



# Towards Cycling Safety in Paraná: Elevated Cycling Paths to Enhance Urban Cycling

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Academic Year 2023

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# INTRODUCTION



# About Us

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Civil Engineering Career Program



Passionate about sustainable urban design and cyclism.

Acquainted with the problems of the city

# Introduction of the Problem

The road infrastructure of Paraná is designed for cars, buses and trucks.

Cycling around the city is difficult.

The people evade cycling in their daily routine.

Most people choose the fossil fuel-based options.



# Introduction to the Proposal



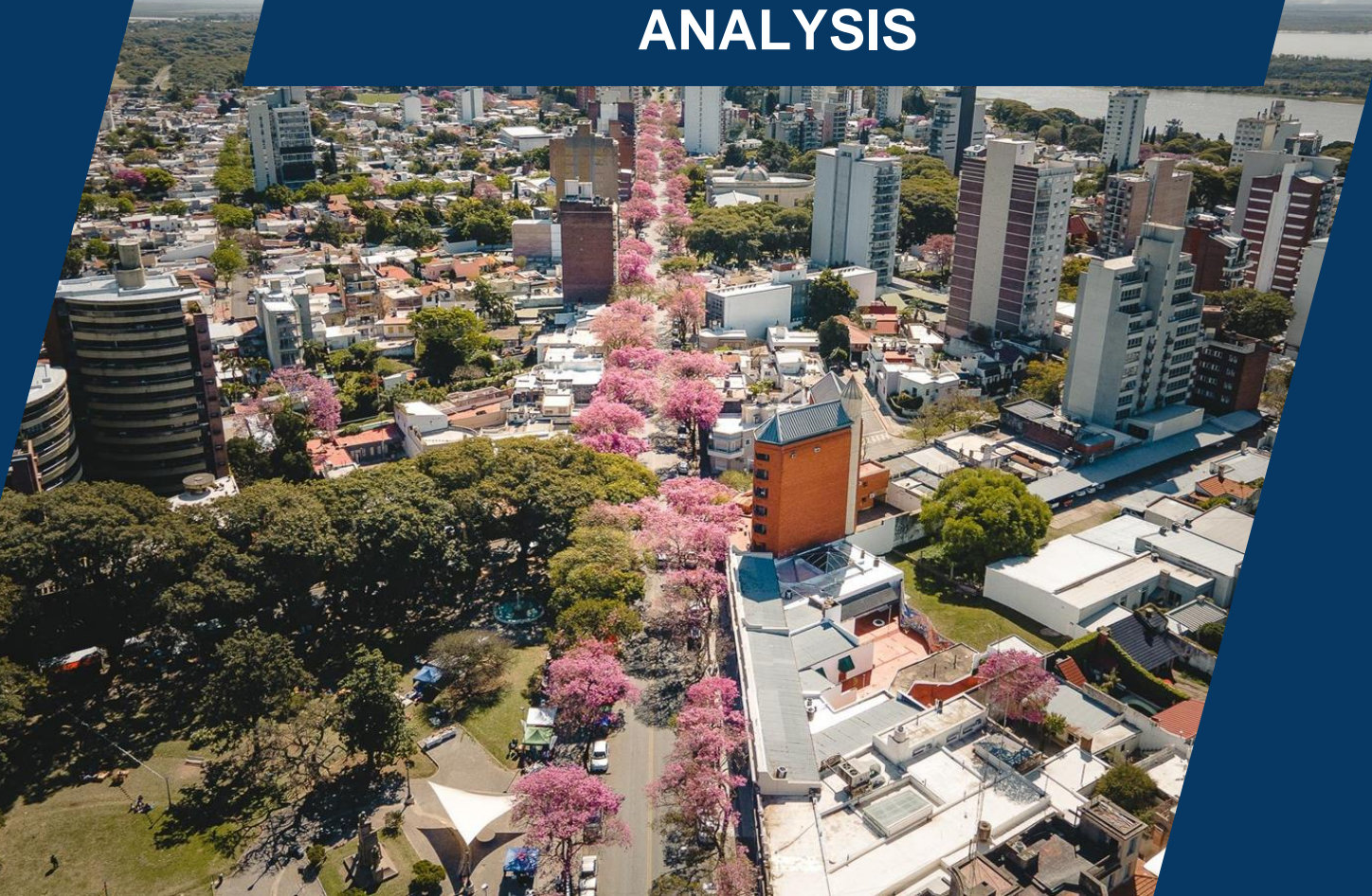
Develop an **elevated cycling path** in one of the main avenues of the city.



## Map of the Presentation

- Description of the context
- What is the problem?
- Causes of the problem
- Consequences of the problem
- Why an elevated cycling path?
- Strengths and weaknesses of the proposal
- Conclusion

# PROBLEM DEFINITION AND ANALYSIS



# Description of the Context

Paraná is the capital city of the province of Entre Ríos, Argentina. It is located in the central east region of the country.

392,000 inhabitants

Natural environments

Touristic approach





# Description of the Context

One of the most important avenues in the city is the **Circunvalación José Hernández beltway**. It extends across the north east area of Paraná.

Separates urban areas

Has 6 km of length

Has high traffic flow



## Description of the Context



The **design** of this beltway is **not suitable** for cyclists.

## What is the Problem?

The people in Paraná do not cycle because of the **lack of the appropriate infrastructure for safe cycling.**



This is problematic because **cycling has a lot of benefits** for the people and the city.

# What is the Problem?

There are some pictures that can help to comprehend the problem:

Options for cyclists

Buses and trucks

Venturi effect



# Causes of the Problem

There are three main factors that give rise to the problem of lack of cycling safety in Paraná:

01

Streets designed for cars

02

Lack of structures to secure the bikes

03

Large differences in the topography



## Consequences of the Problem

There are three main consequences of the lack of cycling safety in Paraná:

01

People evade cycling in their daily routine.

02

Streets are overcrowded with cars.

03

Quality of life is decreased by the pollution.



# THE WAY FORWARD



# Why an elevated cycling path?

01

Separates the cyclists from the rest of the traffic, making them feel safer

02

Improves the slope of the roads, making them more friendly

03

Helps improve people's health and well-being





# Strengths of the proposal

There are many benefits of having elevated cycling paths in the city:

01

Encourages cycling in daily life, which improve the quality of life of the people.

02

Reduces car traffic, CO2 emissions and noise contamination.

03

Allows the design of low slopes, which allow more people to go cycling.



# Weaknesses of the proposal

This proposal has its weaknesses too:

01

The reinforced concrete is a material with a high carbon footprint.

02

An elevated cycling path must use part of the existent road infrastructure to be built.

03

The visuals from the ground can be obstructed.



# Conclusions of needs

The background of the slide is a photograph of a multi-lane highway. A prominent feature is a red-paved walkway or ramp that curves along the side of the road. In the distance, a city skyline is visible under a clear blue sky, including several tall buildings and construction cranes. The overall scene is bright and clear, suggesting a modern urban infrastructure project.

**Develop sustainable mobility**

**Improve the quality of life of the people**

**Encourage the people to enjoy their landscapes**



# Conclusions on the proposal

**Improve infrastructure for cyclists**

**Help people get back on their bikes**

**Improve quality of life and health**

**Transform an unsustainable environment into a sustainable one**

The cost is low, an elevated cycling path can convert Paraná into a better place to live in.

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