

**TREN URBANO PHASE 1 - A:
ECONOMIC, SOCIAL & URBAN EVALUATION**

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PRESENTATION OUTLINE

- OBJECTIVE
- PHASE 1 - A: PROPOSED ALTERNATIVES
- THEORETICAL PRINCIPLES
- METHODOLOGY: FORMULAS
- COST & BENEFITS IDENTIFIED (At Current Stage)
- TENTATIVE LIST OF CHAPTERS FOR THE FINAL PROYECT
- NEXT STEPS

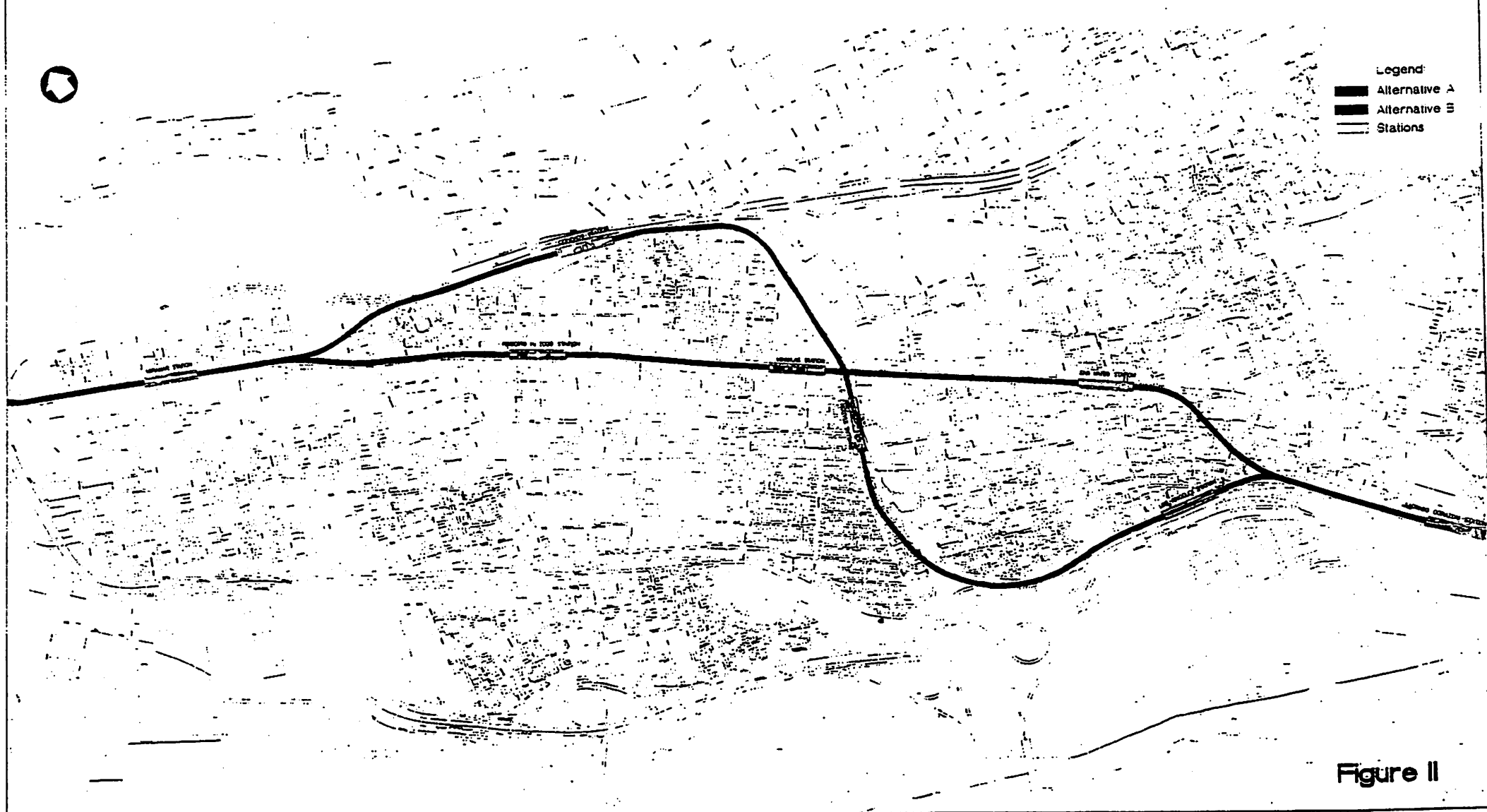
OBJECTIVE

- TO STUDY THE TWO ALTERNATIVES PROPOSED FOR THE MINILLAS EXTENSION OF TREN URBANO PHASE 1 (PHASE 1 - A)
- TO MAKE A COMPARISON OF THE COSTS & BENEFITS OF THE TWO PROPOSED ALTERNATIVES (MAINLY IN A SOCIAL - ECONOMIC PERSPECTIVE)
- TO ANALYSE THE PRINCIPAL AFFECTED AREA (SANTURCE) IN URBAN, ECONOMIC & SOCIAL CONTEXT, TO IDENTIFY ITS PROBLEMS, AND TO MAKE THE BEST RECOMMENDATIONS POSSIBLE
- TO REACH AN OBJECTIVE CONCLUSION ABOUT WHICH OF THE TWO ALTERNATIVES IS BETTER TO TO THE SOCIAL, ECONOMIC & URBAN DEVELOPMENT OF SANTURCE

PHASE 1 - A: PROPOSED ALTERNATIVES

- ALTERNATIVE A - ELEVATED ALIGNMENT ALONG PR - 1 AND PR - 22
- ALTERNATIVE B - UNDERGROUND ALIGNMENT ALONG PONCE DE LEON AVENUE

Tren Urbano Extension - Alternatives Retained



THEORETICAL PRINCIPLES

- URBAN TRANSPORTATION PLANNING THEORY
- COST - BENEFIT THEORY (ECONOMICS)
- SCARCE & CHOICE (MICROECONOMICS)
- NEW URBANISM

METHODOLOGY: FORMULAS

■ NET SOCIAL BENEFIT PRESENT VALUE (NSBPV)

$$\Sigma B_t - C_t / (1 + r)^t$$

■ BENEFIT COST PROPORTION

$$\Sigma [B_t / (1 + r)^t] / [C_t / (1 + r)^t]$$

■ INTERNAL RATE OF RETURN

$$\Sigma B_t - C_t / (1 + r)^t = 0$$

COSTS & BENEFITS IDENTIFIED

(At Current Stage)

COSTS

- HIGHER RENTS & ACQUISITION COSTS
- CONSTRUCTION COSTS
- NOISE, VISUAL ENVIRONMENT
- OPERATION & MAINTENANCE
- LAND EXPROPIATION FOR CONSTRUCTION
- HOUSING & BUSINESS RELOCALIZATION
- ENERGY COMSUMPTION
- OPORTUNITY COSTS

BENEFITS

- HIGHER LAND VALUE
- TRAVEL TIME REDUCTION
- REDUCTION IN OPERATION COSTS OF PRIVATE VEHICLES
- REDUCTION IN ACCIDENTS
- LESS TRAFIC CONGESTION
- BETTER AIR QUALITY
- REDUCTION IN HIGHWAY MAINTENANCE
- REDUCTIONS IN CONSTRUCTION OF PARKING FACILITIES
- IMPROVEMENT IN LAND USE PATTERNS

TENTATIVE LIST OF CHAPTERS FOR THE FINAL PROJECT

- INTRODUCTION
- THEORETICAL & METODOLOGICAL PROFILE
- HISTORIC PROFILE
- SOCIOECONOMIC & PHISICAL ANALYSIS OF THE AREA
- METHODOLOGY
- STRATEGIES & RECOMENDATIONS

NEXT STEPS

- TO CONTINUE REVISING THE EXISTING LITERATURE
- TO CONTINUE THE ELABORATION OF THE THEORETICAL & METHODOLOGICAL PRINCIPLES, HISTORIC PROFILE
- COLLECT THE DATA FOR THE ANALYSIS
- MAKE THE CORRESPONDING ANALYSIS (CBA & ITS ALGORITHMS, SOCIOECONOMIC & URBAN ANALYSIS, ETC.)
- ELABORATE THE RECOMENDATONS & STRATEGIES