

## Clarence S.Stein

### Summary

Clarence S.Stein (1882–1975) became one of the most influential urbanists of 20th century America, through his writing and extensive work as a town planner, much of it in collaboration with the architect Henry Wright, and his leading role in organizations such as the Regional Planning Association of America and the New York State Commission of Housing and Regional Planning (both founded in 1923). Early projects such as Sunnyside Gardens in Queens, New York (1924), led to Stein and Wright's design of Radburn, New Jersey (begun in 1928), where the principles of Stein's version of the garden city were clearly articulated. These include many key components of modernist city planning as well as what would become standard planning practice for suburban development: the superblock (traceable to Raymond Unwin's garden city work); the *cul-de-sac*; specialized roadways and separation of vehicular and pedestrian traffic (after the precedent of Olmsted's Central Park); and the neighborhood unit with an elementary school at its center (also developed by Clarence Perry).

### Key words

automobiles, *cul-de-sac*, garden city, highways, neighborhood, new town planning, residences, superblocks



## The Radburn Idea

Radburn's ultimate role was quite different from our original aim. It was not to be a Garden City. It did not become a complete, balanced New Town. Instead of proving the investment value of large-scale housing it became, as a result of the depression, a financial failure. Yet Radburn demonstrated for America a new form of city and community that fits the needs of present day urban living in America, and it is influencing city building throughout the world. We did our best to follow Aristotle's recommendation that a city should be built to give its inhabitants security and happiness.

**The need for Radburn.** American cities were certainly not places of security in the twenties. The automobile was a disrupting menace to city life in the United States—long before it was in Europe. In 1928 there were 21,308,159 automobiles registered (as compared with 5 in 1895). The flood of motors had already made the gridiron street pattern, which had formed the framework for urban real estate for over a century, as obsolete as a fortified town wall. Pedestrians risked a dangerous motor street crossing 20 times a mile. The roadbed was the children's main play space. Every year there were more Americans killed or injured in automobile accidents than the total of American war casualties in any year. The checkerboard pattern made all streets equally inviting to through traffic. Quiet and peaceful repose disappeared along with safety. Porches faced bedlams of motor thoroughways

with blocked traffic, honking horns, noxious gases. Parked cars, hard grey roads and garages replaced gardens. It was in answer to such conditions that the Radburn plan was evolved. For America it was a revolution in planning; a revolution, I regret to say, which is far from completed.

### ELEMENTS OF THE RADBURN PLAN

“The Radburn Idea” to answer the enigma “How to live with the auto,” or if you will, “How to live in spite of it,” met those difficulties with a radical revision of relation of houses, roads, paths, gardens, parks, blocks, and local neighborhoods. For this purpose it used the following elements:

- **The Superblock in place of the characteristic narrow, rectangular block.**
- **Specialized roads planned and built for one use instead of for all uses:** service lanes for direct access to buildings; secondary collector roads around superblocks; main through roads, linking the traffic of various sections, neighborhoods and districts; express highways or parkways, for connection with outside communities. (Thus differentiating between movement, collection, service, parking, and visiting.)

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Fig. 1. Radburn: plan of the residential districts, 1929. Courtesy New York City Housing Authority.

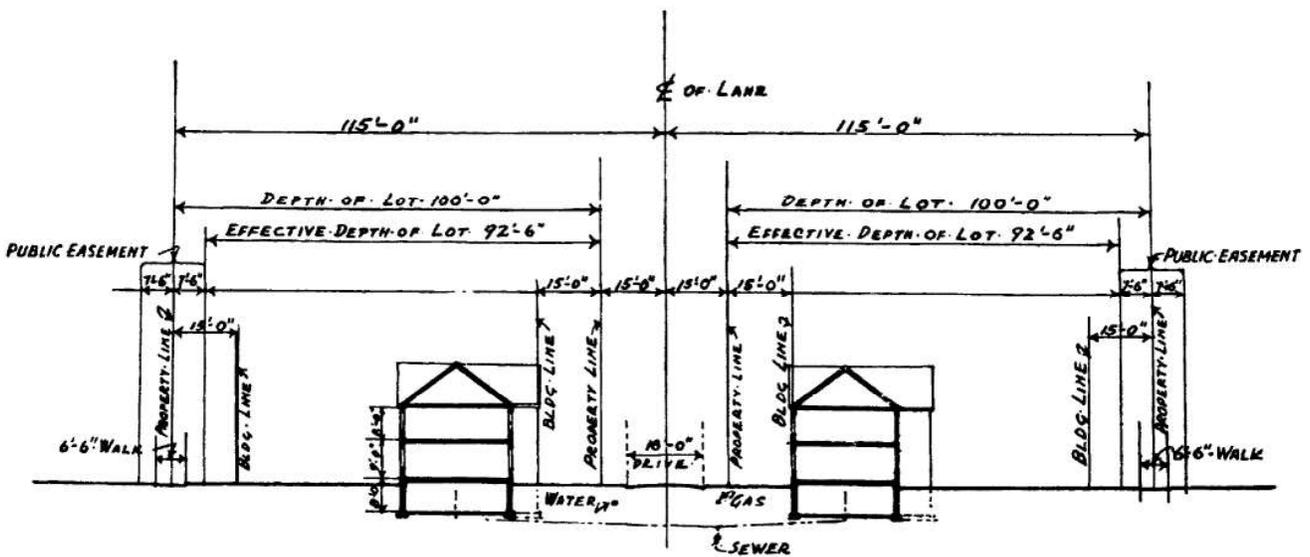


Fig. 2. Typical transverse section of a "lane" in the first unit of Radburn.



## 4 ■ The Radburn Idea

I have already spoken of our experience with courts opening off streets at Sunnyside.

Separation of different means of communication had an excellent nearby precedent, Central Park in New York (Fig. 4). Here, almost half a century before the invention of the automobile, Frederick Law Olmsted and Calvert Vaux planned and executed what they described as:

*“...A system of independent ways; 1st for carriages; 2nd, for horsemen; 3rd, for footmen; and 4th, for common street traffic requiring to cross the Park. By this means it was made possible ... to go on foot to any district of the Park...without crossing a line of wheels on the same level...”*  
(Olmsted, 1851)

The automobile has multiplied the need of separating antagonistic uses of streets. The need is recorded in the statistics of automobile accidents—33,410 deaths in 1946, to say nothing of the million of more cripples. At Radburn we proposed to unscramble the varied services of urban streets. Each means of circulation would take care of its special job and no other: through traffic only on the main highways; with street intersections decreased about two-fold; most parking as well as garages, delivery, and other services, on the lanes; walks completely separated from autos by making them part of a park instead of a street, and by under or over passing the roads; finally, children’s play spaces in the nearby park instead of in busy roads.

**Specialized highways** were in their infancy in the United States at the time that Radburn was conceived. There was not much more than the differentiation of parkways and pseudo-expressways from the ordinary city or town street. To plan or build roads for a particular use and no other use required a predetermined decision to make specialized use permanent or rather long-lived. That was contrary to the fundamentals of American real estate gambling, to serve which the pattern of ordinary highways had become the basis of city planning. I say this in spite of the fact that the 1920’s were the heyday of zoning. None of the realtors, and few city planners who accepted zoning as their practical religion, seemed to have faith enough in the permanency of purely residential use to plan streets to serve solely that use. No, not even when the economy of so doing was clearly proved by Henry Wright and Raymond Unwin. Zone for dwellings? Yes, but don’t give up the hope that your lot may be occupied some day by a store, gas station, or other more profitable use.

The Radburn Plan proposed to protect the residents, first, by planning and building for proposed use, and no other use; second, by private restrictions rather than by wishful zoning.

**The house turned round.** The creation of the Radburn Idea and of the Radburn Plan was a group activity. It was not merely the conception of its architect-planners. It took form out of actual experience at Sunnyside. It was influenced by the character and diversified abilities and experience of the technicians and the staff of the City Housing Corporation. But there can be no question that the seed from which the Radburn idea grew was conceived by that imaginative genius Henry Wright. Luckily we have in his own words “The Autobiography of Another Idea”—that is, the Radburn idea (Wright 1930).

*“In 1902, as an impressionable youth just out of architectural school...at Waterford...Ireland,...I passed through an archway in a blank house wall on the street to a beautiful villa fronting upon spacious interior gardens. That archway was a passage to new ideas...I learned then that the comforts and privacy of family life are...to be found...in a*

*house that judiciously related living space to open space, the open space...being capable to enjoyment by many as well as by few.”*

From that time on Henry [Wright] started “to face kitchens and service rooms toward the street, and living rooms inward toward the garden.” At Sunnyside we both wanted to turn all the houses that way, as we ultimately did at Radburn, but conservative opposition only permitted placing some of the porches on the lovely garden side.

**Economy of the Radburn Plan.** The parks that formed the interior core of the Radburn superblocks were secured without additional cost. Or rather the savings in expenditure for roads and public utilities at Radburn, as contrasted with the normal subdivision, paid for the parks. The Radburn type of plan requires less area of street to secure the same amount of frontage. In addition, for direct access to most houses, it uses narrower roads of less expensive construction, as well as smaller sized utility lines.

The superblock of 35 to 50 acres (14 to 20 ha) is surrounded by wide streets, but it replaces the greater number of wide broad streets of the normal checkerboard plan with service roads only 18 to 20 feet (5.5 to 6 m) wide. The use of these is limited to 15 to 20 families living on each *cul-de-sac*, and they carry no through traffic going elsewhere. Therefore they can be on lighter construction, and sewers and water lines are of lesser size and cost than the main lines on the through highways. In fact the area in streets and the length of utilities is 25 percent less than in the typical American street plan.

The saving in cost of these not only paid for the 12 to 14 percent of the total area that went into internal parks, but also covered the cost of grading and landscaping the play spaces and green links connecting the central block commons. The greater part of this expenditure was for improvement. The land itself—in spite of its value for spinach growing—cost only six cents a square foot (.09 sq. m). What makes subdivided land costly, even with the financing, carrying charges, taxes, and profits, is not the land itself. It is the roads and walks, sewers, water lines, electric, gas and other utilities that surround it. This land in lots along streets or lanes costs 6 cents gross or 10 cents per square foot, but an additional 25 cents must be added to pay its share of the improvement that lead to it. A park or playground in a regular town surrounded directly by improved streets would cost as much as it would with houses as a frontage. But not at Radburn—their land is just land (except for surrounding walks). There are no streets. So before landscaping the land, the cost of the parks was less than a fifth of what it would have been had dangerous highways encircled it.

## The plan of Radburn

The time between the purchase of land in Fairlawn and the starting of construction was too short to develop a plan of Radburn as a whole (Fig. 5). This was vaguely in the back of our minds, to be given more definite form later. Our immediate problem was to relate the superblocks to the form of the land. We began with an area near the railroad station. As we did not want direct access to *culs-de-sac* from Fairlawn Avenue, which promised to become a main thoroughfare, we left a strip, an ordinary block 200 feet (61 m) wide, between it and our first superblock. If we had had time to study our whole plan carefully before deciding on the first superblocks, we probably would have eliminated all of the old forms of block and separated the superblock from Fairlawn Avenue merely by a parallel service road.

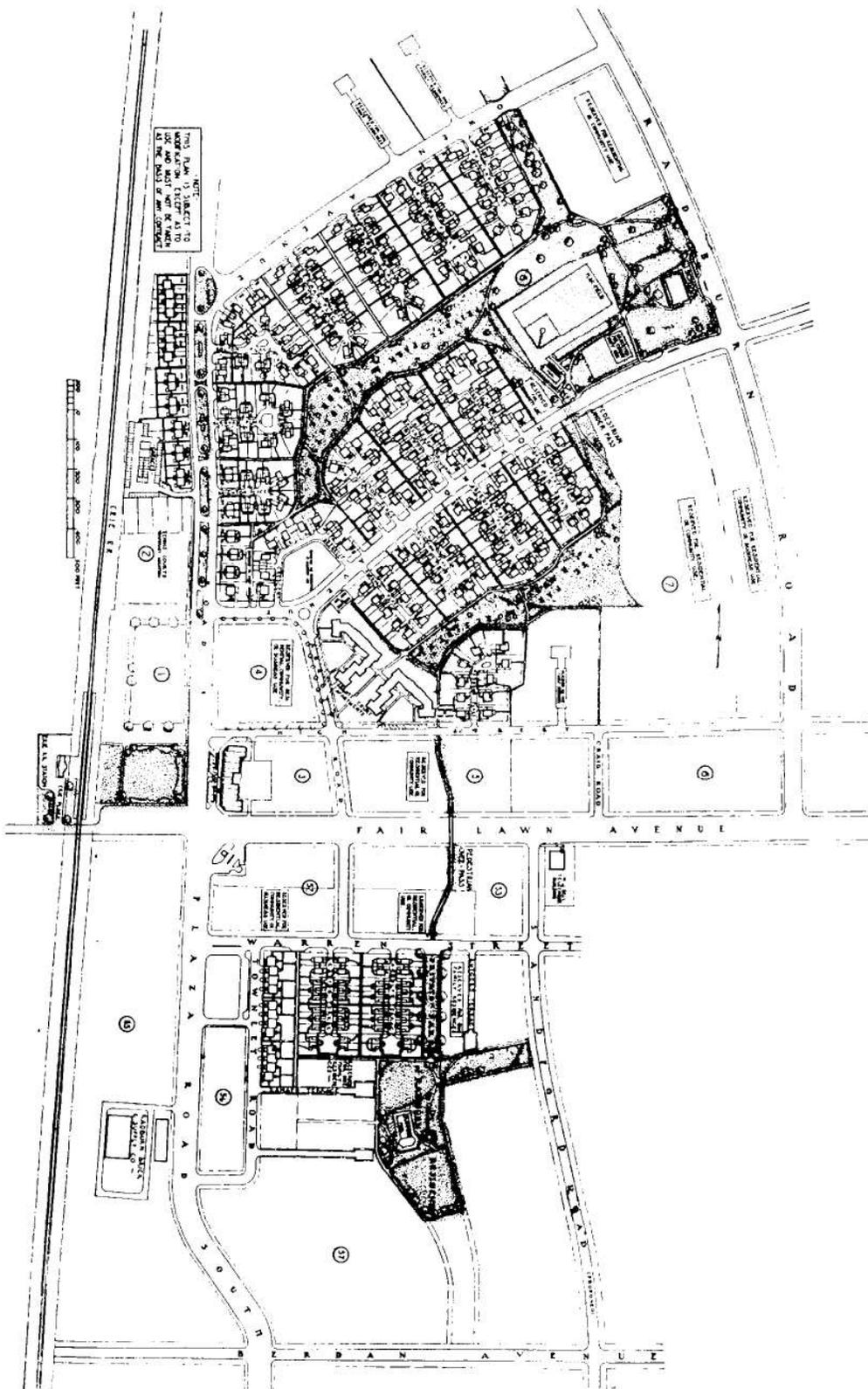


Fig. 5. Plan of Radburn completed by 1930.

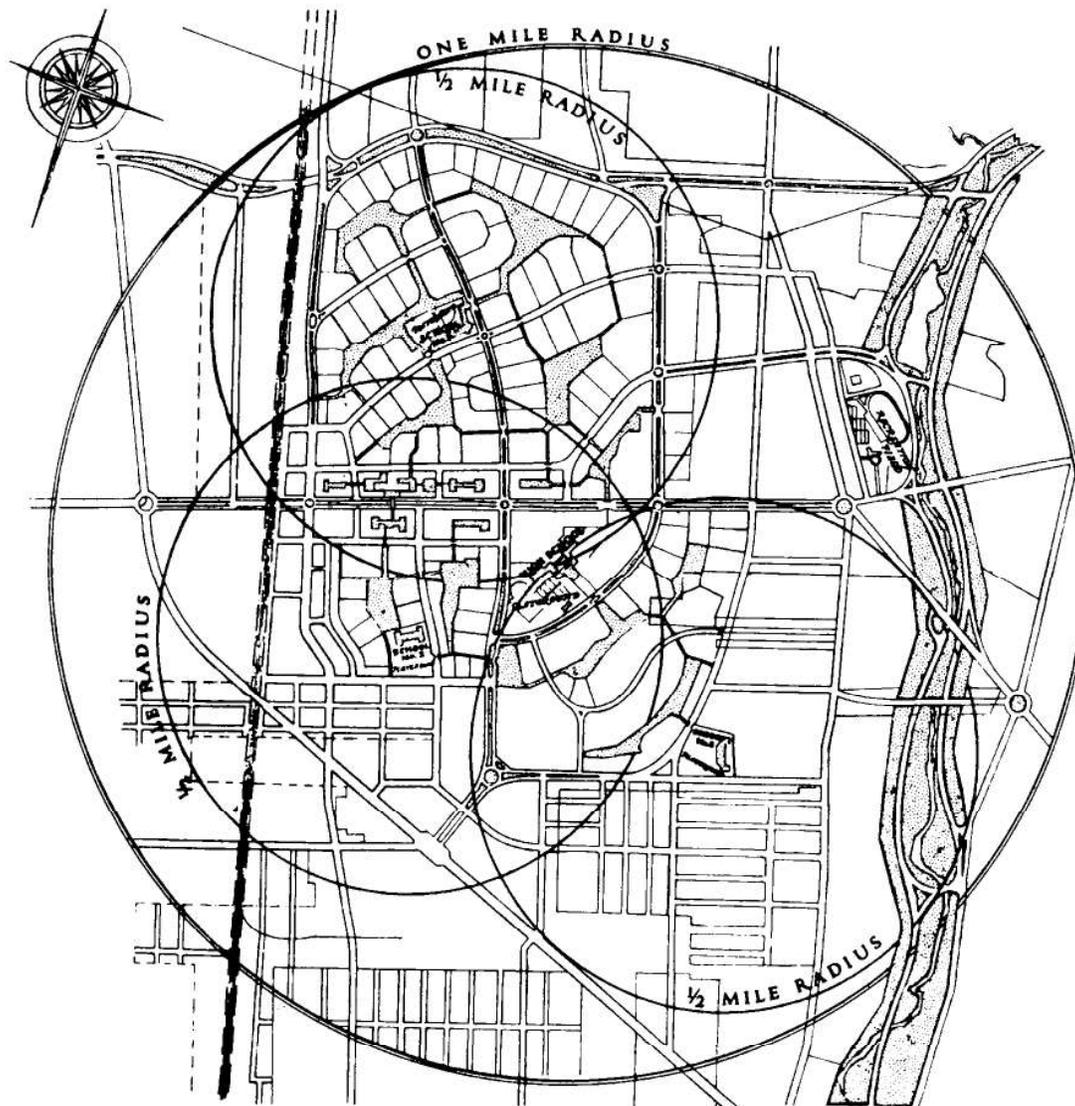


Fig. 6. General plan showing neighborhoods.

For these blocks have not lent themselves as well to practical development for modern living or shopping.

**Neighborhoods.** At Radburn, I believe, the modern neighborhood conception was supplied for the first time and, in part, realized in the form that is now generally accepted.

The neighborhoods were laid out with a radius of half a mile, centering on elementary schools and playgrounds. Each was to have its own shopping center. The size of the neighborhood was determined by the number of children cared for by a single school. So as to allow for flexibility in development, we tentatively overlapped our half-mile (.8 km) circles (Fig. 6). This left leeway for somewhat greater concentration of population in apartments or row houses, where it would be found most advisable to place these as building progressed. All parts of each neighborhood were to be connected by over and under passes.

The neighborhoods were planned for 7,500 to 10,000 people—this to depend on the most desirable number of pupils in a school—a matter that was then, and I believe still is, open to a wide diversity of opinions. Although a start was made in the building of two of the neighborhoods, ultimately neither was completed.

**Town plan: the town as a whole.** As a main educational and cultural center we chose a point nearby equidistant from the three proposed elementary schools, within a mile radius of all future houses. This was close to the intersection of the main north-south and east-west avenues. We planned to set the high school and town community building on a beautiful hill. Below was a low nearly marshy area. This, although not desirable for residential purposes, was excellent for the central recreational field, to serve both high school and town athletic needs.

The main commercial center might, we felt, serve as a regional market.

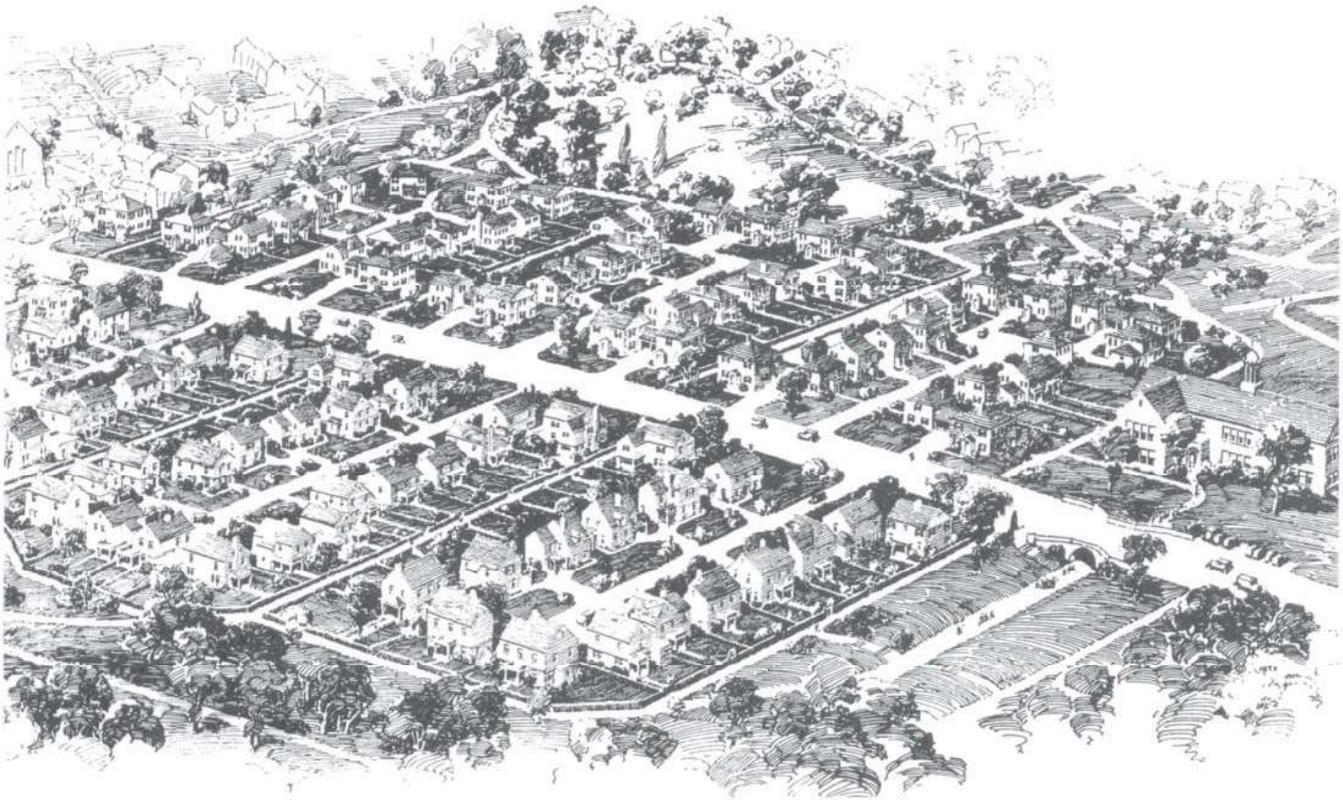


Fig. 7. Perspective, 1929, Courtesy New York City Housing Authority.

So we located it close to the proposed state throughway at the main entrance to Radburn, rather than in the physical center. We assumed that most of the regional market's clients would come by automobile. Therefore we planned superblocks, with an interior area of some 400,000 square feet (37,160 sq. m), to permit the parking of some 1,250 cars. This parking area was to be used in the evenings by the nearby Regional Theater.

For industry the section to the south of the State Highway was planned. This would have had direct access not only from the main entrance highways, but also from a spur from the railroad.

[Ed. Note: the original text is followed here by an extended discussion of "How the Radburn Plan Worked," including housing unit plans (Figs. 7 and 8) and evaluation commentary. The "Conclusions" section below summarizes the detailed discussion of Radburn].

## CONCLUSIONS

### I. The Radburn Plan serves present day requirements of good living in a more practical and pleasant way than does the conventional American city pattern.

- It is safer.
- It is more orderly and convenient.

- It is more spacious and peaceful.
- It brings people closer to nature.
- It costs less than other types of development with an equivalent amount of open space.
- Most people who live in Radburn prefer it. They enjoy the expansive nearby verdure; they appreciate the freedom from worry about their children's safety.

Radburn works in practice as it was intended to function when it was only the Radburn Idea, twenty years ago.

### II. A plan for living, in addition to an appropriate, flexible physical setting, requires an organization with vision, capable leaders and adequate finance for the operation of the physical plant.

- Until there are competent and well financed governmental agencies for this purpose, a private association is essential.
- Start to function when the New Town opens.
- Include in its membership all families in the community—both tenants and homeowners. All must pay for its services just as they pay rent and taxes.



**Fig. 8. Plan of Burnham Place.** This, with its grouped houses and turning circle, is the most spacious *cul-de-sac* at Radburn. The turning circle allows vehicles to turn more easily and provides an island for planting.

- Be a single central organization rather than a group of separate sectional block associations.

**III. A separate political entity is required by a New Town with a new form and advanced objectives, so that it may freely and clearly carry out its purposes.**

- A private government within the borders of a political entity, which gives special services and privileges to its members, which are not available to the entire urban area, causes resentment and leads to disunion.
- All services for which people are taxed should be directed and operated by their elected representatives.

**IV. The building of a new town requires large capital investment in land, utilities, highways and public buildings on which there can be little, if any, financial return for many years.** Lacking governmental assistance, a private corporation (with the exception of organizations with large aggregates of capital such as insurance companies or endowed foundations) have small chance of more than temporary success under [uncertain] economic conditions [Ed. Note: author is referring here to the United States depression era that followed the construction of Radburn].

Governmental cooperation is required, at least in the following:

- Taking land—all the land that will be needed to complete the New Town.
- Holding the land until needed for construction; or financing the land cost at low rates for long periods.
- Financing the cost of main lines and central works of essential utilities and main highways, on low and long financial terms.
- Assisting the local government authorities in the construction of essential public buildings such as schools.
- Financial aid similar to that given to existing municipalities including subsidies, for housing low-income workers.

**V. Continuous rapid growth of a New Town is imperative in the early years, so that overhead expenses do not devour all earnings.**

**VI. Conveniently placed and varied industry is an essential requirement of a New Town.** Therefore industrial plans must be specific and realistic. Generalizations are valueless. Timing of industrial development must be synchronized with that of the building of homes and community equipment. ■

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