A Collection of Primary Tools

1. Tool CUD 3: Urban design improvements for better urbanity and decentralized land use.

What this tool does:
This tool aims to create spatial hierarchies. Mixed land use and high densities are key principles to ensure highly varied urban spaces and decentralized land use.

How does it work:
- **Urban Growth Boundary**: Every city should establish an enforced urban growth boundary (UGB). The UGB should be set based upon a rigorous analysis of ecological sensitivities, environmental capacity, and the efficiency and productivities of various land uses. The boundary can expand beyond the existing urban footprint only if there are no suitable infill locations as indicated by an intensity of urban land use of at least 10,000 residents per square kilometer.
- **Mixed Use**: All residential units should be close to at least six kinds of amenities within 500-meter radius of building entrance (amenities include schools, post offices, banks, retails, clinics, activity centres, restaurants, etc.). The job-resident ratio (the number of people employed divided by the number of residents) should be between 0.5 and 0.7 over every commuting district, which should have a spatial area that is no more than 15 km². Normally, these commuting districts are bounded by physical barriers for pedestrians.
- **Small blocks**: Blocks should be less than or equal to 2 hectares and 70% of the blocks should comply with this standard. Exceptions are made for industrial areas.
- **Public green space**: Publicly accessible and usable green space should comprise 20-40% of the construction areas (residential area should be at the higher end of this range). All residents should have accessible public space within 500 meters.
Example: Mixed land-use on ground floor and upper floors generates highly diversified environments.ii

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<tr>
<th>Ground Floor Use</th>
<th>Dominant Building Use</th>
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The Urban Grid

- Two systematic, universal versions of a layout model – call them “hybrid” grids – have appeared; one in Barcelona, Spain and the second in Calgary, Canada. One for fixing built-up areas and the other for greenfield development.iii
- That the city of Barcelona would propose a model for transformation might have been expected. It has an expansive, regular grid that is under perilous pressure: extremely dense, congested, mired in emissions and all its surface space taken for motorized movement and parking. The only option was to reallocate the available space. And that reassignment is now underway.
- The team of Barcelona planners have started the implementation of the “superilles” (superblocks) model to the classic Barcelona square grid, (see drawing). The principles underpinning the concept are simple and intuitive:
  - No through motor traffic means that streets at the walking scale (400x400 m) serve as capillaries only; they occupy the lowest rank in the network hierarchy, where circulation essentially stops. They serve the residents of a “quadrant” (or “quartier”) only, are unmistakeably local and, thanks to lighter traffic, can be made narrower, freeing up space for other functions.
  - Full accessibility for active transport within the quadrant: people circulation is switched “on” while motorized transport is “off” by means of looping cars back to its perimeter. This preferential filtering manages the permeability of the quadrant to its residents advantage. Additional switches, such as card-activated bollards and the scheduling for entry, parking and deliveries, would add accuracy and flexibility of the “on-off” switching and refine the filtering.
  - Surface space gained from the circulatory function is then assigned to nature and to recreational/social activities thereby strengthening cohesion within each quadrant.
These typical modular layouts are then applied to the entire grid of the city with appropriate modifications for circumstantial conditions.¹

### Quality Criteria for Space Between Buildings

These improvements are key to a great public space (Source: Jan Gehl)

**PROTECTION**
- Protection against traffic and accidents - feeling safe
  - Protections for pedestrians
  - Eliminating fear of traffic

**Protection against crime and violence - feeling secure**
- Lively public realm
- Eyes on the street
- Good lighting

**Protection against unpleasant sensory experiences**
- Wind, rain, snow
- Cold/heat
- Pollution, dust, noise

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What needs to be done to make cities liveable, healthy, safe and sustainable?

This is a topic which has been addressed by Danish landscape architect Jan Gehl in his publications: *Cities for People*, *Life Between Buildings*, and *The Human Scale* (a documentary about his life’s work). His research and theories have inspired a generation of planners and urbanists who are intent on reclaiming cities for people. Here his most prolific proposals:

1. **Stop building "architecture for cheap gasoline."** "Two of the most pertinent macro issues that city planners can address today are climate change and public health...He attributes the problem to cars and the availability of cheap gasoline, which have dictated city planning for the past six decades.

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<tr>
<th>COMFORT</th>
<th>DELIGHT</th>
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<tr>
<td><strong>Opportunities to walk</strong>&lt;br&gt;- Room for walking&lt;br&gt;- No obstacles&lt;br&gt;- Good surfaces&lt;br&gt;- Accessibility for everyone&lt;br&gt;- Interesting facades</td>
<td><strong>Opportunities to see</strong>&lt;br&gt;- Reasonable viewing distances&lt;br&gt;- Unhindered sightliness&lt;br&gt;- Interesting views&lt;br&gt;- Lighting (when dark)</td>
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<tr>
<td><strong>Opportunities to stand/stay</strong>&lt;br&gt;- Edge effect/attractive zones for standing/staying&lt;br&gt;- Supports for standing</td>
<td><strong>Opportunities to talk and listen</strong>&lt;br&gt;- Low noise levels&lt;br&gt;- Street furniture that provides “talkescapes”</td>
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<td><strong>Opportunities to sit</strong>&lt;br&gt;- Zones for sitting&lt;br&gt;- Utilizing advantages: views, sun, people&lt;br&gt;- Benches for resting</td>
<td><strong>Opportunities for play and exercise</strong>&lt;br&gt;- Invitations for creativity, physical activity, exercise and play&lt;br&gt;- By day and night, in summer and winter</td>
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<tr>
<th>Scale</th>
<th>Opportunities to enjoy the positive aspects of the climate</th>
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<tbody>
<tr>
<td>- Buildings and spaces designed for the human scale</td>
<td>- Sun/shade&lt;br&gt;- Heat/coolness&lt;br&gt;- Breeze</td>
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<th>Positive sensory experiences</th>
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<tr>
<td>- Good design and detailing&lt;br&gt;- Good materials&lt;br&gt;- Fine views&lt;br&gt;- Trees, plants, water</td>
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Las Vegas, United States. Image © Flickr User: Jan Buchholtz. License CC BY-NC-ND 2.0

Superkilen Park, Copenhagen. Image © Flickr User: Forgemind ArchiMedia. Licencia CC BY 2.0
2. Make public life the driver for urban design. In 2009, Copenhagen ... enacted a plan called "A Metropolis for People," which was based on Gehl's work. It envisioned what the city should look like in the future. "The city council decided upon a strategy to make Copenhagen the best city for people in the world, and it is interesting to read what their arguments are: We have to walk more, we have to spend more time in public spaces, and we have to get out of our private cocoons more," Gehl says. "This becomes good for society, good for the climate, and good for health. They said that if people spend more time in the public spaces, the city becomes safer. It becomes more exciting and more interesting. And it furthers social inclusion. This is an important part of having a democratic society: having citizens who can meet each other in the course of their daily doings, and not only seeing different people on

3. Design for multisensory experiences. "We were created as a walking animal, and our senses have developed for slow movement at about three miles an hour. A good city is something built around the human body and the human senses so you can have maximum use of your ability to move and your ability to experience. That is a very important issue. For many years, we have broken all the rules to make automobiles happy."

4. Make transportation more equitable. Social equity is a great challenge in cities today, which is a by-product of rising demand for real estate and higher land values. This often pushes lower income people farther away from urban centers, where many jobs are located. Gehl argues that access to efficient, affordable, alternative transportation (i.e., not in car form) is essential to promoting equality in cities. "Cars are leftover from another time."

5. Ban cars. "It's no secret that the good days of the automobile are over," Gehl says. "In 2009, we saw the peak of driving in the world, and it's on the way down. The days of the automobile as something for everyone in the world are definitely over." To highlight how car-centric design is not an option for megacities approaching total gridlock, Gehl points to Singapore. "There's no more space for roads on that tiny island. In a denser city, with walking and bicycling you can get anywhere quickly," he says. "As far as I'm concerned, that is a much smarter solution in all the growing cities and the big cities than using old technology from 1905 Detroit. Cars are leftover from another time (adopted from: 5 Rules For Designing Great Cities, From Denmark's Star Urbanist. 11 July 2016."

Sources:

3. https://www.pinterest.com/pin/453878468671475262/sent/?sender=305682030866350581&invite_code=88c9ad6f71908ae7bbbc7219677c55bd