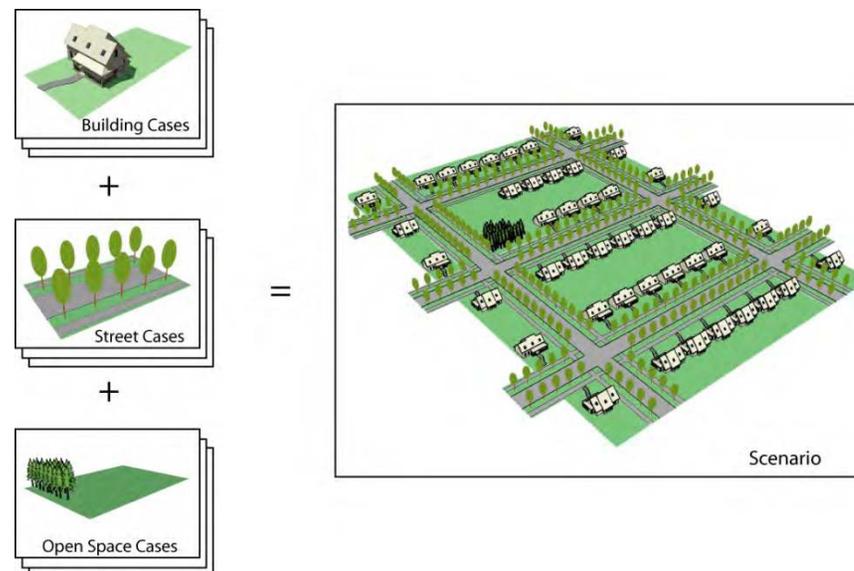# Creation and Comparison of Sustainable Neighbourhood Patterns

CPSC 533C

Jen Fernquist

The Problem – Overview

▸ Landscape Architecture group aims to create sustainable neighbourhoods

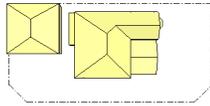▸ Collaboration with city planners

▸ End result: a "pattern"

▸ Img from "Decision Support Tools for Energy and Sustainability in Charrette-based Urban Design", R. Kellett et al. Third International Council for European Urbanism Congress, Oslo, Norway, 2008.
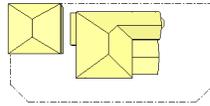
The Problem – The Goal

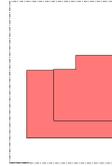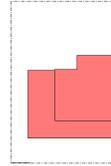**Inputs:**

3p, 0j

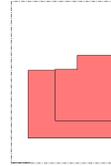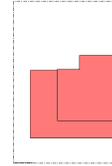3p, 0j

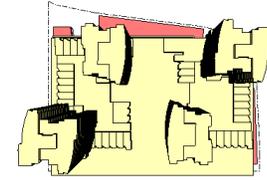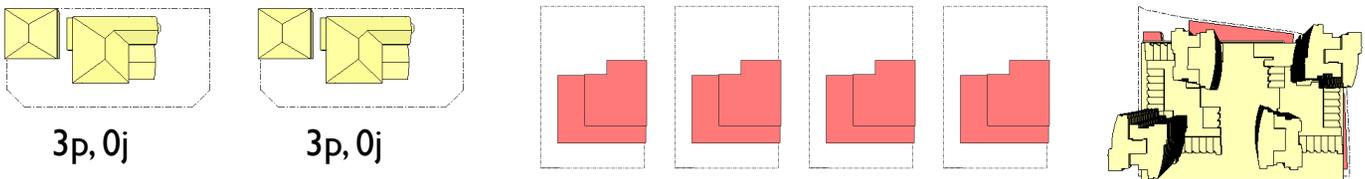0p, 10j   0p, 10j   0p, 10j   0p, 10j

919p, 32j

The Problem – The Goal
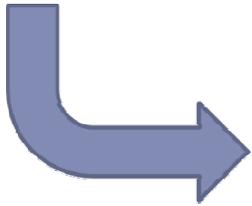
Inputs:

3p, 0j

3p, 0j

0p, 10j   0p, 10j   0p, 10j   0p, 10j
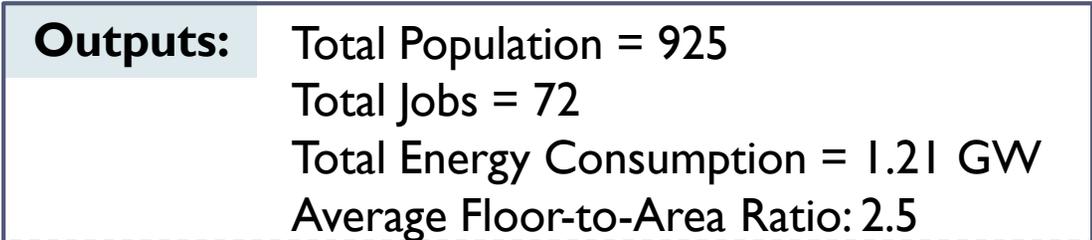
919p, 32j

Pattern:

The Problem – The Goal
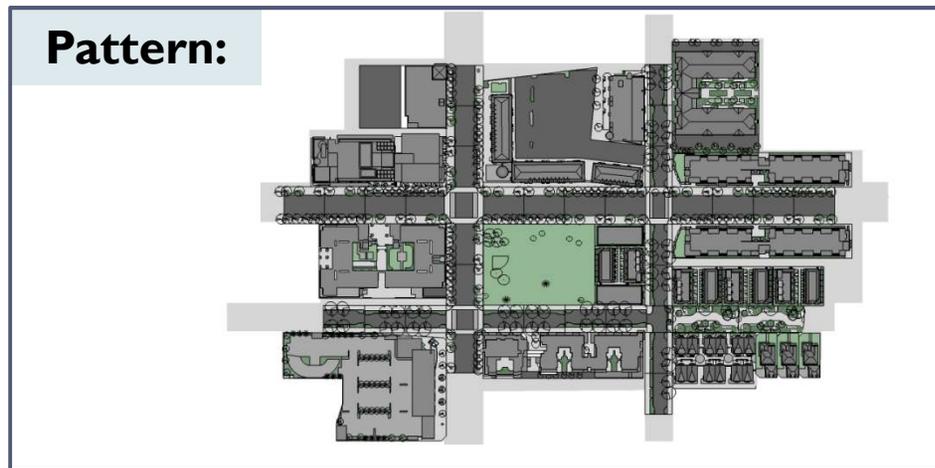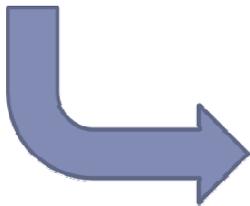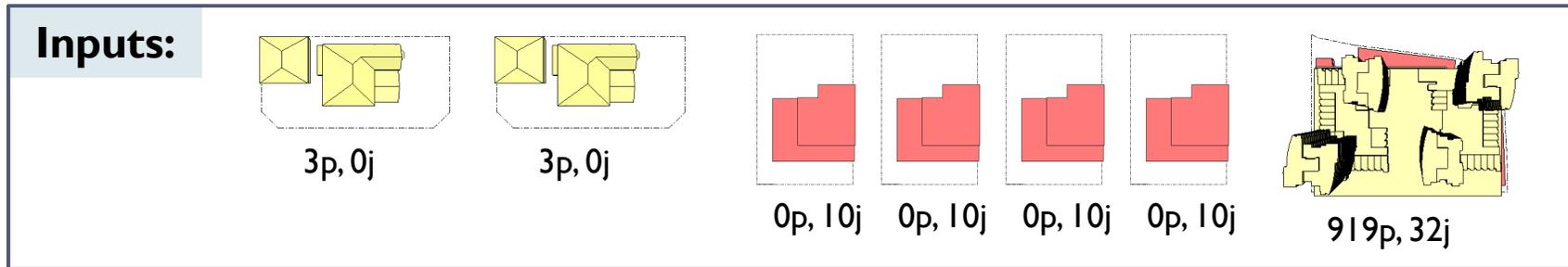
Inputs:
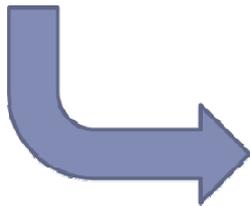

3p, 0j   3p, 0j   0p, 10j   0p, 10j   0p, 10j   0p, 10j   919p, 32j

Pattern:

Outputs:

Total Population = 925
Total Jobs = 72
Total Energy Consumption = 1.21 GW
Average Floor-to-Area Ratio: 2.5

The Problem – Current Method

‣ **Collaboration around table:**

 ‣ Paper maps

 ‣ Paper cutouts of elements

 ‣ Manually compute outputs in spreadsheet

The Problem – Current Method

- **Collaboration around table:**
  - Paper maps
  - Paper cutouts of elements
  - Manually compute outputs in spreadsheet

- **Issues:**
  - No way to "save" at any point
  - Hard to compare different solutions
  - Labour intensive calculation

My Solution – Multi-touch Table!

- Demo

Strengths

▸ **InfoVis**

    ▸ Scroll/Drag menus provide context

    ▸ Offer insight for selection

    ▸ Easy comparison of multiple patterns

▸ **HCI**
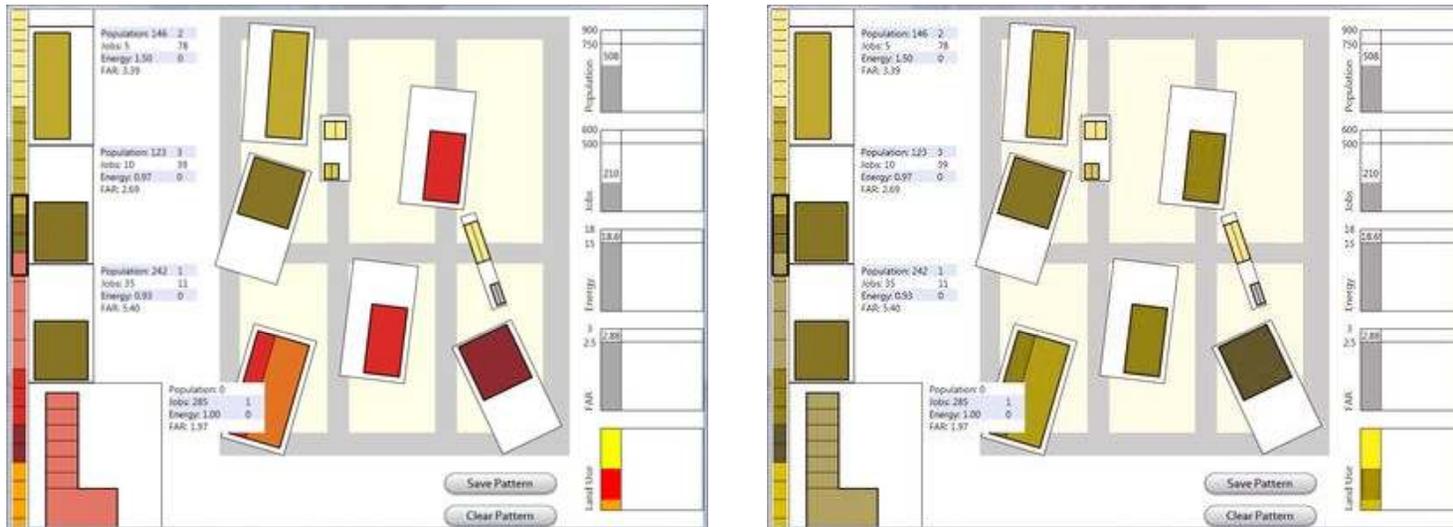
    ▸ Use images/colours familiar to group

    ▸ Maintain familiar interaction

    ▸ Provide lots more functionality

Weaknesses

▸ Bad for the colour-blind

  ▸ But colours necessary for client

▸ Hard to give "good" suggestions for potential elements

▸

Future Work

- "Snap" feature for elements in map

- Provide context for map location in the world

- Scale elements, automatically update their attributes

Questions?