

Vision for Flexible Adaptable Tama:

Small multi-generational, mixed use, university town with connection to Tokyo, responsible for providing the majority of consumed energy and processing the majority of its waste, with desirable living spaces, and built in flexibility to adapt as time.

Original vision for Tama

1960s housing, with proximity to Tokyo

Minor supportive retail / industry

Many mid sized parks

New vision for Tama

Updated housing, with proximity to Tokyo

University as major industry, retail boulevard

Coordinated pathway throughout site



Principles:

- 1. CARBON ZERO:**
All buildings use only non-carbon producing energy sources
- 2. FLEXIBLE BUILDINGS:**
Services and other buildings should follow a basic layout that can be reclaimed and used for housing or vice versa.
- 3. CONCENTRATED SERVICES:**
Retail should be concentrated along connector lines, boulevards rather than squares
- 4. MICROMEASURES IMPLEMENTED SITEWIDE:**
Micromeasures should be implemented across the site for energy production and waste remediation
- 5. EDUCATION AND TRANSPARENCY:**
Education and transparency of operations should be a top priority in all developed sites
- 6. COORDINATED REDEVELOPMENT:**
Coordinated redevelopment through land readjustment programs to maintain that all areas are fulfilling their best use.
- 7. WASTE REDUCTION AND ONSITE PROCESSING:**
Waste processing should be more local every year

CHALLENGES FOR TAMA NEW TOWN

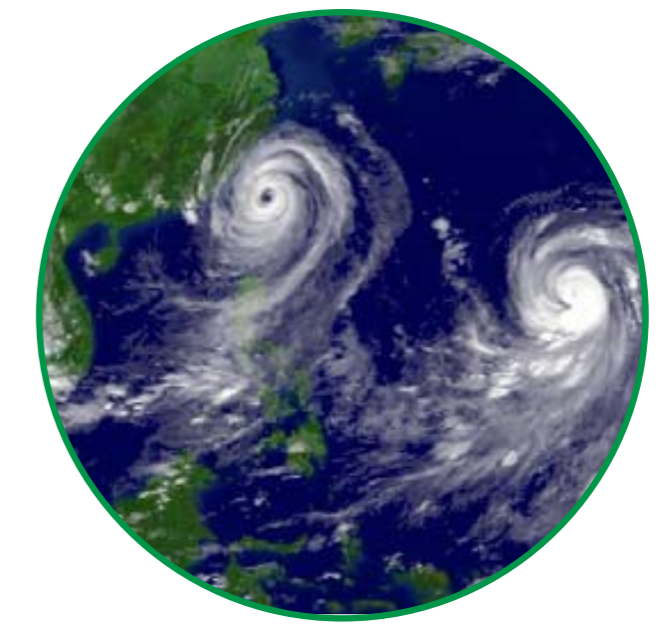
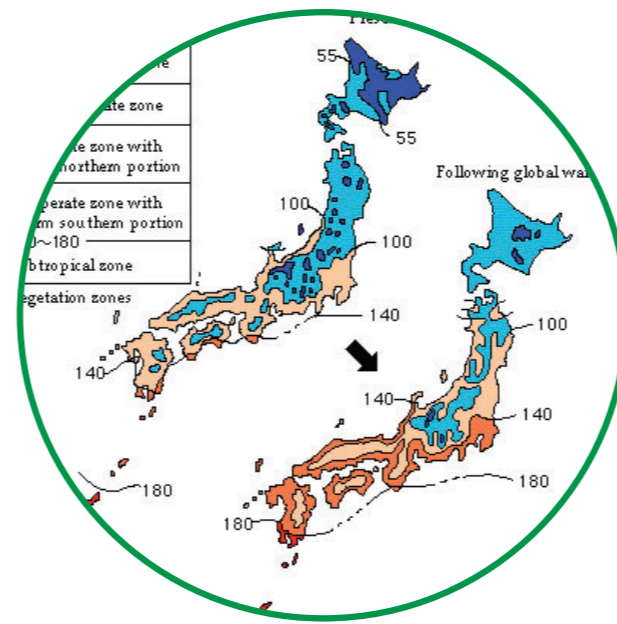
Economic Challenges for Tama

- Town debt
- Poor quality buildings
- Decreased retail / commercial sector
- Unbalanced income class of residents
- Increased cost of energy
- Global competition for manufacturing and industry



Environmental Challenges for Tama

- Increased extreme climate conditions
- Dependence on coal and natural gas, polluting energy sources
- Animal habitat and species disruption due to global warming / habitat loss
- Energy wasted by inefficient buildings
- Energy wasted by heavy input of goods and services



Social Challenges for Tama

- Unbalanced age of residents
- Oppressive buildings and unmaintained streetscape
- High vacancy rate of buildings
- Difficult mobility in areas, due to hilly terrain
- Underutilized spaces
- Reduced interaction among residents



PRECEDENTS FOR FLEXIBLE ADAPTABLE TAMA

Physical Design Precedents

Philadelphia street blocks

Small, personal lots, with pedestrian accessible alleyways



Boston Emerald Necklace

Pathways and parkways connecting to each other, winding through an urban metropolis



Harvard Yard

University campus, with greenspace, in a dense, mixed use community



Programmatic Precedents

Dardesheim environmental subsidies

German town generating all its electricity from renewable sources, strong government subsidies for individual power generation



Fusion Nagaike

Nonprofit group in Tama, organizing community activities, including environmental education, residential block revitalization and community festivals.

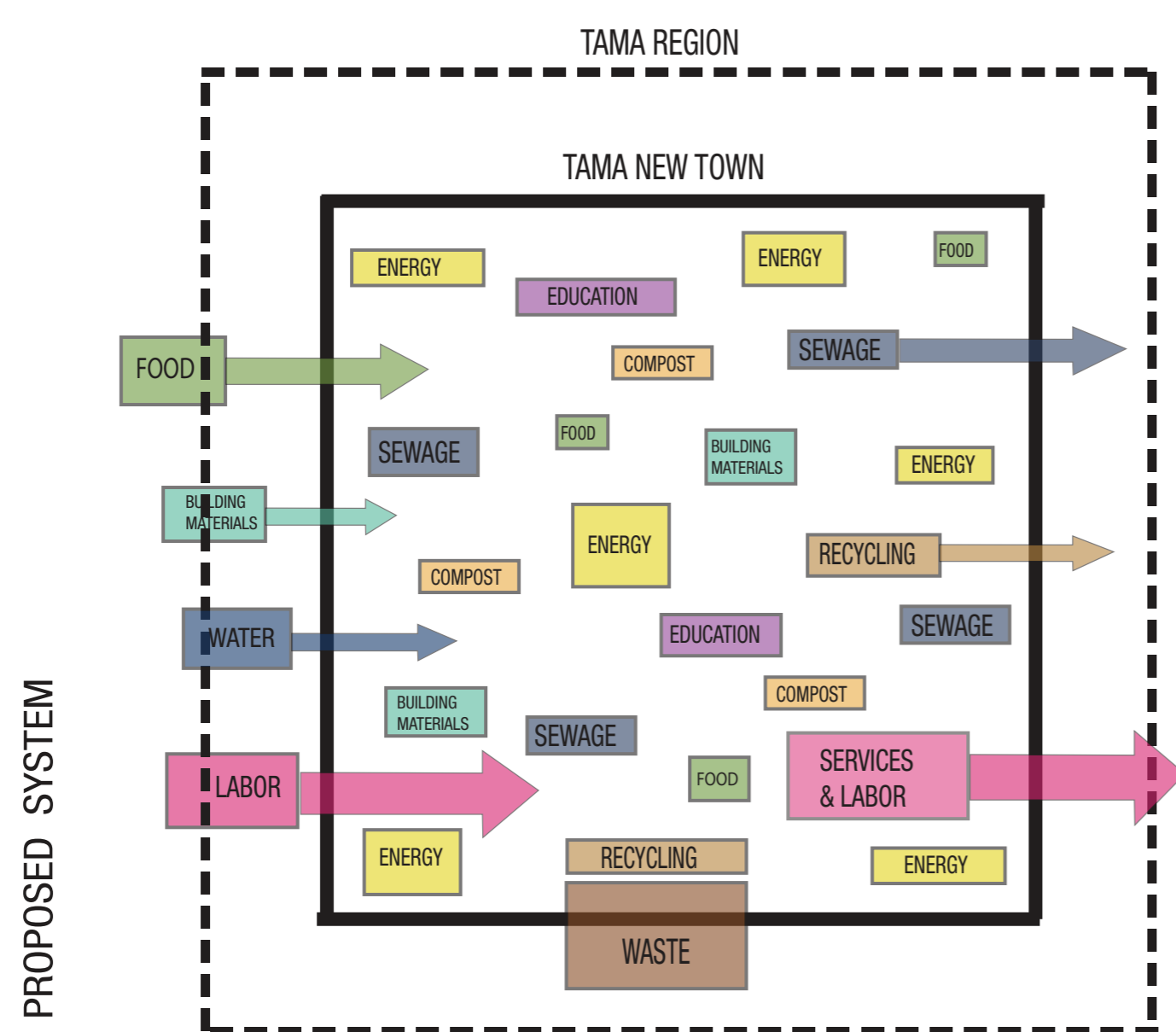
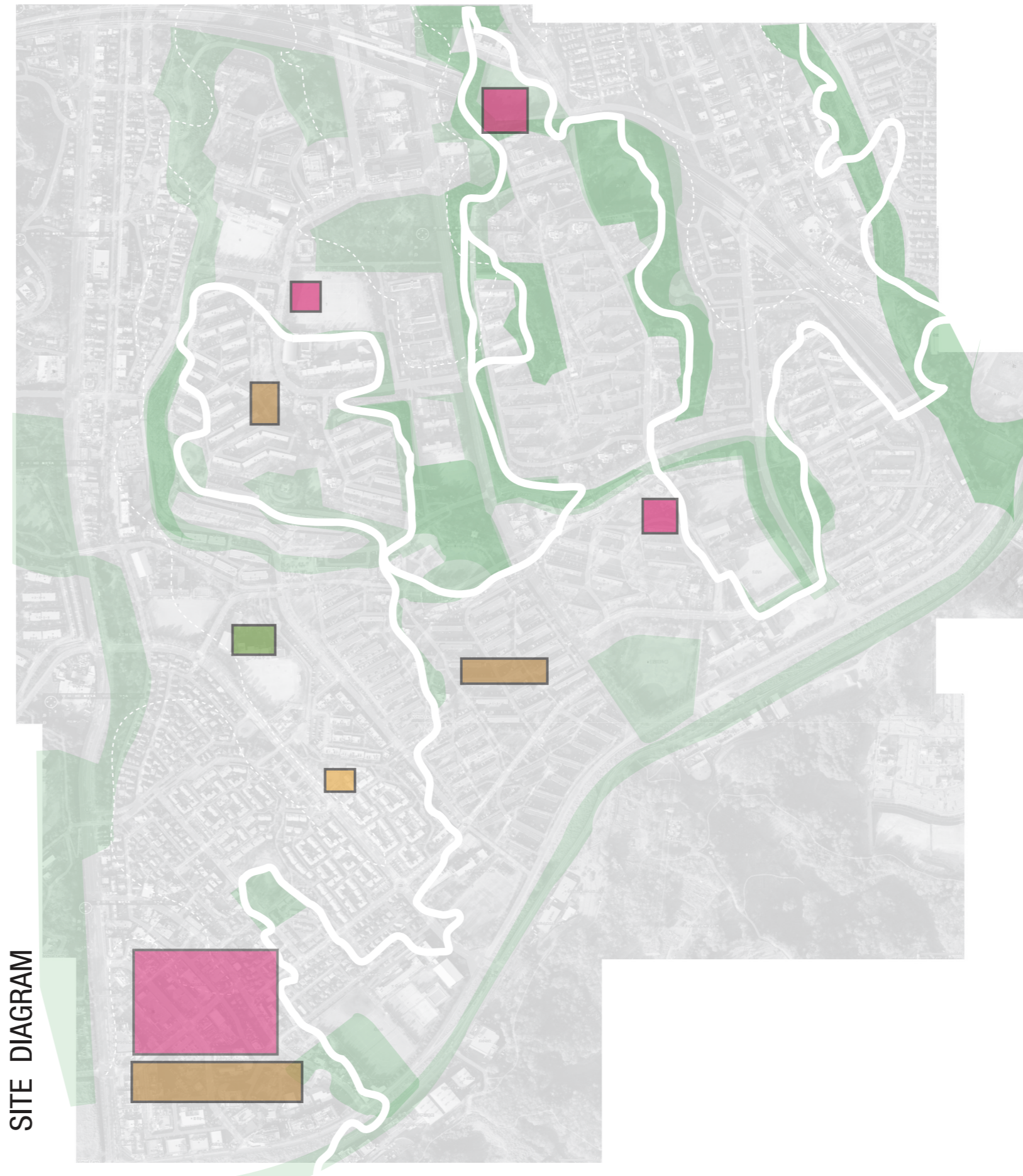
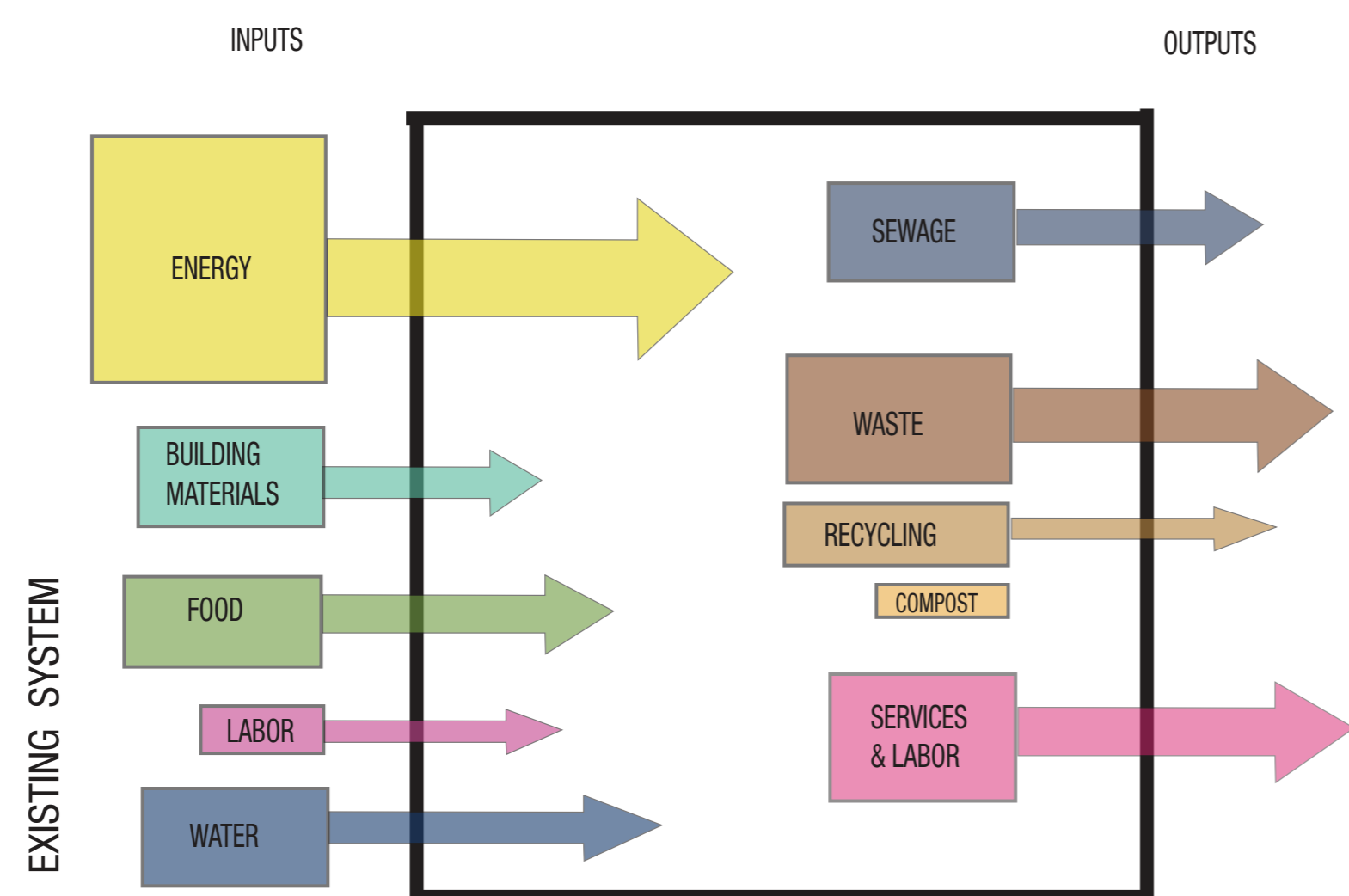
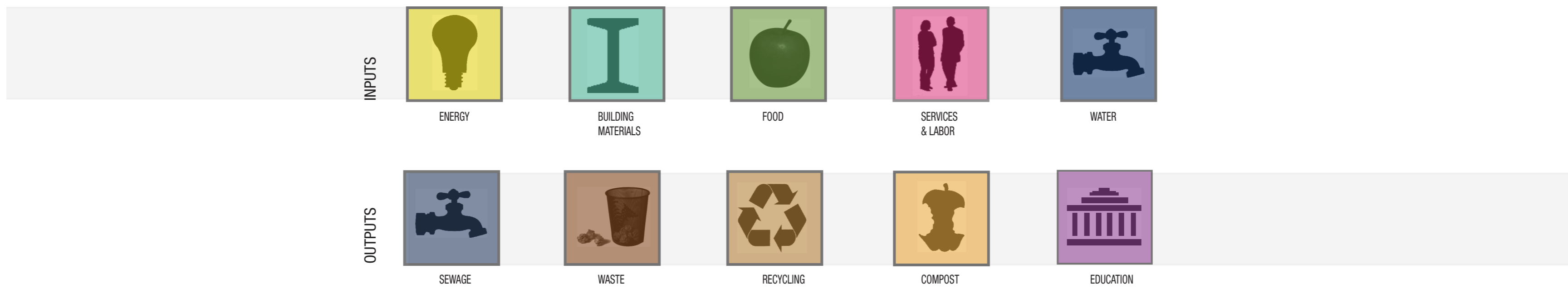


Tskuba Science City

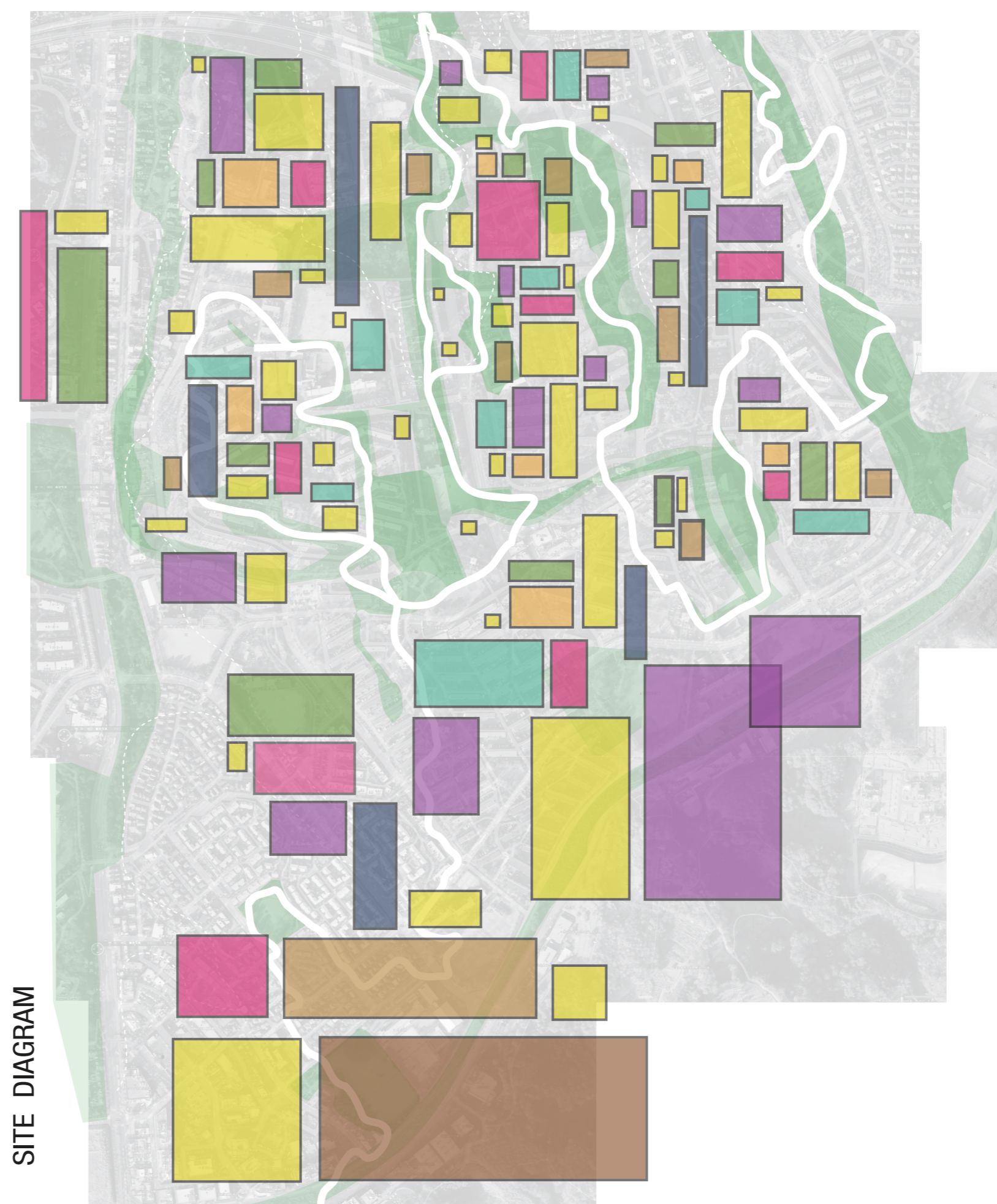
Planned town, centered around a university, with focus on business related to academic and science related industries



RESOURCE INPUT- AND OUTPUT-MODELS

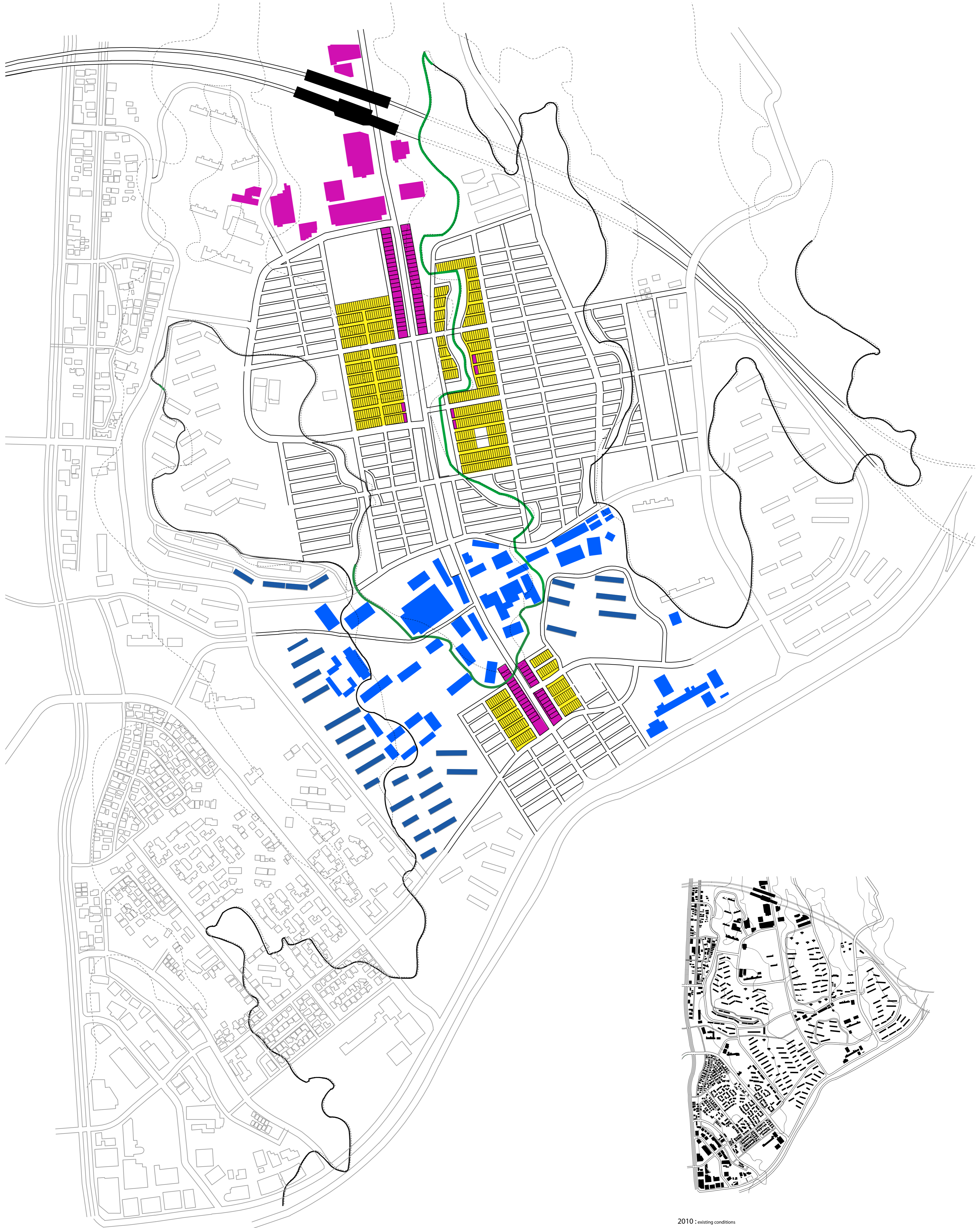


- ENERGY PRODUCED ON-SITE LOCALLY AT BUILDING AND COMMUNITY SCALE
- BIO-SWAILS IN EXISTING VALLEYS TO CAPTURE AND FILTER SEWAGE
- SUPPLEMENTAL FOOD PRODUCTION AND COMMUNITY GARDENS WITHIN TAMA
- PROVIDE EDUCATION AND RESOURCES FOR COMMUNITY PARTICIPATION
- RECYCLING CENTER LOCATED AT THE BOTTOM OF SITE
- WASTE MANAGEMENT SYSTEM TO SERVE THE GREATER TAMA REGION
- LOCAL COMPOSTING FACILITIES WITHIN COMMUNITIES
- NEW BUILDINGS TO BE BUILT IN PART OUT OF RECYCLED OLD TAMA BUILDINGS
- JOBS CREATED BY INDUSTRIAL PRODUCTION AND NEW UNIVERSITY



Tama Flexible Adaptable Town

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Mary Hale, Alice Rosenberg

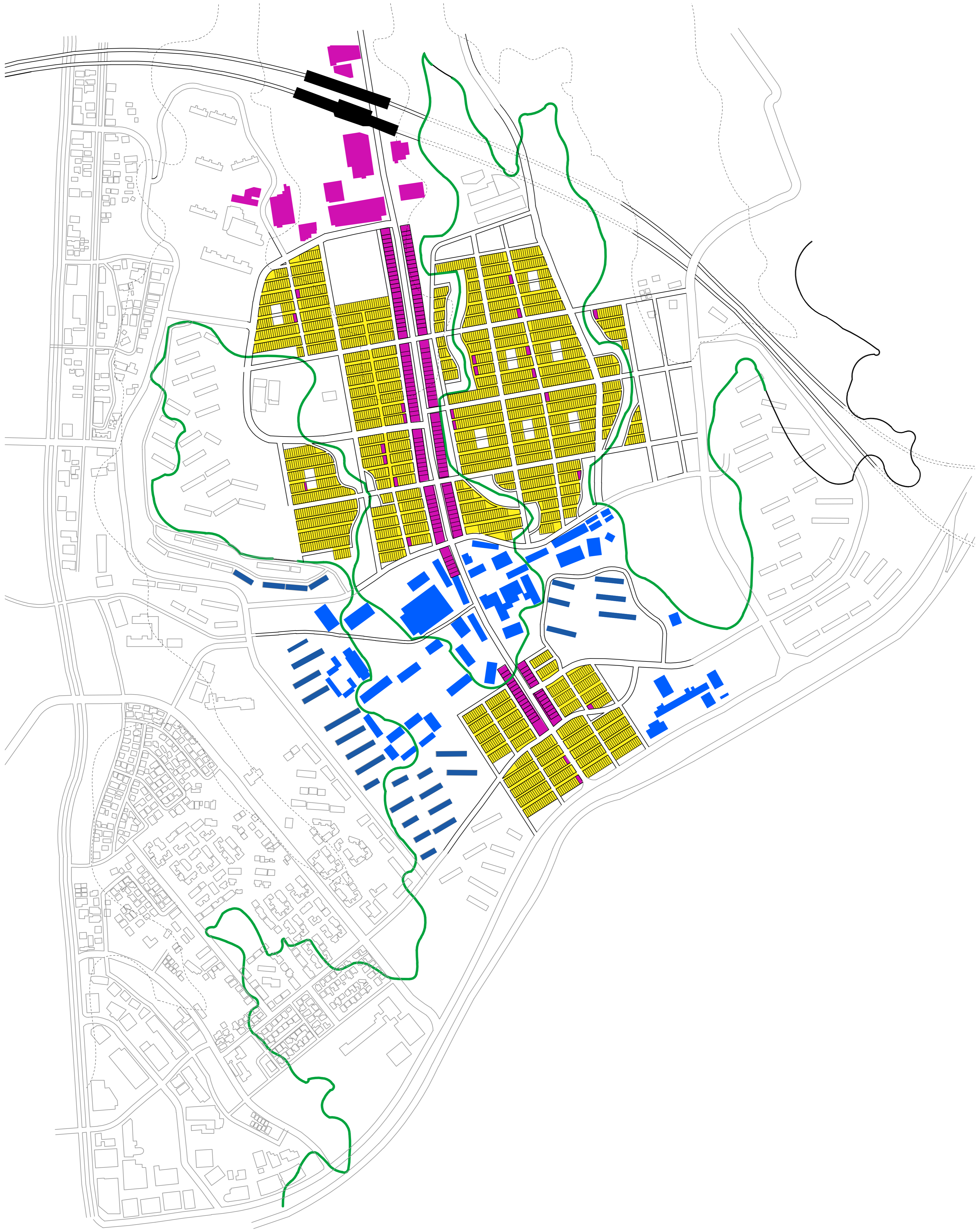


2020 : land reclamation, university, new blocks, meandering corridor, high density low rise housing, retail spine



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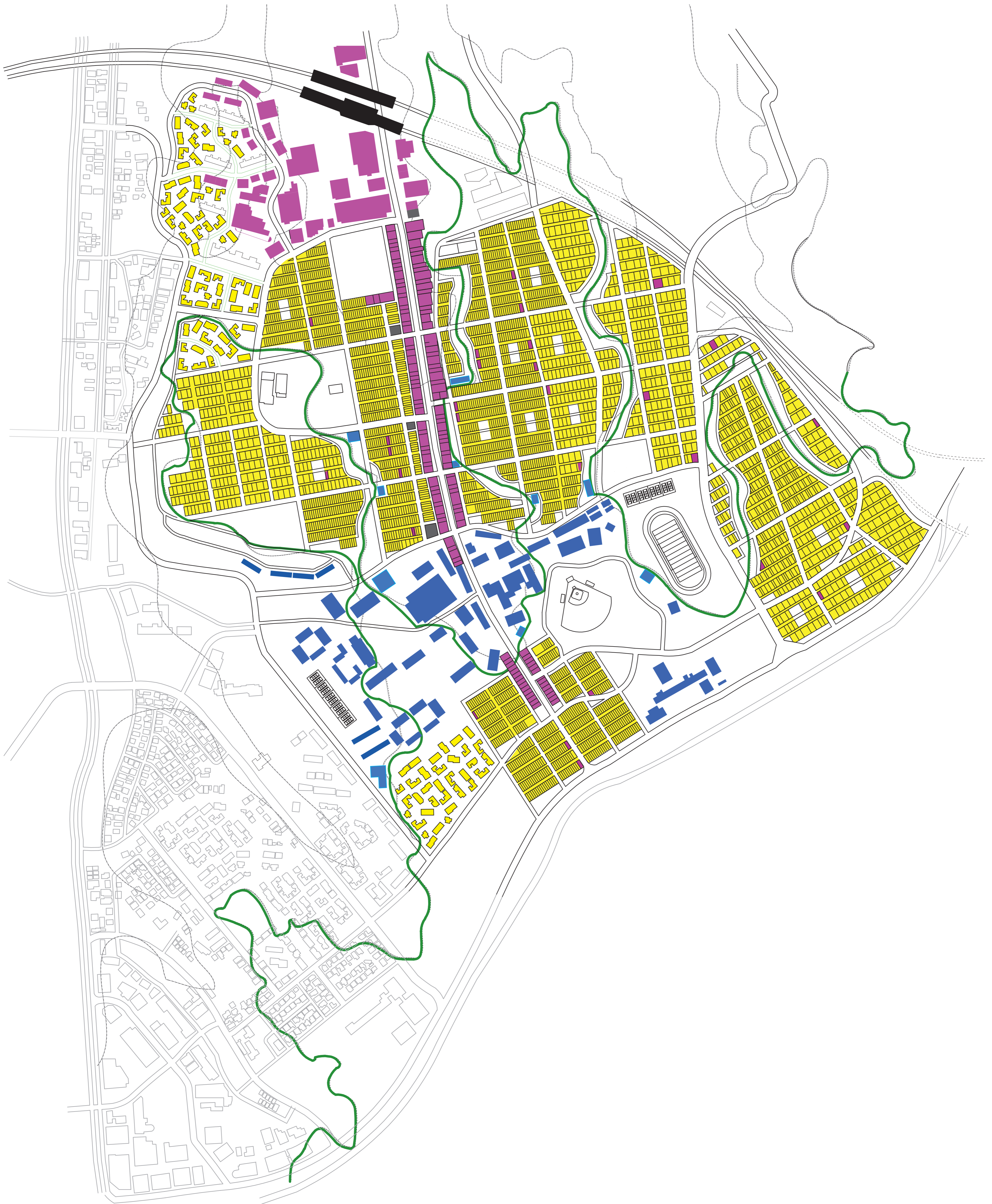


2050 : low rise, high density housing



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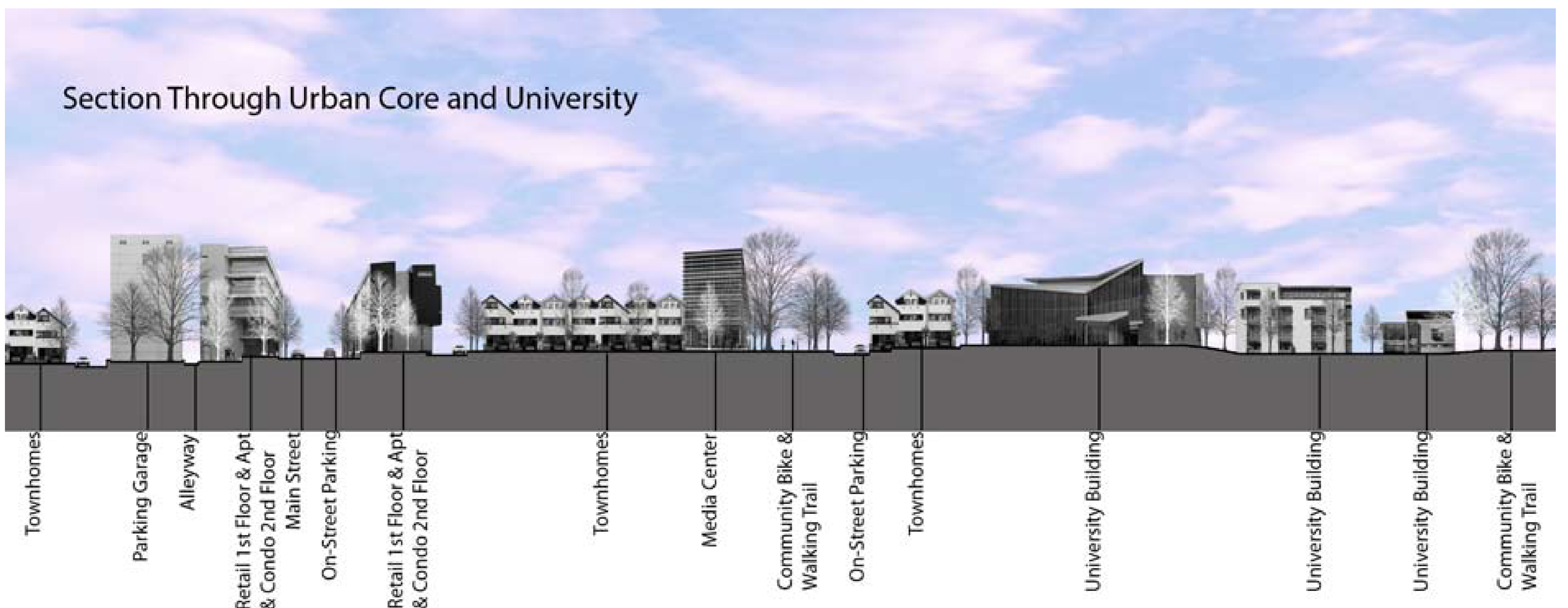
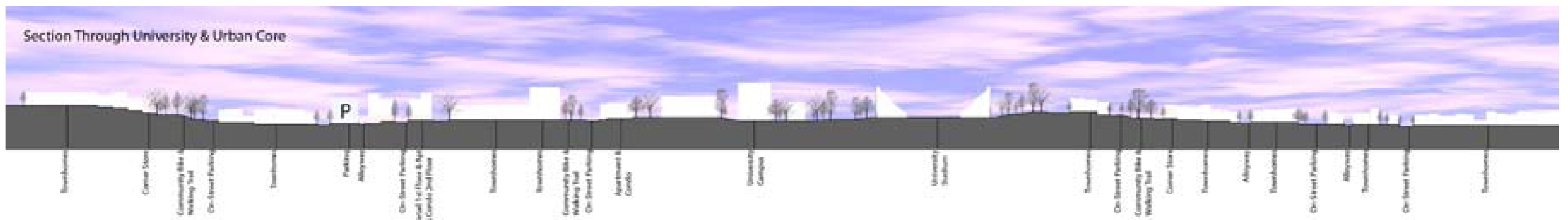
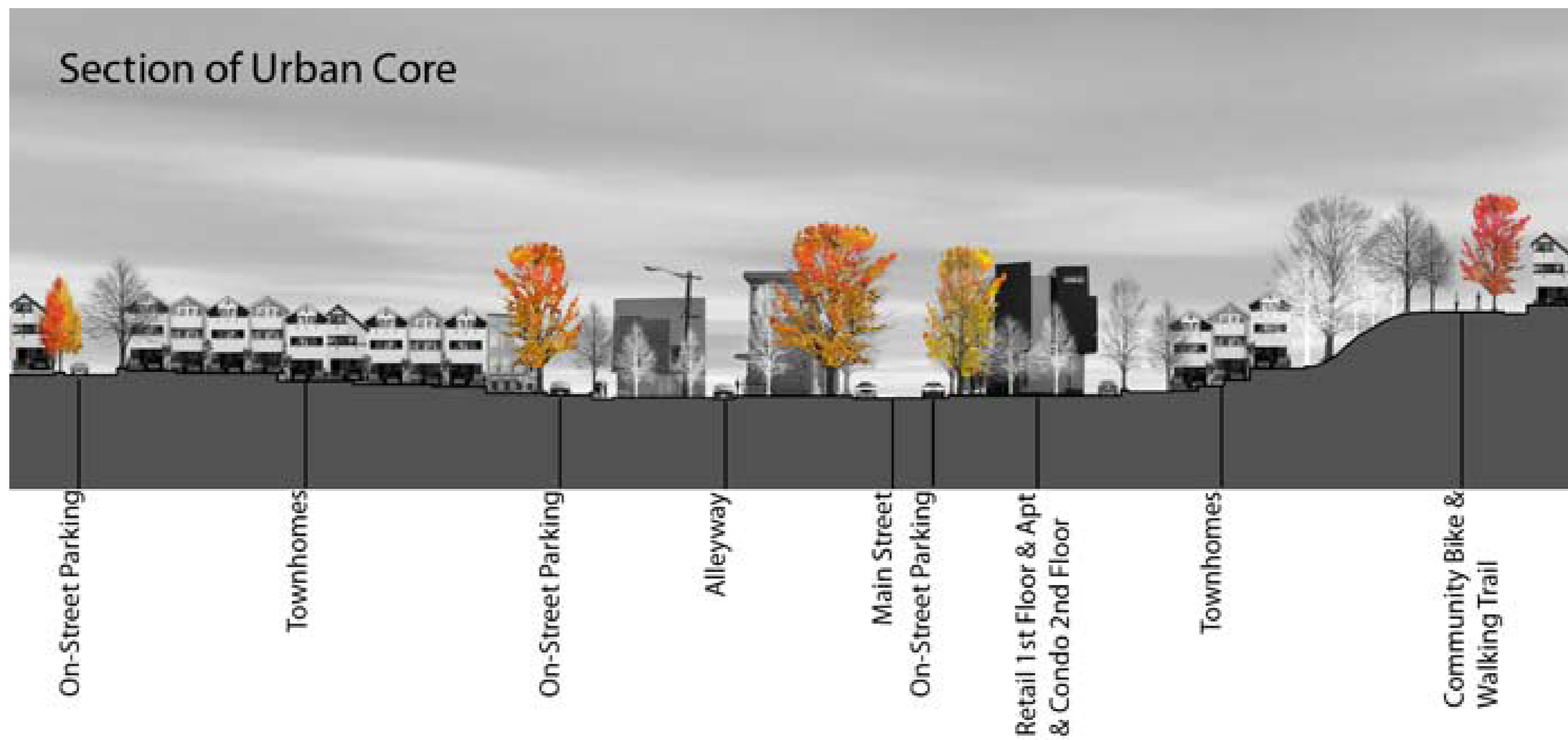
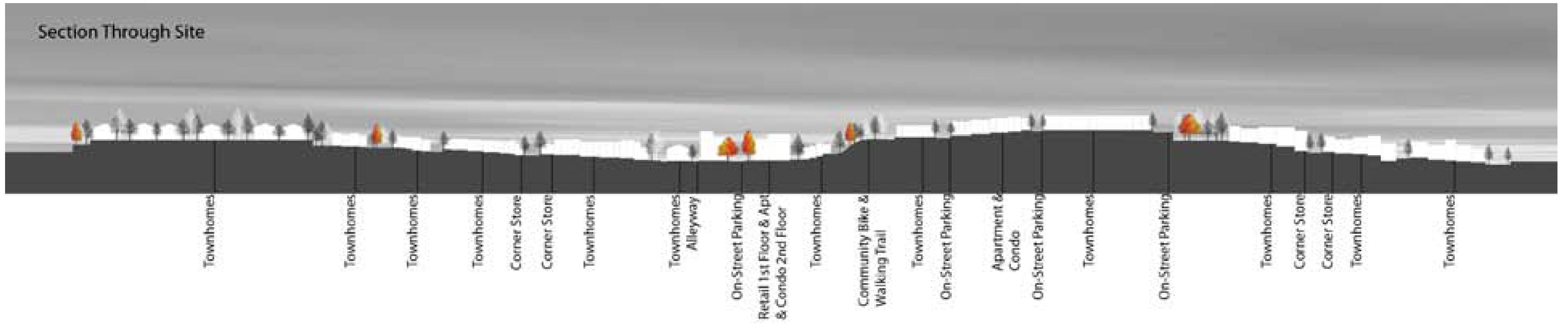
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SAMPLE SECTIONS



WHAT DOES THIS LOOK LIKE?



The new University will provide an identity to the community. The campus is an anchor at the end of the dense urban core. Dispersed facilities throughout Nagayama mix the university with the community. Old walk-up apartment buildings can be converted to student housing.

The university could have a specific focus on ecological and environmental areas of study, due to its unique siting outside of the city of Tokyo.



University campuses will change over the next 50 years as the internet and web-based learning become more common. However, there will still be needs for physical gathering spaces some of the time by the university. To ensure these facilities are well-used, they are dispersed in Nagayama, for use by residents and visitors as well as university students.

These "media centers" can become community-builders, similar to a community center or library today.



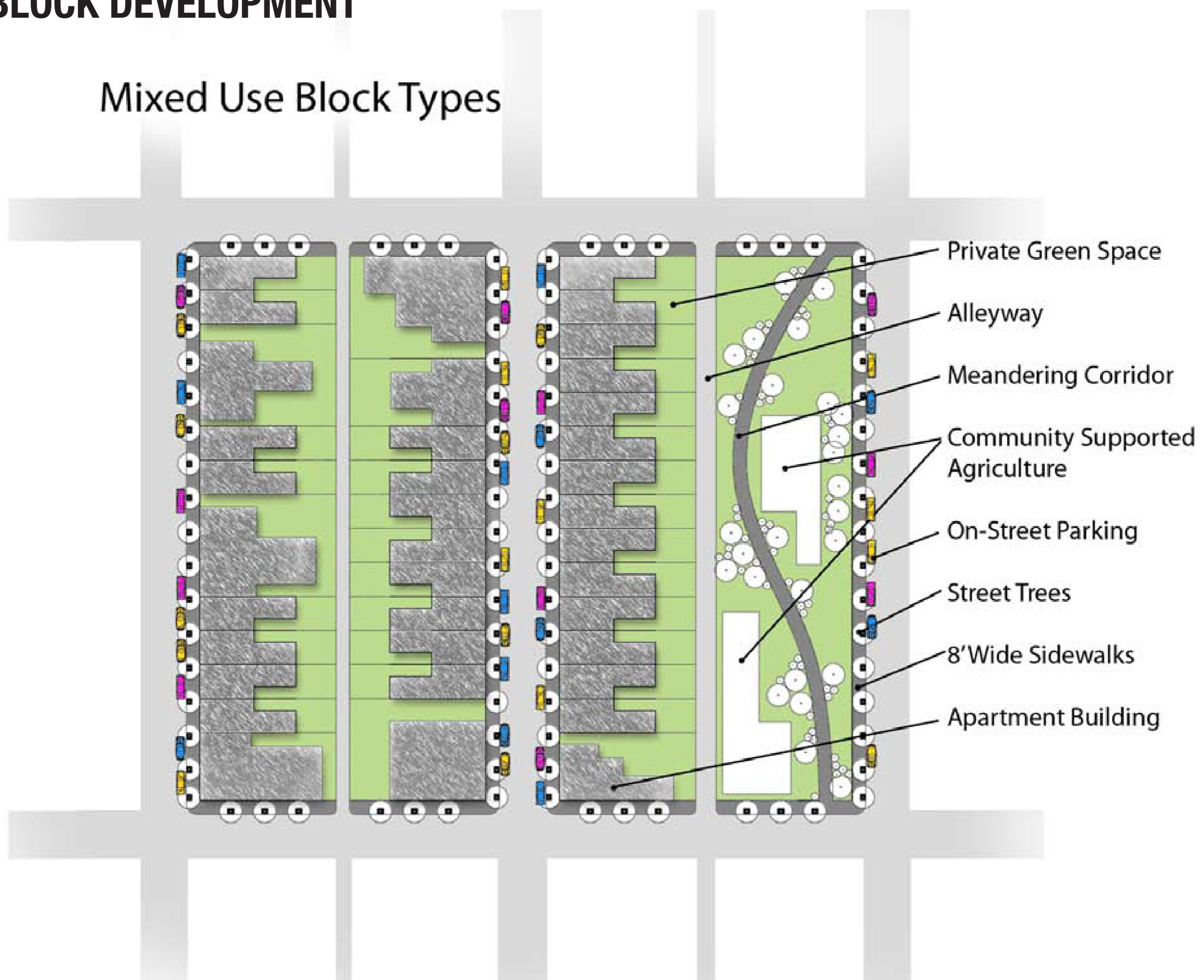
The Urban Core is a linear development from the train station to the university. This dense area creates an active street life and provides economic activity, jobs, and amenities to the residents of the area along with servicing the University.

This urban core would have mixed uses and density, similar to more successful urban areas in Japan and other precedents such as Philadelphia.



NEW CITY BLOCK DEVELOPMENT

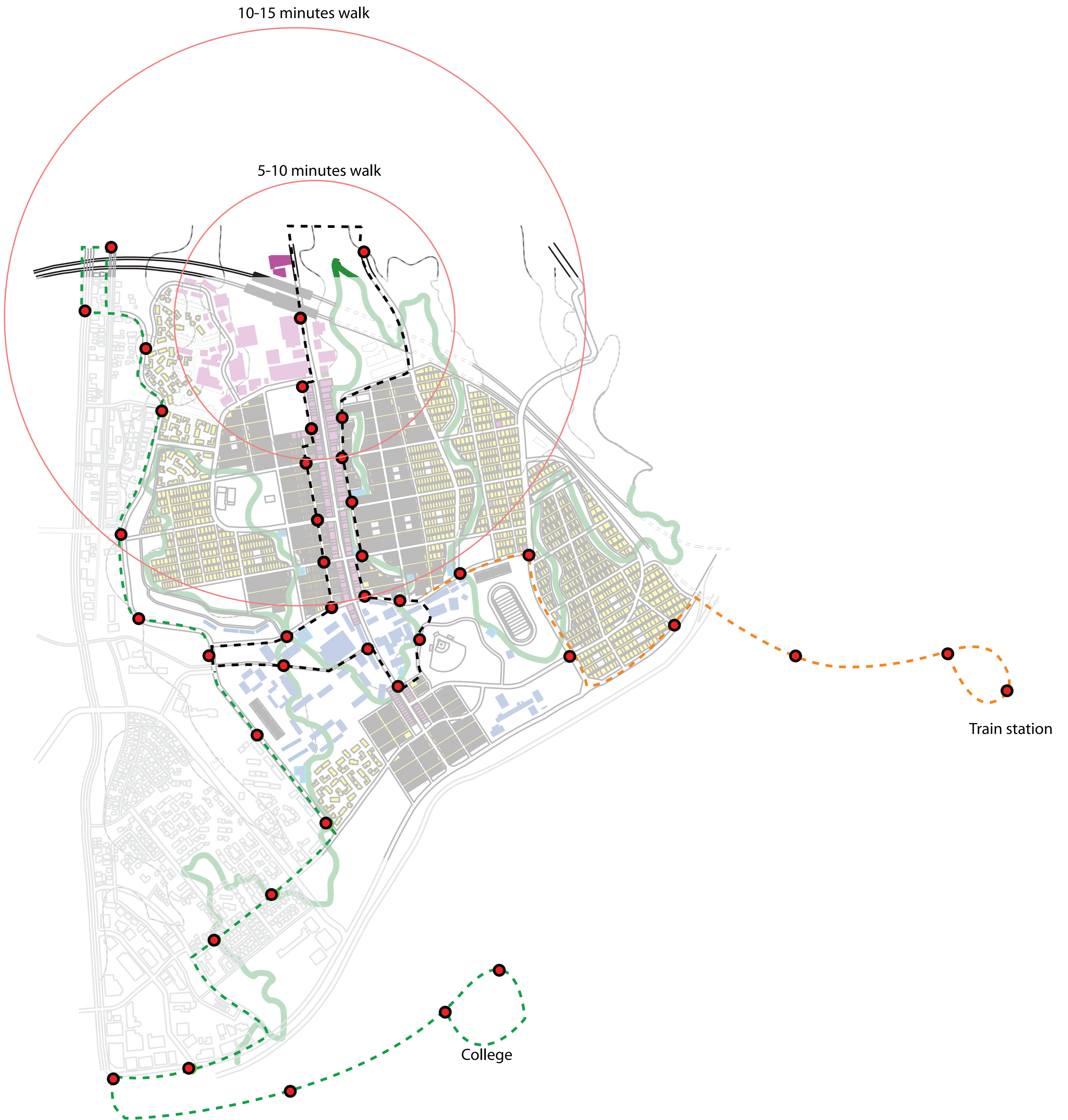
Mixed Use Block Types



Residential Block Types



TRANSIT STRATEGY



Specific Policies

With the vision for Tama and 7 driving principles, below are some specific program, policy and design implementation ideas for the site.

Zero carbon deined for Flexible Adaptable Tama:

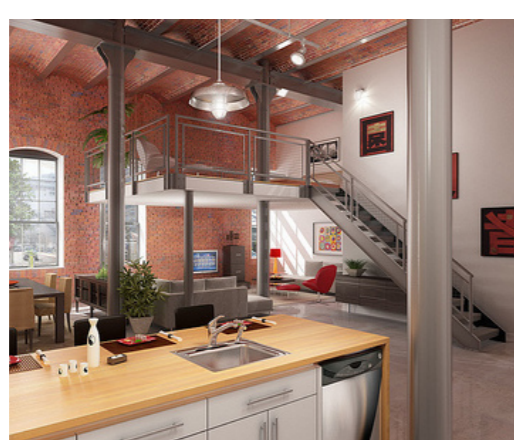
1. All buildings, city operations and services, onsite generate all energy used within the building (or, in the case of city services, from city energy farms) from renewable, noncarbon emitting sources.
2. Local materials must be used as much as possible, i.e., new buildings or structures can use reclaimed materials from demolished structures.
3. Exempt from "zero carbon" are goods and services that are not able to be produced within Tama. Over time, a majority of these goods and services will either be sourced in Tama, or their source areas will also become zero carbon.

These following ideas match up to Tama's 7 principles:



Construction bids must include measures for reducing pollution and alternative energy. New innovations, such as hybrid excavators, must be incorporated.
(Zero carbon)

All students receive a bicycle, as part of their admission, to encourage bicycling. Innovative bicycles, such as a solar powered electric bicycle (to help tackle Tama's hills!) can also be given, will help promote new ideas in sustainability.
(Zero carbon, Education)



Buildings designed with flexible interiors, to be reused over time, as needs change.
(Flexible buildings)

Incentive zoning for mixed use,, semi intensive retail along main spine in Tama.

Shops and housing can use similar footprints, with flexible interiors.

Incentives for producing local goods.

Natural "stopping points" along spine, allow flexibility for growth.

Incentives for package reduction.

(Concentrated Retail, Flexible buildings, Education)



Initiatives for personal energy generation (solar panels, green roofs, etc)

More visible and attractive recycling and composting areas.

Bioswales throughout Tama to help stormwater.

Planting of native species to reduce maintenance, increase pride, boost local ecosystem.

(Zero carbon, Micromeasures, Waste Processing Education)



Schools and universities work together to educate students and community members.

All energy consumed is measured, for citizen awareness.

City sponsors community groups to form volunteer organizations to assist in community needs.

(Education, Zero carbon, Micromeasures)



Building demolition, CSA or natural preserve implementation, if population falls below a certain point. Paths and street "ghosts" preserved onsite for future development. *(Back to nature)*



Bioswales and green roofs, living machines to treat sewage.
(Waste processing)

