Accessibility Analysis for Facility Location Planning

CSIR has developed uses:
• A facility access planning approach
• Guidelines for the provision of social facilities
• Customised accessibility analysis tools

Facility accessibility analysis:
• Support the achievement of a more equitable spatial distribution of facilities and the reduction of access distances
• Facilitate the clustering of facilities
• Assist departments in test and refine their distance access norms and threshold standards
• Create the relationship between service demand and the supply (service capacity) of the facility

Capacity poorly designed new facilities where the number of people at every distance

Step 1 - Identify well-served and poorly served areas

Step 2 - Determining the closest service area

Step 3 - Classification of facilities with respect to potential usage

Planning for new facilities:

Step 4 - Integration

CSIR’s contribution:

Accessibility Analysis Process

Step 1 - Catchment area analysis

Access norms and thresholds guidelines in accessibility analysis

Input to standards required

Enhancing City Structure through the Provision of Social Facilities within a Hierarchy of Nodes

Example of summary information for guidelines

Example of Node hierarchy for eThekwini

Facility Integration

The analysis was conducted for a number of facilities, including SAPS, Libraries, Social Development, Labour, Home Affairs and Fire Stations. Figure 5 depicts the locational needs based on optimisation of several facilities. The sphenics on the map represent the facilities that could be clustered together to provide integrated service delivery of the departments at key development nodes, to assist planning and prioritise intervention areas.