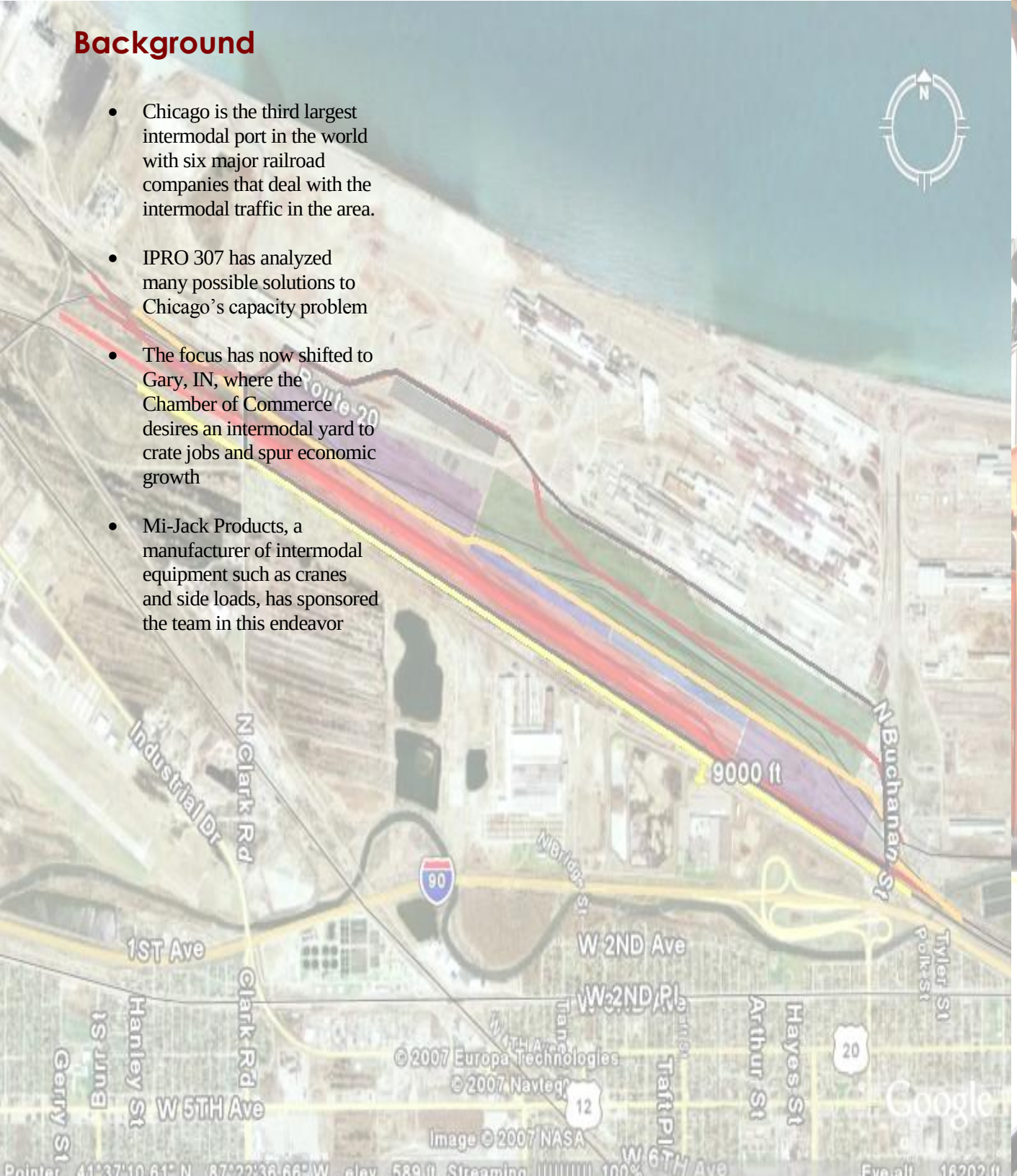
Background

- Chicago is the third largest intermodal port in the world with six major railroad companies that deal with the intermodal traffic in the area.
- IPRO 307 has analyzed many possible solutions to Chicago's capacity problem
- The focus has now shifted to Gary, IN, where the Chamber of Commerce desires an intermodal yard to crate jobs and spur economic growth
- Mi-Jack Products, a manufacturer of intermodal equipment such as cranes and side loads, has sponsored the team in this endeavor



SPRING 2007

IPRO 307

Advanced Shipping Container Transportation System Solutions

Team Members

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Team Advisors

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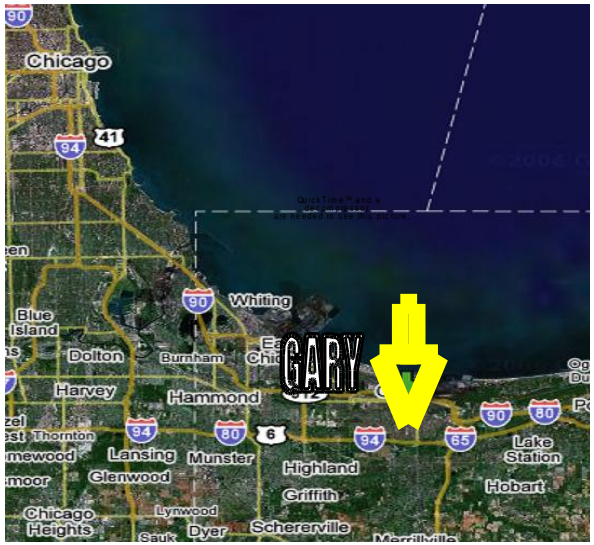
Objective

The objective of IPRO 307 was to plan and design a modern intermodal yard for the city of Gary, Indiana. To accomplish this objective, several intermediate goals and environmental consideration were needed to be met.

Goal

- Designed an intermodal yard for a selected site in Gary, Indiana that is capable of handling the predicted increase in containers movement through the area
- Developed a demonstration of software that is capable of giving and receiving real-time information about container movement both locally within the yard and regionally
- Made recommendations as to how many and type of equipments are required to handle the expected demand
- Creating a net positive environmental impact



Team Framework

- The Meeting Leader would designate a Secretary, who will take notes, and then becomes the next Meeting Leader
- Charrette: a collaborative session which the group divides into sub-groups then presents its work to the full group
    1. Civil Design Team - design and plan an intermodal yard for Gary, Indiana.
    2. Zoning Team – research Gary's zoning ordinances and determine land ownership for the site of the proposed yard
    3. Mechanical/Environment Team – recommendation of equipments that will produce little or no effect on the environment
    4. Demo Program Team – develop a software to retrieve information on a container and to reduce traffic flow
    5. GIS – accurate maps and data for the site and its surroundings

Civil Design

- Near the CSX, NS and EJ&J existing area
- One intermodal yard will accommodate major companies
- One main rail line to the north, one main rail line to the south and the intermodal yard in the center of the two main tracks
- Moving two main rail lines, CSX and NS will increase efficiency in both companies
- A bridge on Clark Avenue to overpass trains and allowing safe activities for residence of Gary, Indiana

GWAN

- The "Gary-Wide Area Network" is the software for within the yard and the Gary region

Environment Impact

- Research into environmental regulations for air concerning onroad, non-road, and locomotive
- Gary, Indiana is located in a nonattainment zone
- Minimize or eliminate negative impacts
    - Pollution
    - Effect on National Park Reserve
- Facilitate positive environmental improvement
- Act as a buffer for current industrial uses and expansion
- Diversion analysis that eliminate trucks emission