

Taken from [*The Sustainable Urban Development Reader 3rd edition*](#) by Stephen M. Wheeler and Timothy Beatley and more exercises found within the book.

1. COGNITIVE MAPPING EXERCISE

The purpose of this exercise is to gain understanding into the nature of the environments we grew up in, how they affected us, and how they might relate to our views of sustainable urban development. This exercise draws upon cognitive mapping techniques developed by Kevin Lynch at MIT and others in the field of environmental design research. Such researchers have systematically asked particular groups to draw maps of their home environments to see what can be learned about how people perceive neighborhoods, cities, or the region as a whole.

Instructions to Participants:

Close your eyes and imagine yourself as a child at an age that was particularly important to your development. Put yourself in a location that you most identified with at that age and picture the landscape around you, including any features that were important to you such as your family's house and yard, locations where your friends lived, places where you played or worked, and the surrounding city, town, or countryside. What elements in the human or natural environment were important to your daily life? Did any parts of the landscape feel pleasant or unpleasant, safe or threatening, nurturing or draining? Who did you interact with on a daily basis? Where could you go? How did you get around?

Using colored markers on a large sheet of paper, map this environment as it appeared to you at that time (not as it really is). Put yourself in the center (stick figures are fine) and work outwards, adding those features that were most influential in your daily life. These elements can be represented symbolically in whatever way works for you and do not have to be to scale (i.e. in realistic spatial relationship to one another). Dramatize them as much as possible. Express how things felt to you then, rather than trying to reconstruct a realistic map.

Fill the paper. Use bright color and thick lines so that someone else can understand this map from a distance. Label your drawing clearly so that others can understand it. Drawing skill does not matter.

After 15 to 20 minutes get together with several others and take turns explaining what you've drawn. The others can ask clarifying questions but should not debate anything you've shown. Focus on how this environment affected you and your family personally, and what can be learned from it regarding how this place functioned, how different people or cultures related to one another, and how they related to the natural world. If you are doing this exercise individually at home, you might try writing up a couple of pages analyzing this environment and its social, environmental, and economic implications.

2. FUTURE VISIONS EXERCISE

This second exercise can be combined with the first to analyze how formative urban environments from our past influence our views on how cities should be developed in the future. In this case, participants can draw both maps one after the other, and then discuss them in groups. For some, ideal environments may be rather similar to childhood environments. For others, they will be quite different, perhaps in order to respond to some of the problems experienced while growing up.

Instructions to Participants:

Close your eyes again and imagine your ideal community – a place you would really like to live in if you could, and that is sustainable in however you want to define that. How is this place laid out in terms of streets, buildings, public spaces, parks, homes, workplaces, and shopping areas? How do people get around (what transportation networks exist)? What types of people live there? How do they interact or relate? How does the built environment relate to the natural landscape?

On a large sheet of paper draw a plan of this place. Do it at whatever scale seems appropriate to you. Include symbols and labels to identify key elements. Again, fill the paper and use lots of color, so that someone can read this map from a distance. Drawing quality does not matter.

At one side list four to five key characteristics of this place that will help convey its unique qualities.

As before, discuss your vision in small groups. Each person should explain their image in a few minutes, with others asking only clarifying questions, not debating issues or components. Consider whether or how this ideal relates to the formative environment(s) you experienced when you were young. If desired, write up a couple pages

3. ROLE PLAYS TO ANALYZE POINTS OF VIEW AND SUSTAINABILITY DECISION-MAKING

Role plays can be an excellent way for students to learn about different perspectives on sustainability debates, and to then think more critically about those issues. Each student is asked to play a particular character, putting themselves in that person's shoes. The material they are given includes specific information about what that character thinks and why. The group of students then interacts, playing out the roles within a prescribed scenario, usually for 10-30 minutes. Afterwards, the full class debriefs the exercise with the instructor, with emphasis on sustainability themes such as how environmental, economic, and equity viewpoints are represented.

Two main types of role plays may be particularly useful:

1) Small group role plays within a large class (30 students and up). Break the class up into groups of 4-7, and hand out a role to each participant within each group (usually a name, title, and paragraph of description on a single sheet of paper). Usually the role play is a stakeholder meeting of some sort concerning a planning or design project. One person is the facilitator (often a government official). Their job is to try to develop consensus between the other stakeholders, making sure everyone gets heard, and suggesting compromises or alternatives where appropriate. The others play their roles, embroidering on their characters if possible.

A small group role play one of us has often run concerns the Cape Wind project, a large proposed wind farm off the eastern shore of the US between Cape Cod and the islands of Nantucket and Martha's Vineyard. The facilitator is a representative of the US Department of

the Interior trying to broker consensus, and stakeholders include the wind farm developer, the president of the local fishermen's association concerned about livelihoods, a wealthy property owner who doesn't want her views spoiled, a representative of a local Indian tribe concerned that these are sacred waters, and several representatives of environmental groups with different points of view (for example, arguing that decentralized energy systems are better than huge facilities even if renewable). The initial handout for this exercise includes a map of the area and a few paragraphs of background. Parameters of the debate are set so that there is no easy way out for participants (in this case, the proposed site has the best wind and is shallow enough to make construction feasible).

2) A more complex role play format within a smaller class or sections of a large class that assigns many roles to members of a single large group. Again, character assignments are handed out along with background information. The group then reenacts a public process aimed at reaching an official decision.

For example, the class can re-enact a recent urban planning decision by the governing body in your community, such as approval of a large new building or subdivision. The students play roles of developers, landowners, city council members, environmentalists, neighbors, business owners, and other constituencies. Provide the participants with a few pages of background on the selected project (from press clippings, local government materials, or web sources) as well as a map or site plan. Make up as many roles as needed (this exercise can be done with groups as large as 30). Prepare a few sentences describing the background and views of each participant, and give a sheet with this description to the individual assigned this role. Often it works best to have those participants who consider themselves the strongest environmentalists be given the role of developers, and vice versa.

Roles might include the following:

- City Council or County Board of Supervisors (usually 5 to 9 members; one is Mayor or Chair)
- County Staff (Planning or Community Development Director, Transportation Planner, Housing Planner)
- Development Team (Landowner, Principal of Development Firm, Architect, Landscape Architect or Environmental Consultant)
- Public Commenters (Representatives of environmental groups such as the Sierra Club, Audubon Society, and local “Friends of” groups; representatives of a local Citizens Transportation Alliance; local affordable housing advocates; Chamber of Commerce or local Business Development Association representatives; owners of nearby stores; the president of the regional Homebuilders Association; local union representatives; landowners in or near the project area; other nearby residents or landowners concerned about noise, views, traffic, loss of open space, effects on property values, etc.)

Instructions to Participants:

This exercise will recreate a development approval decision by a local city council or board of supervisors.¹ In our simplified version of this appeal hearing, the Council Members or Supervisors will hear from the project applicants, municipal staff, and the public in turn, and will then vote on whether to approve the project and if so what conditions to attach. You will each be assigned a role. Feel free to make up additional details that you think would fit with

¹ In real life, this hearing would probably be on an appeal of an earlier decision by a planning commission or zoning board.

your character, and play the role as much as possible. A prize will be given for best actor/actress, as voted by your classmates.

Exercise Format (Adapt this format to reflect local procedures):

- 10 minutes -- Participants review roles and huddle with allies.
- 10 minutes -- The Mayor or Chair of the Board of Supervisors opens the hearing. Project backers present their proposal and describe its benefits. Council members or Supervisors may ask brief clarifying questions.
- 5 minutes -- The city or county's planning staff presents its recommendations, usually to approve the project with mitigations to reduce its environmental impacts.
- 15 minutes -- Public hearing. Any member of the public wishing to make a statement must fill out a speaker card (distribute index cards) and hand it to the chair before the hearing begins. The chair calls these cards in random order. Speakers identify themselves and their organizations, if any, and have 2-3 minutes to make a statement.
- 15 minutes -- Council members or Supervisors state their own positions when recognized by the chair. Then any member may make a motion, in this case to approve the project, approve it with conditions, deny it, or postpone action pending some further process. If the motion is seconded by another supervisor, discussion on it takes place. Other supervisors can offer amendments to the motion, which must be accepted by the primary sponsor to be incorporated. After discussion on the motion has taken place the chair calls for a vote. Motions must be approved by majority vote.

Afterwards, prepare a short write-up analyzing how the Three E's were represented within this planning debate. Who speaks for each perspective? Which perspectives are underrepresented, if any? How might alternative decisions come about that better meet goals such as the Three E's in the long run? Which individuals or groups might develop such alternatives, and how?

4. FIRST HAND ANALYSIS OF URBAN ENVIRONMENTS

In line with Allan Jacobs' piece "Looking at Cities," a walking tour is an indispensable laboratory for teaching sustainability planning. It is an opportunity for students to practice first hand analysis of urban environments, seeing how particular places have evolved in the past and how they might change in more sustainable directions in the future. A tour probably works best if it is in a relatively dense urban area where pedestrian travel is relatively easy and a number of interesting sites can be viewed within a 3-4 hour stretch. Bike tours to cover larger distances are also possible. It is a good idea to choose an area with some historical sites or context, some diversity of building types and land uses, some parks or remnants of natural ecosystems, and some new building or streetscape projects that the students can evaluate.

Prepare a map of the tour route, and if desired structure in some mini-exercises such as calculating residential densities in several sites (by pacing off lot sizes, determining numbers of units, and calculating the net density figure), brainstorming traffic calming strategies at dangerous streets and intersections, and making use observations of public squares or parks. Read local histories beforehand to gain historical information that can be passed along to students. Much of the value of a walking tour depends on how good the tour leader is at pointing out detail and history, and at raising questions for the participants.

Instructions to Participants:

On this walking tour we will practice observing urban environments firsthand, to see how they have evolved in the past and how they might become more sustainable in the future. Walk slowly and see how much information about the urban environment you can gather through careful observation. See if you can identify opportunities for infill development,

ecological restoration, and improved street design. Also note how people use particular places, and what groups will feel welcome or not in different contexts. Try to imagine how particular blocks and streetscapes might look in the future, and think about what urban planning strategies might help these areas change.

Questions for discussion during the walking tour:

- What was this place like 100 years ago?
- What might it be like 10, 20, or 100 years from now?
- How does this place feel to you? What exact features make it feel that way? How would you change those if you could?
- Who do we observe using this place? What are they doing? Are there any groups who would not feel comfortable here?
- When was this place built? What clues tell us the age of the place?
- What kinds of people live here/work/play here? What clues do we see about them?
- How big are the lots? The houses? How are the buildings positioned on the lots? How big are the setbacks? (Dimensions of the neighborhood can be paced off; one pace=two steps=about six feet, a little more for tall people, a little less for not-so-tall ones.)
- How wide are the streets? The sidewalks? How are the streets designed? Are there particular features that make them more or less pedestrian-friendly? Are there ways that the street could be retrofitted to slow traffic and be more pedestrian- and bike-friendly? To add landscaping?
- Where is the nearest park or natural area? Are there opportunities for creation of additional green spaces?
- What elements of the original ecosystem of this place remain? Are there any ways that habitat could be restored or recreated?

-- Where is the nearest waterway? How would water drain in this place? Are there ways that the hydrology of this place could be restored?

-- Are there particular elements that give this place historic or cultural significance? What exactly are they? Should they be protected or preserved in some way?

