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Kenmore Square: A Case Study

Paul Lukez

Architects typically spend more time drawing objects than they do the spaces around them. Consequently, the form and detail of buildings are invested with more design energy than the spaces that buildings create and people inhabit. This analysis of Boston's Kenmore Square investigates a drawing technique that can help designers focus more attention on the space between.

The visual media an architect uses during the design process not only serve as a language for communicating design intentions but also can influence those designs.¹ For example, designs conceived primarily in plan can differ from those generated by perspective. A plan is a representation of form and space that does not replicate the way a user experiences a place (unless one views an archaeological ruin from the air). A perspective, however, comes closer to depicting space as it is perceived by a viewer. Consequently, a designer working in plan might be concerned about the abstract formal relationships of the forms and spaces, while a designer working in perspective will be more aware of the viewer's vantage point.

Examinations of the space between must take into account the effect of people's movement on their perception of their surroundings. Although architecture works with forms that have

three dimensions, it is within the fourth dimension, time, that people experience buildings and spaces. With the exception of film, video and computer simulated virtual reality, most media used to represent buildings and spaces are temporally static.

This analysis, part of a Roger Williams College design studio, used charcoal drawings to represent the space and time between objects that define Kenmore Square and the streets that lead to it. Kenmore Square was studied from multiple approaches and angles, revealing the effects of parallax, or "the change in the arrangement of surfaces defining space due to the change in the position of the viewer"² an effect that occurs only as one moves through space and time.

Kenmore Square was selected as the study site because it provides a rich laboratory of urban conditions. Just across the Charles River from downtown Boston and adjacent to the campus of the Massachusetts Institute of Technology, it is a node for commerce, transportation, entertainment and higher education.

The name "Kenmore Square," though, is somewhat of a misnomer: The space is less a square than a place that marks the intersection of three primary streets (Commonwealth Avenue, Brookline Street and Beacon Street). It

has been compared to Times Square, whose angular geometry it shares.³ This configuration is part of what makes Kenmore Square so interesting.

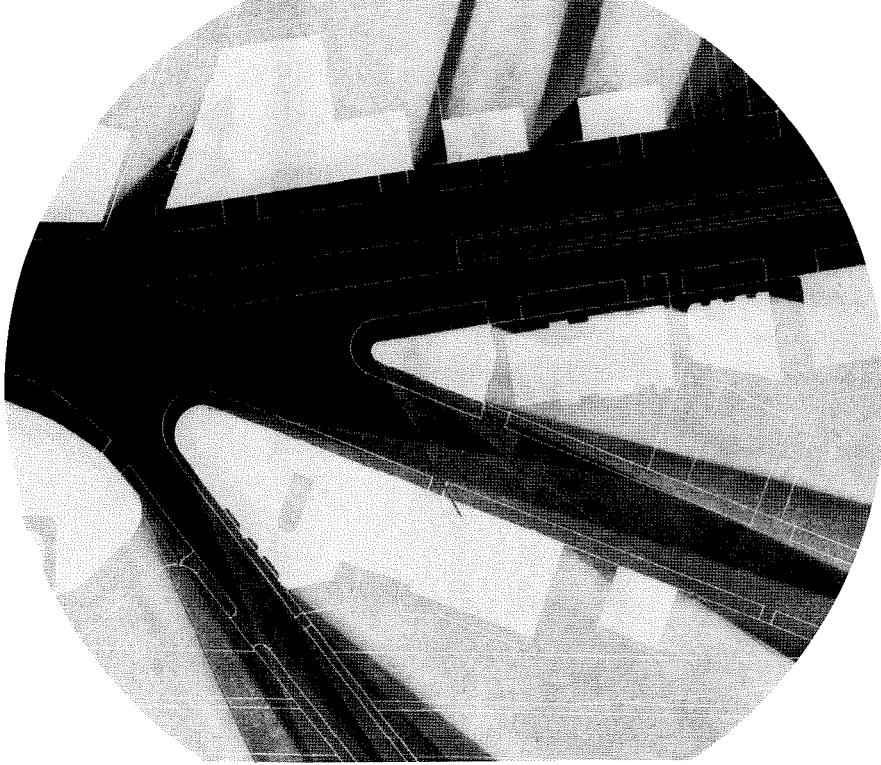
The Studio Process

Figure Ground Analysis: Students made figure ground drawings, which served as urban analysis tools and as a basis of comparison for future exploratory drawings. These drawings convey information about the city's morphology (its structure of blocks and open spaces, its building types and their interrelationships) in a way that perspectives depicting space seen from street level do not.

The figure ground analysis revealed several characteristics. The block structure of Boston's Back Bay and its 25-foot wide, four- and five-story townhouses prevail in the Kenmore Square area. The buildings west of the square vary in type and are haphazardly placed, resulting in a poorly defined street edges. And, the larger-scaled commercial and institutional structures of Kenmore Square are shaped by three streets that crisscross each other, resulting in triangular shaped buildings.

Drawings by David Cook





Charcoal Drawing Analysis: Charcoal drawings, inspired by the futurists' concept of space as "an atmosphere within which bodies move and interpenetrate,"⁴ were used to depict both the viewer's perception of Kenmore Square and its urban morphology.

Students visited the site and observed and photographed it from multiple vantage points. Fortified with these observations, they returned to the studio and covered their original figure ground drawings with charcoal dust. By selectively erasing the dust, they carved out of the charcoal field the open spaces that they documented during their site visit. The spaces that were perceived to be most visually dominant were made white, while spaces that were perceived to be less dominant were left in shades of gray. Movement and the effects of parallax were conveyed by overlaying viewer site lines onto these drawings. Students created drawings for each of the four different approaches into Kenmore Square.

These drawings suggest that the degree to which Kenmore Square reads as a positive space depends on the street from which one approaches it. Kenmore Square reads most clearly as a defined space when it is approached from the east on Beacon Street and from the southwest on Brookline Street. This is because the space is

compressed by a continuously defined street edge prior to entering the square, thus heightening the contrast between square and street.

Kenmore Square's definition is ambiguous when approached from the east on Commonwealth Avenue because the avenue's width diminishes the perceived breadth of Kenmore Square. When Kenmore Square is approached from the west, the edges of Commonwealth Avenue are spatially discontinuous, thus never defining an entry into the square.

New Designs

Next, students used this charcoal technique as an integral component in the process of designing an "information marketplace" that would be located on a bus island in the center of Kenmore Square. The technique enabled them to study the effect of the new building on the spatial definition of Kenmore Square. This could be considered as at least one measure of testing the building's fit with its site.

Students developed preliminary designs for the marketplace using conventional media like plans, sections, perspective sketches and models. After each significant design phase, the proposed designs were inserted into the overall site plan and tested by using

charcoal drawings, which depicted how the proposed design would alter one's perception of Kenmore Square from each of the four different approaches.

One of the studio's aims was to create a stable place within Kenmore Square while enhancing existing paths through the square. Through an iterative process, students adjusted their designs to achieve these objectives while meeting the demands of the program. Students observed that this process focused a greater amount of their design attention on the perception of a proposed design and on the relationship of that perception to the angle and direction of approach.

Lessons Learned

Although students found that charcoal drawings provided them with a useful tool for analyzing the site and their designs, most students (perhaps out of habit) found it difficult to fully integrate this drawing technique and media in generating architectural concepts. Consequently, they used traditional plan drawings to generate designs. Future studios will encourage students to initiate design studies by "carving out spaces" right from the start.

Students also discovered that while the charcoal site plans provided them with a means of understanding move-

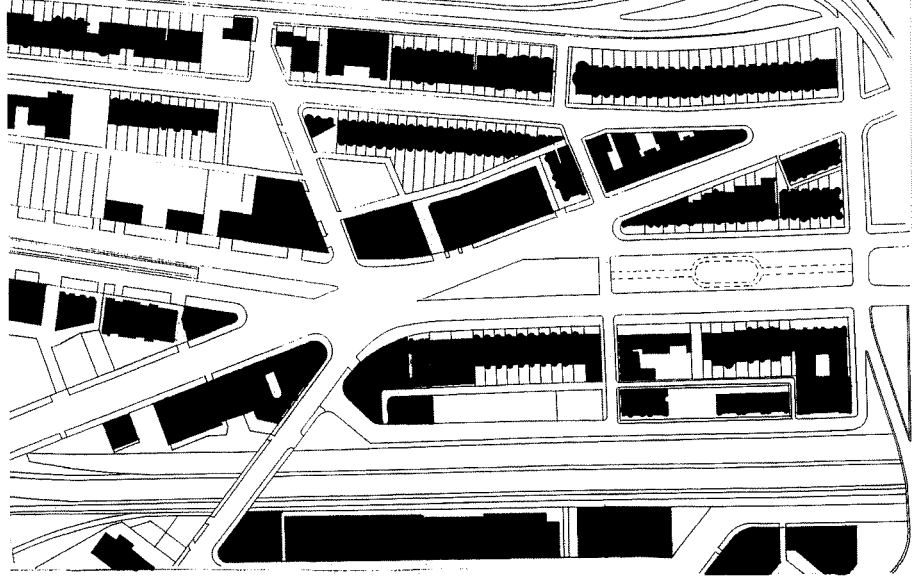
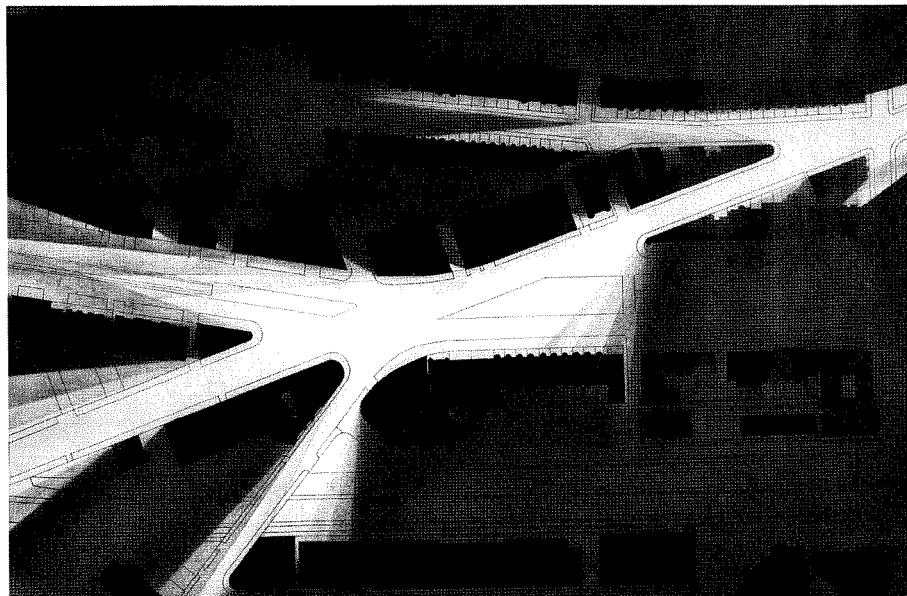


Figure ground of Kenmore Square.

ment through the site, the movement analyzed was studied primarily in plan. Furthermore, the point of view represented in the charcoal drawings is a mechanical and Newtonian one; the drawings depict space as it would be perceived by a viewer moving at a constant speed and in a steady direction.

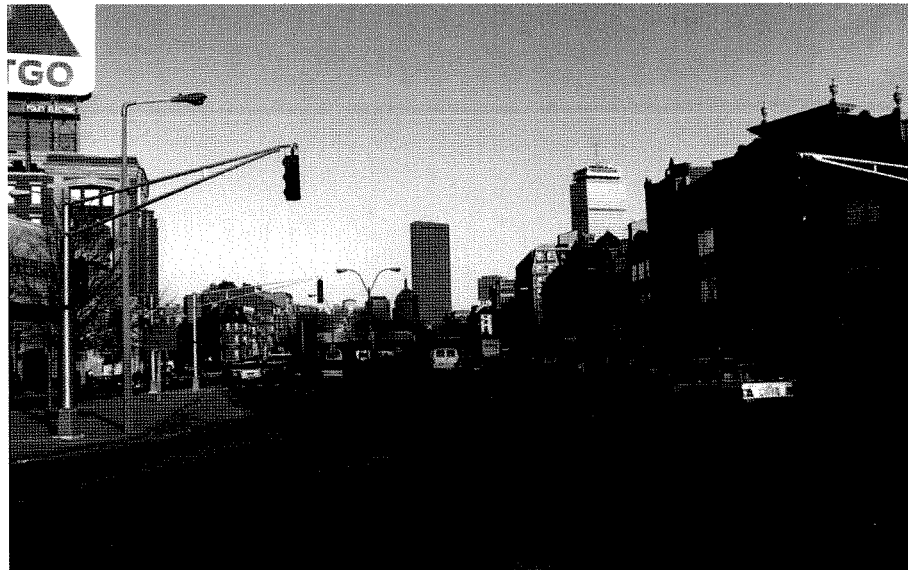
Both students and studio critics suggested that sectional studies of the site and proposed designs should be developed in conjunction with the studies made in plan. One student suggested making multiple, parallel sections rendered in charcoal on semi-transparent paper. This would allow designers to study the relationship between “slices” of a site and a proposed building. While sections are useful in highlighting the vertical axis and certain qualities of architectural space, they are, nevertheless, an abstraction of the viewer’s perception of space.

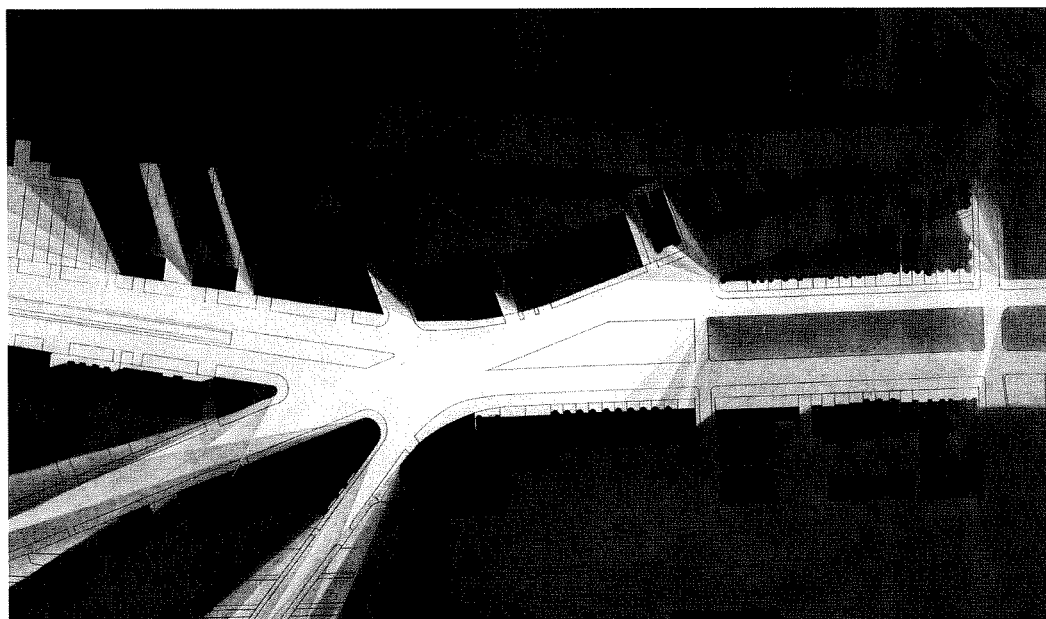
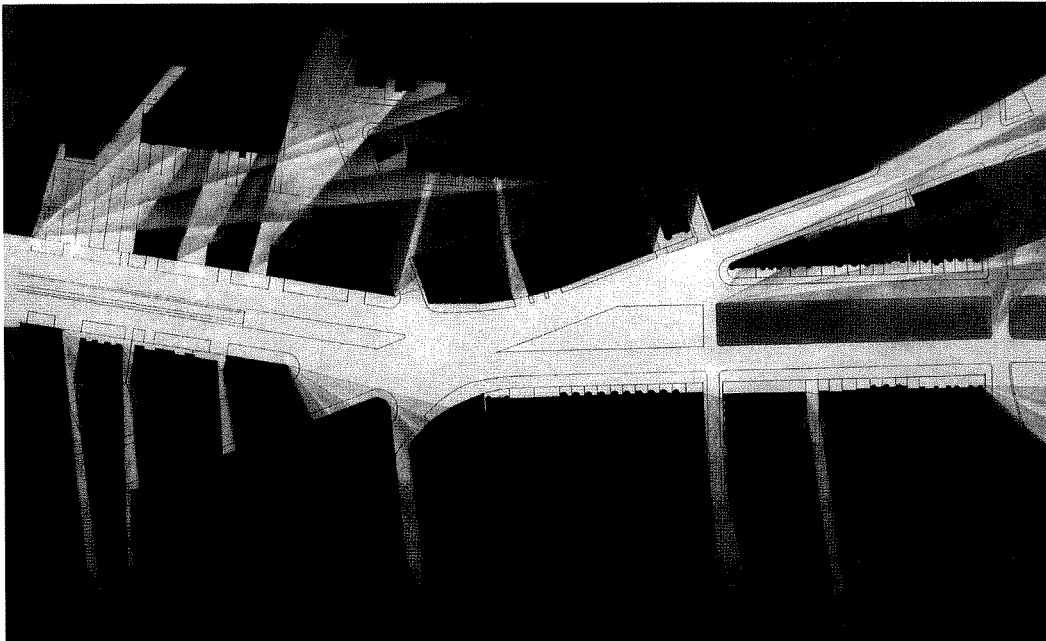
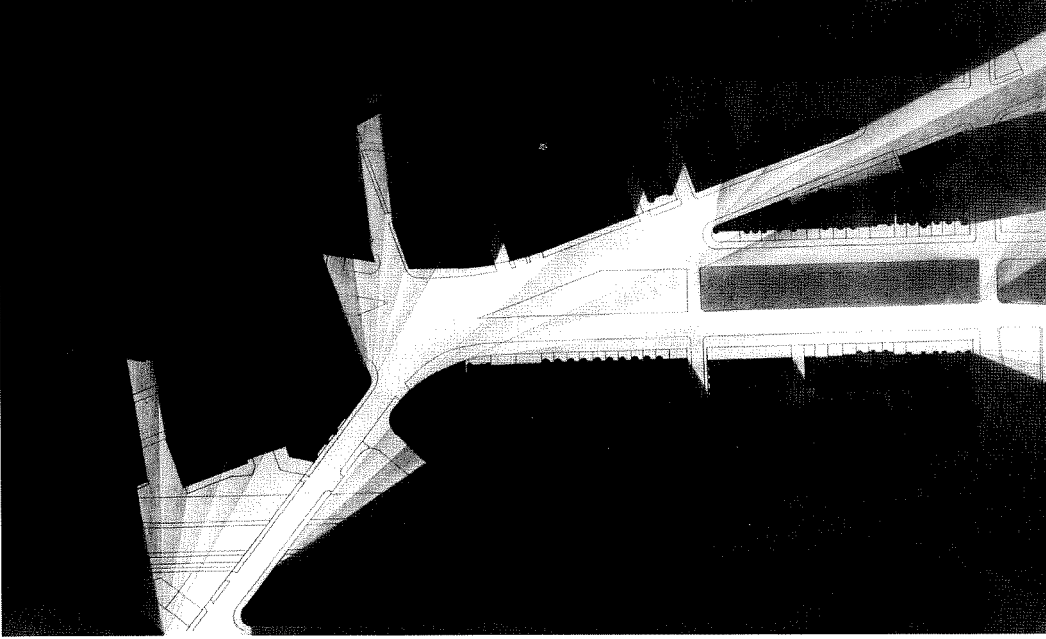
Perspectives are a good medium for simulating a viewer’s experience of space. Students were intrigued with the potential of merging accurately constructed perspective studies rendered in charcoal or pastels so that architectural form and mass would be semi-transparent. This technique allows one to overlay and depict several distinct and serial spaces simultaneously. It offers designers a means of making decisions about the location of forms and the choice of



Above: Analysis of viewer perception of the space of Kenmore Square.

Below: Kenmore Square.





Analyses of viewer perceptions of Kenmore Square.

materials, particularly in regard to their relative transparency and opacity.

Finally, given the studio's attempt to define buildings and the spaces they create as reciprocal elements, one is confronted paradoxically with drawings that depict vacuous spaces. Although these drawings can illuminate our perception of the shape of space, the question arises as to what physical elements and activities are contained and supported by these spaces.

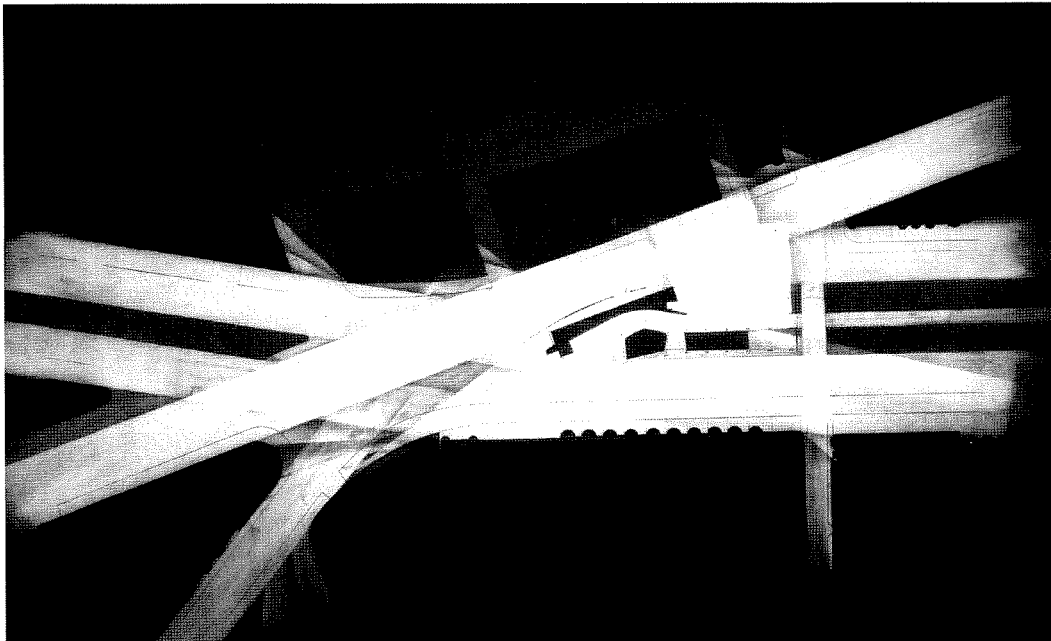
The first responsibility of architects and urban designers is to the public they serve. For too long our professions have been enamored by formal explorations and the pursuit of new "isms," and graphic techniques have been exploited as media for communi-

cating these formal explorations.

Drawings and graphic explorations should be used as a means to improve the design process and products we produce — hopefully enhancing our environment and enriching the public's experience of space. Further exploration of this sort will require greater understanding of how people perceive space, more analysis of existing spaces and the development of methods for modeling space that take into account the many dimensions of a person's experience of space and time.

Notes

1. Bruno Zevi, *The Modern Language of Architecture* (Seattle and London, University of Washington Press, 1978), 3, 28. Zevi states that it is language that "speaks us" as much as we that speak a language (p. 3). Later, he states that "once an architect has a T-square in his hand, he can no longer think architecture. He can only think about drawing it" and that "perspective language with its boxes and prismatic orders" will "speak" the architect.
2. Steven Holl, "Phenomena of Relations," *Design Quarterly* 139, p. 7.
3. Robert Campbell and Peter Vanderwarker, *Cityscapes of Boston* (Boston: Houghton Mifflin, 1992), 184-185.
4. Hebert Read, *A Concise History of Modern Painting* (New York: Oxford University Press, 1974), 109.



Proposal for locating an information marketplace in Kenmore Square.