Instruction Sheet

Cognitive Mapping Exercise

Background

Illustrate values of the place

A cognitive map, or mental map, is a map drawn by a person to record geographically his or her memories, ideas, and perspectives of a particular place. Cognitive mapping is a planning tool also used to determine desired future development. Since cognitive maps are based on individual's preferences and opinions, there are no "right" or "wrong" maps. Cognitive maps are used to identify geographic areas of a community that people like, dislike, frequently visit, feel are important, travel through regularly, feel safe, and so on.

Instructions

Step One:

Two (2) base maps of the community are provided.

On one map, folks are asked to create an "Attitude Map."

> Express their ideas about what areas of the community are attractive and unattractive.

> Indicate important local travel routes and places that have special meaning (i.e. natural areas, business districts, residential neighborhoods).

On the second map, the participants outline a "Futures Map."

> Delineate those areas where they would like to see new commercial/industrial development, new residential development, new recreation areas, protected open space, and other features.

Step Two:

The small group will prepare a "Composite Map" for the table.

> This map should show consistent patterns and ideas represented on the individual maps prepared by participants.

Results

The information gained from the cognitive maps will be very useful when developing the future land use plan map for the comprehensive plan.

Notes:

From driving to work to doing the shopping, our daily lives consist of a myriad of spatial behaviors - movements across and within our spatial environment. Each day we make hundreds of complex spatial choices and spatial decisions. In the vast majority of cases we rely not on external references such as maps to make these choices but upon a previously acquired spatial understanding of the world in which we live - we rely upon our mind's spatial representation of the environment, our so-called 'cognitive map'.

How we perceive our spatial environment, how our mind stores such information, and how we use that information to make a wide variety of complex spatial decisions, are some of the concerns of cognitive mapping

Cognitive map is the term used to refer to one's internal representation of the experienced world. Cognitive mapping includes the various processes used to sense, encode, store, decode, and use this information. Cognitive maps are invariably incomplete and partially distorted, features that can be revealed in external representations or in spatial behaviors. This chapter examines procedures and activities involved in externalizing cognitive map information.

Edward Tolman (1947) inferred the existence of cognitive maps by recording the spatial behavior of a maze-running rat who took a "short cut" to the final destination by running across the top of a maze instead of following a route through it.

Recognition of this "place learning" activity stimulated multidisciplinary research in spatial knowledge acquisition.

In city planning, Kevin Lynch used sketch maps to reveal human knowledge of large-scale complex environments.

Geographers researched the nature of "mental maps" via revealed place preference, subjective distance and configurational (layout) representation using non-metric multidimensional scaling (MDS) and layout matching (spatial congruence) techniques.

The methods used to assess spatial knowledge and examine how it is created have multiplied as researchers from anthropology, psychology, disability studies, artificial intelligence, computer science, and geography have explored assessment methods including pointing (for direction and orientation), interpoint distance examination (for spatial structure and layout and geometry), landmark learning, location/place hierarchies based on anchor point concepts, path integration (short-cutting and spatial updating), piloting (landmark navigation), chunking (route learning), "look-back strategies" (place fixing), verbalizing acquired knowledge (spatial linguistics)

and other methods that use repeated behaviors to reveal and assess the spatial information contained in long-term memory (i.e. in cognitive maps).