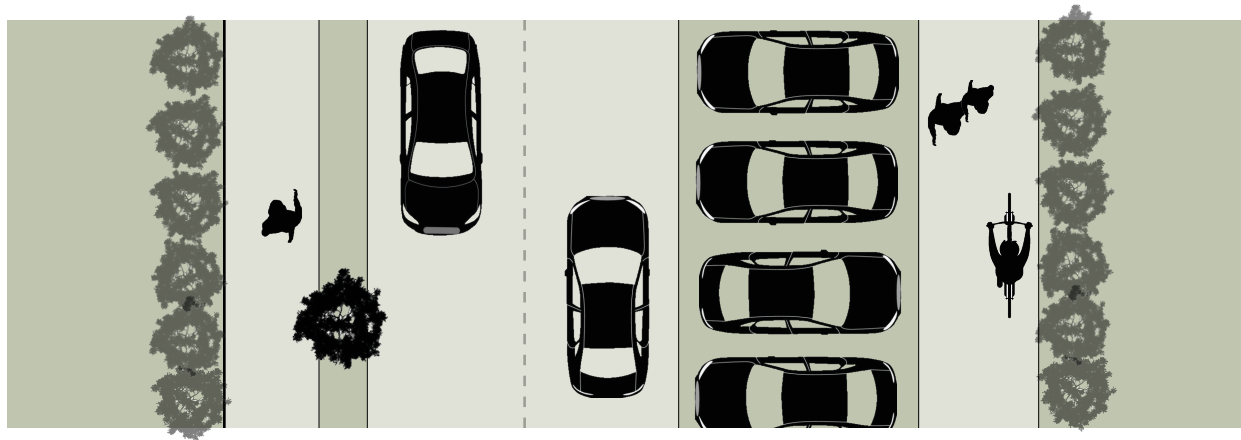
PUŠYNO STREET AXO



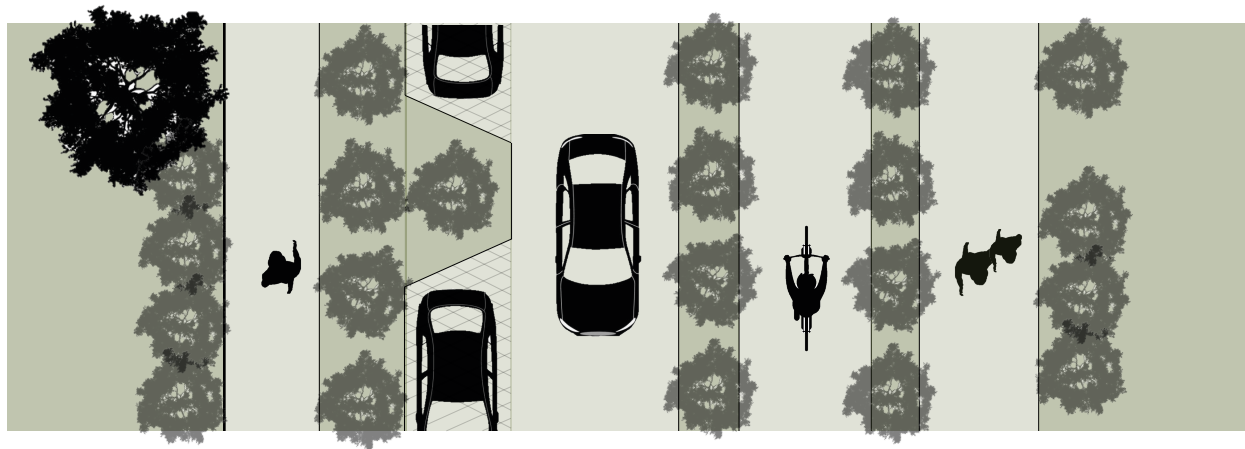
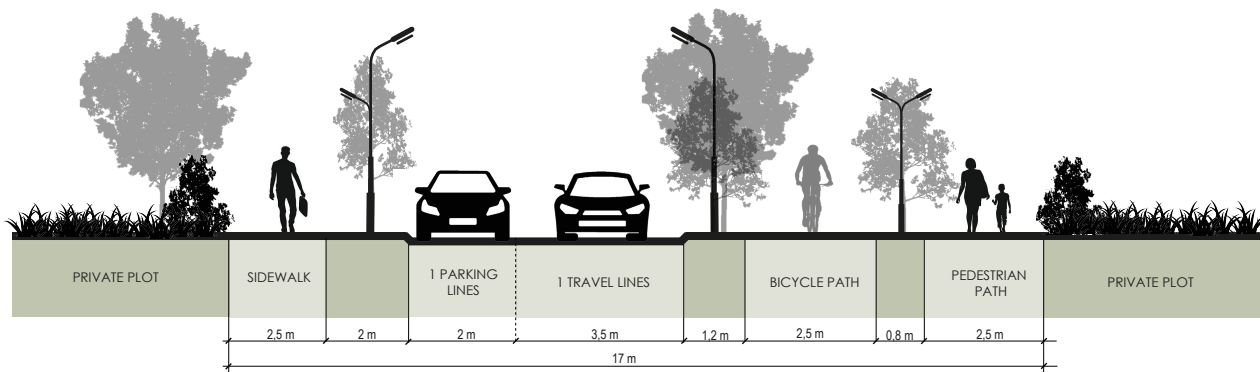




A cross-section diagram of a road layout. From left to right, the zones are: PRIVATE PLOT, SIDEWALK (2.5 m wide), a 1 m wide strip, 2 TRAVELING LINES (6.5 m wide), a PARKING ZONE (4.5 m wide), another SIDEWALK (2.5 m wide), and another PRIVATE PLOT. The total width of the road and adjacent sidewalks is 17 m. Silhouettes of a person, a car, and a family are shown in the respective zones. A street lamp is positioned on the first sidewalk.

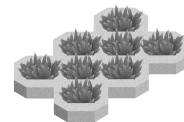


ŽVĖRINČIAUS STREET SECTION AFTER



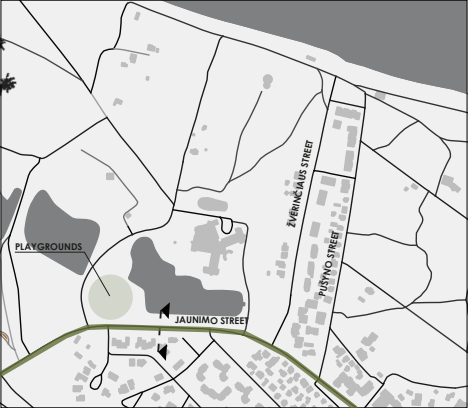
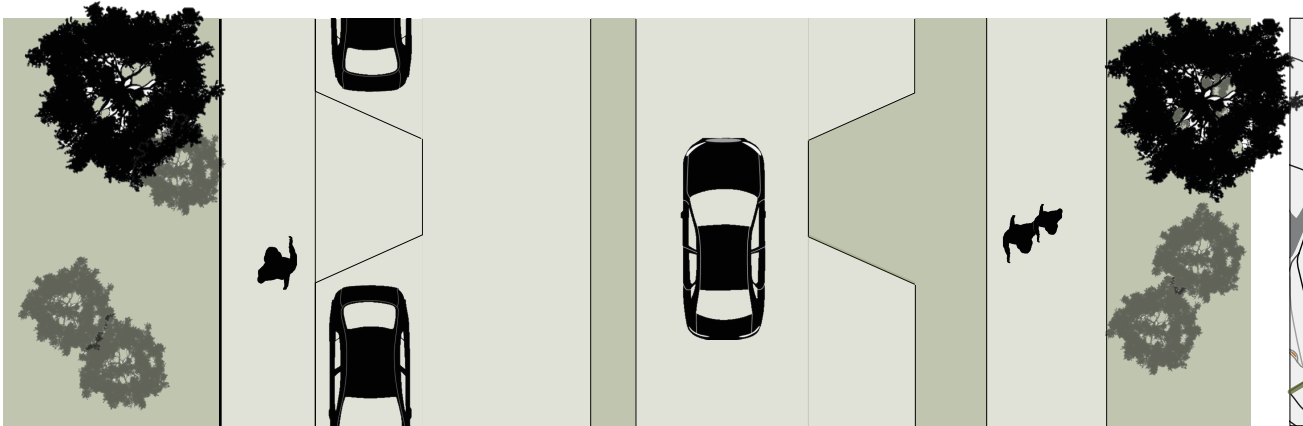
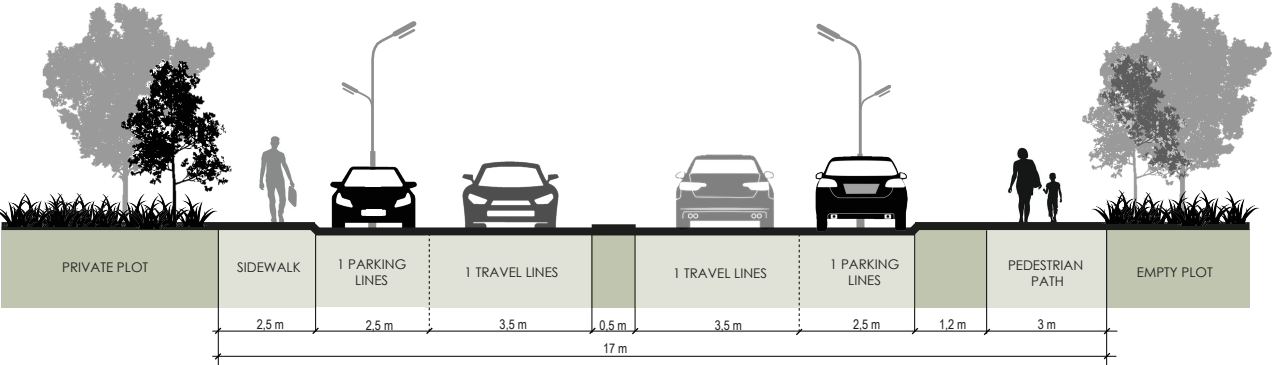
Although the parking area on the right side is replaced with green infrastructure, the wide street is narrowed to one-way traffic, and the remaining street width is used for horizontal parking.

Parking spaces will be divided into groups of 2-3 spaces, separated by a greenery island.

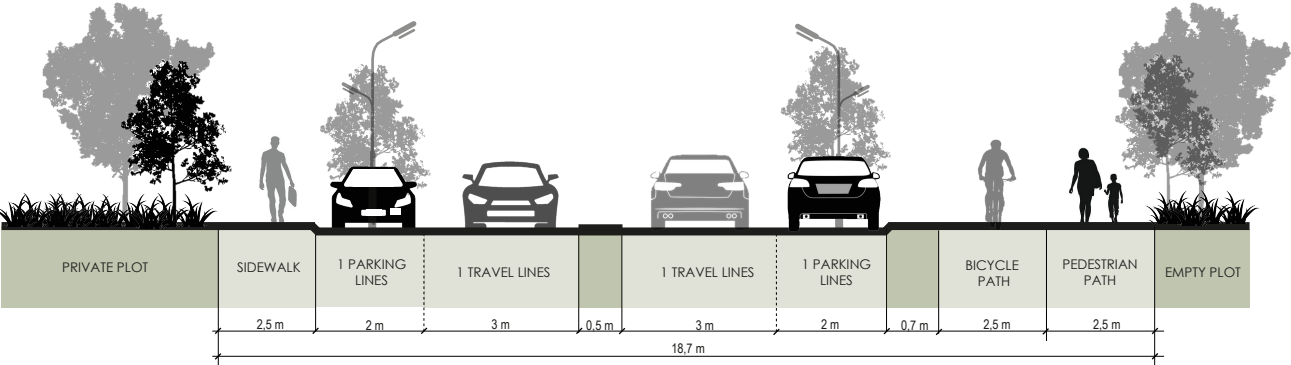


These areas will normally be covered by grass planting cement for parking

JAUNIMO STREET SECTION BEFORE

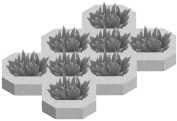


JAUNIMO STREET SECTION AFTER



Jaunimo gatvė is one of the busiest streets in Birštonas, therefore it is wide enough. When creating playgrounds for children, the street needs to be made not only safer (slowing down traffic), but also develop pedestrian and bicycle infrastructure to that location, which would help promote sustainable mobility in the area.

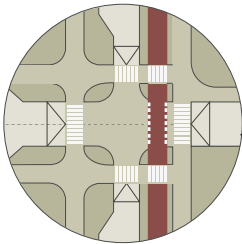
Parking spaces will be divided into groups of 2-3 spaces, separated by a greenery island.



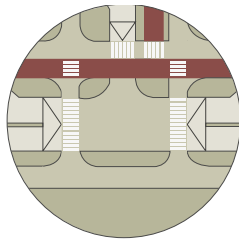
These areas will normally be covered by grass planting cement for parking

IMPORTANT TRAFFIC NODES

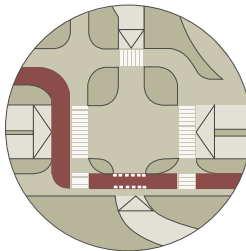
Kunigaikštienės Elenos
street
+
Žvėrinčiaus street



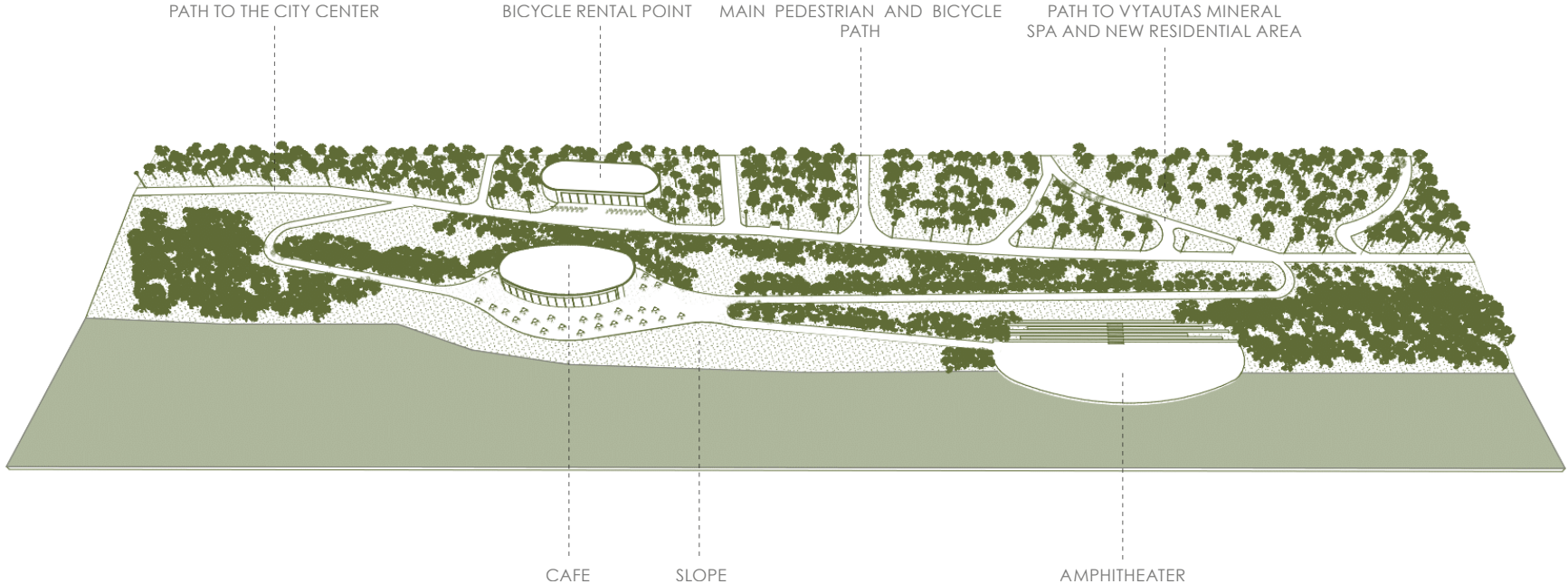
Žvėrinčiaus street
+
Jaunimo street



Pušyno street
+
Jaunimo street
+
Current situation

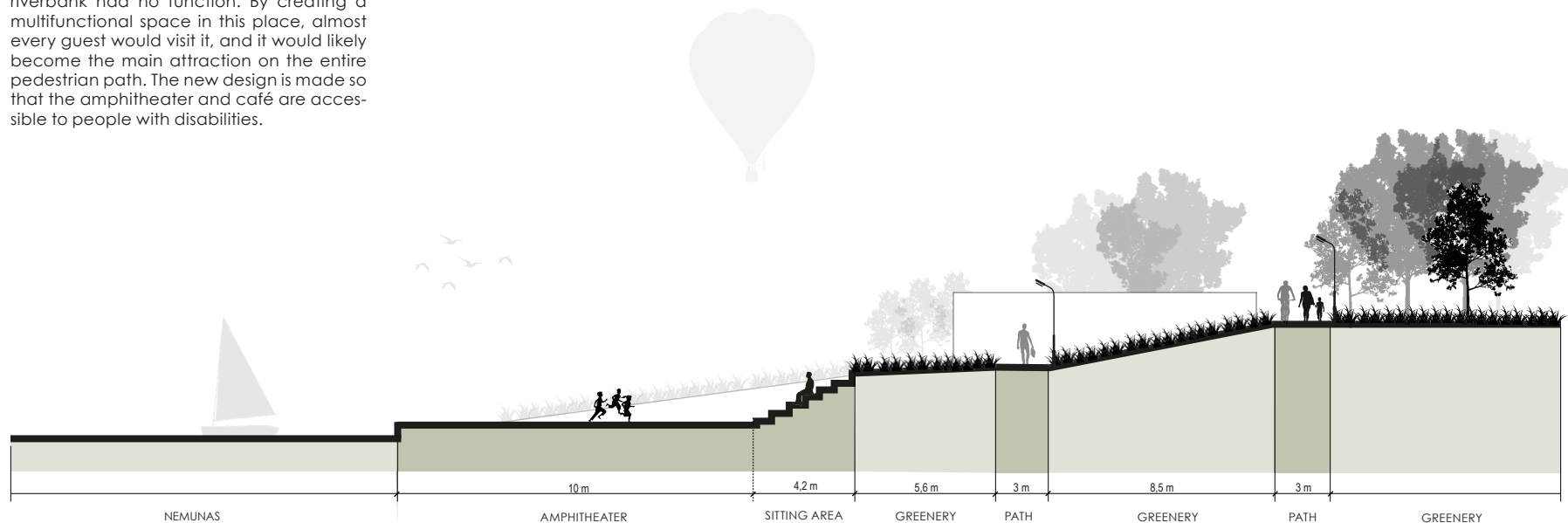


NEMUNAS RIVERBANK AXO

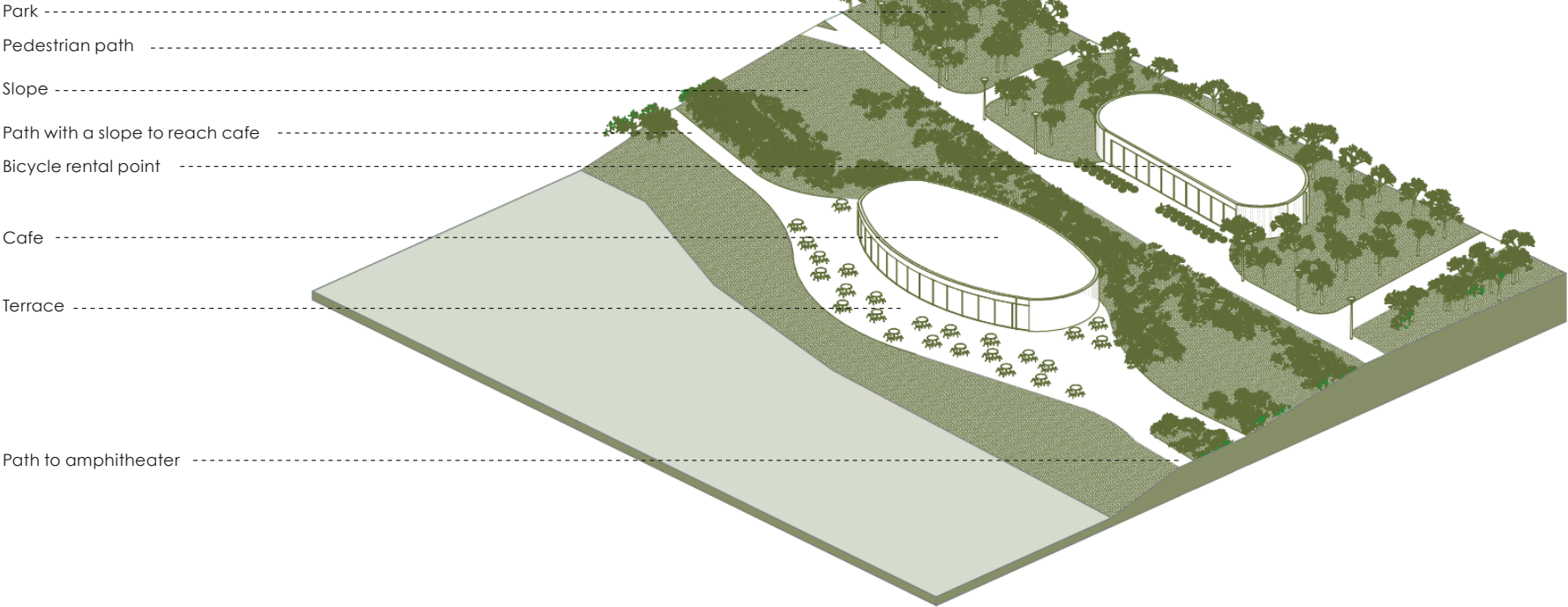


NEMUNAS RIVERBANK SECTION

The Nemunas riverbank has a huge impact on the entire town of Birštonas. The pedestrian path that runs along the Nemunas through the entire town is the most attractive tourist spot during the warm season. In the chosen area, the Nemunas riverbank had no function. By creating a multifunctional space in this place, almost every guest would visit it, and it would likely become the main attraction on the entire pedestrian path. The new design is made so that the amphitheater and café are accessible to people with disabilities.



NEMUNAS RIVERBANK AXO



NEMUNAS RIVERBANK AXO

Park

Path to reach new
residential area/Vy-
tautas mineral SPA

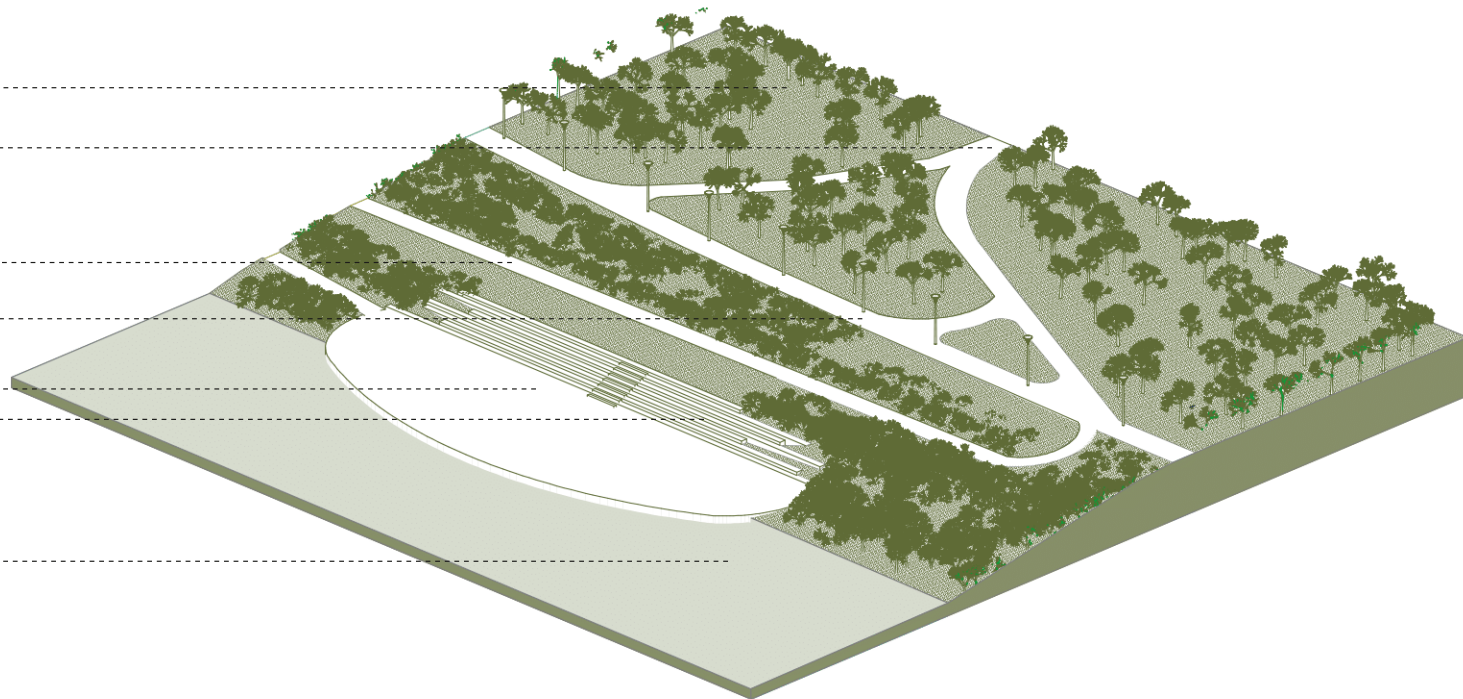
Path with a slope to reach
amphitheater

Pedestrian path

Amphitheater

Sitting area

Nemunas









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