

Lecture 2:
Urban Form and Its Relationship to
Bicycling and Walking

New Urbanism

- Neo-traditional town planning
- Smart growth
- Sustainable development
- Applied to new communities
- Retrofit existing communities



Ahwahnee Principles

PREAMBLE: Existing patterns of urban and suburban development seriously impair our quality of life. The symptoms are: more congestion and air pollution resulting from our increased dependence on automobiles, the loss of precious open space, the need for costly improvements to roads and public services, the inequitable distribution of economic resources, and the loss of a sense of community. By drawing upon the best from the past and the present, we can plan communities that will more successfully serve the needs of those who live and work within them. Such planning should adhere to certain fundamental principles.

REGIONAL PRINCIPLES
COMMUNITY PRICIPLES
IMPLEMENTATION STRATEGIES

Congress for the New Urbanism

The Region: Metropolis, City and Town

- Defined by topography; distinctive centers, villages
- Public policy and planning should recognize region
- Relationship to natural environment and farmland
- Infill development preserves distinct edge
- Distinct neighborhoods and towns
- Towns with job/housing balance
- Respect historical boundaries and patterns
- Housing and services for all income levels
- Transit, pedestrian and bicycle systems favored
- Rational regional coordination of revenues, infrastructure and services

The Neighborhood, District and Corridor

- These three are essential elements of development
- Compact, mixed-use, ped-friendly neighborhoods; neighborhood design principles for districts; corridors connect neighborhoods and districts
- Most activities should be within walking distance
- Broad range of housing types and affordability in each neighborhood
- Transit corridors can help organize
- Transit-oriented development
- Civic, institutional, commercial and schools should be integrated in neighborhoods
- Use graphic design codes for predictable planning
- Parks should be integrated and open space preserved

The Block, Street and Building

- Design should define public space
- Design should blend with surroundings
- Design for safety
- Auto accommodation should respect peds
- Streets should be safe, comfortable, interesting – foster interaction
- Architecture and landscape should come from local climate, topography and history
- Civic buildings and public spaces reinforce community identity and democracy
- Buildings should be built for climate
- Preservation and renewal of natural and built environment

Urban Form DNA

- Land use planning
- Street networks



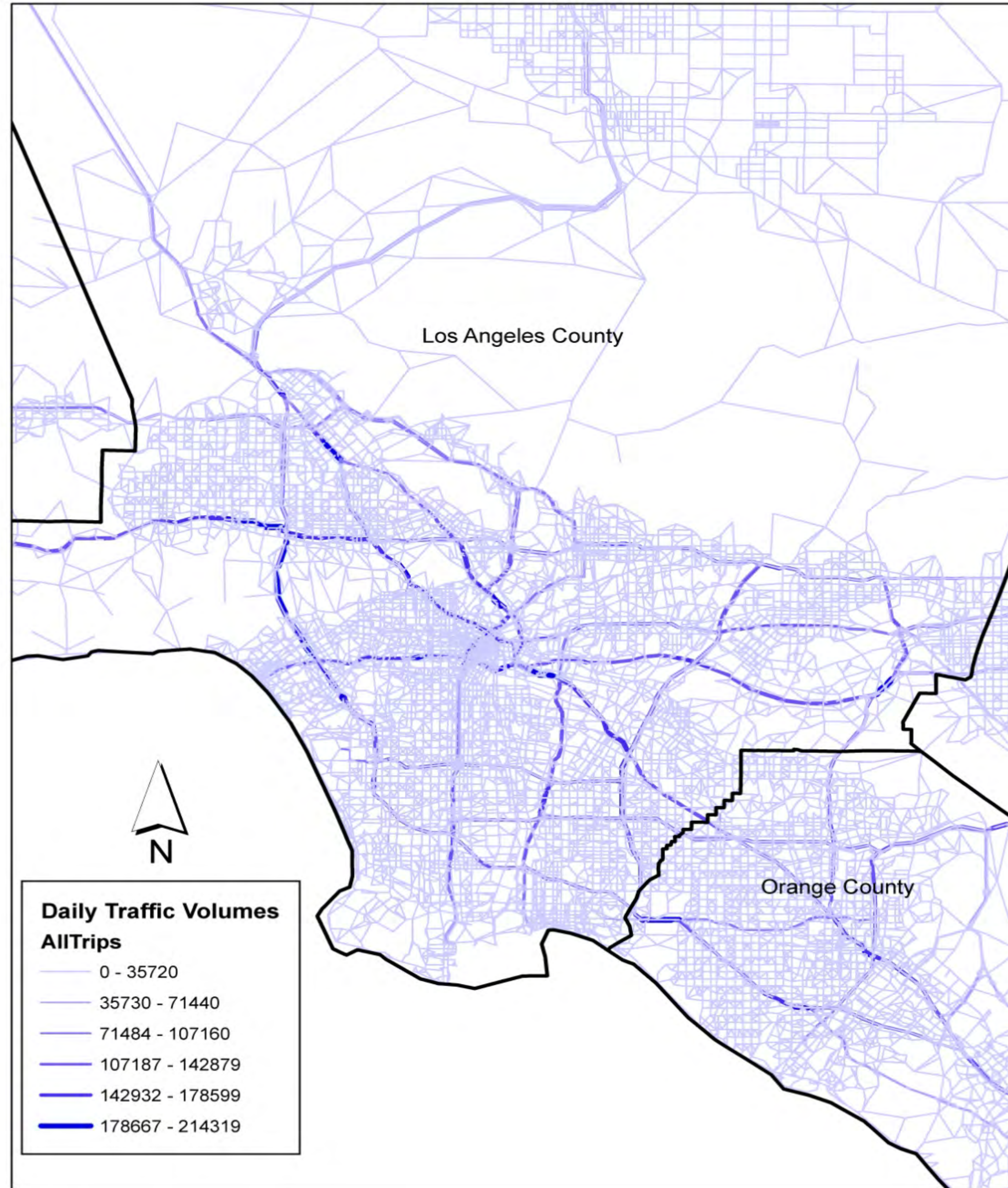
Regional Challenges

- 18 million people
- Another 6 million expected by 2035
- Jobs/housing balance
- Sustainability
- Livability
- Median commute time in LA County 25 minutes, mean 29 minutes
- Longer commutes in outlying counties
- Commutes are lengthening



Map 5: Trip Patterns in Los Angeles County

Source: SCAG 2005 Regional ADT Data



Jobs/Housing Balance



- Quantity
- Income match
- Diversity of housing types



- “2% Strategy”
concentrates new
development on 2% of
the land
- Mobility
- Livability
- Prosperity
- Sustainability

Land Use Issues

Mix Land Uses

- Housing near schools, parks and stores
- Housing near retail
- Commercial office near retail



Mix of Housing Affordability





Transit-Oriented Development



Reducing travel demand is best achieved changing Land Use policies that bring destinations closer together

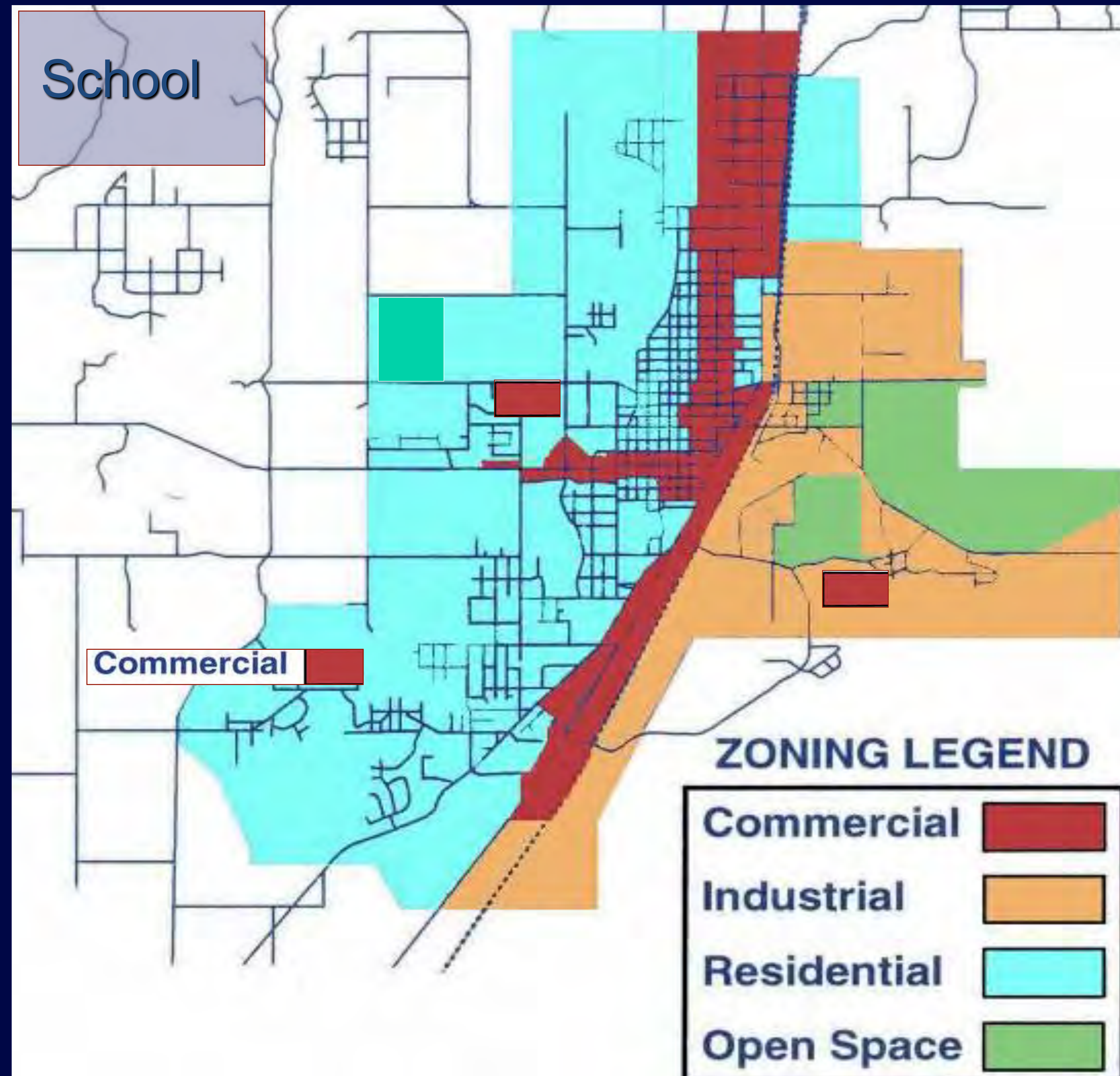
The problem:

- Commercial activities concentrated in auto-dominated corridors.
- Segregated land uses
- Result: long travel distances, not conducive to walking

Potential solutions?

1. Allow small-scale retail in neighborhoods
2. Create neighborhood parks
3. Site school closer to residences & parks

Designing for Pedestrian Safety -
Introduction



Buildings Should Face Sidewalks



Active Uses on Ground Floor Of Buildings





Fast food typically favors drive-thru over walk-ins
Pedestrians must cross drive-thru lane



Alternative design: Direct pedestrian access is provided with no vehicular conflicts



Even a gas station / convenience store can be built with pedestrian friendly design at back of walk

Recreation and Open Space

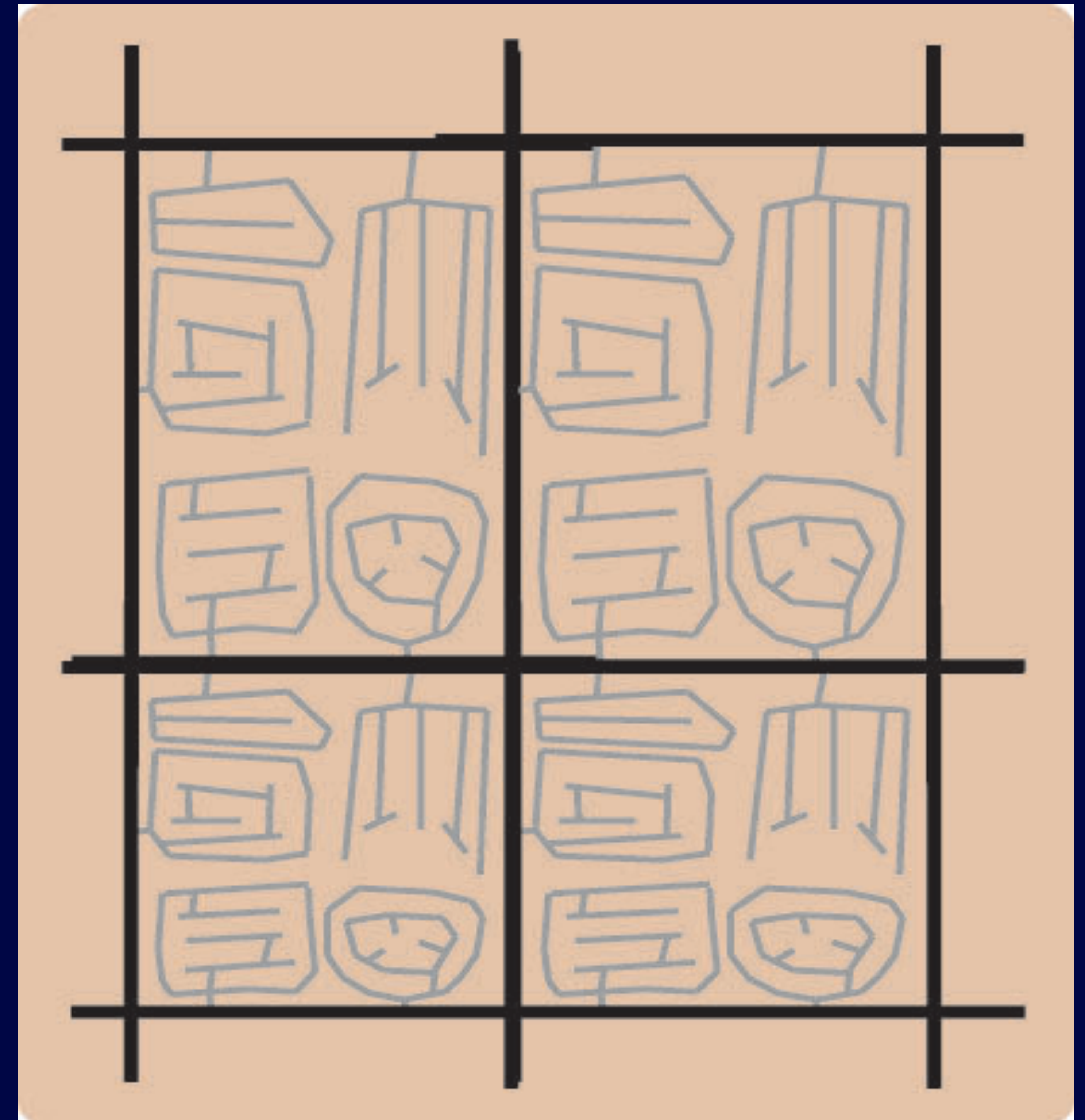
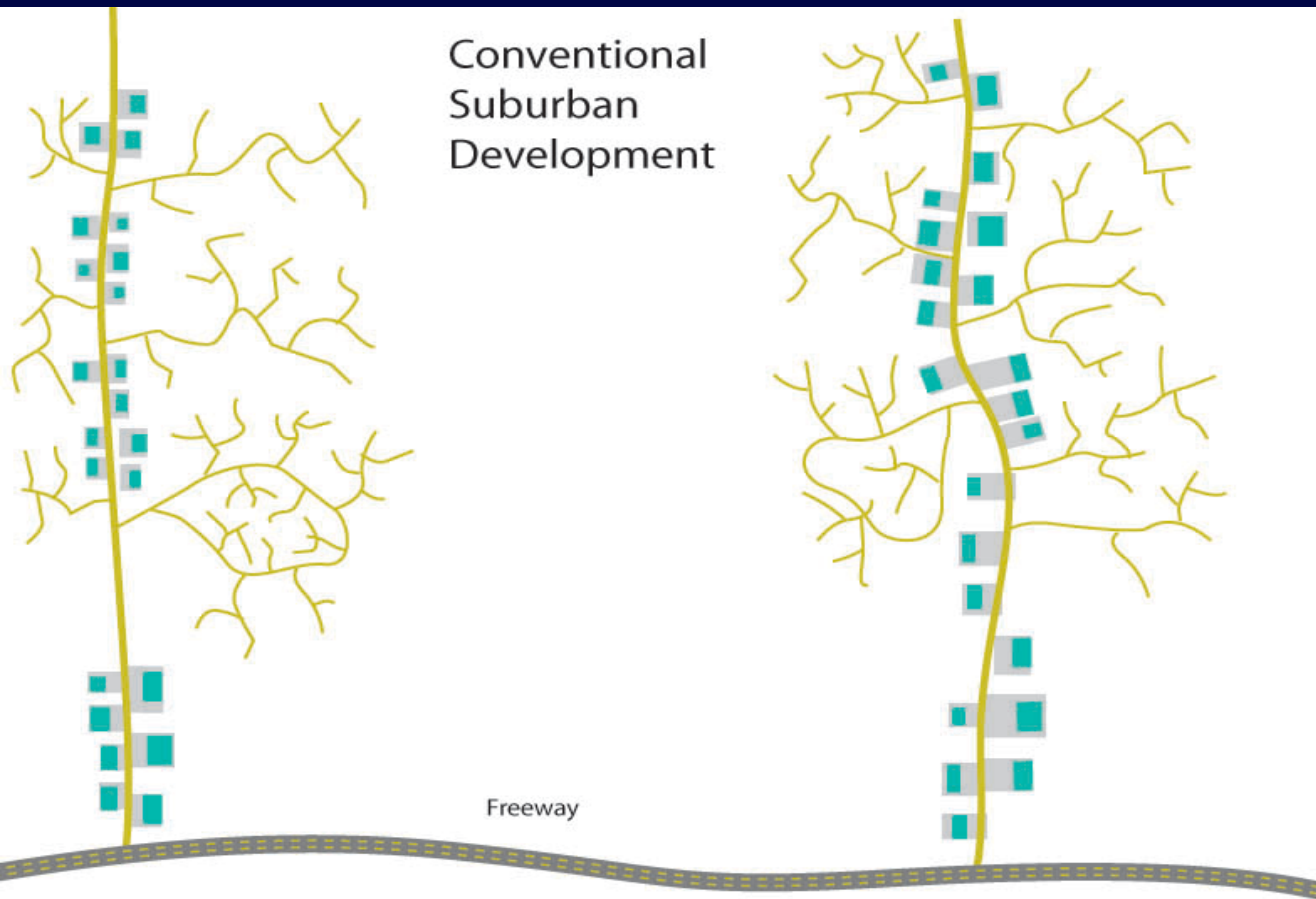
- Regional parks
- Local parks
- Neighborhood parks
- Linear parks
- Community gardens
- Agricultural space
- Wilderness



Street Network

Good Street Network

Not This



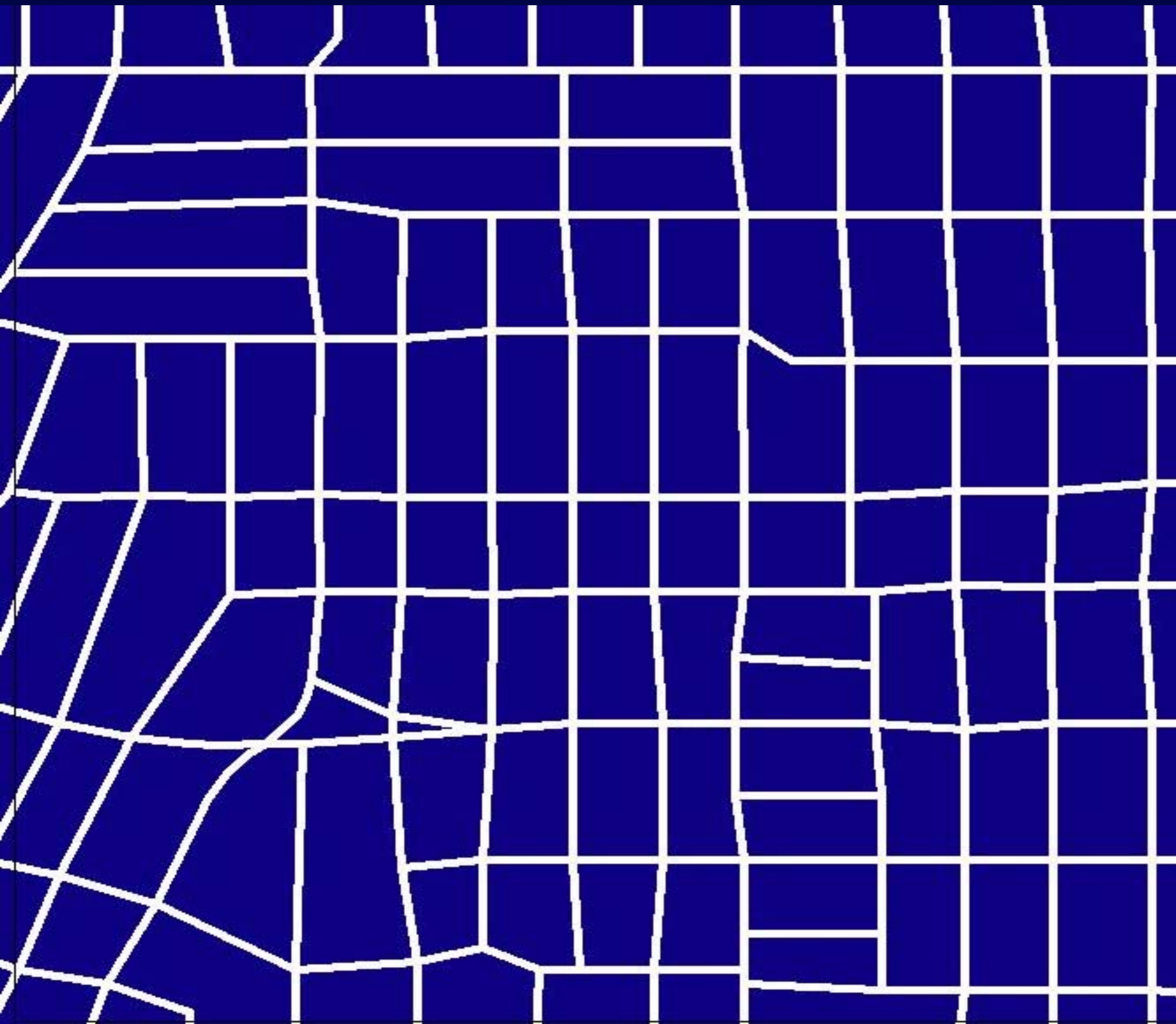


Not This



One-Mile-Square Street Grid

Central Los Angeles

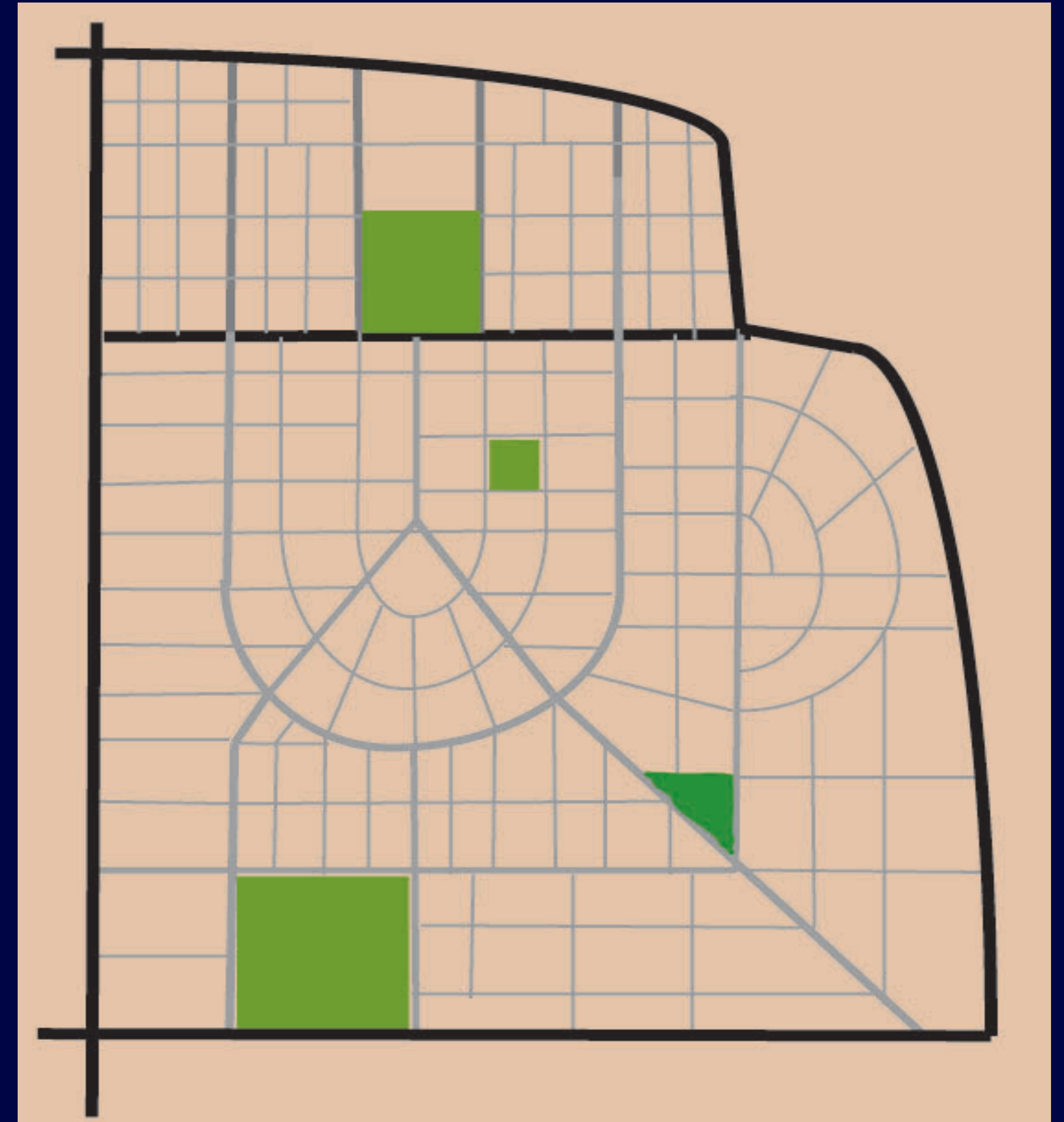
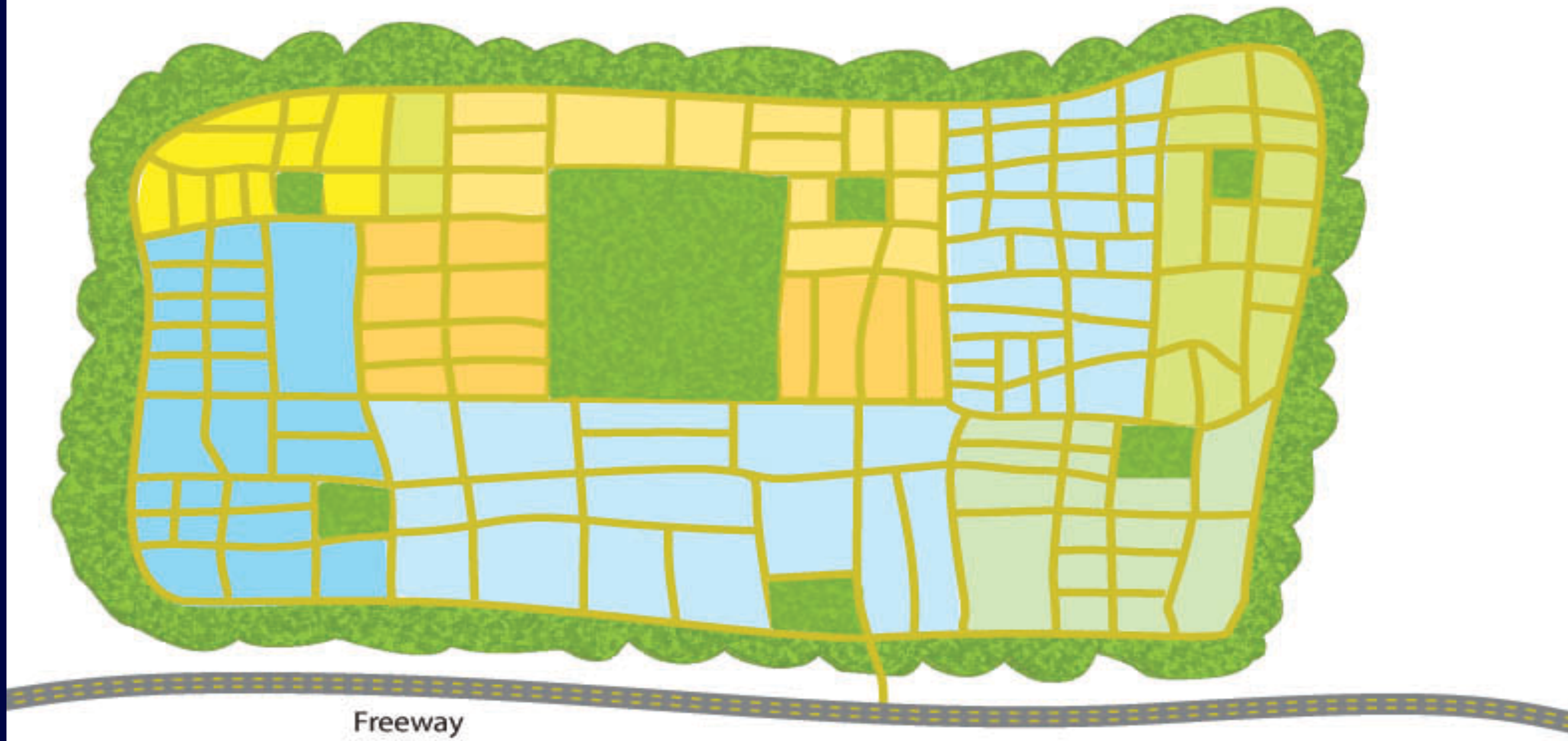


Santa Clarita

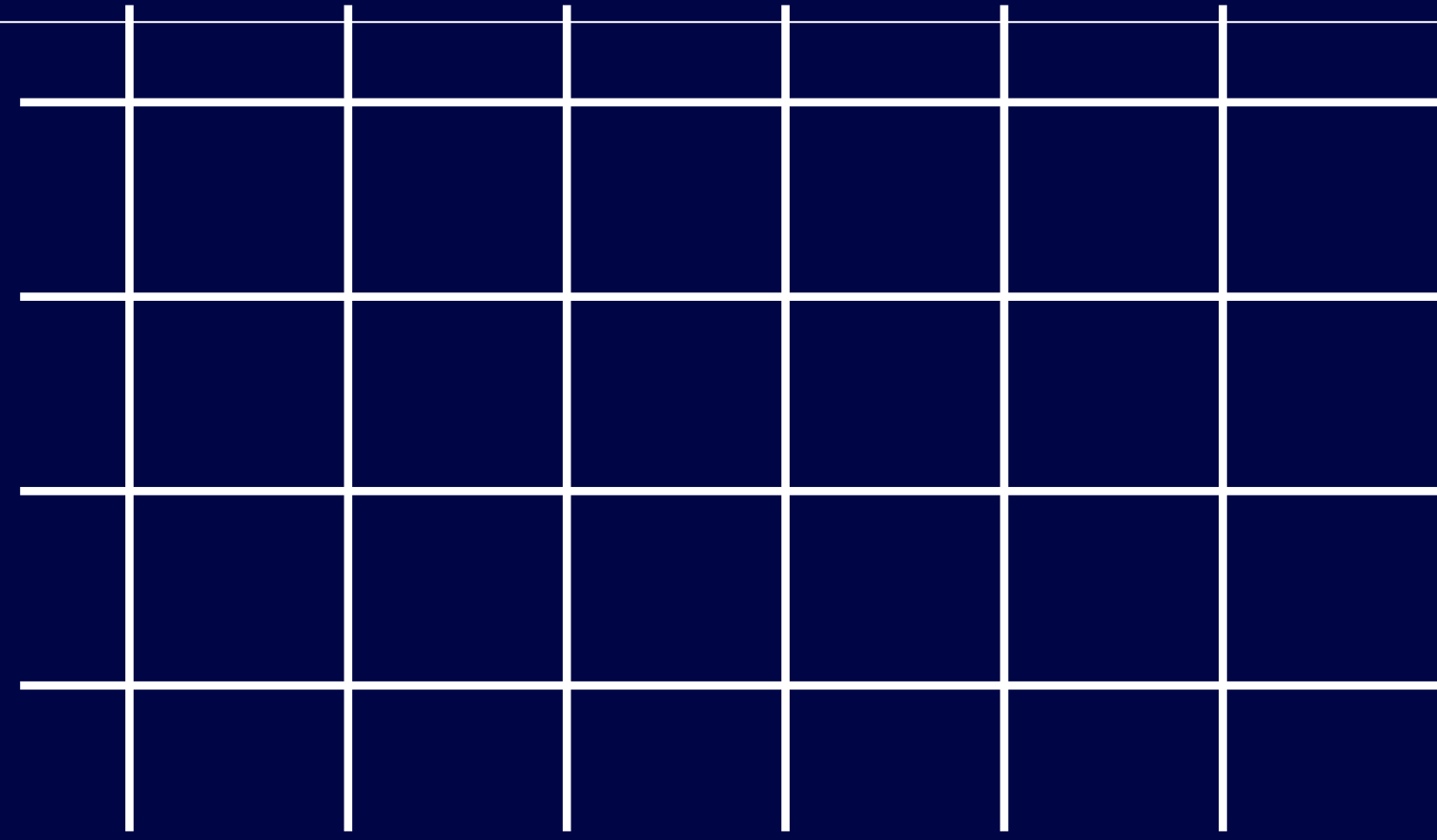


Good Street Layout

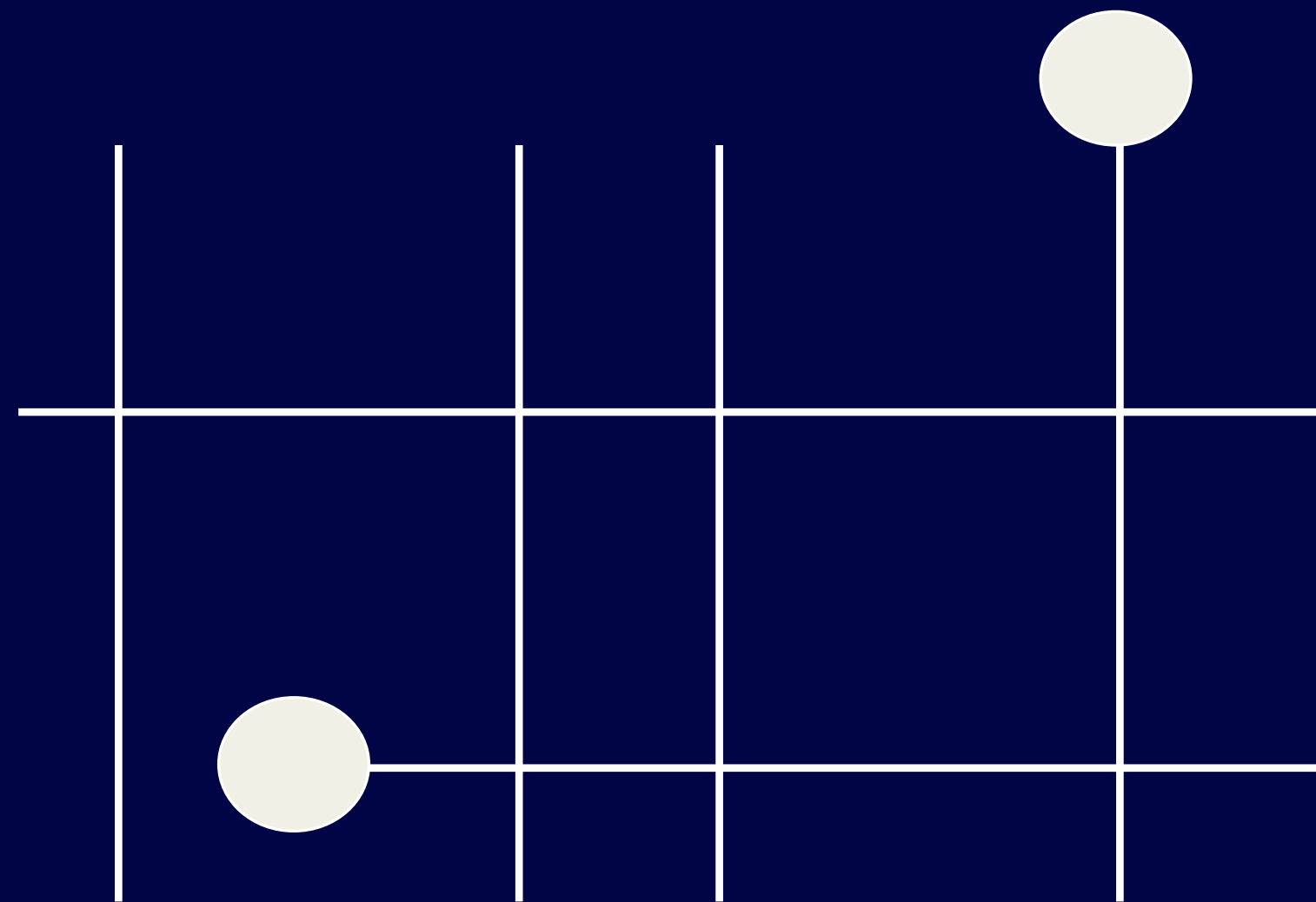
"Smart Growth"
Community
Development



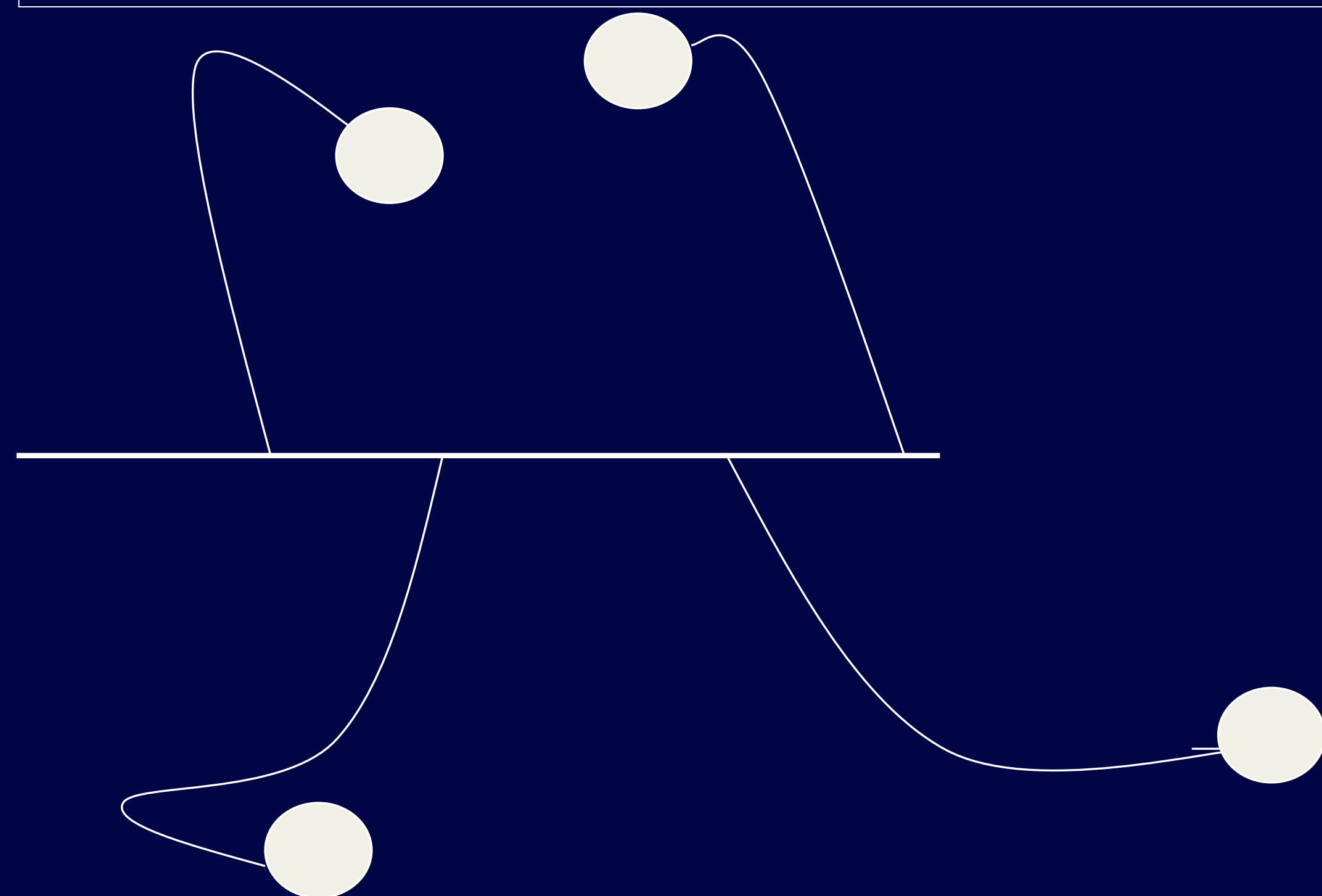
High Connectivity



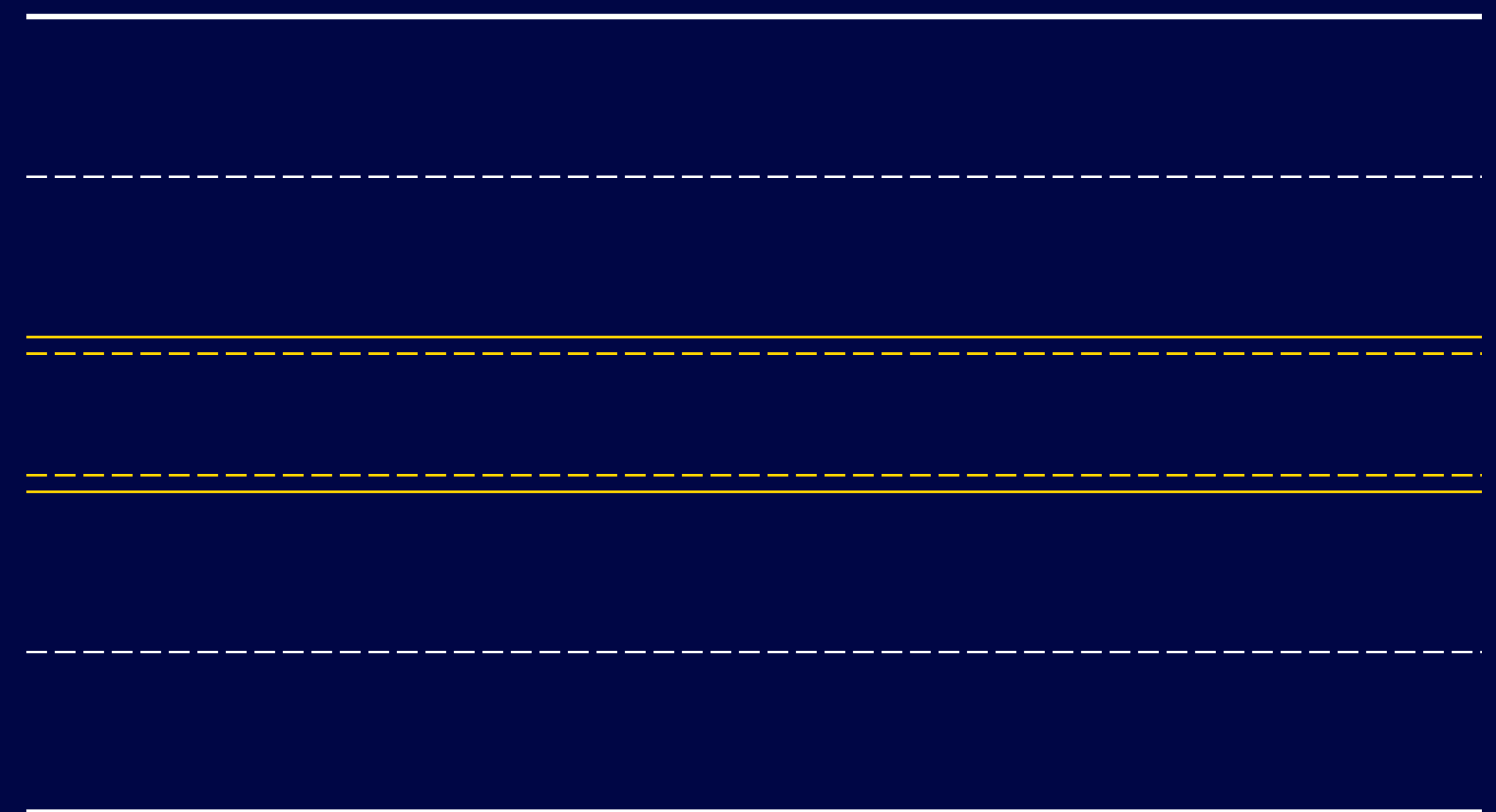
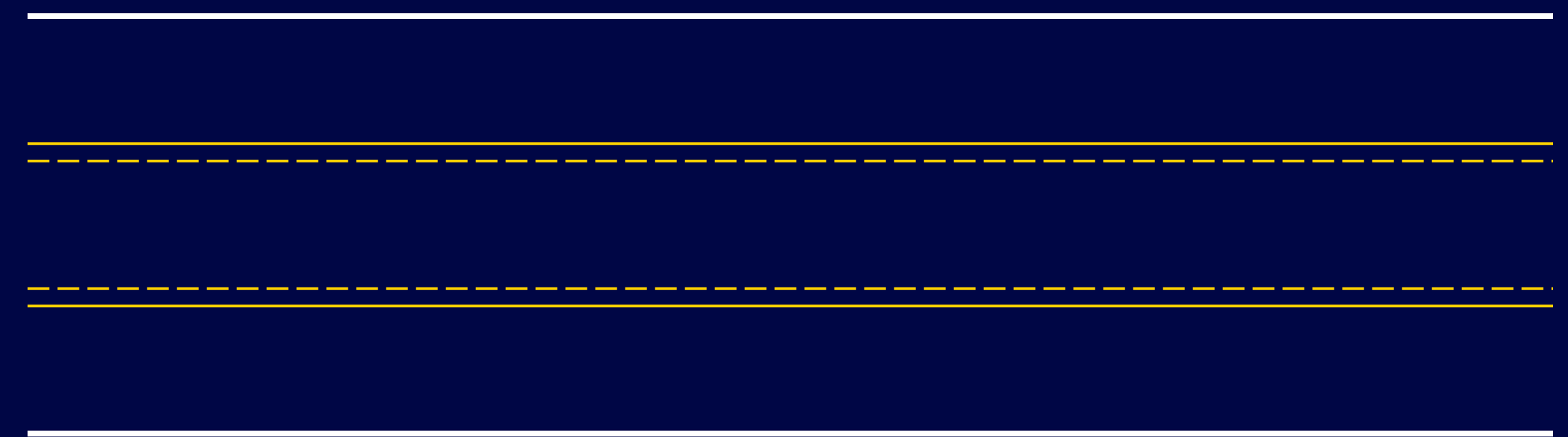
Moderate Connectivity

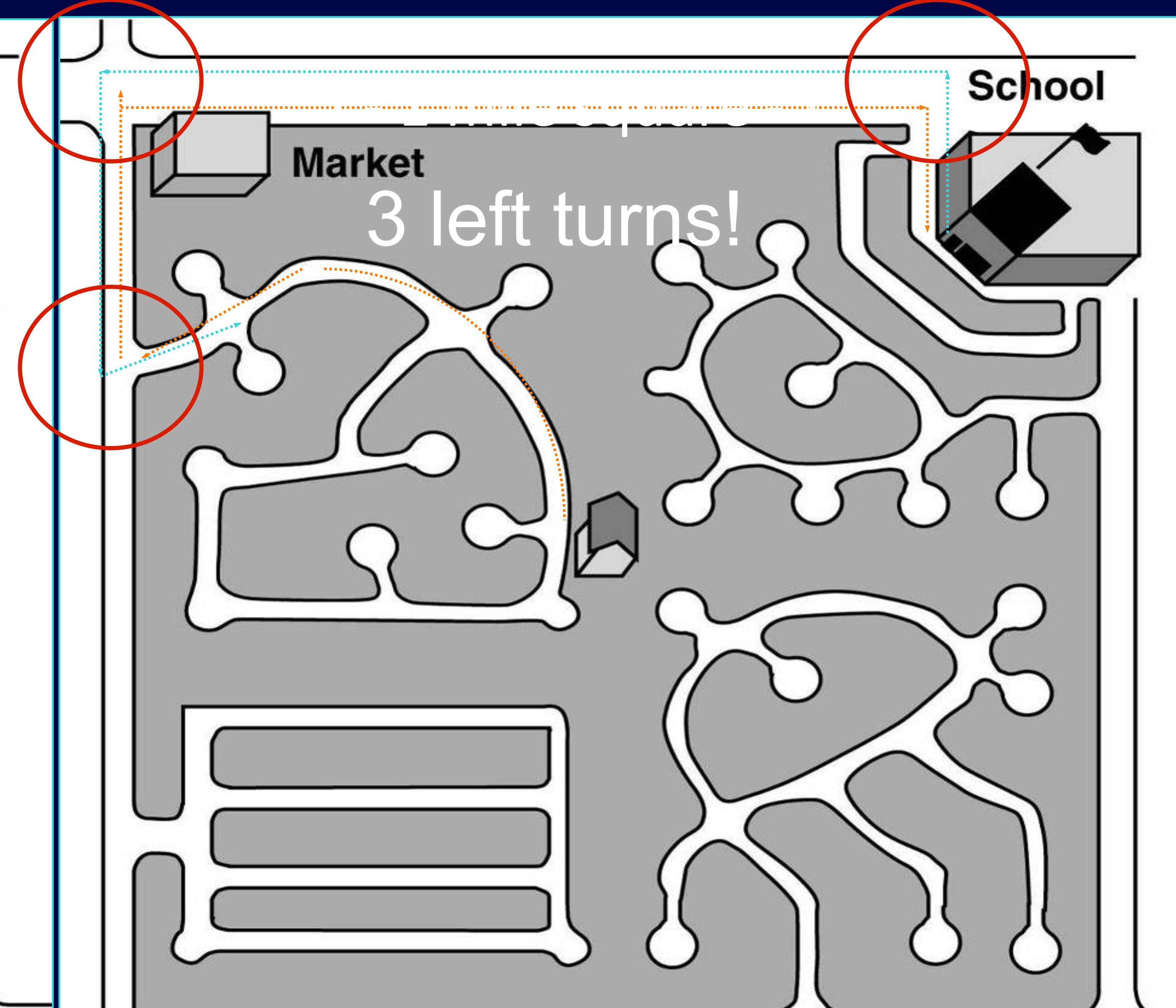
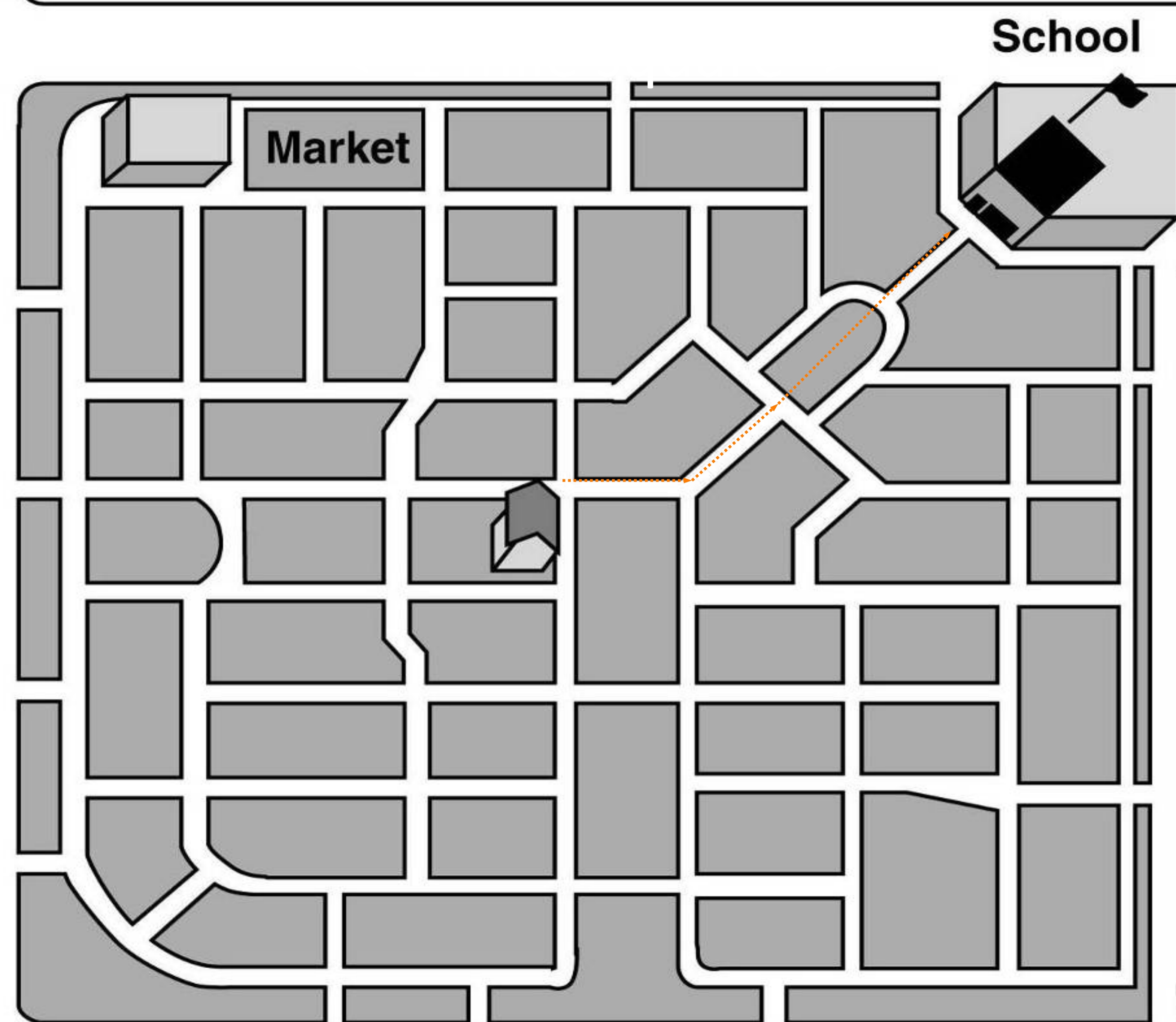


Low Connectivity



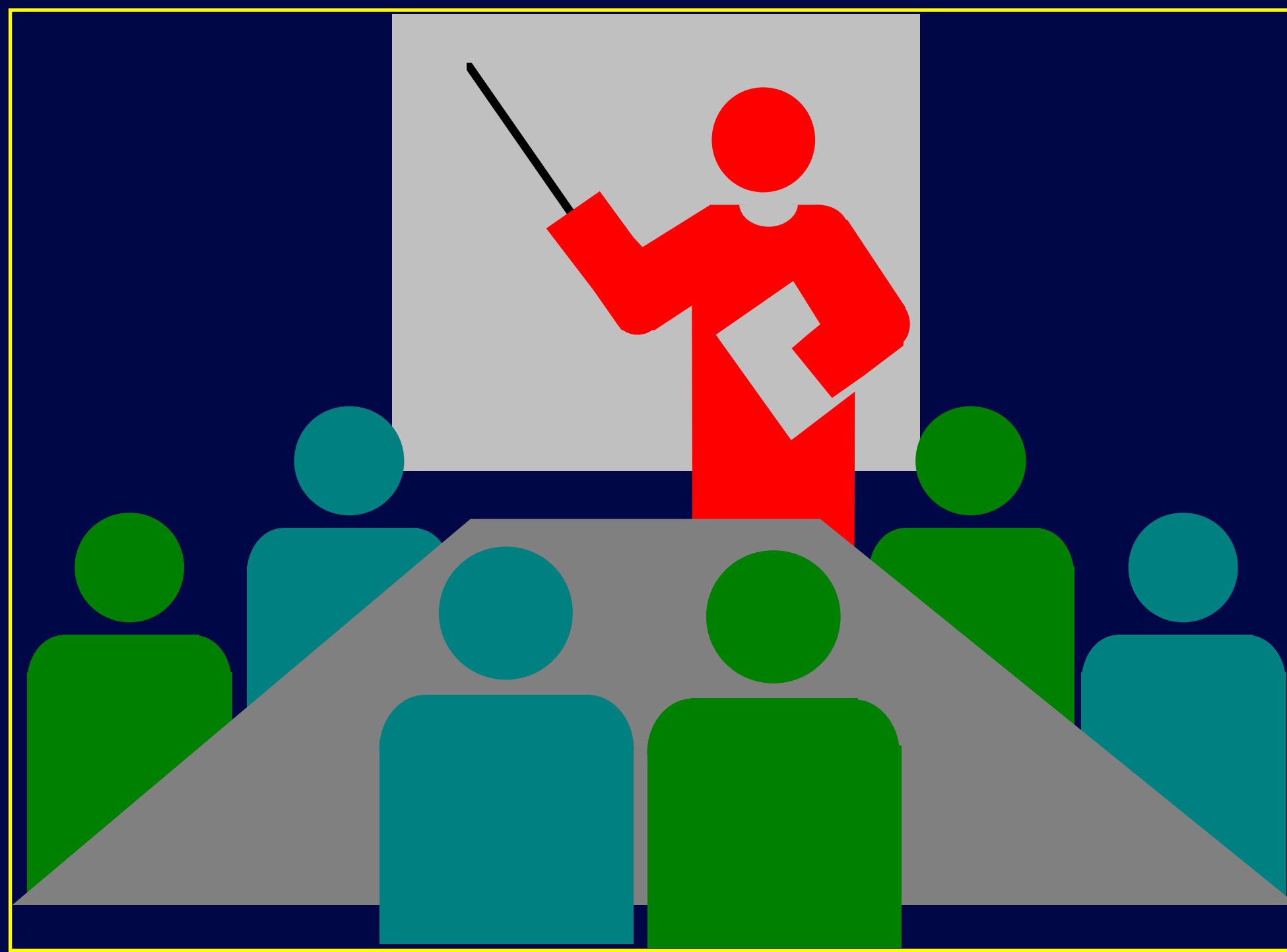
Travel Lanes Required





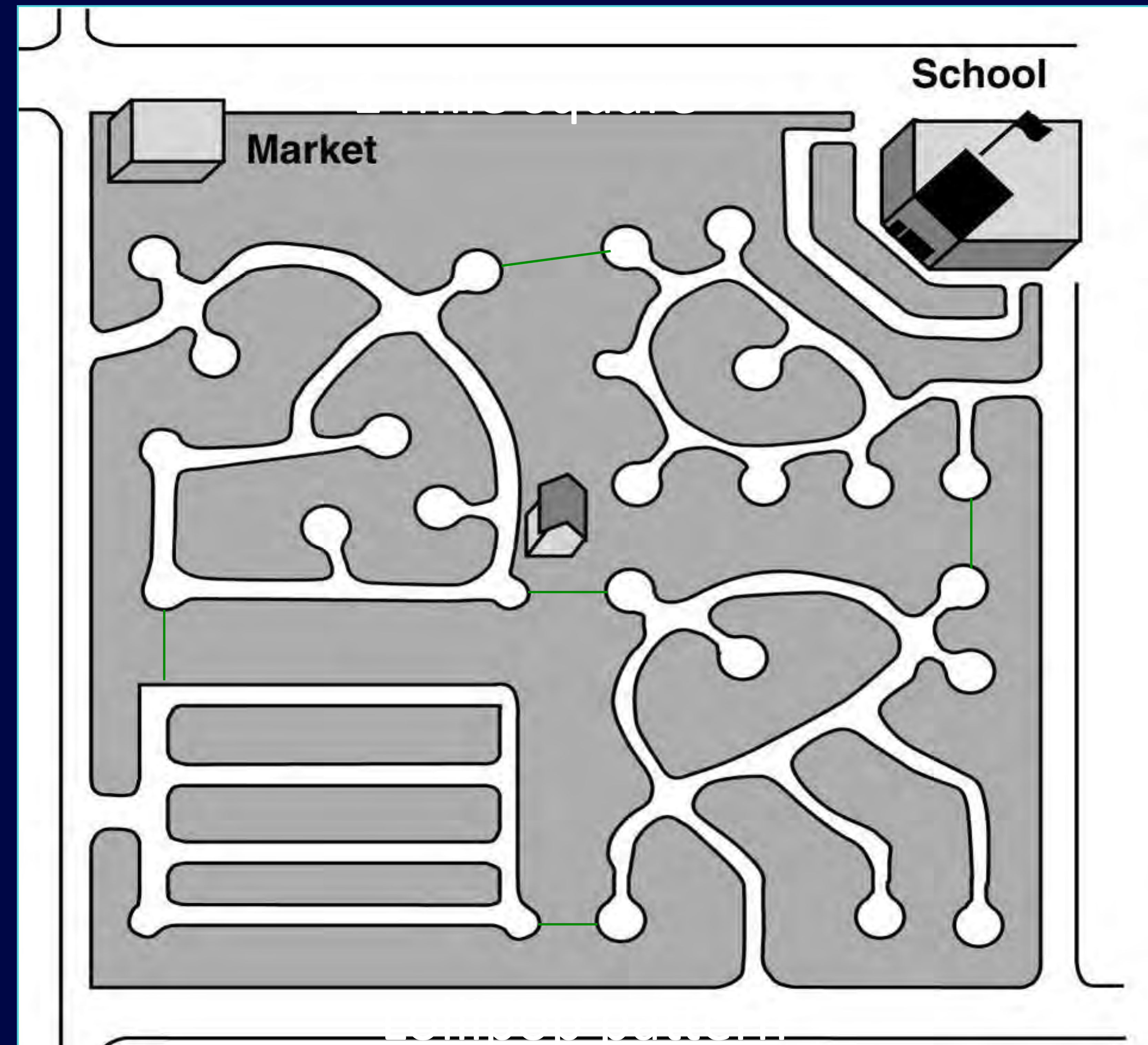
Connectivity creates a pedestrian-friendly street system by:

- Reducing walking distances;
- Offering more route choices, more quiet local streets;
- Dispersing traffic – reducing reliance on arterials for all trips



Can you increase connectivity with paths, greenways?

- Reduces walking distances: **YES**
- Offers more route choices: **YES**
- Disperses traffic: **NO**



How have we built our urban roadway system?



To facilitate travel over longer distances



Lack of connectivity => few but large intersections

Why do we have cities?



To minimize travel & maximize exchange (to be closer together)

Planning principle: *High storefront density* in retail districts makes walking interesting and attracts pedestrians.



Planning principle: *Zero lot line zoning* allows buildings to abut one another, keeping the distance between them convenient for walkers.



Planning principle: Ground floor retail and other interesting uses on the ground floor of buildings also attract window shoppers and make for interesting and pleasant walking environments, as opposed to large blank walls.



Planning principle: *Mixed land uses* make it convenient to walk between land uses -- from home to work, from home to the store, from work to restaurants, etc.



Planning principle: *Convenient transit access* encourages a mode of travel that stimulates walking at either end of the trip.



Planning principles: *Compact parking structures* spread walking destinations less than large surface parking lots. *Shared parking* reduces the number of spaces needed, keeps buildings closer together and puts pedestrians on the street.



Planning principle: *Sidewalks adjacent to business and storefronts* make access more convenient than those with parking separating sidewalks from entrances. This is safer for pedestrians as well. Sidewalks next to businesses attract window shoppers and make for interesting and pleasant walking environments.



Bringing Buildings
closer to the Street

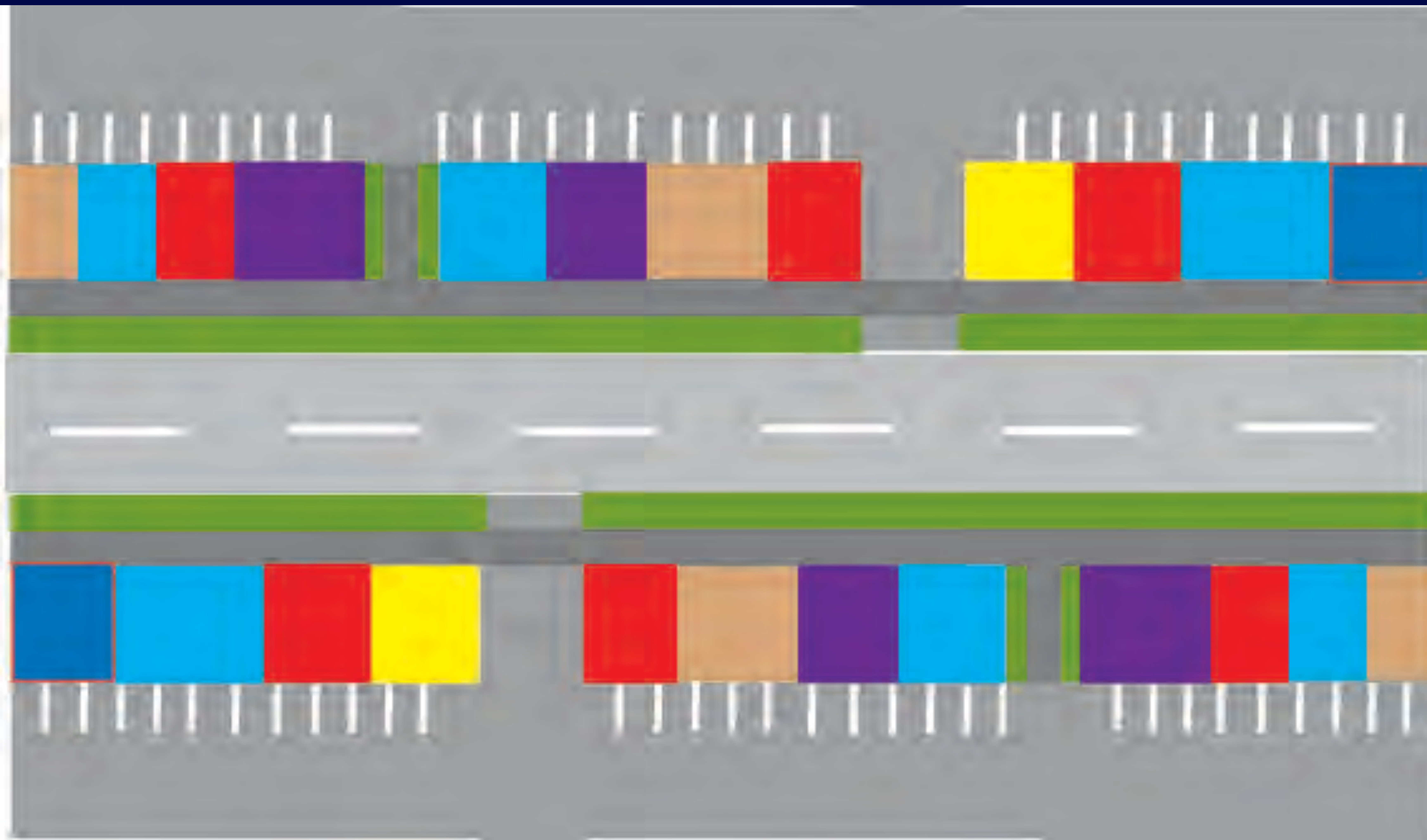
Creates a street
where drivers know to
expect pedestrians

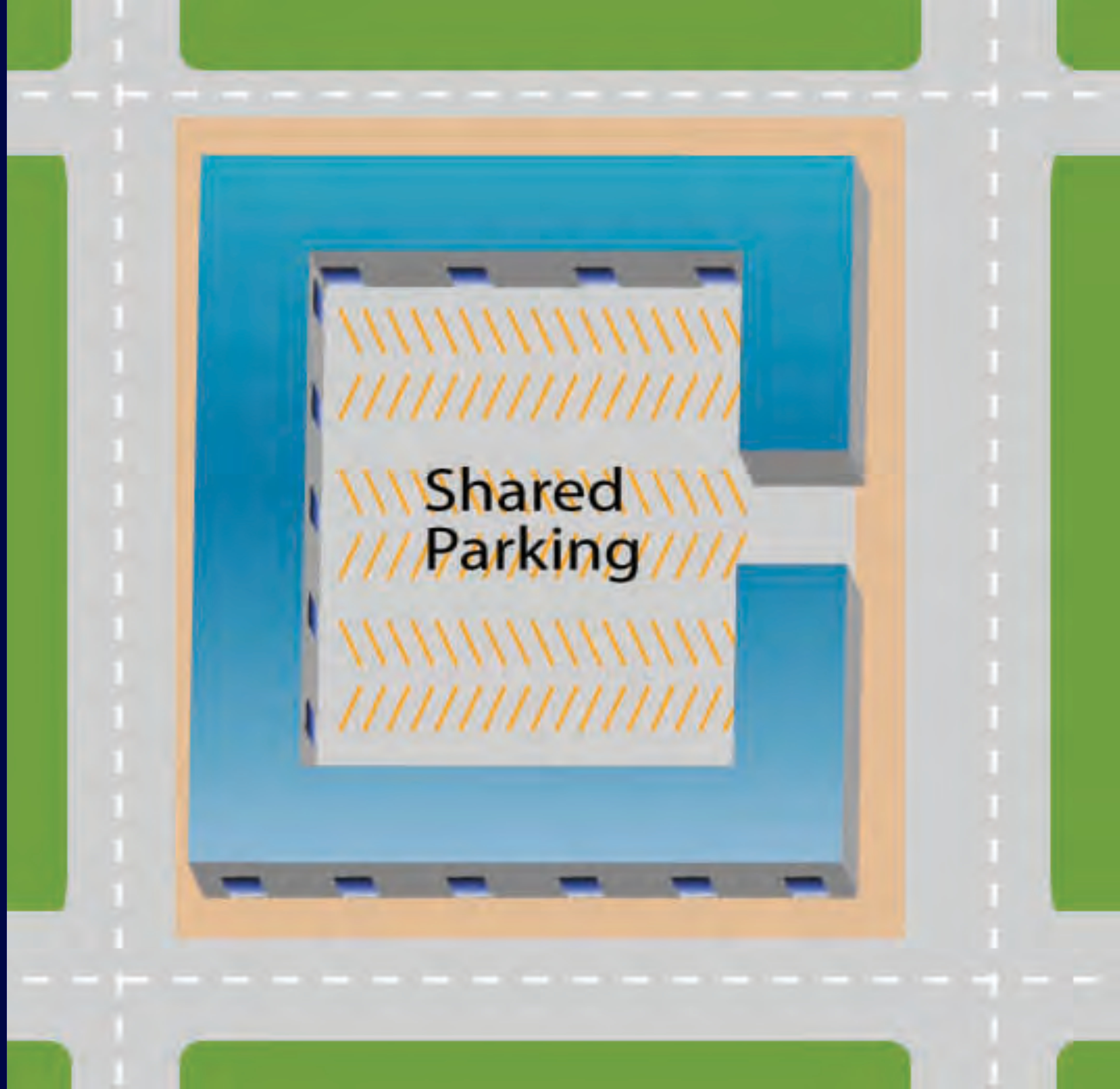


Not this



Better







Building at back of walk: pedestrian-oriented design

Planning principle: *Architecture* that blends well with its surroundings brings visual and functional interest and attracts pedestrians.



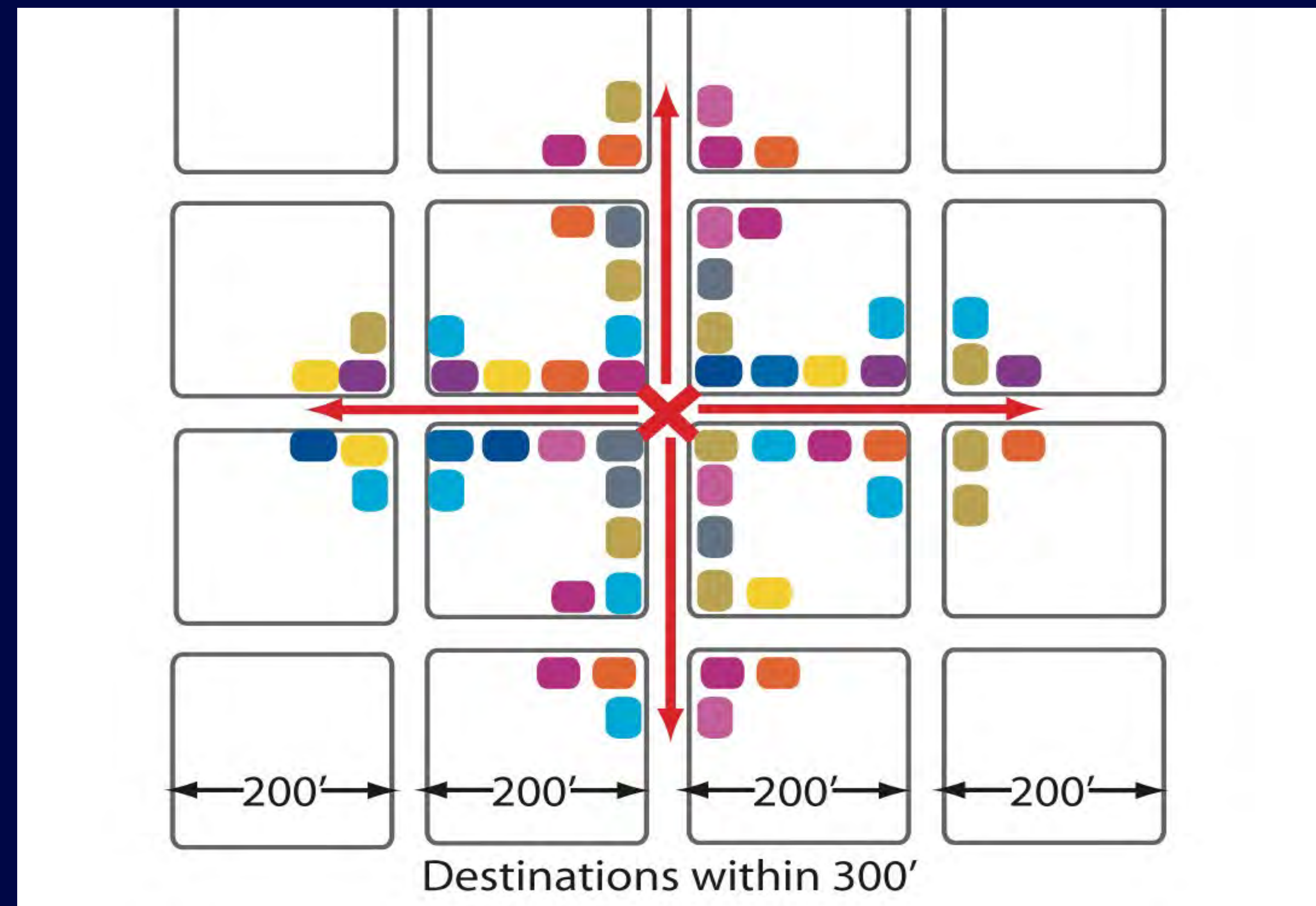
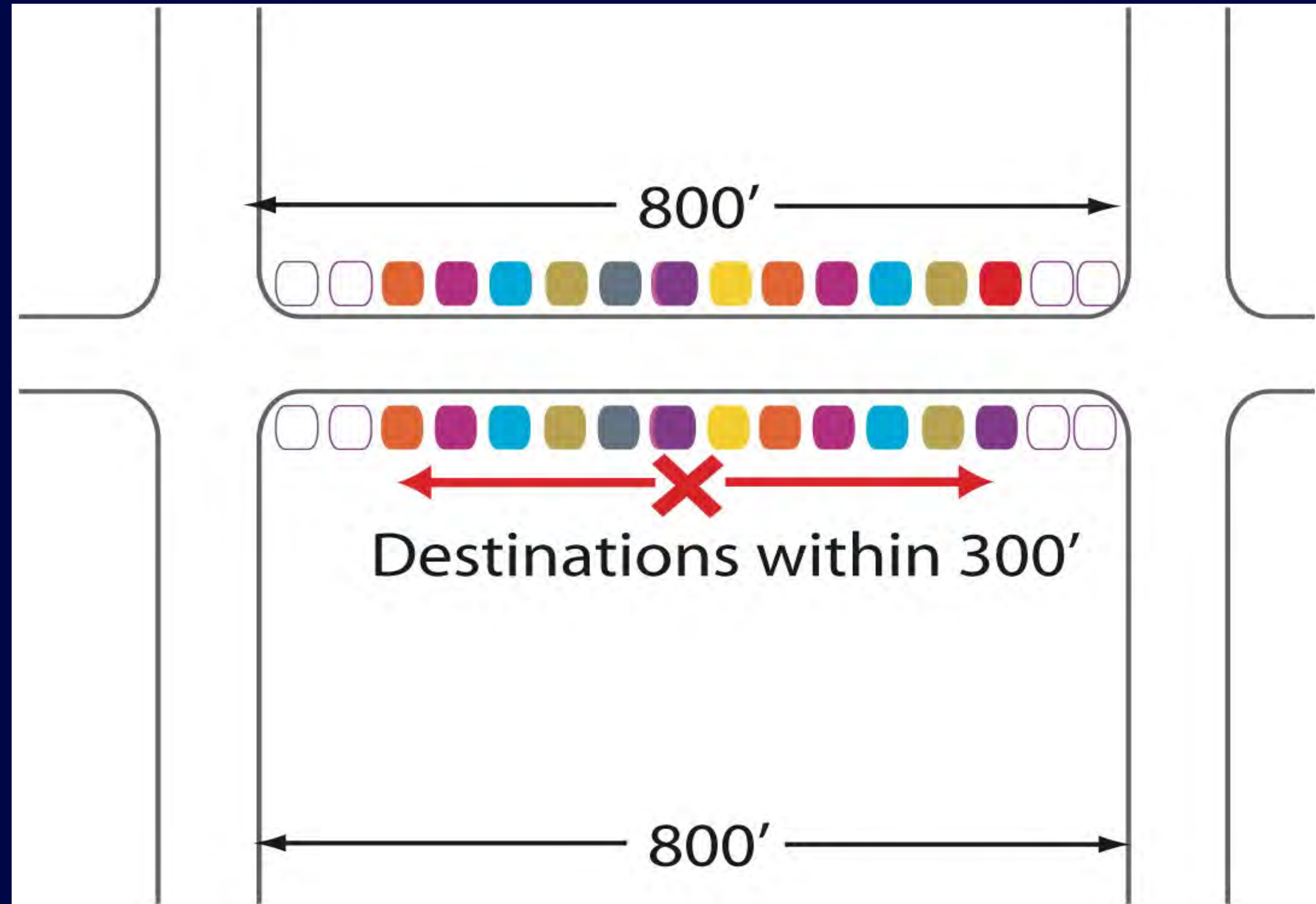
Planning Principle: Pedestrian-friendly street standards produce narrower streets that slow traffic and are easy to cross. They also make for more compact neighborhoods than wide streets.



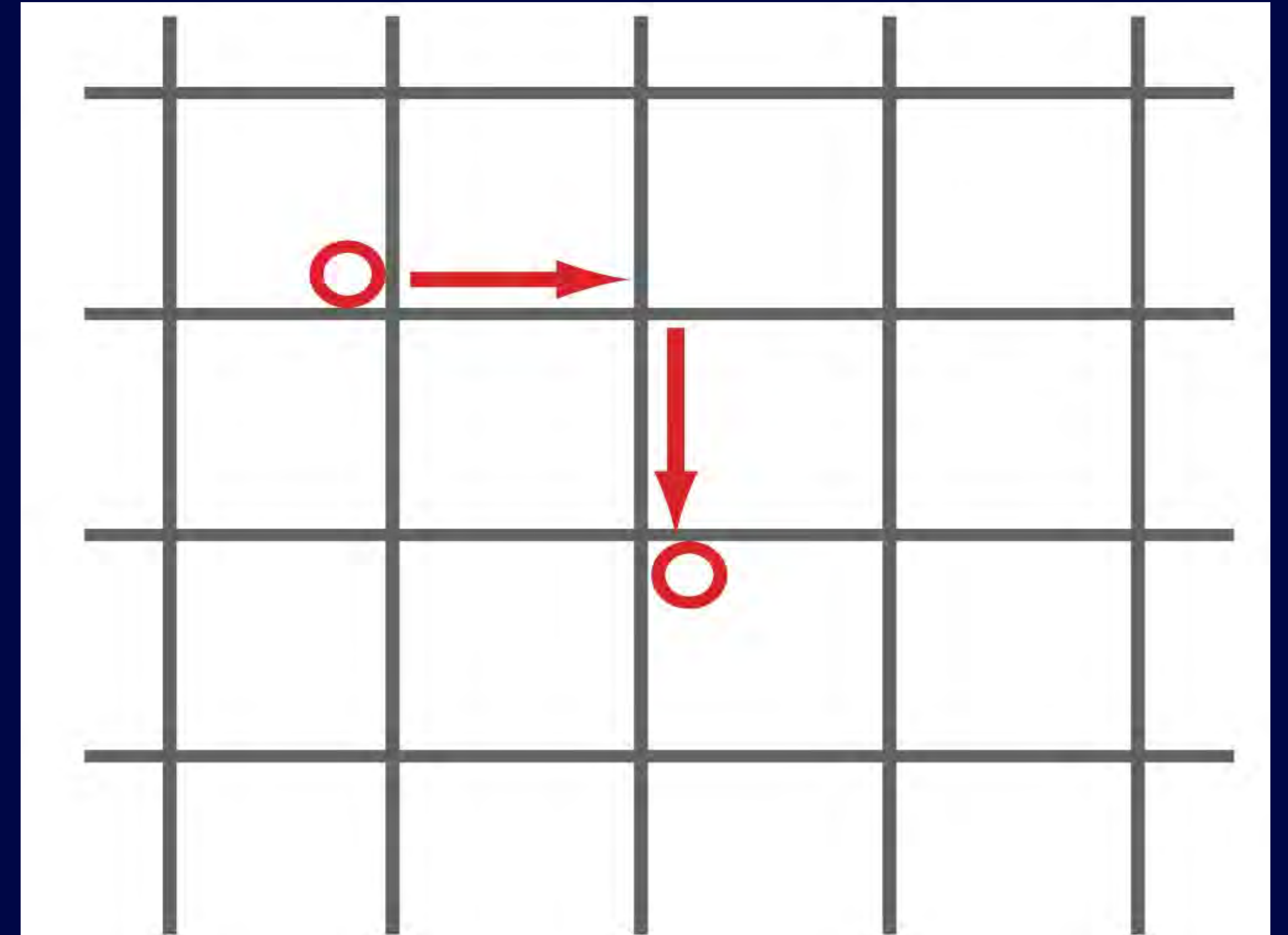
Planning principle: *Compact, grid development* locates a greater number of destinations within walking distance than linear development.



Planning Principle: Small blocks bring more destinations within walking distance than large blocks.

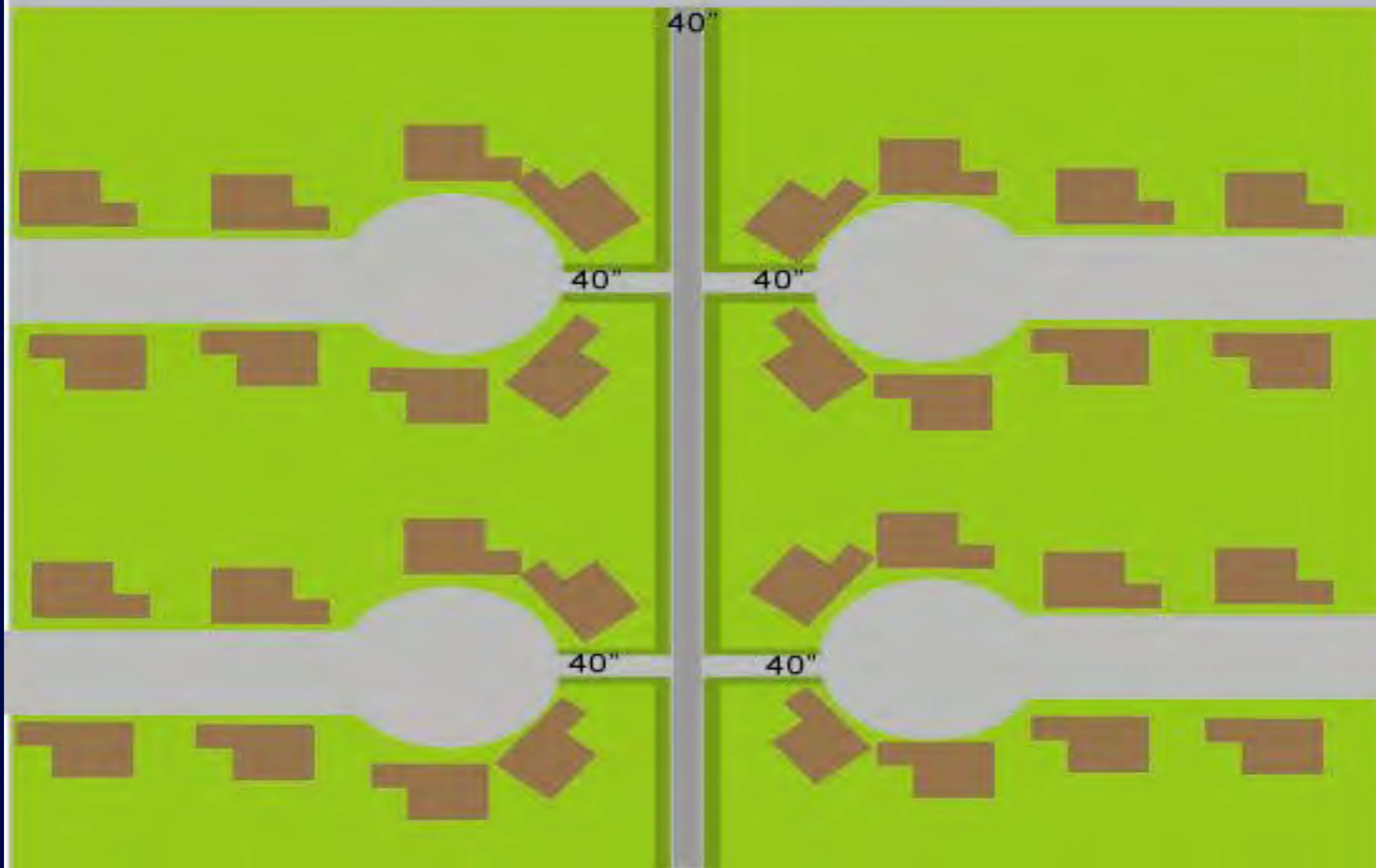


Planning Principle: *Culs-de-sac* separate streets and neighborhoods from one another and make walking either inconvenient or impossible. Where culs-de-sac are built, they should be linked to allow for pedestrians and bicycles to pass through.



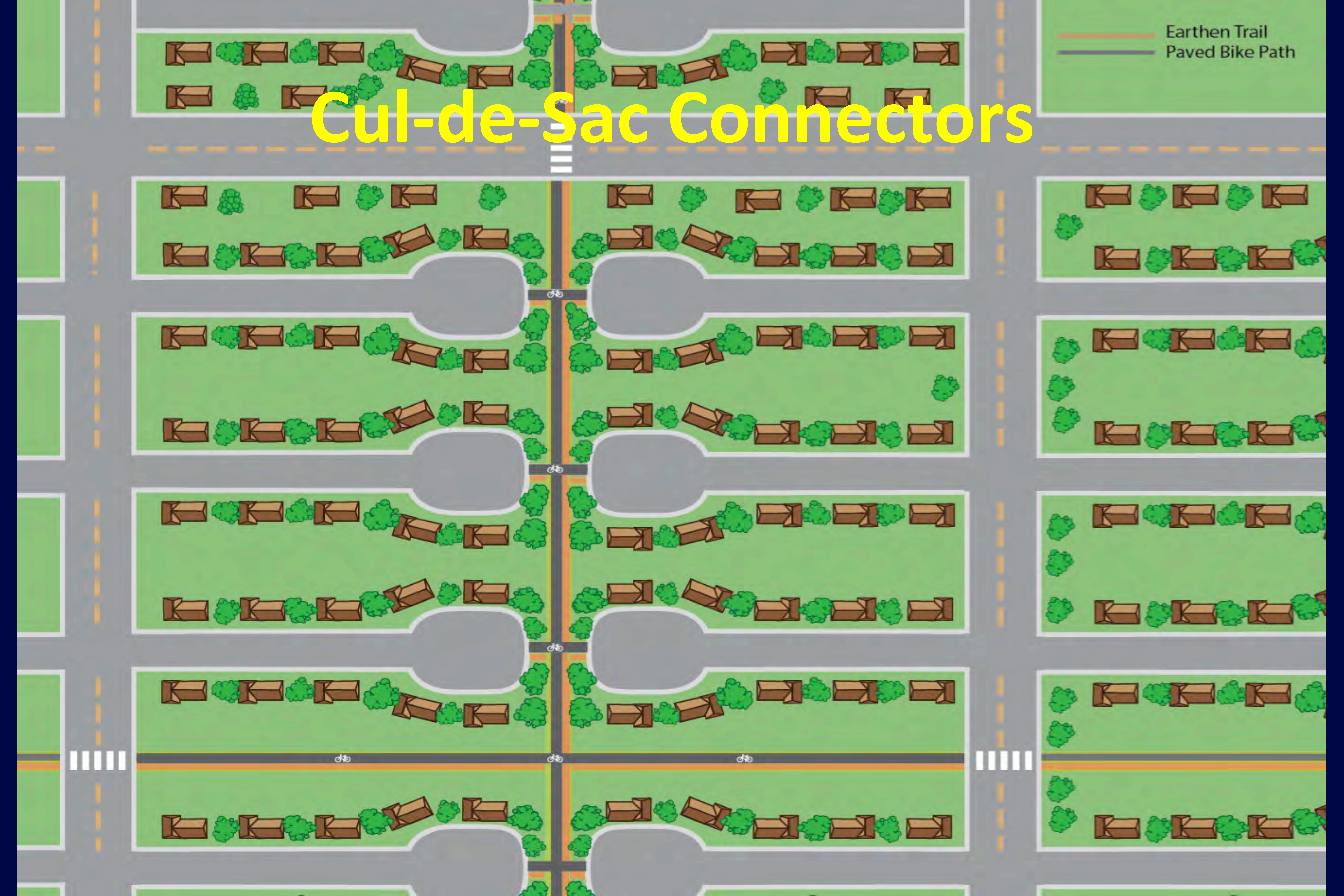
Planning Principle: Culs-de-sac separate streets and neighborhoods. Streets should connect, at least for pedestrians and bicycles.

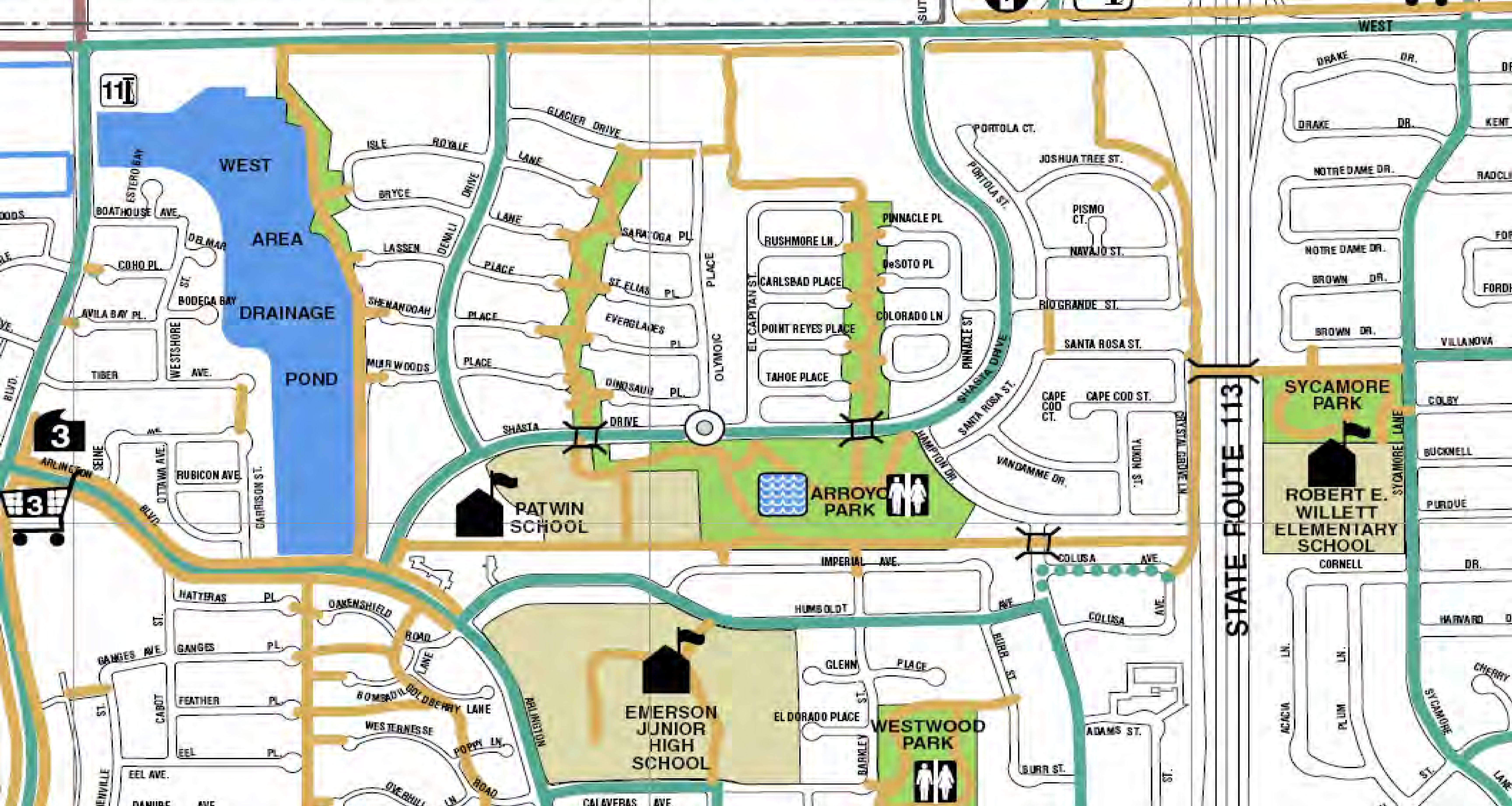




Cul-de-Sac Connectors

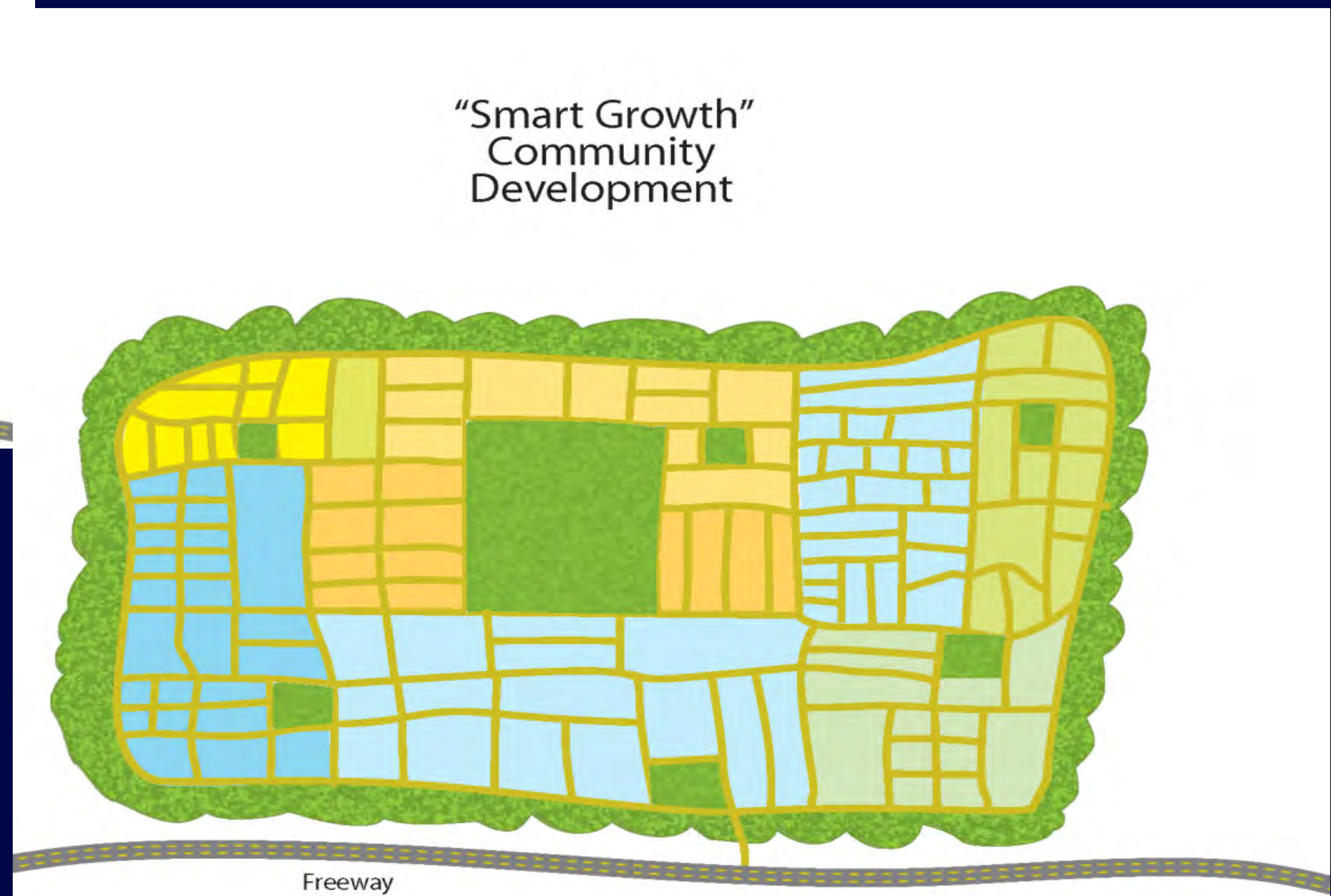
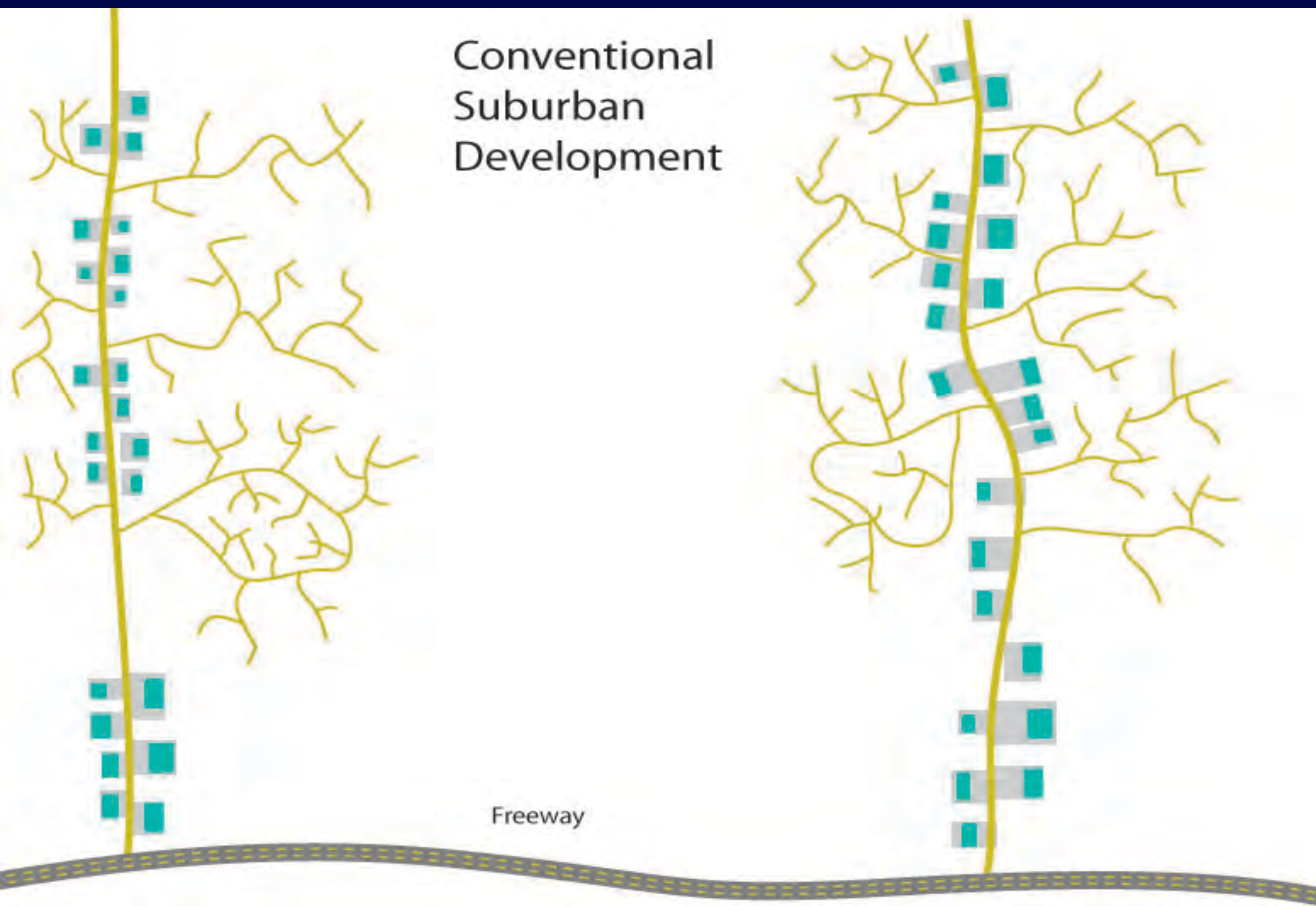
Earthen Trail
Paved Bike Path





Land Use & Connectivity: Schools next to parks.
Dedicate R.O.W. to link culs-de-sac with linear parks

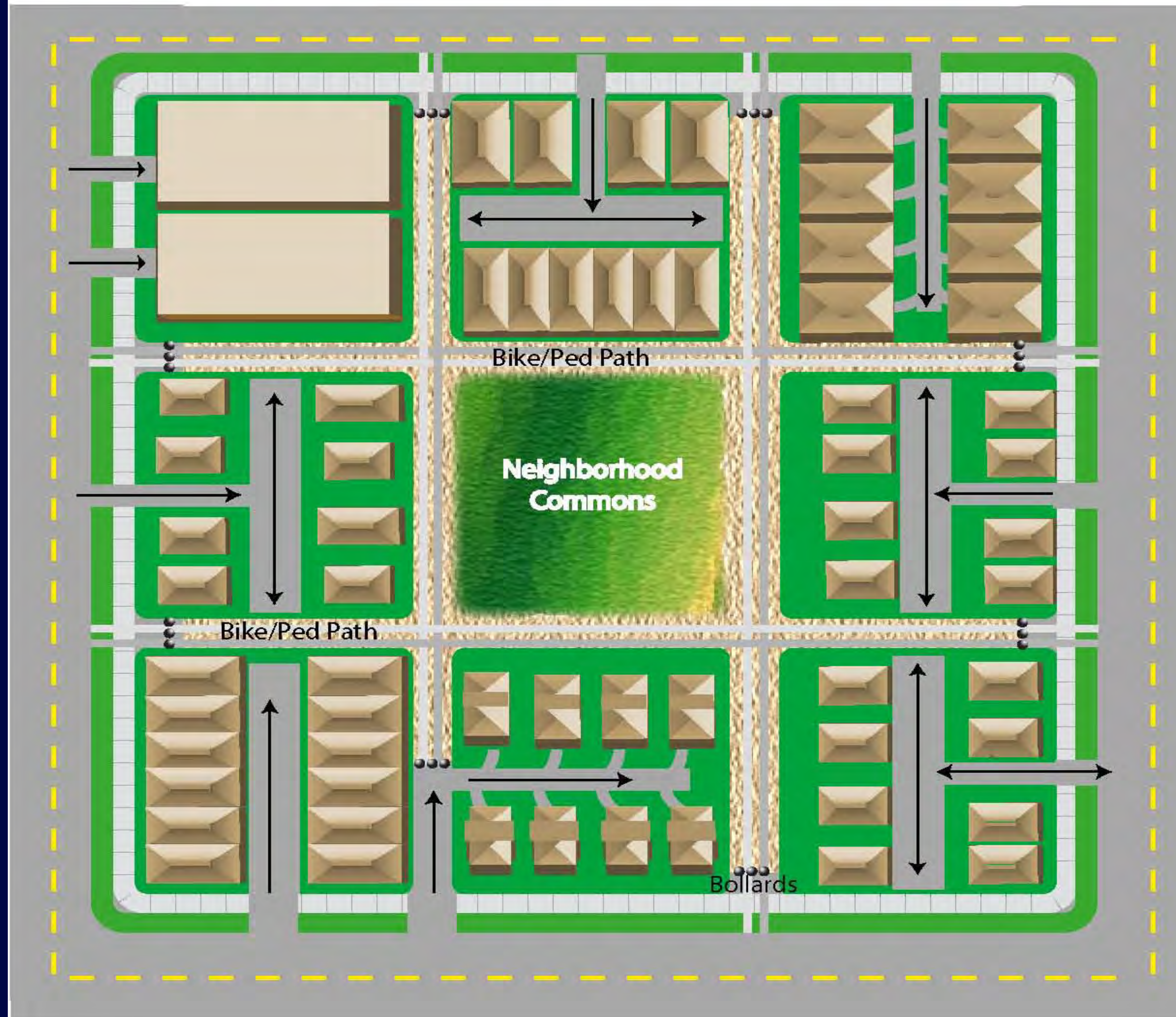
Planning Principle: Numerous access streets spread traffic and allow for more places for people to walk. Hierarchical streets networks require traveling long distances and reduce opportunities to enter and exit.

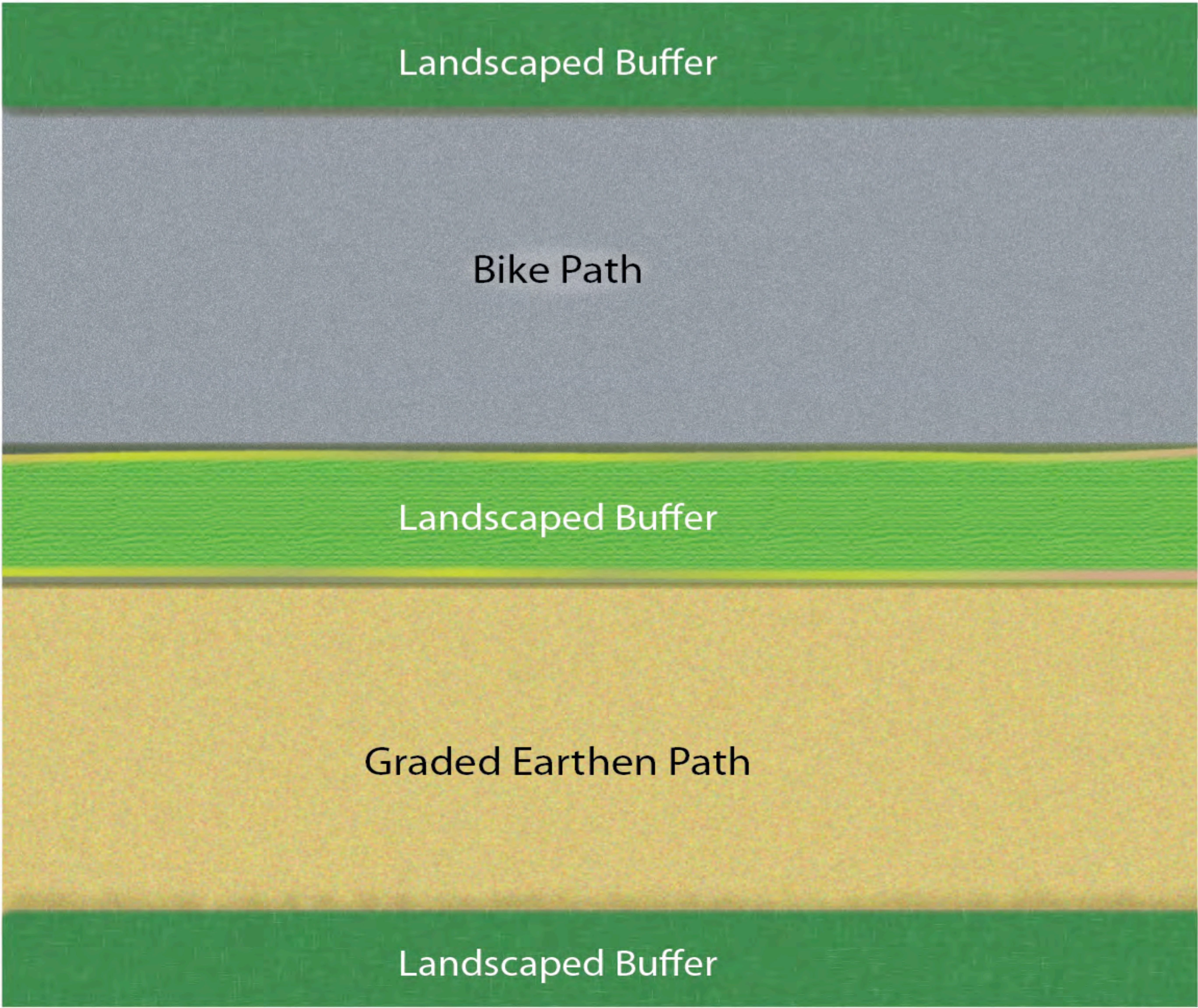


New Development and Construction

- Street network
- Road standards

Livable Neighborhood Concept





Landscaped Buffer

Bike Path

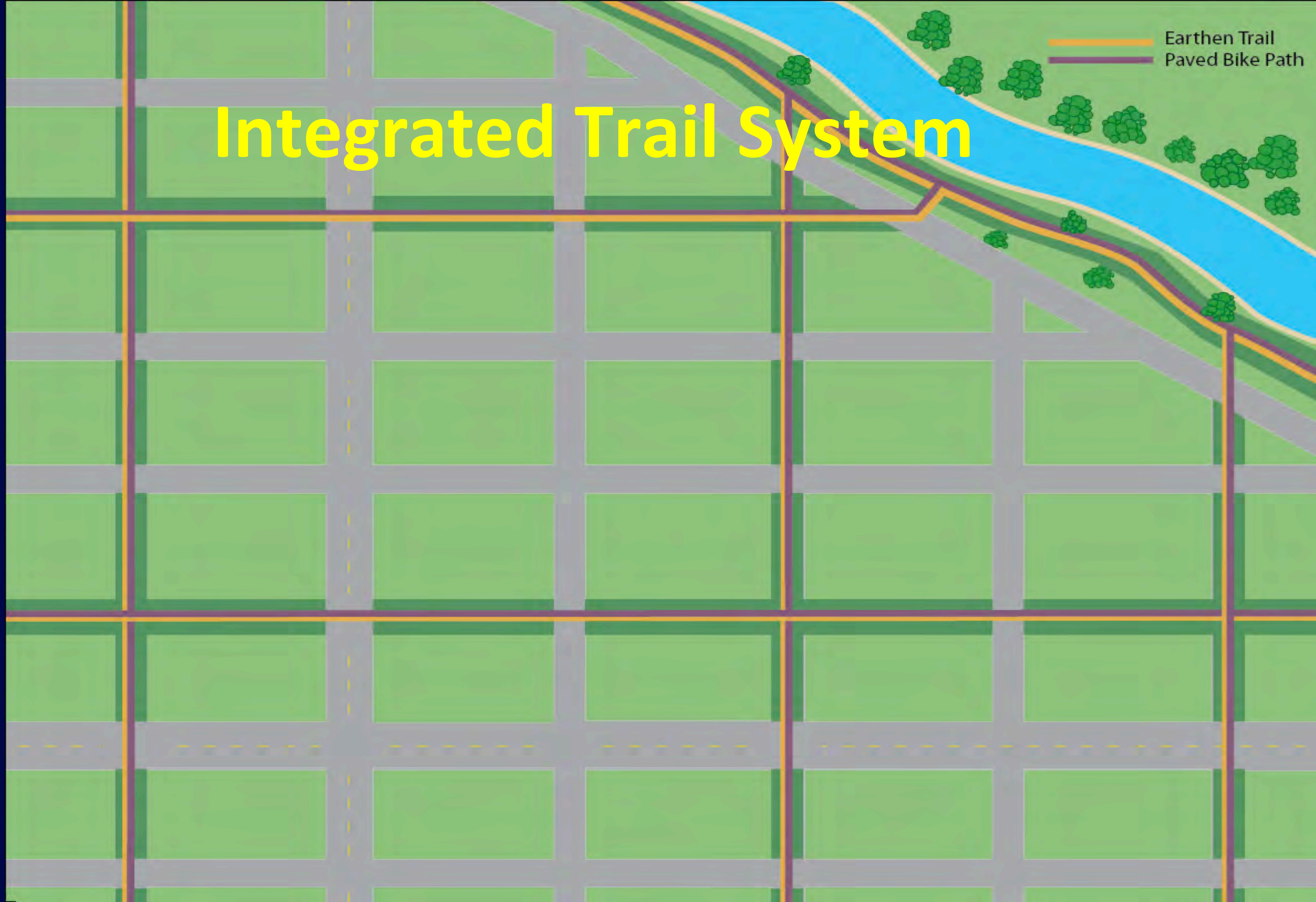
Landscaped Buffer

Graded Earthen Path

Landscaped Buffer

Integrated Trail System

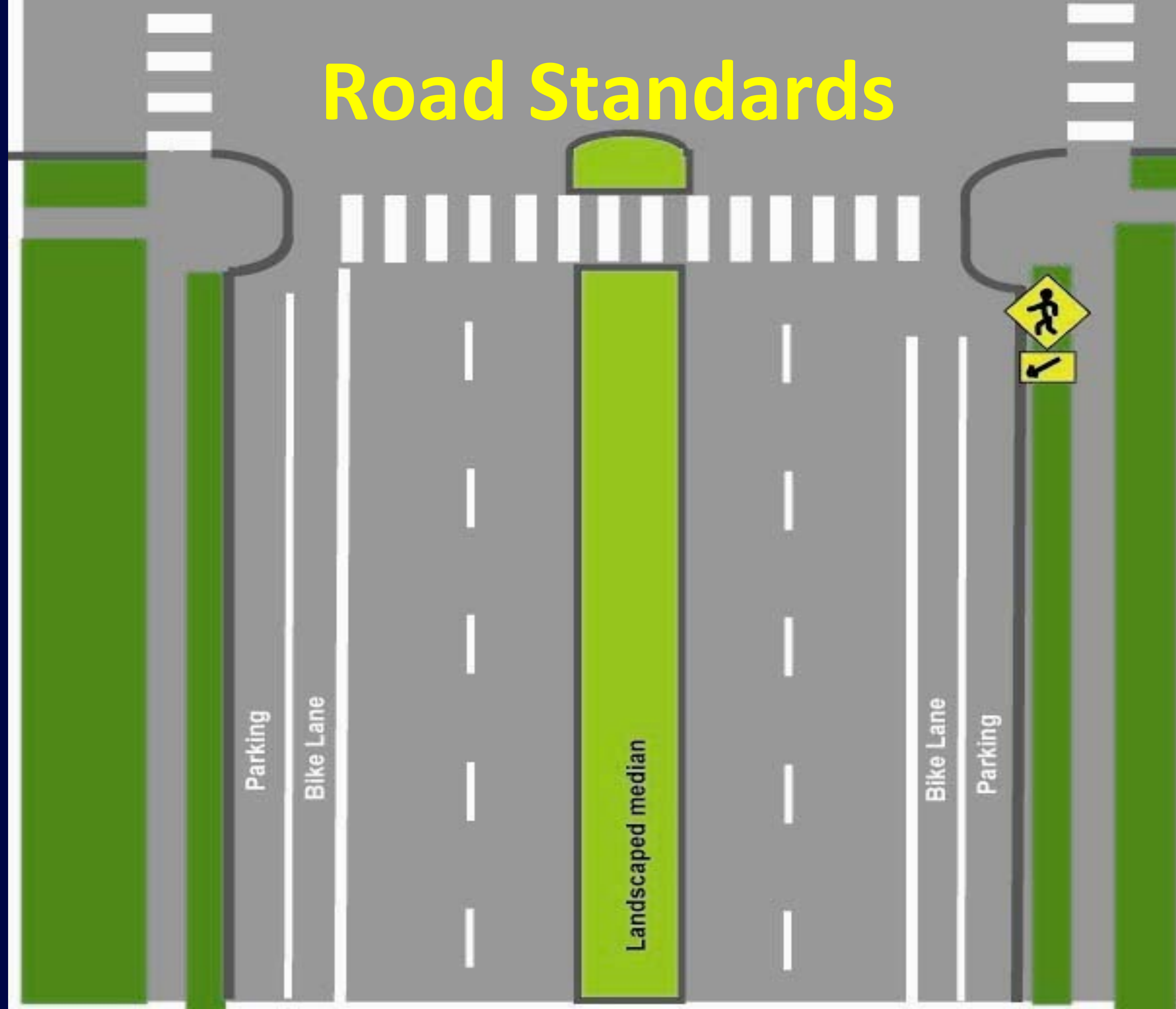
Earthen Trail
Paved Bike Path



Integrated Trail System



Road Standards



Conditioning New Development





























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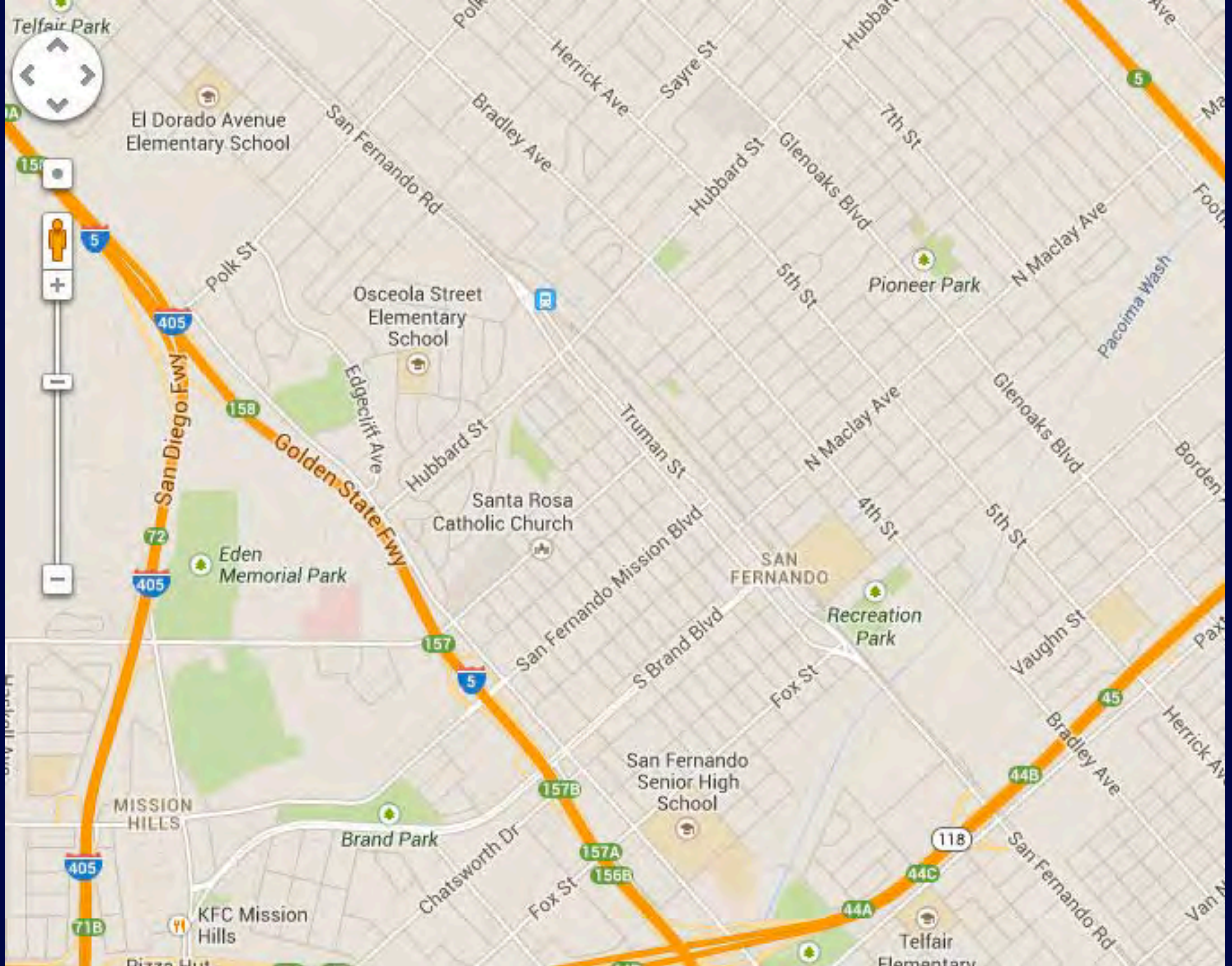
















































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Transform a Community

(Images by Urban Advantage)



















Transforming a street



Narrow lanes; add bike lanes, median, trees, texture



Bring in buildings that face the street



More buildings: Infill



The street now has life and is safer for pedestrians









