Problem: Many homes in Oak Park are inefficient and their owners are unaware of the long-term benefits of making them more efficient. The Village of Oak Park would like to become a more energy efficient community with a smaller carbon footprint.

Background: Currently, over 80% of homes in Oak Park date to 95+ years. Many of these homes are not up to date with renovations. Oak Park, along with IPRO 329 seeks to create a long term community financing and education program for its residents, resulting in a 20% decrease in energy usage and carbon outputs.

Goals: Evaluate Oak Park’s building typology. Create a comprehensive database reflecting the total building count and relevant data. Perform energy audits and recommend suggestions for energy improvement.

Database Results:

House Type
- Frame/Masonry
- Masonry
- Stucco
- Frame

House Age
- 0-19
- 20-39
- 40-59
- 60-79
- 80-89
- 90-99
- 100+

House Size
- 600-1499 sf
- 1500-2250 sf
- 2261-2999 sf
- 3000+ sf

Case Studies and Audits:

Oak Park, IL
Land Square Footage: 8,900
Building Square Footage: 2,208
Cost: $567,590 in 2010
Age: 110 years

The 1918’s two story, east-facing, frame house with stucco exterior and concrete foundation walls.

Oak Park, IL
Land Square Footage: 8,900
Building Square Footage: 2,208
Cost: $567,590 in 2010
Age: 110 year

The 1890’s 2 ½ story, 4 bedroom frame house.
IPRO 329: Oak Park energy efficiency -carbon reduction

Website:

Wall Sections: Thermal Imaging

Survey:

Old Construction Practices

New Construction Practices

Technologies:

Home Energy Monitoring

Geothermal Heating and Cooling

Future IPRO work:

The Village of Oak Park is seeking to dramatically reduce electricity costs while improving reliability, conservation and environmental impacts. This IPRO will involve developing innovative design solutions and tools that provide a path to Perfect Power.

- **Reliability** - Baseline modeling and System boundaries
- **Clean generation** - Research ethical costs of implementing wind, bioenergy, hydro, recycled energy, geothermal, etc.
- **Home automation** - Create home automation systems includes apps which can control the system from remote devices