Project Three

Located on the diagonal Spanish grid near downtown Los Angeles, this project increases densities still higher to a range of 38 to 72 du/ac (94 to 178 du/ha). The program calls for replacing dilapidated one-family dwellings, but not existing multiple-family dwellings, with a market mix of apartment units averaging 1000 sq ft (93 sq m). Parking is below grade on some lots but is naturally ventilated.

Rules for solar envelopes on this site set less generous time and space constraints, thus allowing more volume here than for the first two projects. While the earlier protocol guaranteed 6 hours of direct winter sunshine, the rules here guarantee only 4 hours—the minimum generally recommended for passive design in this "Mediterranean" climate. Shadowing is allowed at any time below 10 feet (3 m) on residences, including existing apartment houses, and below 20 feet (6 m) on commercial properties where they touch the study site. The new designs not only do not overshadow the older buildings; they are scaled sympathetically to them.

Older buildings on the site follow standard building-line zoning that produces a monotonous regularity of cubical shapes. Within each building, there is a lack of variety of apartment types. In addition, the buildings are spaced so close together that individual apartments often lack air, light, and view.

By comparison, proposed designs under the diversified solar envelopes show more richness of form. The result is not only a variety of building sizes and shapes but also a mixture of apartment types within each building. The consequence is greater choice than is offered by standard development practice. Also, each apartment in the new designs has exposure to light, air, and view.

Western European apartment prototypes have been adapted to solve the problem of solar access and cross-ventilation in this

project. Higher densities in the United States generally depend on "double-loaded" corridors and mechanical systems. But in these European designs, hallways systematically skip some floors, allowing units to pass freely both over and under for access to light and air in opposite directions.

When these model sections are applied under actual site conditions, adjustments are usually made at the top and bottom. For example, because cross-ventilation can be achieved through the roof and one side as well as through opposing or adjacent sides, top units can be double loaded on a corridor. And the ground floor can be adapted either as townhouses or as shops facing a street. Adjustments of this sort appear regularly in Projects Three and Four.

Orientation sets the depth of these sections. A building depth of 40 to 45 feet (12.2 to 13.7 m) is about right for north–south exposures, whereas the depth for an east–west exposure averages 50 to 55 feet (15.2 to 16.8 m). This results from the fact that useful sunlight, especially in winter, can only enter from one side of a north–south section. But light enters from two sides of an east–west section: 2 to 3 hours from the east in morning, another 2 to 3 hours from the west in the afternoon, thus enlivening most of the space in the deeper unit.

Two different ways of facing units to the sun profoundly affect the rhythms of experience, and very likely the habits, of life. People occupying an east–west-facing unit are mainly aware of a diurnal rhythm. Early morning light reaches far inside east-facing rooms, then gradually recedes throughout the morning. Afternoon light first enters west-facing rooms in early afternoon and then gradually spreads inward until sunset. Where someone chooses to read the newspaper, take a nap, or work on a computer can vary over the day.

By contrast, people in north–south-facing units are more likely