About South Chicago
http://youtu.be/IA3rgTHjI
1. Low Quality Living Environment
2. High Unemployment
3. High crime rate
4. High Vacancy
5. Isolated and Segregated Neighborhood
“Today, our population is about 68 percent African American and 27 percent Latino. More than 40 percent of our housing is owner-occupied, but there are nearly 1,700 vacant units and more than 1,000 vacant lots.

Many of our residents struggle to find good jobs and affordable apartments, keep old homes in good condition and find schools that prepare our children for the future. We wish there were a large grocery store nearby and better shops along Commercial Avenue, and we see a desperate need for more teen and family activities. But these aren’t just wishes. They are now goals. And we have a plan for how to achieve them.”
“If it’s nice, shiny and new, I don’t see why they’d include us,” “They’ve never included us in any particular way before, so, you don’t have enough people with the education to have the jobs to afford to buy the houses out here.”

Mike Medrano, Local resident

“We don’t feel welcomed."

“Prospective resident

“The area around this development is a formerly blue collar neighborhood, now a low income slum. This development is intended to lure upper income residents. Why should they want to come here to live in an enclave?”

MetaCynic, Internet comment

5 - 10 years later ...

Wow, the neighborhood look nice, I would love to live there!

Well, I can build something for you ...
Architecture for bottom-up urbanism ?
to create a crowdsourcing institution that shares the power among different stakeholders to build a better neighbourhood.
Why doesn't someone turn this vacant land into a community playground?
SHARE YOUR IDEAS!

NEW PLAYGROUND ON 8401 S BURLEY AVE
1. original circulation - metra station
2. combine waiting platform and exhibition space
4. pitched roofscapes creating intimacy within the courtyard

- Empty lots within the block as ‘testing grounds’ for spontaneous interventions
Urban activator

Urban farming

Urban care

Urban Art
TOTAL GFA
6,816 m²

Program
Weekdays:

**AM**
06:31 - 08:20
1 x per 20 min

08:20 - 16:21
1 x per hour

16:21 - 22:20
1 x per 30 min

**PM**
1 x per 2 hour

Weekends:
1 x per 2 hour

---

Layer 1

Metra station
Layer 2
Main functions
### Heating calculation

<table>
<thead>
<tr>
<th>Heat transfer coefficient $U_i$ (W/(m²·K))</th>
<th>Area $F_i$ (m²)</th>
<th>$U_i F_i$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roof</td>
<td>0.4</td>
<td>5100</td>
</tr>
<tr>
<td>Wall North</td>
<td>0.6</td>
<td>500</td>
</tr>
<tr>
<td>Wall South</td>
<td>0.6</td>
<td>407</td>
</tr>
<tr>
<td>Wall East</td>
<td>0.6</td>
<td>604</td>
</tr>
<tr>
<td>Wall West</td>
<td>0.6</td>
<td>388</td>
</tr>
<tr>
<td>Window North</td>
<td>1.65</td>
<td>90</td>
</tr>
<tr>
<td>Window South</td>
<td>1.65</td>
<td>12</td>
</tr>
<tr>
<td>Window East</td>
<td>1.65</td>
<td>1008</td>
</tr>
<tr>
<td>Window West</td>
<td>1.65</td>
<td>708</td>
</tr>
<tr>
<td>$\Sigma U_i F_i$</td>
<td></td>
<td><strong>6179</strong></td>
</tr>
</tbody>
</table>

**Heating area $A_0$** = 6816 m²

**Average winter outdoor temperature $t_o$** = -4.4°C

**Winter heating indoor temperature $t_h$** = 18°C

**Heat transfer of building envelope per unit area**

$$Q_{ht} (W/m²) = (t_h-t_o)\Sigma(U_i F_i)/A_0$$

**Building envelope area $A_e$ (m²)** = 8817 m²

**Building volume $V_b$ (m³)** = 25314 m³

**Ventilation volume $V = 0.65 V_b$** = 16454.1 m³

**Air infiltration heat loss per unit area**

$$q_{inf} (W/m²) = 2.08 \cdot V/ A_e$$

**Building heat consumption per unit area**

$$q_h (W/m²) = q_{inf} + q_{inf} - 3.8$$

**Winter heating days $d_{heating}$** = 160

**Additional safety factor $n_1$** = 1.2

**Heating pipe heat loss correction factor $n_2$** = 1.08

**Total heat required for winter heating $Q_{heating}$ (MJ)**

$$Q_{heating} = q_h \cdot A_e / 1000 \cdot d_{heating} \cdot 24 \cdot 3.6 \cdot n_1 \cdot n_2$$

**Total heat required for winter heating** = 2628900.35 MJ

**Sun guarantee rate $f$** = 50%

**Solar radiation (W/m²) $I_s$** = 152

**Heat collector efficiency $n_4$** = 40%

**Heating distribution system efficiency $n_5$** = 80%

**Required solar collector panel area (m²)**

$$S_{collector} = Q_{heating} \cdot f \cdot 1000 / (I_s \cdot d_{heating} \cdot n_4 \cdot n_5 \cdot 24 \cdot 3.6)$$

**Required solar collector panel area** = **1955 m²**