Sustainable Materials And Affordable, Resourceful Technology
- Community Collaborative
- Cost, Functionality & Comfort
- Home Apps
West Evanston: 60202

- Median Age: **36**
- **70%** Households: No Children
- **50%** of those Households: Married
Young Digerati

- Young Family Mix
- Tech-savvy
- Urban Fringe
- Highly Educated
- Ethnically Mixed

Target Price Range: $350-400K
### Home Automation: Survey Results

If you were to have home automation in your household, what would you want it to do?

<table>
<thead>
<tr>
<th>Feature</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security</td>
<td>100%</td>
</tr>
<tr>
<td>Lighting</td>
<td>100%</td>
</tr>
<tr>
<td>Room conditioning</td>
<td>95%</td>
</tr>
<tr>
<td>Windows</td>
<td>73%</td>
</tr>
<tr>
<td>Entertainment</td>
<td>70%</td>
</tr>
<tr>
<td>Coffee</td>
<td>40%</td>
</tr>
<tr>
<td>Laundry/dishwasher</td>
<td>17%</td>
</tr>
</tbody>
</table>

*STANDARD OPTIONS*
Design Concept

Marketable

Low Energy

Experience

DEMOGRAPHICS  DESIGN  ENGINEERING  MARKETING
Design Concept

Marketable

TARGET HOME

Low Energy

Experience

SMART
ILLINOIS INSTITUTE OF TECHNOLOGY
Site Prototype?
Site Development

1. Typical Lot Arrangement
2. Rotate
3. Building Layout
   - Courtyard
   - Efficiency
   - Nature

Image of a building with solar panels and green spaces.
Home Form

Standard Home → Rotate → New Form

Connect Homes

Private Rooftop Patio
Open Carport
Semi-Private Outdoor Space
Shared Common Courtyard

Site Plan
2 Bedroom 2.5 Bath
1727 sq ft

First Floor

Second Floor

Location on Site
3 Unique Spaces

First Floor

Second Floor

Open Floor Plan
Private Rooftop Patio
Large Master Suite
2 Bedroom Home
3 Bedroom 2.5 Bath
1704 sq ft

First Floor

Second Floor

Location on Site
3 Unique Spaces

First Floor

Second Floor

Legend:
- Open Floor Plan
- Private Rooftop Patio
- Large Master Suite
3 Bedroom Home
Sun Study
ENERGY CONSERVATION METHODS

PASSIVE

• Orientation (solar gain)
• Linked Prototype
• Glazing Quality
  • Low wall/window Ratio
• Airtightness
• Size of Floor Plan

ACTIVE

• Low Power Density
  • Lighting Control
• Low Hot Water Demand
• Efficient HVAC System
• Natural Ventilation
  • Operable Windows
  • Operable Blinds
• Domotics
  • Targeted Conditioning
The graph illustrates the relationship between energy savings and cost. The x-axis represents the percentage of energy savings (% ENERGY SAVINGS), while the y-axis represents the price ($). The line on the graph shows the trend for different energy efficiency improvements:

- **IECC Baseline**: $1091.30
- **Envelope Design**: -$239.62
- **Glazing**: -$91.30
- **Reduced Hot Water Demand/Fixtures**: -$20.00
### COST ANALYSIS

#### Hard Costs

<table>
<thead>
<tr>
<th>Category</th>
<th>3 Bed</th>
<th>2 Bed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Work</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Finishes</td>
<td>22%</td>
<td></td>
</tr>
<tr>
<td>Structure + Foundation</td>
<td>26%</td>
<td></td>
</tr>
<tr>
<td>Shell</td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td>HVAC</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Electrical</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Plumbing</td>
<td>2%</td>
<td></td>
</tr>
</tbody>
</table>

#### Soft Costs

<table>
<thead>
<tr>
<th>Category</th>
<th>3 Bed</th>
<th>2 Bed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard Costs</td>
<td>$216,824</td>
<td>$183,603</td>
</tr>
<tr>
<td>S.F.</td>
<td>$125</td>
<td>$107</td>
</tr>
<tr>
<td>Soft Costs</td>
<td>$120,819</td>
<td>$120,819</td>
</tr>
<tr>
<td>S.F.</td>
<td>$70</td>
<td>$70</td>
</tr>
<tr>
<td>Total</td>
<td>$337,643</td>
<td>$304,422</td>
</tr>
<tr>
<td>S.F.</td>
<td>$196</td>
<td>$177</td>
</tr>
</tbody>
</table>
HOME PRICING

- $350,000
- $360,000
- $370,000
- $380,000
FINANCING

- **Total Cost**: $3,478,431

- **Investor 30%** = $1,043,529
  - Offer 46% Rate of Return in 2 years

- **Bank 70%** = $2,434,902
  - Paying 8% interest per year
INCENTIVES

• Numerous Federal, State and private stipends for residential solar panels.
  – Illinois Solar Energy Association
  – Energy-Efficient New Homes Tax Credit for Home Builders

• Department of Commerce and Economic Opportunity (DCEO) provides grants through the Energy Efficient Affordable Housing Construction Program. $4000/unit building affordable green homes

• Ameren Illinois (Gas) - Residential Energy Efficiency Rebates
  – rebates for appliances ranging $25-$1000

City of Evanston
FY2011 One Year Action Plan

Evanston: $3.1 million put into 50.3% low or moderate income areas, which includes our area
“When I think of Evanston I think of older brick or stone bungalows. They're appealing because of the old neighborhood feel - large airy porch, hardwood floors, big finished basement, established yard and trees with nice big fence to keep the dogs in and neighbors out. … If you nail how to keep the old 'painted lady' feel with your new technology then I think you have it.”

-Jed Cotton, Evanston Resident (10 years)