

0731-121: Principles of Urban Planning

Topic 6

Principles of Designing Residential Neighborhood

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Residential Area

- Residential area covers about **30-50%** of developed land in urban area
- Apart from dwelling, it contains other uses that **support the day-to-day life** of households:
 - Local shopping
 - Primary schools
 - Local open space/ playgrounds
 - Religious center (mosque, temple, church etc.)
 - Community facilities
 - Circulation network (for pedestrian, automobile and public transport as well)
- The residential areas are **not self sufficient**, so they must be spatially related to other land uses

Residential Neighborhood Design Concept

In this chapter we are going to learn about the following residential area design concepts:

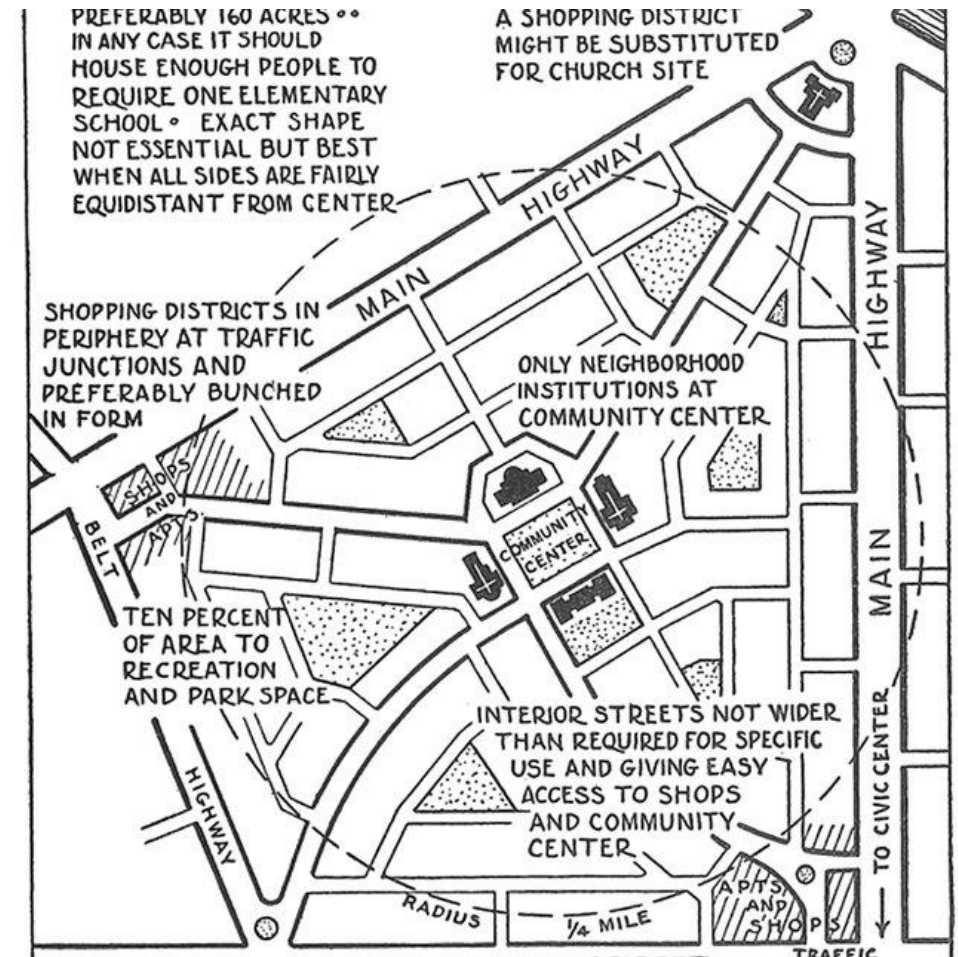
- Neighborhood unit principle [**by Clarence Perry, 1929**]
- Transit oriented development (TOD)

Clarence Perry's Neighborhood Unit

Six basic principles of neighbourhood unit:

1. Major arterials/ through traffic routes should not pass through residential neighbourhood. Instead, these streets should provide the boundaries of neighbourhood.

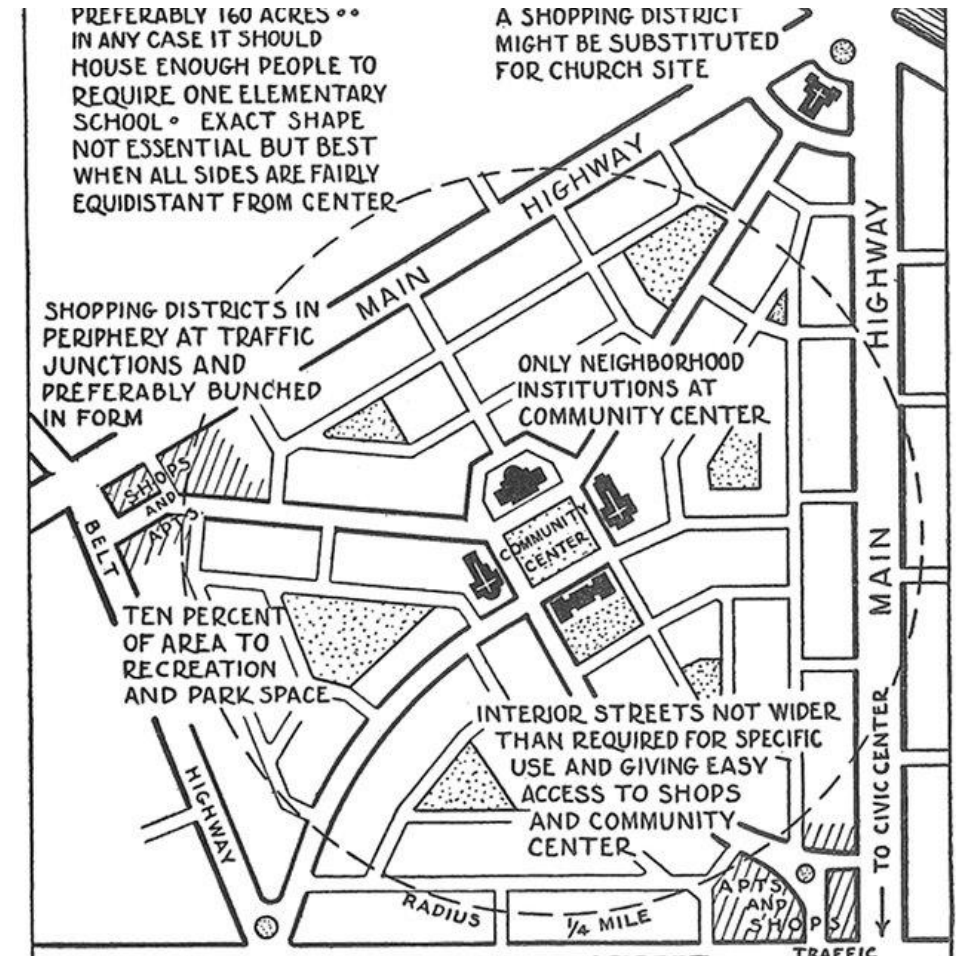
2. Interior street pattern should be designed in a way that encourage a quiet, safe, low volume traffic movement, and preserve the residential atmosphere. Cul-de-sac and dead end internal roads are preferred.



Clarence Perry's Neighborhood Unit

3. The **population** of the neighbourhood should be that which is necessary to support its primary school. When Perry formulated the theory, around 5000 population was estimated. The figure may vary according to different context.

4. The **neighbourhood focal point** should be the elementary school, located centrally along with other service institutions.

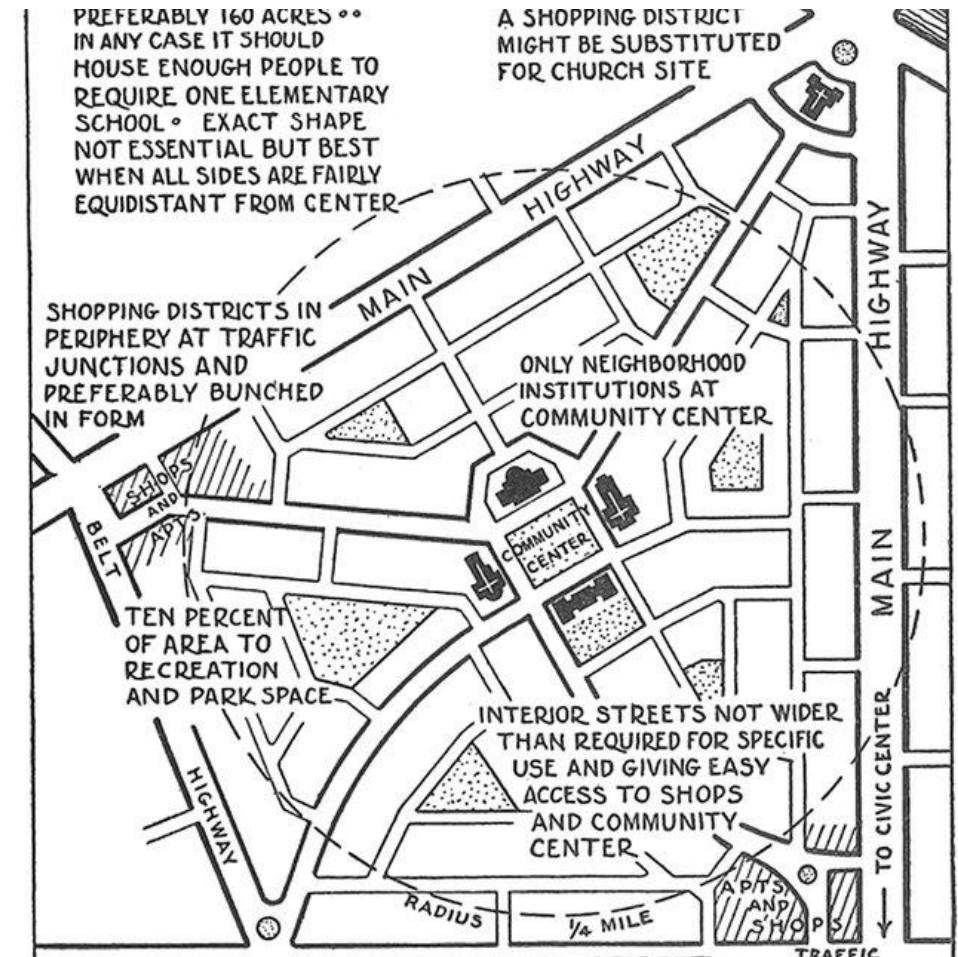


Clarence Perry's Neighborhood Unit

5. The radius of the neighbourhood should be maximum $\frac{1}{2}$ mile, which allows a **walking distance** to the elementary school for every child. Perry calculated an area of 160 acres with detached single family residents.

6. Shopping districts should be sited at the edge of neighbourhood, preferably at the major street intersection.

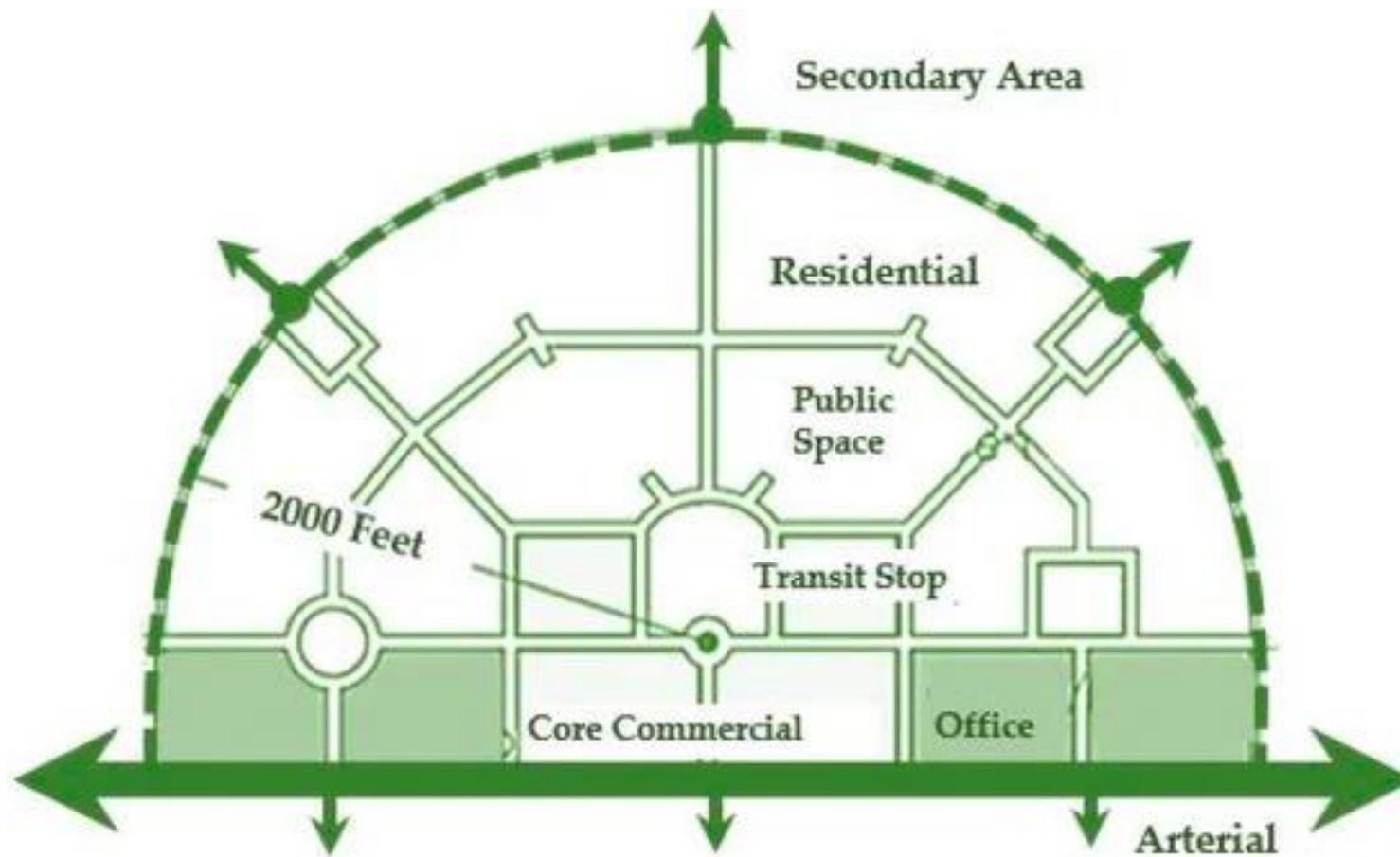
Perry's concept was applied to the design of Radburn, New Jersey.



Transit Oriented Development (TOD)

- A TOD is a planning and design strategy that promotes **compact, mixed use, pedestrian friendly** development, closely **integrated with mass transit**
- TOD is a cluster of residential, business, office, and leisure spaces within walking distance of public transport (usually within ¼ mile of a transit station)
- TOD aims to increase the use of public transport ridership
- TOD typically includes a **central transit stop** (train/ bus stop), surrounded by **high-density mixed-use area**, with low-density area spreading out from its center.
- Applied in many cities like Vancouver, San Francisco, Hong Kong, Singapore etc.

Transit Oriented Development (TOD)



Transit Oriented Development (TOD)



Jurong East Mass Rapid Transit Station and Bus Interchange (Singapore)



THANK YOU!!

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