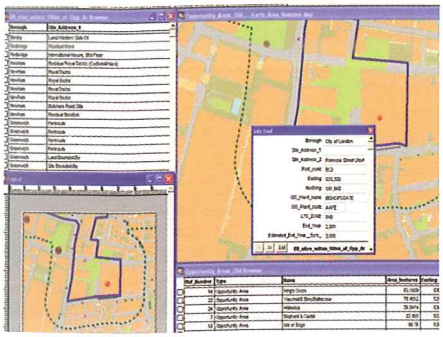
3.3.3 Geographical information systems (GIS)

These packages are used to access spatial data and present site-specific information via a map-base. The packages hold information in a database which is linked to geographical points, lines and areas. The database can hold information about social statistics, administrative boundaries, height, environmental designation etc.

They offer:

- excellent means of storing geographic information
- valuable tool for data presentation
- tool for interrogating multiple layers of spatial and tabular data
- tool for spatial analysis.



Primary role: To store, analyse, access and present spatial information with both geographical and tabular datasets.

Characteristics: Thematic maps presenting both quantitative data and spatial information. Information with a practical rather than graphically-distinctive look.

Level of accuracy: This can vary from highly accurate survey plans to less accurate thematic mapping, depending on level of detail and datasets used.

Graphical capability: GIS packages have increasingly sophisticated graphical presentation capabilities, but are not primarily intended for graphical presentation.

3.3.4 3-D modelling

These packages create virtual models using building blocks which include depth, allowing three-dimensional views to be generated.

They offer:

- powerful techniques to aid visualisation of buildings and places
- enhancement by rendering – adding realism
- rendering and lighting the model to vary mood and atmosphere
- photo-realistic renderings that are highly effective and user-friendly
- ability to explore and analyse options for massing or density
- solutions to three-dimensional design issues not otherwise evident.

Well-executed 3-D models are very persuasive and can easily be interpreted as finished or definitive designs. In the interests of credibility it is good practice to indicate the viewpoint, state the level of detail and define the purpose and status of the image. Whether at eye-level or from the air, viewpoints need to be fixed with care.

Primary role: To produce 3-D models to visualise a proposed development and to solve design problems such as massing, building heights and visual impact.

Characteristics: Produces very realistic virtual images.

Level of accuracy: Very accurate, although perspective, distortion and virtual views can be misleading and must be used correctly.

Graphic capability: Excellent graphic capabilities allow creation of virtually any surface, material or weather condition.