

ARRAJ U.S. COURTHOUSE: WORKPLACE 20•20 DATA COLLECTION


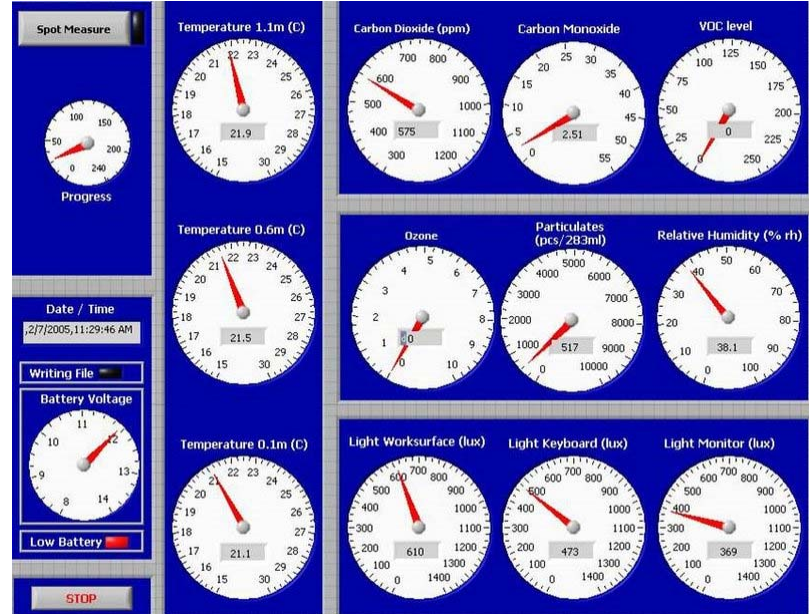
To capture a snapshot of a building's performance, GSA's WorkPlace 20•20 program has developed two innovative tools: a web based survey that records occupant's satisfaction with their workplace, and a pair of mobile carts that objectively describe acoustical, air quality, lighting and thermal conditions. These tools are designed to have minimal impact on occupants.

UC Berkeley Occupant Satisfaction Survey

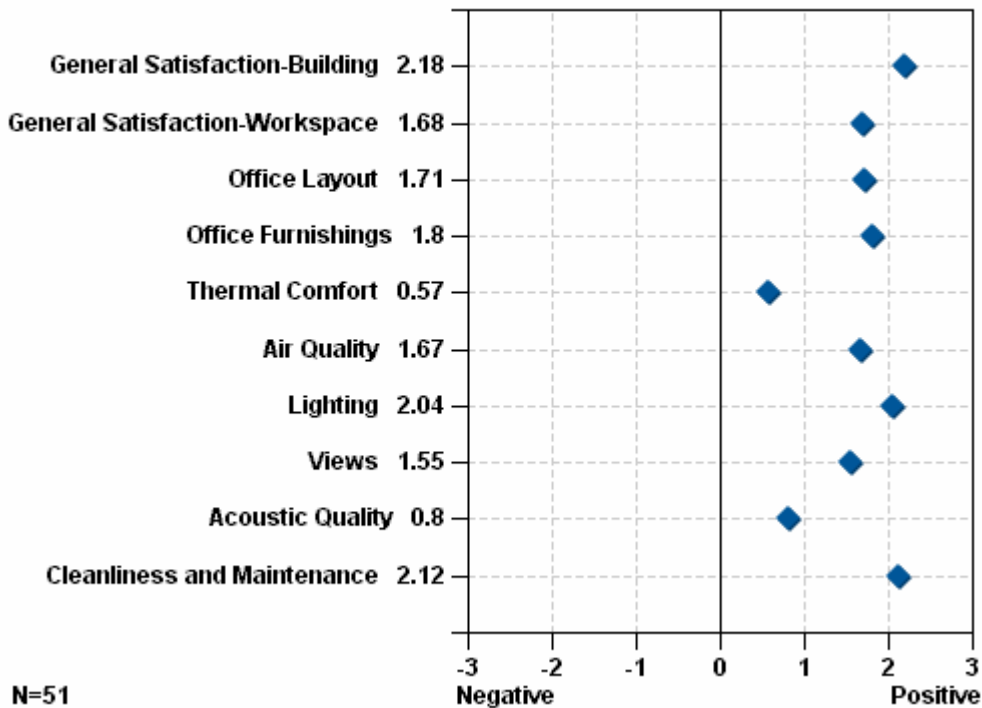
Working with GSA, UC Berkeley's Center for the Built Environment has developed a web-based survey that quantifies how a building is performing from the perspective of its occupants. The survey's branching structure collects detailed data only when a respondent has indicated a specific area of dissatisfaction. Questions address thermal comfort, air quality, acoustics, lighting, cleanliness, spatial layout, and office furnishings, and relate physical conditions to their effect on work experience.

Physical measurements

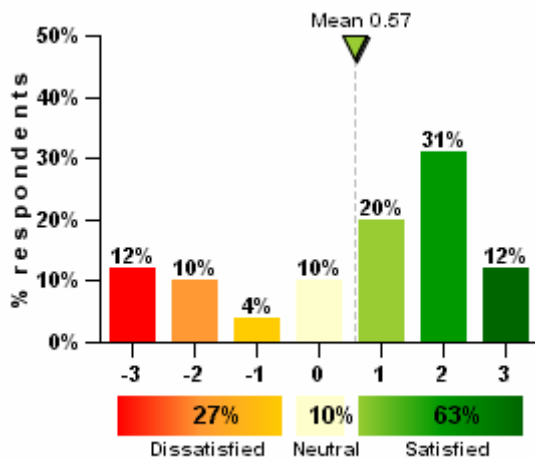
A team of experts in ventilation, lighting and acoustics have worked with GSA to develop a compact kit of mobile instrumentation that allows these conditions to be objectively measured in terms of industry standards. Measurement involves identifying a representative sample (typically 10% of workspaces) and wheeling a highly maneuverable pair of instrumentation carts into the location where the occupant sits, where a record of the acoustical, air quality, lighting and thermal conditions experienced by an occupant is made. While the measurements are being made, the occupant, if present, is asked to fill out a short (one page) survey that asks them about their perception of physical conditions at that moment, which is used as a cross-check against the CBE survey.

	 <p>The dashboard displays the following data:</p> <ul style="list-style-type: none"> Spot Measure: Progress (0-200) Date / Time: 2/7/2005, 11:29:46 AM Battery Voltage: 11 (Low Battery indicator) STOP button Temperature 1.1m (C): 21.9 Temperature 0.6m (C): 21.5 Temperature 0.1m (C): 21.1 Carbon Dioxide (ppm): 500 Carbon Monoxide: 2.51 VOC level: 0 Ozone: 1 Particulates (pcs/283m): 517 Relative Humidity (% rh): 38.1 Light Worksurface (lux): 610 Light Keyboard (lux): 473 Light Monitor (lux): 369
<p>Ventilation/lighting test kit</p>	<p>"Dashboard" reporting from cart. Measurements are compared to industry standards from ASHRAE ASTM, ANSI and IESNA</p>

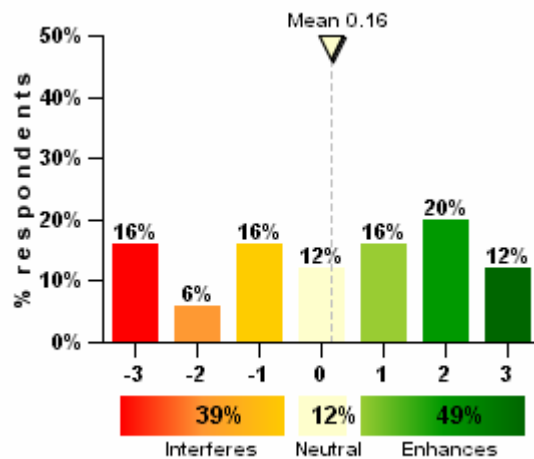
Average Scores by Category



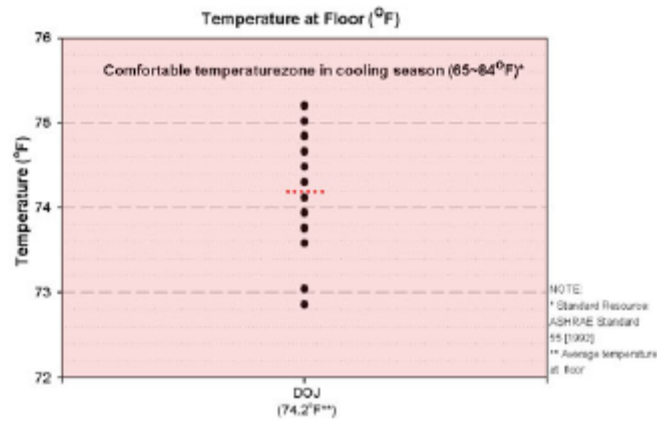
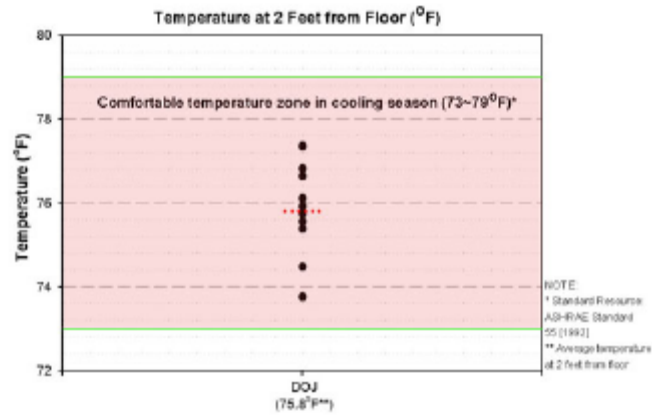
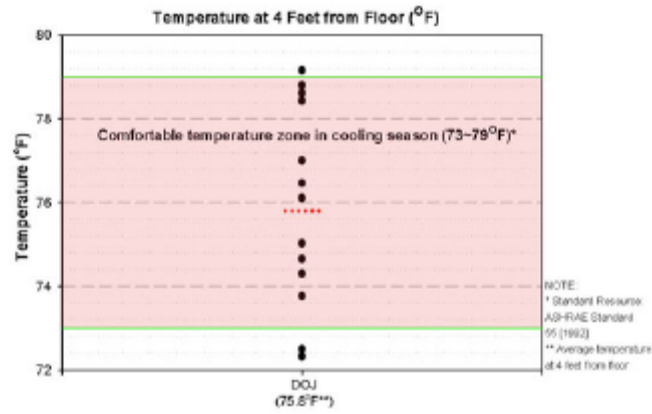
GSA/CBE Occupant Satisfaction Survey summary for Arraj Courthouse. Survey results aggregate both open plan and closed offices in secure areas of the courthouse.



Detailed reporting from CBE Survey: "How satisfied are you with the temperature in your workspace?" Survey results aggregate both open plan and closed offices in secure areas of the courthouse.



Detailed reporting from CBE Survey: "Overall, does your thermal comfort in your workspace enhance or interfere with your ability to get your job done?" Survey results aggregate both open plan and closed offices in secure areas of the courthouse.



Detailed reporting from Environmental Quality Report: Temperature at three ASHRAE locations. Note stratification, which is typical of a well engineered Underfloor Air Distribution System