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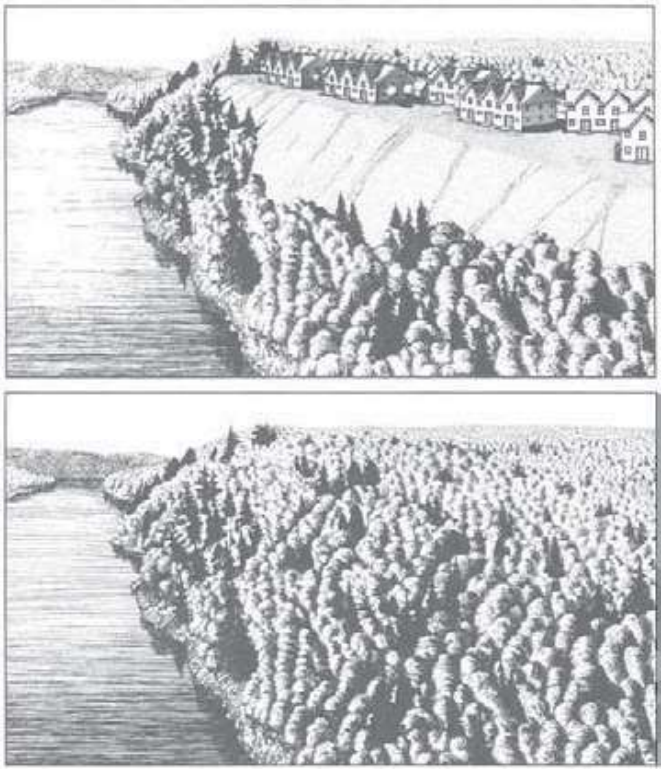
Summary

This article offers a methodology of presenting regional planning principles, utilizing aerial perspectives of significant regional and urbanizing locations in terms of existing conditions, and simulations or visualizations future uture growth determined by present zoning and "build out" assumptions compared to alternatives utilizing compact and mixed use centers. Five examples from the New York Tri-State Region are shown, representing a range from semirural, syburban to urban conditions.

Keywords

beltway, commercial strip, neighborhood, rail transport, regional planning, suburb, urban revitalization, visualization



Visualization of alternative development futures (Yaro *et al.* 1988)

Visualizing a region's future

In the 1990s, New York based Regional Plan Association (RPA) undertook a project to establish regional design principles that would encourage compact and mixed-use centers in the next generation of growth in the States of New York, New Jersey, and Connecticut. Planning principles were developed through meetings that included land use law experts, community representatives, developers, architects, urban designers, and landscape architects. Regional design principles were visualized through "simulations" consisting of three drawings, or "triptychs," showing existing conditions, typical future development, and recommended future development. This article presents five illustrative examples of the method and the resulting regional planning recommendations.

The examples and simulations are based on real sites and typical conditions within the Tri-State Region. These include difference places, from dense urban locations to rural forest and farms, linked by their interdependent transportation, economic and natural systems, ranging from the commuter railroads and interstate highways to the Atlantic Shore and forested highlands—all of which cross municipal, country and state boundaries.

Each example provides an aerial perspective, as the place exists today, how it would appear in 2015 if typical trends continue, and how it would appear in 2015 if future development followed new regional design principles.

Five cases are presented as visualizations, or simulations (out of the full set of fifteen in the study). The following commentary offers a working definition of "simulation" and its relation to planning and design.

Visual simulation has been revived in the past two decades of planning and design practice, largely due to two factors:

• First, a renewed conviction that the public should have a role in the design of their communities, that their design judgments were a valid part of the process, and that design professionals have a responsibility to describe future design realistically and as engagingly as possible.

• Second, the belief that a new synthesis of photography, video, and computer imaging has the capacity to give the public a greater understanding of the future of their communities.

Simulation, as used here, attempts to imitate and represent visual experience as accurately as possible. To do so, it cannot communicate

Credits: This article is excerpted from "Visual Simulations: The Future of the Tri-State Region." *The New City,* winter issue 1993–94, the University of Miami School of Architecture. Dodson Associates executed the drawings. See endnote for additional credits.

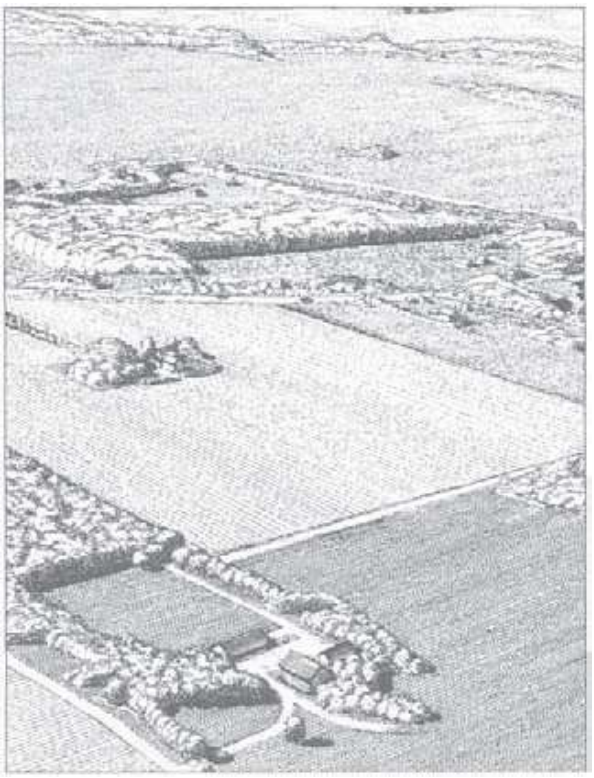


Fig. 1. Rapidly developing urban fringe, existing conditions.

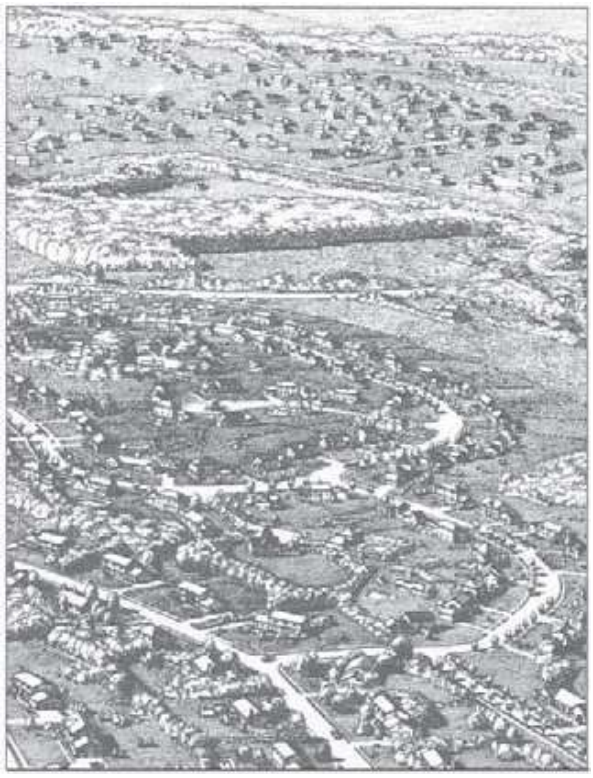


Fig. 2. Rapidly developing urban fringe, after typical development, 2015.

through the basic abstract tools of architecture and engineering, *i.e.*, plan, section, isometric and axonometric drawings. Instead, it uses the immediacy and relative accuracy of perspective, whether in drawing, photography, computer modeling, and ultimately virtual reality—to engage public understanding of the natural and built environment.

The visual simulations used by RPA can be compared to the landscape tradition of Humphrey Repton in the late 18th century, or to the more abstract renderings of urban alternatives by Pugin in the 19th century. What further distinguishes simulation as defined here is the conviction that the relationship between existing and future conditions should be rendered as directly as possible: the accuracy and meaning of the images of today, tomorrow and an alternative tomorrow benefit by the control of maintaining precisely the same view, In community and professional meetings, the triptychs gave a direct experiential reality to otherwise abstract zoning and development discussion.

Rapidly Developing Suburban Fringe

Existing Conditions (Fig. 1)

This prime rural farm and forest land is under extreme growth pressure, already sold to a developer and located less than five miles from a major commercial artery in a rapidly developing section of the region.

2015, After Typical Development (Fig. 2)

Houses on half-to-one-acre lots have been developed along new and wide (30 ft. (9 m) driving section or more) suburban roads. The pattern destroys the rural character and the environment that attracted buyers to the area in the first place, and urbanizes prime rural farm and forest land.

2015, After Recommended Development (Fig. 3)

The same housing type and lot sizes originally chosen by the developers have been reorganized along a narrower, more clearly defined road system, Lots keep the same total area as in the previous scenario, but have been reshaped to become narrower and longer. This creates more expansive backyards which can be organized into private spaces near the houses and into a common open space network in the center of the block.

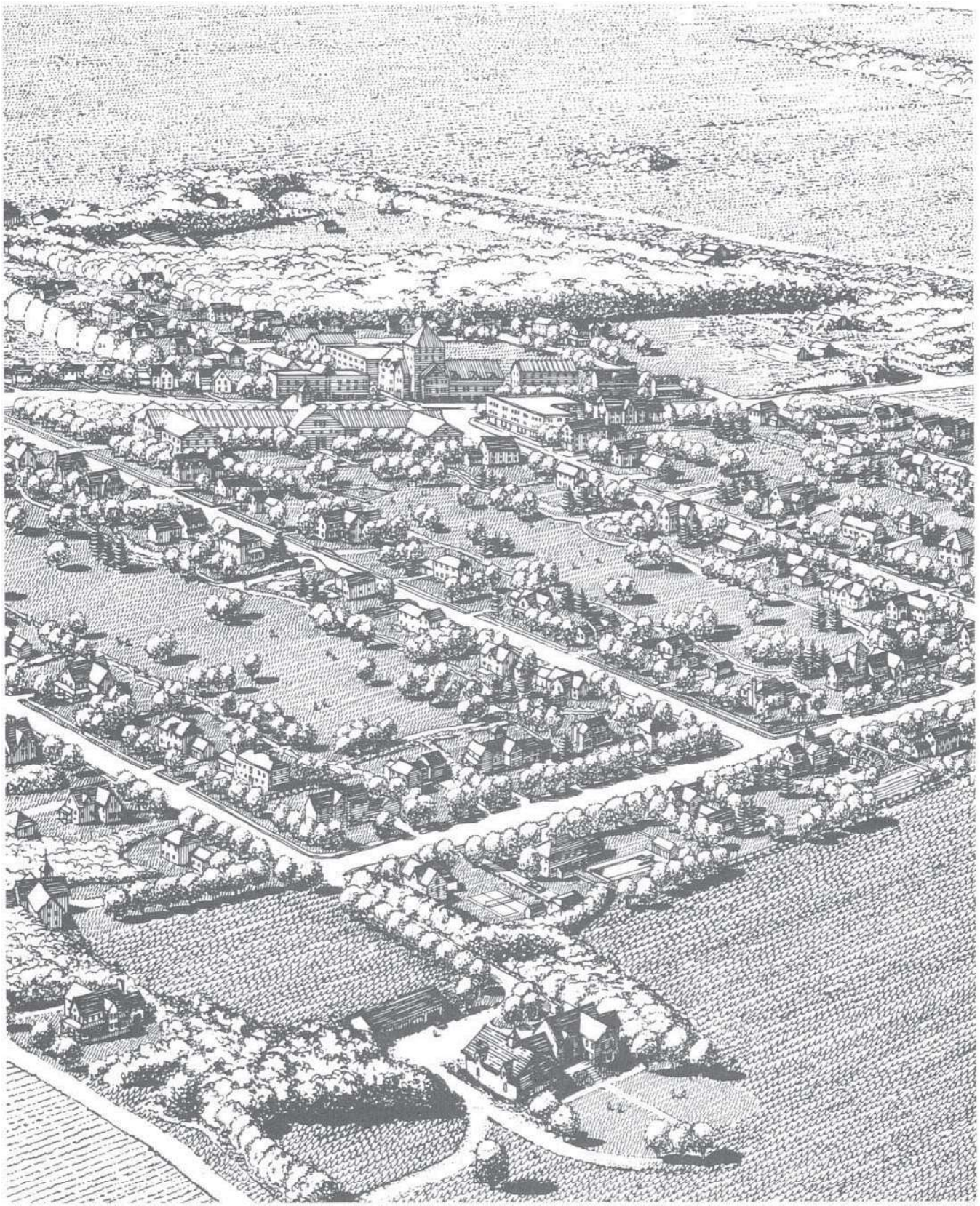


Fig. 3. Rapidly developing urban fringe, after recommended development, 2015.

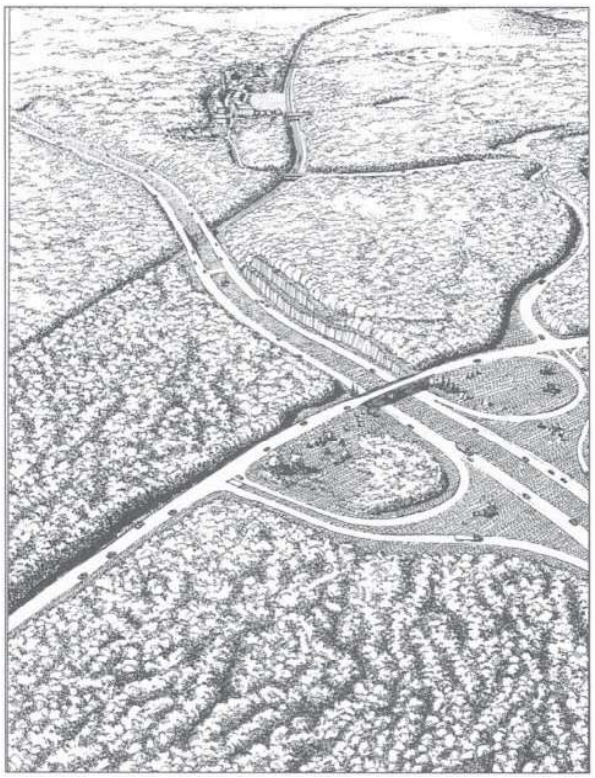


Fig. 4. Beltway Interchange, existing conditions.

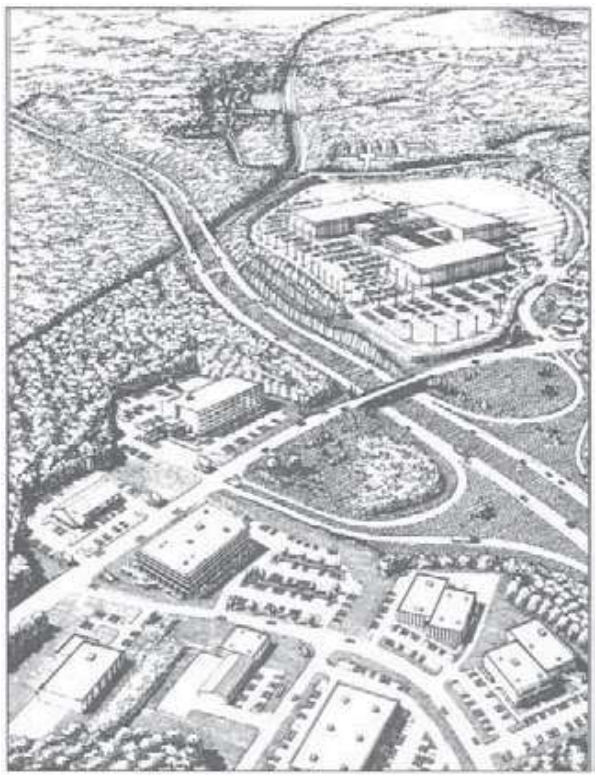


Fig 5. Beltway Interchange, after typical development, 2015.

The uniformity of lot sizes and building types in the previous scene is varied by creating lower density lots at the outskirts and higher density development in the center, including a new school, a small commercial district, and offices. Narrower streets and building setbacks help create a stronger sense of neighborhood.

Beltway interchange

Existing Conditions (Fig. 4)

A new freeway has recently been built through an outlying area of the metropolitan region. An interchange provides access to an older town center located along a major metropolitan rail line. The surrounding countryside consists of extensive forested lands, reservoirs supplying the city's drinking water, scattered suburban style homes, estates, and a few remaining farms.

2015, After Typical Development (Fig. 5)

Existing municipal zoning allows scattered commercial and industrial development to line both the freeway and nearby local roads. A regional shopping mall is built in the middle ground, while hotels, fast-food restaurants, offices, and industrial buildings are developed in the foreground. Forest land along the highway is replaced by development. Traffic congestion increases along the main access road leading to the interchange.

2015, After Recommended Development (Fig. 6)

The same amount of development as in the Typical Development scenario is located in a new town center located near the existing town along the railroad tracks. New land use regulations and strategies (including scenic easements) prevent and discourage development along the freeway, which becomes a "townless highway" as originally envisioned by planner Benton MacKaye in the 1920s. A direct and clearly marked access road links the interchange to the new commercial town center, allowing the new development to be accessible both to the automobile and the railroad.

A new and expanded railroad station services both the existing town as well as the new commercial center. A parking garage for commuters is located next to the station, allowing area residents to park and ride, bringing them into the downtown without destroying its character through large surface parking lots. The station is also linked to the new regional shopping mall, the central focus of the new town center. A large hotel is located at the roadway entrance to the town with office, retail, and light industrial buildings located around screened parking lots and structured parking. Residential units are located above commercial enterprises and at the periphery of the new town center. The existing town is also encouraged to expand out to the new rail station to connect with the new development.

Land use regulations as well as siting and design guidelines allow the new, private development to take shape around a network of attractively laid out streets and parks. The more intensive development adjacent to the rail line compensates for the preservation of the townless highway forested corridor.

Fig. 6. Beltway Interchange, after recommended development, 2015.

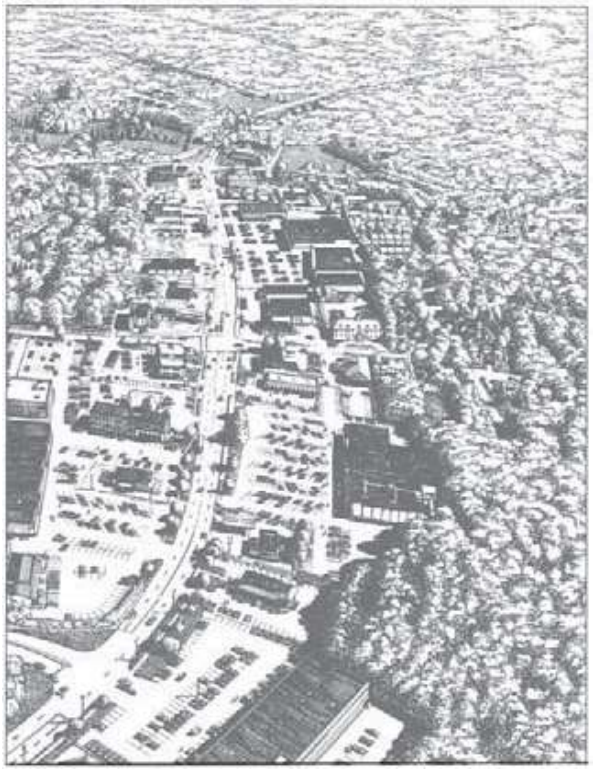


Fig. 7. Suburban commercial strip, existing conditions.

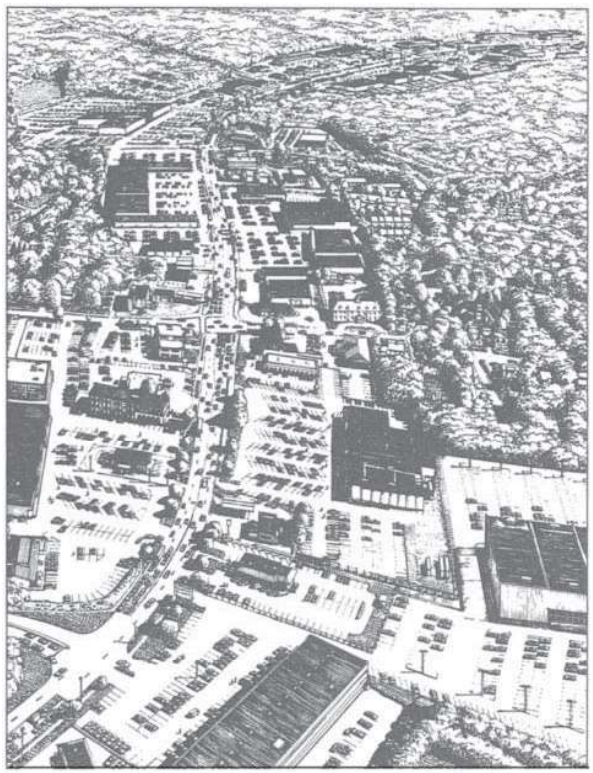


Fig. 8. Suburban commercial strip, after typical development, 2015.

Suburban commercial strip

Existing Conditions (Fig. 7)

The commercial strip is located along a suburban state highway on the outskirts of one of the Region's medium-sized traditional towns. Shopping centers, supermarkets, fast-food outlets, small office buildings, and gas stations compete loudly with neon signs and billboards for the dwindling business along the roadway. Traffic congestion is severe as a result of the new slew of curb cuts for parking lots and access roads. After its heyday in the 1970s, the strip is in decline.

2015, After Typical Development (Fig.8)

Even as the center of the strip begins to decline, new commercial development continues in adjacent underdeveloped rural and residential areas. The town extends the highway commercial zone along the entire length of Route 32 and enlarges the width of the zone extending commercial development into adjacent residential areas. The town's commercial zoning is amended to require improved landscaping around new buildings, but does little to prevent the effect of a solid band of asphalt parking extending on both sides of the road.

2015, After Recommended Development (Fig. 9)

A property-owner led task force developed a plan for shared parking that, with the cooperation of the State Department of Transportation, reduced the number of access roads and overall curb cuts, resolving congestion and safety problems. Through special district overlay zoning, property owners were encouraged to plant trees, rebuild closer to the lot lines, and provide active storefronts.

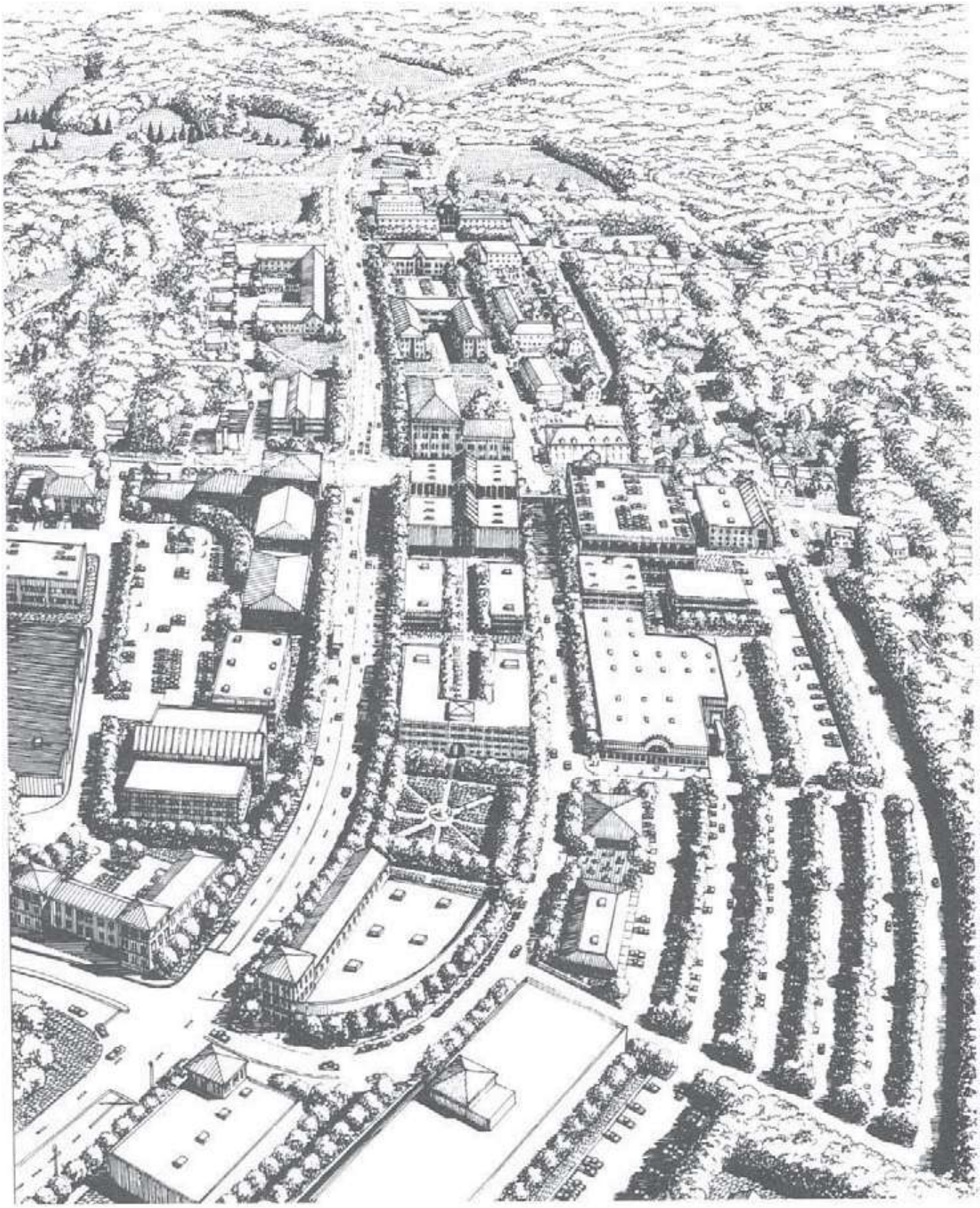


Fig. 9. Suburban commercial strip, after recommended development, 2015.

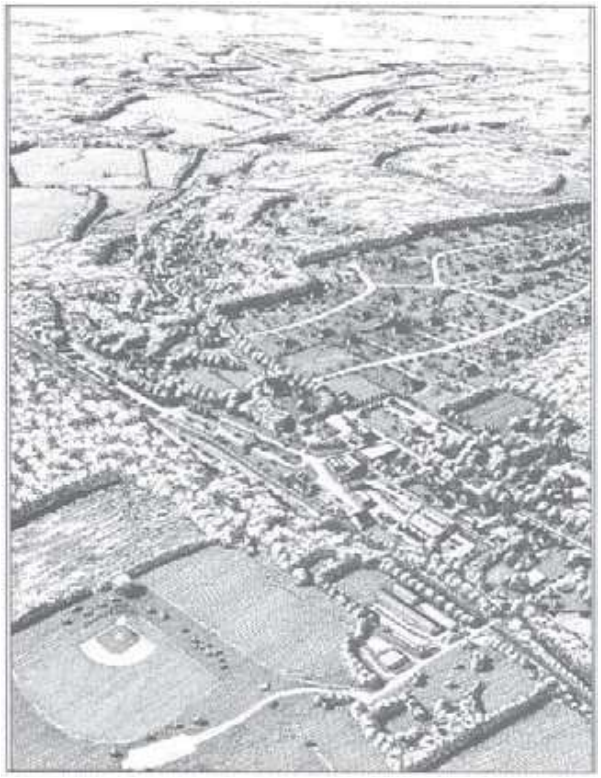


Fig. 10. Rail suburb, existing conditions.

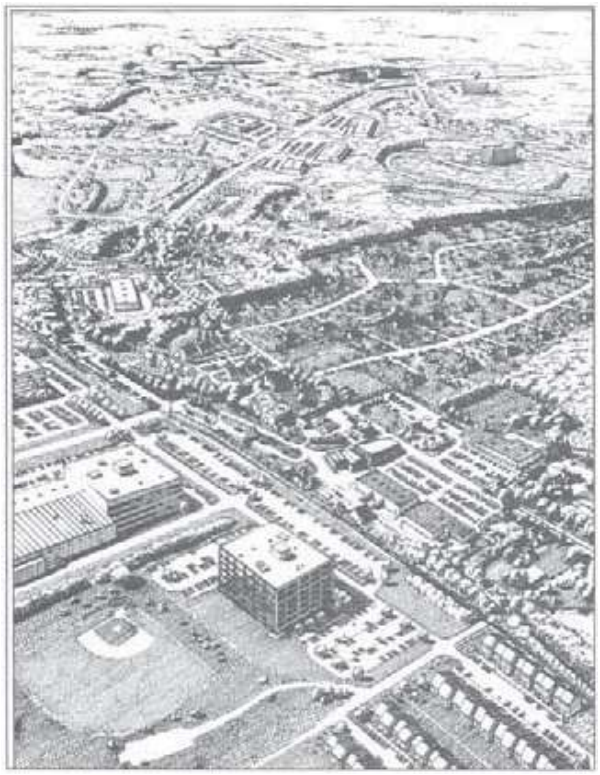


Fig. 11. Rail suburb, after typical development, 2015.

Rail suburb

Existing Conditions (Fig. 10)

An isolated farming community for over two hundred years, this town located in the middle portion of the metropolitan fringe developed as a rail suburb in the early part of this century. Because of its relative distance from the center of the region, it has preserved a large portion of its farmland and forestland. Suburban development reached the area during the boom of the 1980s and a large field north of town became the site of a large-lot housing development laid out according to the town's zoning and subdivision regulations.

2015, After Typical Development (Fig. 11)

During the development boom of the mid-1900s, suburbanization of the town increased. Office and shopping centers have sprung up along the major highways into town, which have been widened and straightened to handle increased traffic. The remaining woodland and farms were filled with large lot subdivisions, offices and retail outlets. The rail line continues to function but its new ridership, not located at the center of town, can only reach it by car. The fabric of the town center is eroded by the demolition of historic buildings, the widening of Main Street and construction of inappropriately scaled and designed new buildings and their associated parking lots. The town's zoning regulations have encouraged the separation of uses into distinct areas and have mandated the sprawling pattern of development.

2015, After Recommended Development (Fig. 12)

To avoid development of the surrounding countryside, the town channeled growth into the existing 1980s developments, north of town and other adjacent areas, by increasing allowable densities there from two to ? acre lots. Homeowner opposition to this new development was offset by the dramatic rise in their property values and the knowledge that new development would be carefully located and designed to enhance neighborhood character. A greater variety of building types, scales, and uses has been introduced in the redevelopment of the suburb to recreate the variety and scale of the existing village. A new mixed-use downtown has been created around the revitalized rail line. The same uses shown in the typical development have been incorporated in the more traditional center. Parking is located in lots behind buildings, or in structured parking with ground floor retail.

Fig. I2. Rail suburb, after recommended development, 2015.

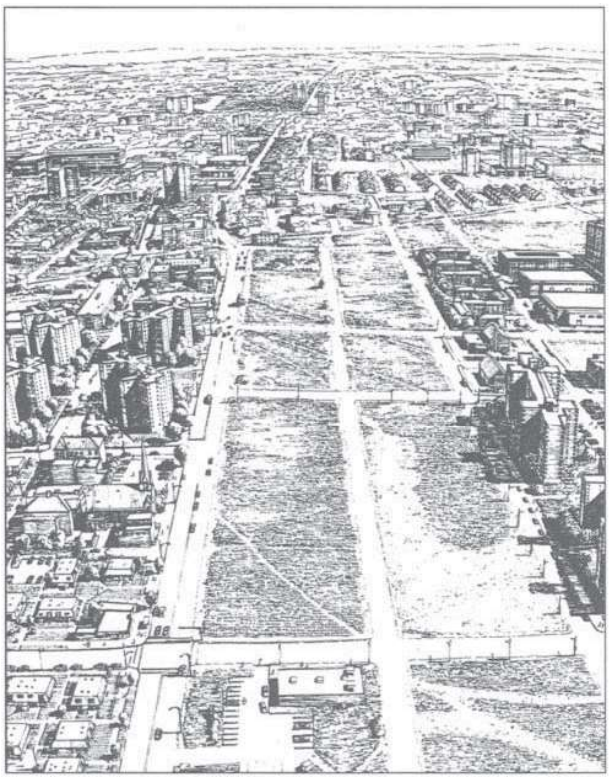


Fig. 13. By-passed urban neighborhood, existing conditions.

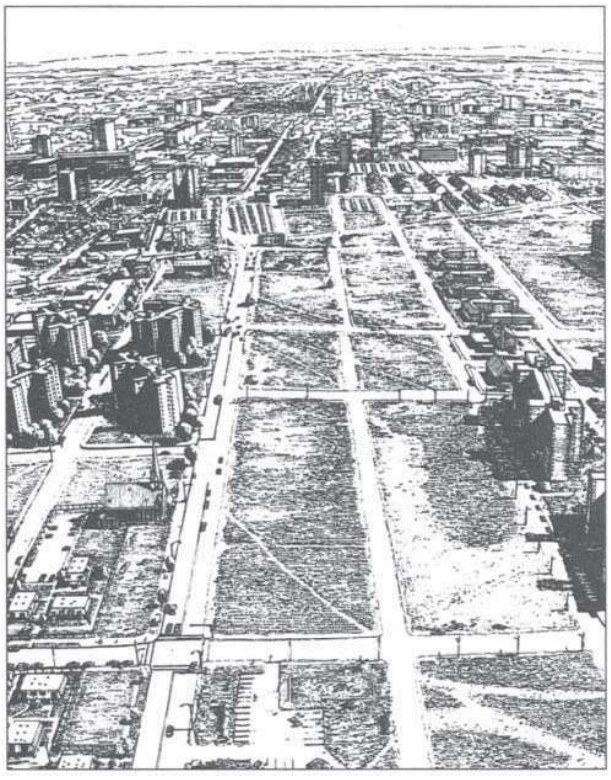


Fig. 14. By-passed urban neighborhood, after typical development, 2015.

By-passed urban neighborhood

Existing Conditions (Fig. 13)

Near the center of a large city, a former urban neighborhood has been reduced to rubble. Highrise subsidized housing towers, lowrise apartment blocks, industrial buildings, recently built duplexes and rowhouses, as well as a few remaining nineteenth century commercial, residential, and religious buildings surround the vacant core. Recent market rate townhouse development in the middle ground has been well received, showing a demand for decent housing in the area. Recent slab highrise development outside the urban core extends into the distance as new centers of employment and housing in the suburbs replace the lost neighborhoods of the city center. High crime rates, drug addiction, and joblessness affect the neighborhood.

2015, After Typical Development (Fig. 14)

The mechanisms that created the previous scene have continued to work as more structures are abandoned and torn down, creating more rubble-strewn blocks and parking lots. Joblessness increases as business and industry continue to flee the area, reducing the demand for the newer housing, some of which is also torn down. Crime rates increase, creating even more of a fortress mentality among the remaining residents. Suburban sprawl and slab highrise towers in the distance mark the flight of residents and jobs from the abandoned urban core.

2015, After Recommended Development (Fig. 15)

In partnership with the community and city government, a major corporation has established a manufacturing research and administrative facility on the most distant group of empty blocks and has helped sponsor the reconstruction and future maintenance of the neighborhood. New market rate housing with basement parking garages occupies the foreground blocks, surrounding courtyards of protected and supervised open space, tree-lined streets, and small urban parks and squares. A recreation facility is located between the residential blocks and the corporate center. A regional park and golf course extend from the upper right into a new urban square at the intersection of the major streets. Suburban sprawl in the distance has been contained in well-defined centers while a regional greenbelt links major parks and open spaces to each other and the city center. Most of the subsidized housing towers have been renovated, while one has been removed to create a neighborhood park, Commercial and retail uses are located on the ground floors along the major streets.

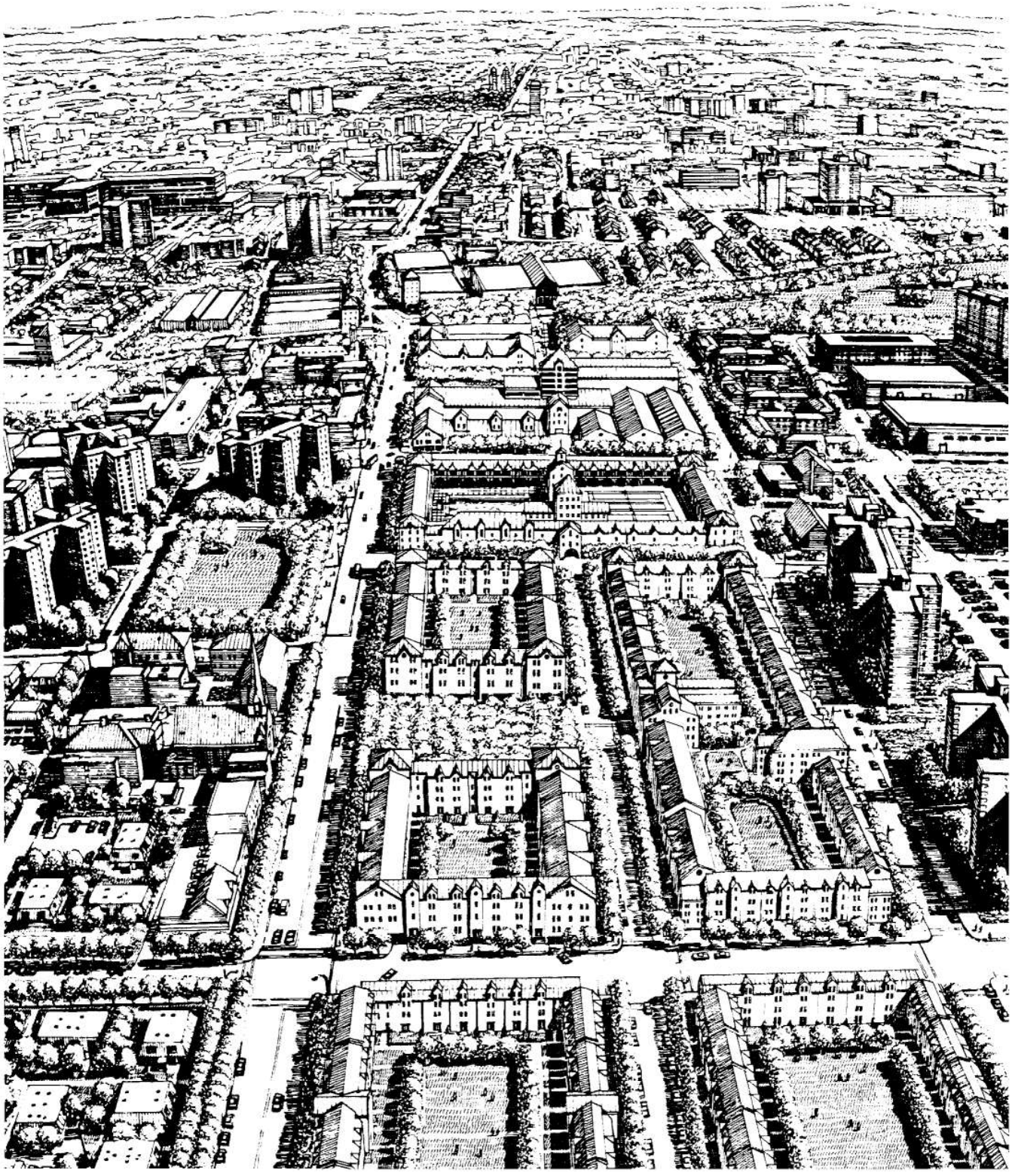


Fig. 15. By-passed urban neighborhood, after recommended development, 2015.

References and note on authorship and publication

In the 1990s RPA decided to use visual simulations as part of the broader effort to complete the Third Regional Plan, because the staff and colleagues had found it remarkably effective in earlier projects. Robert D.Yaro, before coming to RPA, had directed the Center for Rural Massachusetts at the University of Massachusetts, where with Randall G.Arendt, Harry L.Dodson, and Elizabeth A.Brabee, he completed *Dealing with Change in the Connecticut River Valley: A Design Manual for Conservation and Development,* published by the Lincoln Institute of Land Policy and the Environmental Law Foundation, Boston, MA (1988). This document used bird's eye perspective simulations, coupled with plans to dramatize the urbanized future faced by the towns of the Connecticut River Valley, unless they altered their zoning codes and practices.

Regional Plan Association's "Visual Simulations for the Region's Future" was developed as part of the Regional Design Program led by RPA Executive Director Robert D.Yaro, who collaborated with Jonathan Barnett, Harry L.Dodson and Robert L.Geddes. Funding for the first phase of the Regional Design Program included grants from the J.M.Kaplan Fund, the Andy Warhol Foundation for the Visual Arts, and The Vincent Astor Foundation. The full set of Visual Simulations are illustrated in *Tools for Shaping the Region,* published by the American Planning Association Press in 1994. ■