

ROAD IMPROVEMENT: RECONDITIONING OF GUTIERREZ STREET IN PARANÁ



Universidad Tecnológica Nacional
Facultad Regional Paraná
Civil Engineering Department
Inglés 1
2023

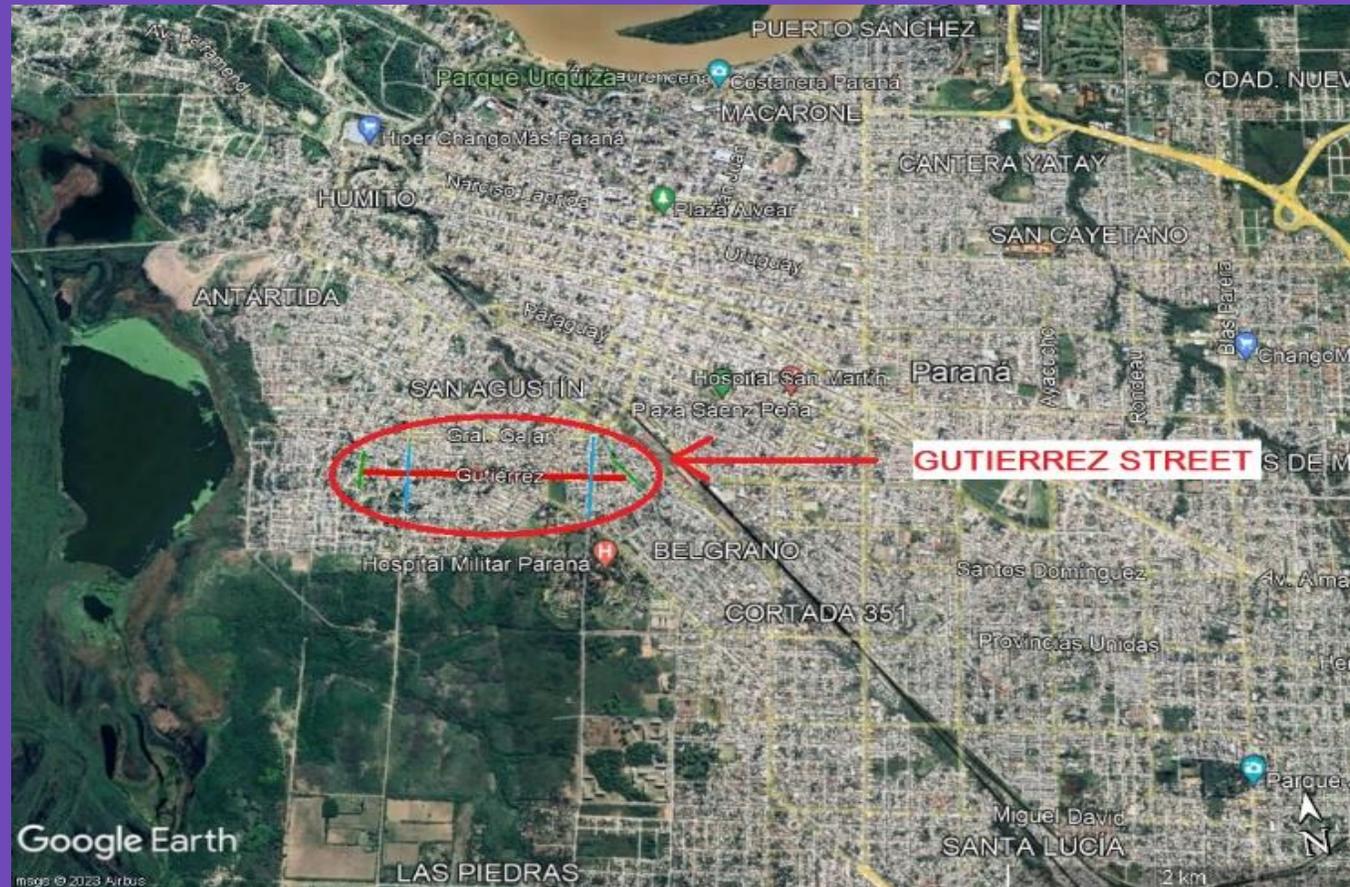
Nahuel Mussin, Máximo Borghello and Simón Vitale.

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The background features a gradient from dark purple to blue, overlaid with a field of small white stars. Several technical diagrams are scattered across the scene: a circular gauge with a needle and scale in the top left; a large circular scale with numerical markings (90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 210) and an arrow in the top right; and a circular diagram with concentric lines and an arrow in the bottom right. A central purple banner with a dark blue border contains the text.

INTRODUCTION

Where is Gutierrez Street Located?



Gutierrez Street highlighted on the map of Paraná (Image from Google Earth).

INTRODUCTION

What is the Problem?

Poor road conditions due to large potholes in the street



An ideal representation of how the street should be



The current condition of Gutierrez Street

INTRODUCTION

What is the Purpose of this Presentation?



To address the potholes problem on Gutierrez Street in Paraná

INTRODUCTION

Where Are the Potholes in the Street?

- At the intersection of Coronel Martinez Street
- At the corner of Virasoro Street
- In the storm drain in Gutierrez Street
- At a central point on Gutierrez Street, between Virasoro and Piran Streets



INTRODUCTION

The Solution to the Problem

Reconstruction of the Road Using Another Method



Map of the Presentation

**PROBLEM DEFINITION
AND ANALYSIS**

Description of the context

Description of scenes

Identification and analysis of causes

**Identification and description of the
consequences**

INTRODUCTION

Map of the Presentation

THE WAY FORWARD

Problem approach

The steps

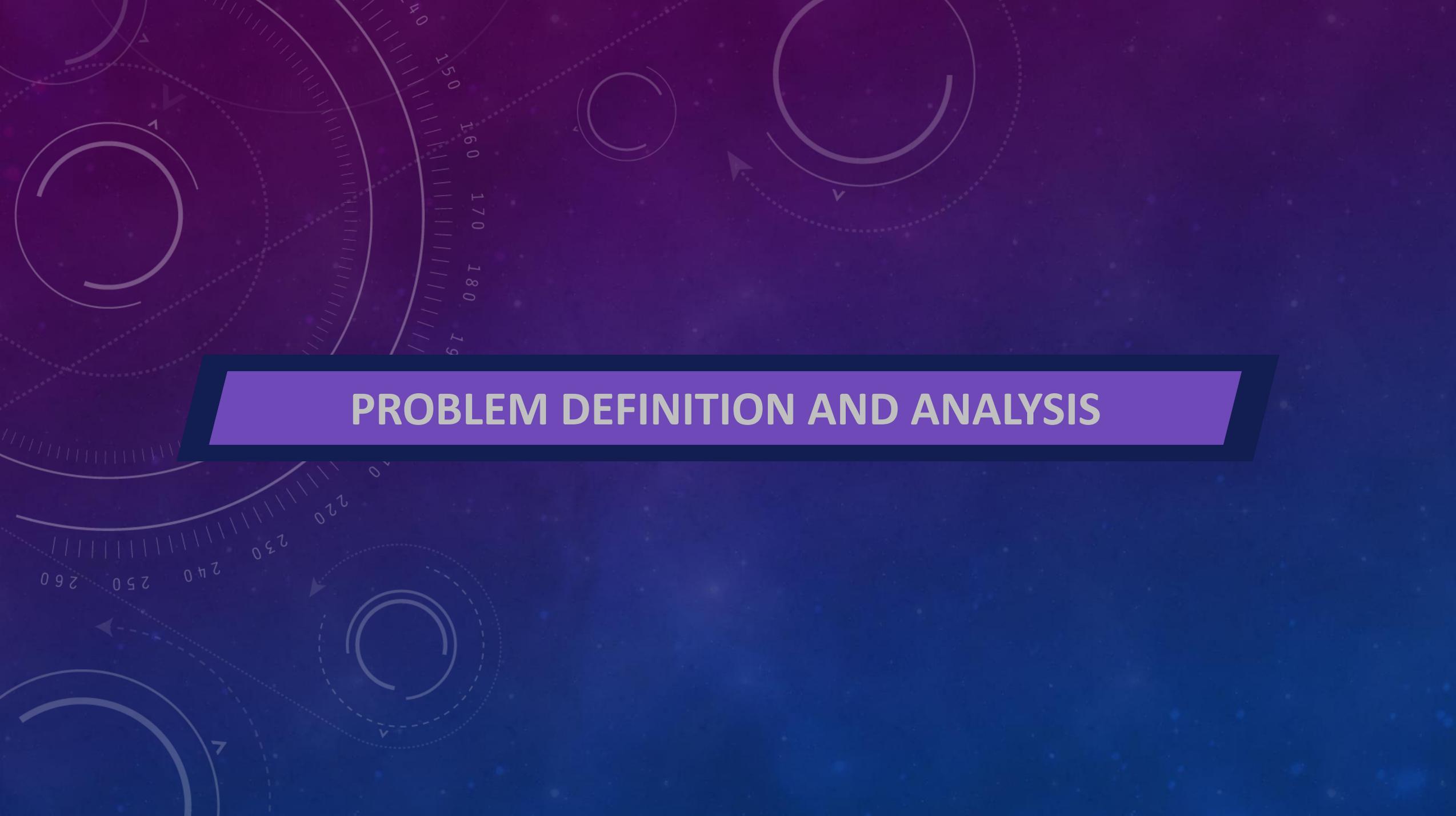
Strengths and weaknesses of
the proposal

INTRODUCTION

Work Impact

This presentation addresses the pothole problem on Gutierrez Street with an innovative road infrastructure reconditioning solution that can be replicated in other areas of the city.



The background features a dark blue gradient with a subtle pattern of white stars. Overlaid on this are several technical diagrams in a light purple/white color. These include circular gauges with numerical scales (e.g., 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260), dashed lines, and curved arrows indicating motion or flow. The diagrams are scattered across the frame, with some appearing more prominent than others.

PROBLEM DEFINITION AND ANALYSIS

Description of the Context



Gutierrez Street highlighted on the map of Paraná

Description of the Context



Ejército Avenue Athletic Club



Electromechanical workshop at the intersection of Ejército Avenue and Gutierrez Street

Description of the Context



Mundo Muebles furniture store



The mechanical workshop and the nursery

Description of the Context



The radio broadcasting station



Veterinary clinic

Description of the Context



The Pantry



The Butcher Shop



Adventist Church

Problem Statement

Description of Scenes that Help Picture the Problematic Situation

- Central Gutierrez Street, between Virasoro and Piran Streets
- Pothole at the intersection of Coronel Martinez Street



Identification and Analysis of Causes or Factors that Give Rise to the Problem

- The lack of maintenance
- The type of soil in Paraná
- The heavy traffic
- The poor quality of the street structure



PROBLEM DEFINITION AND ANALYSIS

Identification and Description of the Consequences

- The damage on vehicles
- Safety risks
- Increase in structural problems

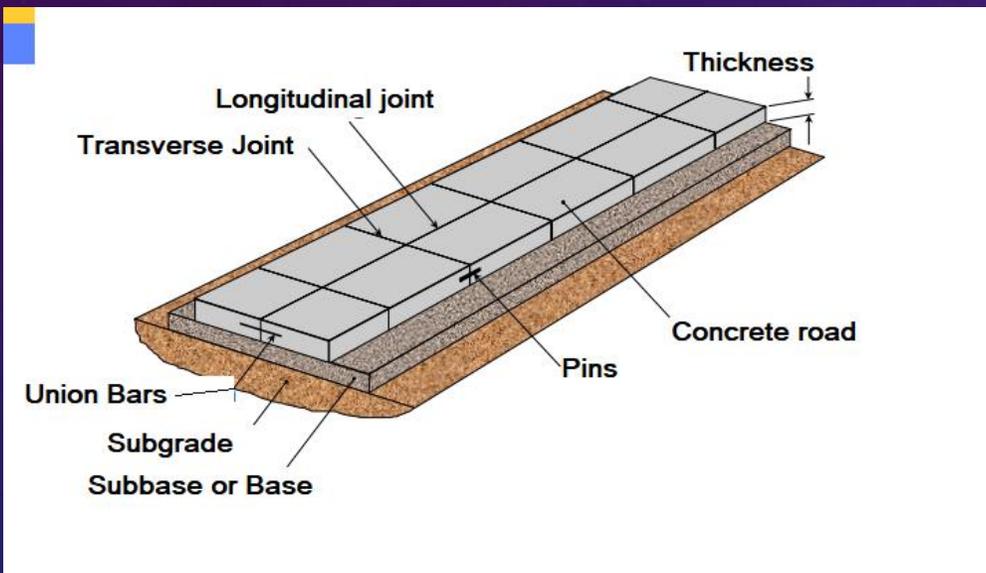


The background features a dark blue gradient with a starry space pattern. Overlaid on this are several technical diagrams, including circular gauges with numerical scales (140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260) and various circular arrows indicating clockwise and counter-clockwise directions. A central purple banner with a dark blue border contains the text.

THE WAY FORWARD

THE WAY FORWARD

Problem Approach

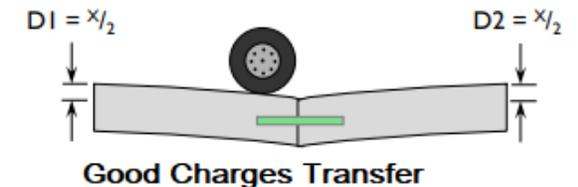
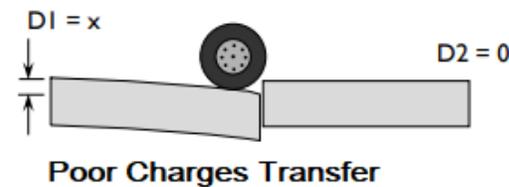
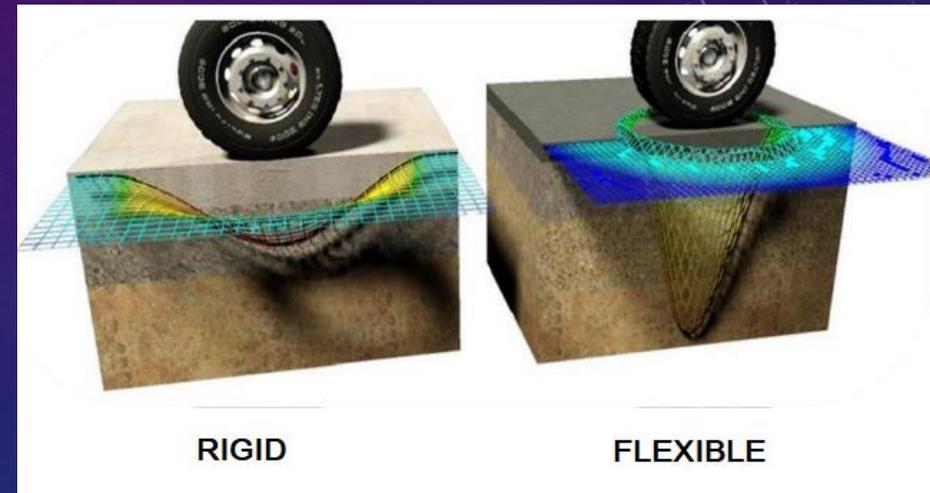


- Old road removal
- Reconstruction of the road using Method AASHTO 93

THE WAY FORWARD

THE STEPS

- Old Road Removal
- Determination of Subgrade Soil
- Construction of Subbase or Base
- Concrete Road



THE WAY FORWARD

Strengths and Weaknesses of the Proposal

Strengths

- Long useful life
- Low maintenance
- The materials

Weaknesses

- Time
- Money

CONCLUSION

- **Critical road condition of Gutierrez Street due to the presence of potholes**
- **The attribution of the pothole problem to inadequate investment and insufficient exploration of new technologies and methods**
- **Impact of potholes on people and safety concerns**
- **Introduction of a project proposal with several steps**
- **Acknowledgment of the project weaknesses**

REFERENCES

- *AASHTO Guide for Design Pavement Structures*, American Association of State Highway and Transportation Officials, Washington, 1993.
<https://habib00ugm.files.wordpress.com/2010/05/aashto1993.pdf>
- D. Calo, “Diseño de Pavimentos Rígidos. Introducción Teórica.” Accessed: Oct. 10, 2023. [Online]. Available: https://web.icpa.org.ar/wp-content/uploads/2019/04/01_Disen-Introduccion_Teorica-tierradelfuego.pdf

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